

HYDAC

INTERNATIONAL



**HYDAC Accessories.
Product Catalogue.**



HYDAC Accessories, for every application ...

Wherever fluid technology requires to be shut off, switched or controlled, wherever lines and components are to be mounted and wherever these need to be connected, coupled and damped, the comprehensive range of HYDAC Accessories provides suitable components to every standard - from one supplier, on call-off.

This is particularly true when standard products are not enough and individual functions are required, HYDAC Accessories is your professional partner for modifications and special solutions. In-house engineering and access to HYDAC's interdisciplinary and global know-how network ensure state-of-the-art technology and close co-operation between development and sales.

The breadth and depth of the range of standard and special components from HYDAC Accessories enhances and completes fluid technology systems in almost all applications and sectors:

- **Automotive industry**
- **Vehicle technology**
- **Construction machinery**
- **Agricultural machinery**
- **Lifting and material handling technology**
- **Rail technology**
- **Machine tools**
- **Plastic injection moulding machines**
- **Paint spray plants**
- **Hydraulic presses**
- **Mechanical presses**
- **Iron and steel industry**
- **Paper industry**
- **Power plant technology**
- **Wind power**
- **Process engineering**
- **Mining**
- **Marine engineering**
- **Offshore technology**
- **and many other applications and industries ...**



CX valves



Fitting systems



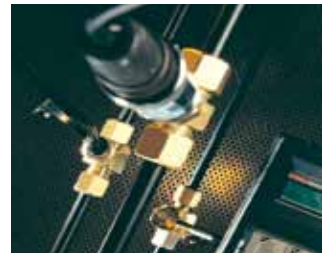
Mounting technology



Quick release couplings



Ball valves



Test points



Bell housings and dampers



Fluid level gauge/control



Tank sets



Multi-station gauge isolators

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

CATALOGUE INDEX

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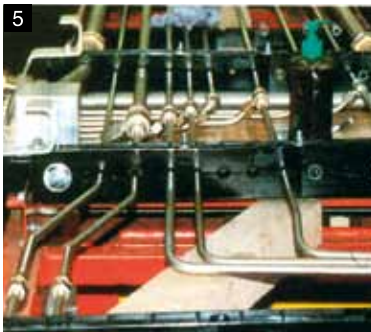
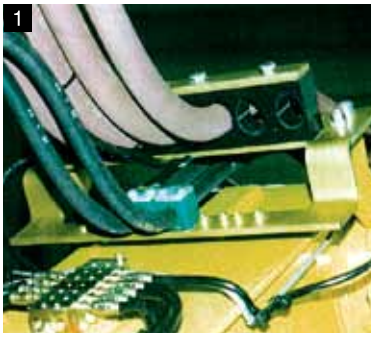


■ ACCESSORIES FOR EVERY SECTOR.

Your professional partner for...

- Industrial hydraulics
- Commercial vehicle technology
- Gas-powered vehicle technology
- Earth-moving technology
- Agricultural technology
- Rail vehicle technology
- Paint spraying plants
- Plastic injection moulding machines
- Chemical industry
- Wind energy
- Heavy industry
- Off-shore and marine
- Machine tools





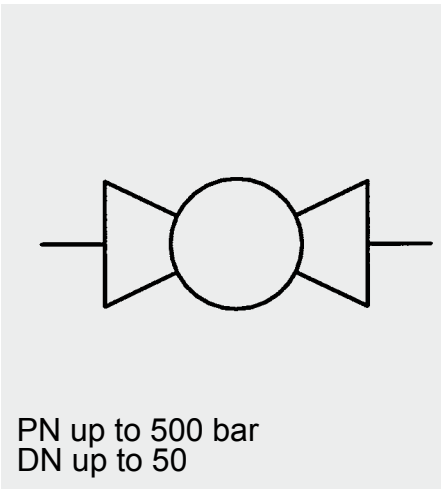
HYDAC ACCESSORIES FOR ALMOST EVERY APPLICATION

- Mobile excavators (1, 2)
- Braking systems (3)
- Commercial vehicles (4)
- Rail vehicles (5)
- Paint spraying systems (6, 9)
- Hydraulic systems (7, 11)
- Agricultural machines (8)
- Machine tools (10)
- Plastic injection moulding machines (12)

Extensive information is available on applications and products.



Ball valves KHB / KHM



Model code
(also order example)

KHB G 1/2 1112 01 X .

Designation

KHB = Block-type ball valve DN 04-25
KHM = Sleeve-type ball valve DN 32-50

Type of connection

Thread size or
Outside diameter of pipe
and type of connection

Materials

Housing, connection adapters and control spindle

1 = Steel
3 = Stainless steel

Ball

1 = Steel
3 = Stainless steel

Ball seals

1 = POM
3 = PTFE
8 = Peek

Control spindle seal and connection seal

2 = NBR (Perbunan)
3 = PTFE
4 = FKM (Viton)

Handle

01 = Aluminium clamped handle, straight (AG) DN 12 - 50
02 = Aluminium clamped handle, cranked (AK) DN 12 - 50
03 = Zinc die-cast clamped handle, straight (ZG) DN 04 - 10, 13
04 = Zinc die-cast bolt-on handle, cranked (ZK) DN 04 - 10, 13
06 = Steel bolt-on handle, cranked (SK) DN 12 - 50
09 = Without handle

Series

(determined by manufacturer)

Surface protection

... = phosphate-plated (no details required)
A = zinc-plated, chrome (VI)-free

Delivery for non-standard valves is longer and the price is higher.

Technical specifications

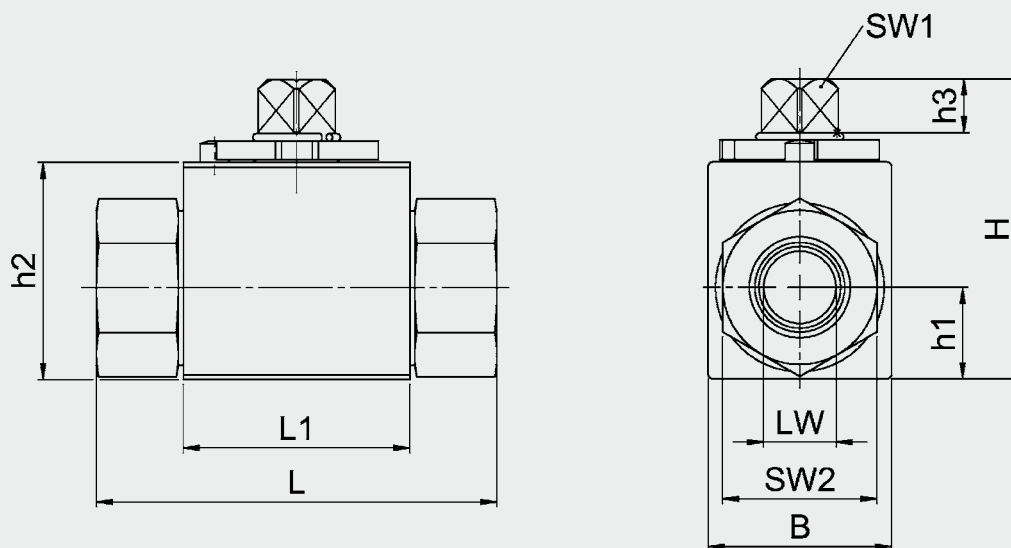
Construction:	Block-type KHB DN 04 - 25 Sleeve-type KHM DN 32 - 50			
Types of connection:	Light and heavy threaded pipe connection to DIN 2353 Whitworth female thread to ISO 228 NPT SAE			
Mounting position:	Optional			
Ambient temperature:	-10 °C to +80 °C			
Nominal pressure:	up to PN 500 bar			
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)			
Temperature of operating fluid:	-10 °C to +80 °C			
Type of construction:	Shut-off device is a ball			
Weight:	See table			
Flow direction:	Optional			
Spare parts:	Seal kits available on request			
Accessories:	All ball valves can be supplied with the following options: <table style="float: right; margin-left: 20px;"> <tr> <td>Actuator</td> </tr> <tr> <td>Limit controls</td> </tr> <tr> <td>Lock</td> </tr> </table>	Actuator	Limit controls	Lock
Actuator				
Limit controls				
Lock				

Hydraulic data

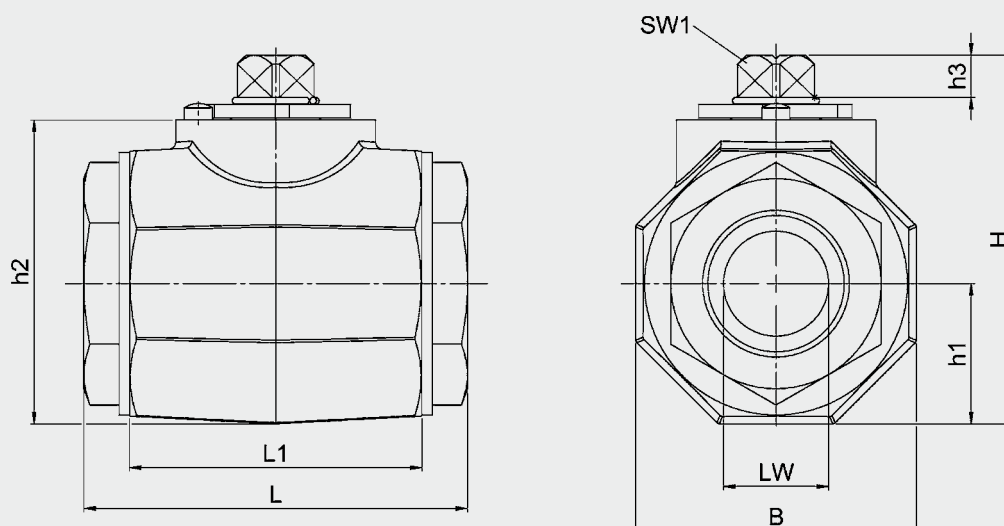
Nominal pressure	PN 315 bar up to PN 500 bar (see Table)
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10 °C to +80 °C

Dimensions

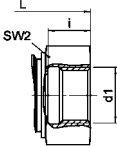
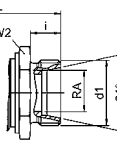
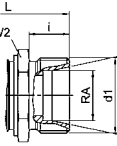
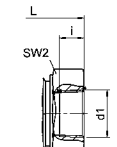
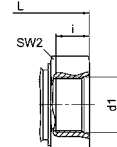
KHB



KHM

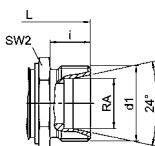
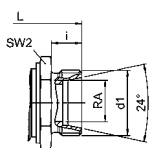
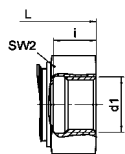


Steel

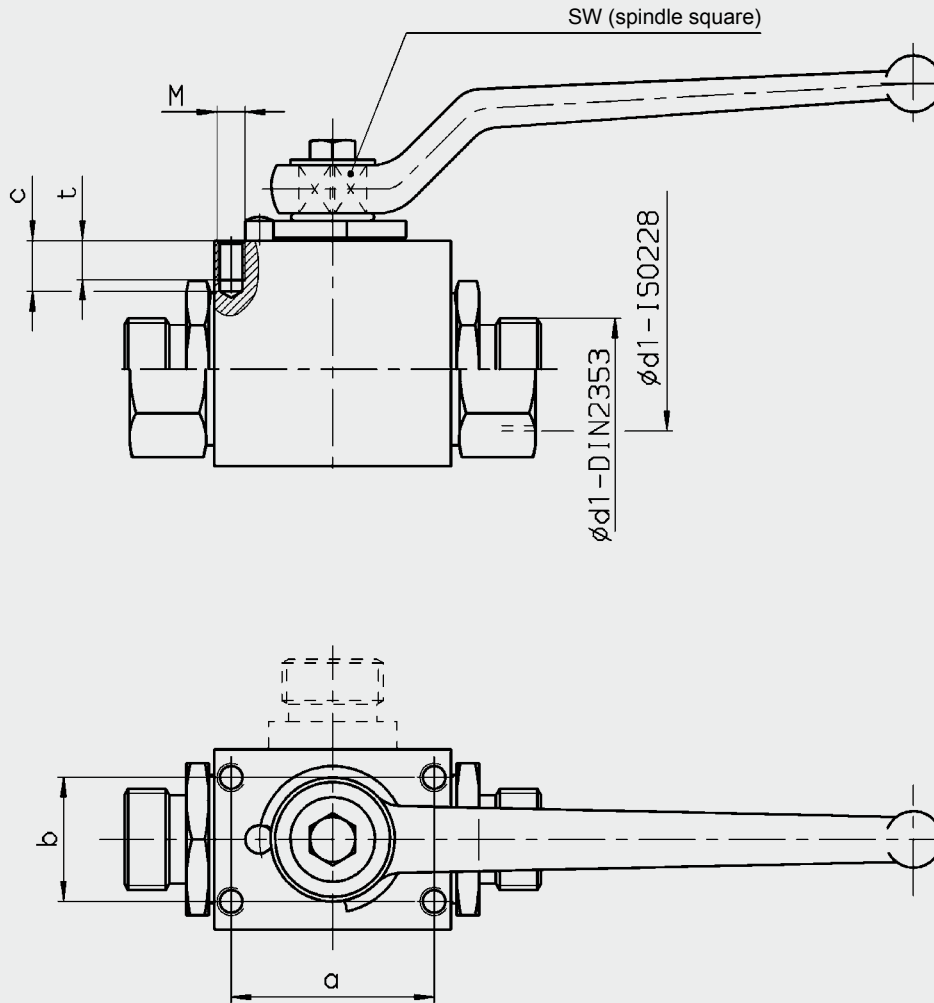
Connection type	Type	DN	LW	RA	d1	i	L	L1	B	H	h1	h2	h3	SW1	SW2	Wt. [kg]	Nom. press. PN [bar]
DIN ISO 228 Female thread 	KHB-G1/8	4	8	-	G1/8	10	69	37	26	44	13	32	7	9	22	0.29	500
	KHB-G1/4	6	8	-	G1/4	14	69	37	26	44	13	32	7	9	22	0.32	500
	KHB-G3/8	10	10	-	G3/8	14	72	42	32	53	17	40	8.5	9	27	0.46	500
	KHB-G1/2	13	12	-	G1/2	15	84	47	35	53	17	40	8.5	9	30	0.59	500
	KHB-G1/2	16	15	-	G1/2	16	83	47	38	62	19	45	11	12	32	0.7	400
	KHB-G3/4	20	20	-	G3/4	18	95	60	48	75	24.5	57	11.6	14	41	1.3	315
	KHB-G1	25	25	-	G1	20.5	113	65	57	82	28.5	64	11.6	14	50	2.03	315
	KHB-G11/4	25/32	25	-	G11/4	22	120	65	57	82	28.5	64	11.6	14	50		315
	KHM-G11/4	32	30	-	G11/4	22	109.4	83.4	80	105.2	40	86.7	12	17	60	3.1	315
	KHM-G11/2	40	38	-	G11/2	24	130	91	90	116.2	45	97.7	12	17	70	4.4	315
	KHM-G2	50	48	-	G2	28	140	100	111	134.2	55.5	115.7	12	17	80	6.6	315
DIN 2353 Light range 	KHB-06LR	4	4	6	M12x1.5	7	67	37	26	44	13	32	7	9	22	0.26	500
	KHB-08LR	6	6	8	M14x1.5	7	67	37	26	44	13	32	7	9	22	0.26	500
	KHB-10LR	8	8	10	M16x1.5	11	74	42	32	53	17	40	8.5	9	27	0.43	500
	KHB-12LR	10	10	12	M18x1.5	11	74	42	32	53	17	40	8.5	9	27	0.43	500
	KHB-15LR	13	12	15	M22x1.5	12	82	47	35	53	17	40	8.5	9	30	0.54	500
	KHB-15LR	12	12	15	M22x1.5	12	82	47	38	62	19	45	11.6	12	32	0.64	400
	KHB-18LR	13	12	18	M26x1.5	12	82	47	35	53	17	40	8.5	9	30	0.63	400
	KHB-18LR	16	15	18	M26x1.5	12	82	47	38	62	19	45	11	12	32	1.25	315
	KHB-22LR	20	19	22	M30x2	14	101	60	48	75	24.5	57	11.6	14	41	1.54	315
	KHB-28LR	25	24	28	M36x2	14	108	65	57	82	28.5	64	11.6	14	50	1.54	315
	KHB-35LR	25/32	25	35.3	M45x2	16	112	65	57	82	28.5	64	11.6	14	50		315
	KHM-35LR	32	30	35.3	M45x2	16	141.4	83.4	80	105.2	40	86.7	12	17	60	3.36	315
	KHM-42LR	40	36	42.3	M52x2	16	162	91	90	116.2	45	97.7	12	17	70	4.88	315
	DIN 2353 Heavy range 	KHB-08SR	4	5	8	M16x1.5	7	73	37	26	44	13	32	7	9	22	0.28
KHB-10SR		6	7	10	M18x1.5	7.5	73	37	26	44	13	32	7	9	22	0.32	500
KHB-12SR		8	8	12	M20x1.5	12	76	42	32	53	17	40	8.5	9	27	0.45	500
KHB-14SR		10	10	14	M22x1.5	14	80	42	32	53	17	40	8.5	9	27		500
KHB-16SR		13	12	16	M24x1.5	14	86	47	35	53	17	40	8.5	9	30	0.55	500
KHB-16SR		12	12	16	M24x1.5	14	86	47	38	62	19	45	11.6	12	32	0.65	400
KHB-20SR		13	12	20	M30x2	16	90	47	35	53	17	40	8.5	9	30	0.61	500
KHB-20SR		16	15	20	M30x2	16	90	47	38	62	19	45	11	12	32	0.67	400
KHB-25SR		20	20	25	M36x2	18	109	60	48	75	24.5	57	11.6	14	41	1.32	315
KHB-30SR		25	25	30	M42x2	20	120	65	57	82	28.5	64	11.6	14	50	1.87	315
KHB-38SR		25/32	25	38.3	M52x2	22	124	65	57	82	28.5	64	11.6	14	55		315
KHM-38SR		32	30	38.3	M52x2	22	153.4	83.4	80	105.2	40	86.7	12	17	60	3.43	315
ANSI B1.20.1 NPT female thread 		KHB-06NPT	6	8	-	1/4 - 18 NPT	6.7	69	37	26	44	13	32	7	9	22	0.3
	KHB-10NPT	10	10	-	3/8 - 18 NPT	10.36	72	42	32	53	17	40	8.5	9	27	0.5	500
	KHB-16NPT	13	12	-	1/2 - 14 NPT	13.56	84	47	35	53	17	40	8.5	9	30	0.6	500
	KHB-16NPT	16	15	-	1/2 - 14 NPT	13.56	83	47	38	62	19	45	11	12	32	0.75	400
	KHB-20NPT	20	20	-	3/4 - 14 NPT	13.86	95	60	48	75	24.5	57	11.6	14	41	1.3	350
	KHB-25NPT	25	25	-	1 - 11 1/2 NPT	17.34	113	65	57	82	28.5	64	11.6	14	50	2	350
	KHM-32NPT	32	30	-	1 1/4 - 11 1/2 NPT	17.95	109.4	83.4	80	105.2	40	86.7	12	17	60	3.1	350
	KHM-40NPT	40	38	-	1 1/2 - 11 1/2 NPT	18.38	130	91	90	116.2	45	97.7	12	17	70	4.4	350
	KHM-50NPT	50	48	-	2 - 11 1/2 NPT	19.22	140	100	111	134.2	55.5	115.7	12	17	80	6.6	350
	SAE J 5/4 UN/UNF Female thread 	KHB-06SAE	6	8	-	7/16 - 20 UNF	12	69	37	26	44	13	32	7	9	22	0.3
KHB-10SAE		10	10	-	9/16 - 18 UNF	13	72	42	32	53	17	40	8.5	9	27	0.5	500
KHB-16SAE		13	12	-	3/4 - 16 UNF	15	92	47	35	53	17	40	8.5	9	30	0.6	500
KHB-16SAE		16	15	-	3/4 - 16 UNF	15	83	47	38	62	19	45	11	12	32	0.75	400
KHB-20SAE		20	20	-	1 1/16 - 12 UN	20	95	60	48	75	24.5	57	11.6	14	41	1.3	350
KHB-25SAE		25	25	-	1 5/16 - 12 UN	20	113	65	57	82	28.5	64	11.6	14	50	2	350
KHM-32SAE		32	30	-	1 5/8 - 12 UN	20	109.4	83.4	80	105.2	40	86.7	12	17	60	3.1	350
KHM-40SAE		40	38	-	1 7/8 - 12 UN	20	130	91	90	116.2	45	97.7	12	17	70	4.4	350
KHM-50SAE		50	48	-	2 1/2 - 12 UN	20	140	100	111	134.2	55.5	115.7	12	17	80	6.6	350

Stainless steel

Connection type	Type	DN	LW	RA	d1	i	L	L1	B	H	h1	h2	h3	SW1	SW2	Wt. [kg]	Nom. press. PN [bar]
DIN ISO 228 Female thread	KHM-G1/8	4	8	-	G1/8	10	69	36	31	46.2	15.5	34.5	7	9	22	0.39	500
	KHM-G1/4	6	8	-	G1/4	14	69	36	31	46.2	15.5	34.5	7	9	22	0.39	500
	KHM-G3/8	10	10	-	G3/8	14	72	41	36	54	18	40.8	8.5	9	27	0.45	500
	KHM-G1/2	13	12	-	G1/2	16	84	41	36	54	18	40.8	8.5	9	30	0.53	500
	KHM-G1/2	16	15	-	G1/2	16	82.8	45.8	45	65.7	22.5	48.5	11	12	32	0.7	400
	KHM-G3/4	20	20	-	G3/4	18	95	58.3	55	77.8	27.5	60	11.6	14	41	1.64	315
	KHM-G1	25	25	-	G1	20.5	113	63.5	65	85.6	32.5	68	11.6	14	50	2.05	315
	KHM-G11/4	32	30	-	G11/4	22	109.4	83.4	80	105.2	40	86.7	12	17	60	3.29	315
	KHM-G11/2	40	38	-	G11/2	24	130	91	90	116.2	45	97.7	12	17	70	4	315
	KHM-G2	50	48	-	G2	28	140	100	111	134.2	55.5	115.7	12	17	80	6.82	315
DIN 2353 Light range	KHM-06LR	4	4	6	M12x1.5	10	67	36	31	46.2	15.5	34.5	7	9	22	0.38	500
	KHM-08LR	6	6	8	M14x1.5	10	67	36	31	46.2	15.5	34.5	7	9	22	0.38	500
	KHM-10LR	8	8	10	M16x1.5	11	74	41	36	54	18	40.8	8.5	9	27	0.62	500
	KHM-12LR	10	10	12	M18x1.5	11	74	41	36	54	18	40.8	8.5	9	27	0.62	500
	KHM-15LR	13	12	15	M22x1.5	12	82	41	36	54	18	40.8	8.5	9	30	0.74	500
	KHM-15LR	12	12	15	M22x1.5	12	81.8	45.8	45	65.7	22.5	48.5	11	12	32	0.64	400
	KHM-18LR	13	12	18	M26x1.5	12	82	41	36	54	18	40.8	8.5	9	30	0.95	400
	KHM-18LR	16	15	18	M26x1.5	12	81.8	45.8	45	65.7	22.5	48.5	11	12	32	0.65	315
	KHM-22LR	20	19	22	M30x2	14	101	58.3	55	77.8	27.5	60	11.6	14	41	1.74	315
	KHM-28LR	25	24	28	M36x2	14	108	63.5	65	85.6	32.5	68	11.6	14	50	2.75	315
	KHM-35LR	32	30	35.3	M45x2	16	141.4	83.4	80	105.2	40	86.7	12	17	60	3.7	315
	KHM-42LR	40	36	42.3	M52x2	16	162	91	90	116.2	45	97.7	12	17	70	4.9	315
DIN 2353 Heavy range	KHM-08SR	4	5	8	M16x1.5	12	73	36	31	46.2	15.5	34.5	7	9	22	0.39	500
	KHM-10SR	6	7	10	M18x1.5	12	73	36	31	46.2	15.5	34.5	7	9	22	0.39	500
	KHM-12SR	8	8	12	M20x1.5	12	76	41	36	54	18	40.8	8.5	9	27	0.62	500
	KHM-14SR	10	10	14	M22x1.5	14	80	41	36	54	18	40.8	8.5	9	27	0.64	500
	KHM-16SR	13	12	16	M24x1.5	14	86	41	36	54	18	40.8	8.5	9	30	0.77	500
	KHM-16SR	12	12	16	M24x1.5	14	85.8	45.8	45	65.7	22.5	48.5	11	12	32	0.66	400
	KHM-20SR	13	12	20	M30x2	16	90	41	36	54	18	40.8	8.5	9	32	0.87	500
	KHM-20SR	16	15	20	M30x2	16	89.8	45.8	45	65.7	22.5	48.5	11	12	32	0.69	400
	KHM-25SR	20	20	25	M36x2	18	109	58.3	55	77.8	27.5	60	11.6	14	41	1.85	315
	KHM-30SR	25	25	30	M42x2	20	120	63.5	65	85.6	32.5	68	11.6	14	50	2.96	315
KHM-38SR	32	30	38.3	M52x2	22	153.4	83.4	80	105.2	40	86.7	12	17	60	3.89	315	



Dimensions of mounting bore



DIN ISO 228

Ød1	DN	SW	a	b	M	t	c
G 1/8	04	09	28	18	M4	6	8
G 1/4	06	09	28	18	M4	6	8
G 3/8	10	09	36	22	M5	7	9
G 1/2*	13	09	36	22	M5	7	9
G 1/2	16	12	36	22	M5	7	9
G 3/4	20	14	45	28	M6	9	11
G 1	25	14	45	28	M6	9	11

DIN 2353 Light Range

Ød1	DN	SW	a	b	M	t	c
06LR	04	09	28	18	M4	6	8
08LR	06	09	28	18	M4	6	8
10LR	08	09	36	22	M5	7	9
12LR	10	09	36	22	M5	7	9
15LR	12	12	36	22	M5	7	9
15LR*	13	09	36	22	M5	7	9
18LR	16	12	36	22	M5	7	9
18LR*	13	09	36	22	M5	7	9
22LR	20	14	45	28	M6	9	11
28LR	25	14	45	28	M6	9	11

DIN 2354 Heavy Range

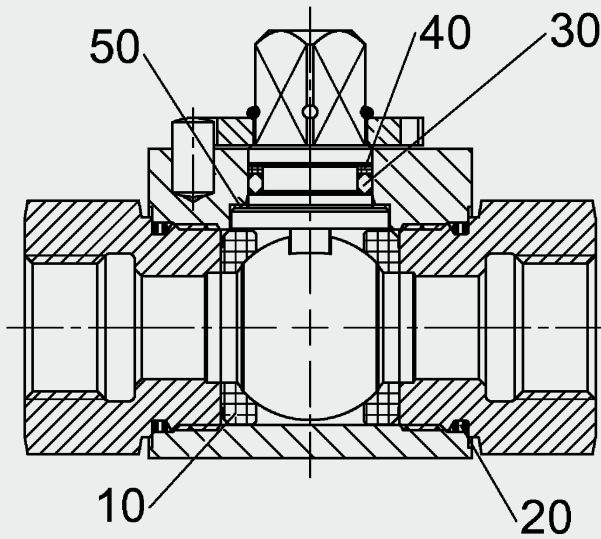
Ød1	DN	SW	a	b	M	t	c
08SR	04	09	28	18	M4	6	8
10SR	06	09	28	18	M4	6	8
12SR	08	09	36	22	M5	7	9
14SR	10	09	36	22	M5	7	9
16SR	12	12	36	22	M5	7	9
16SR*	13	09	36	22	M5	7	9
20SR	16	12	36	22	M5	7	9
20SR*	13	09	36	22	M5	7	9
25SR	20	14	45	28	M6	9	11
30SR	25	14	45	28	M6	9	11

* reduced bore

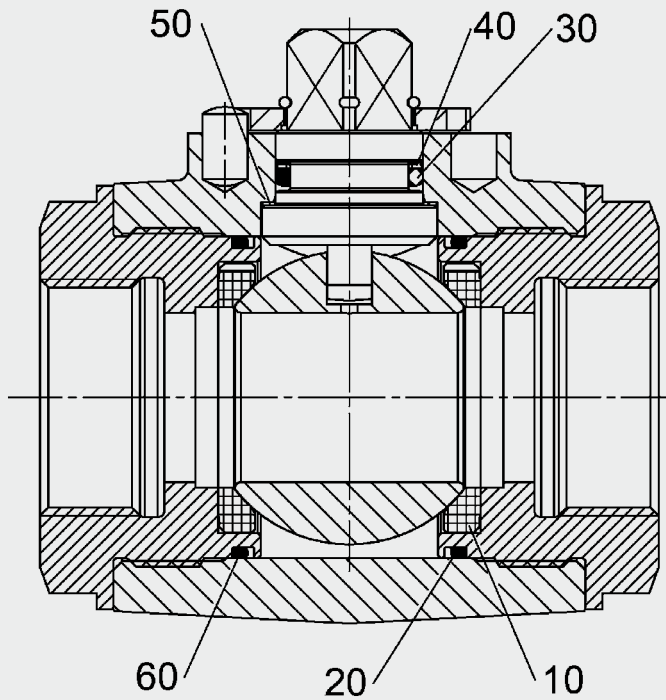
Spare parts

(Seal kit)

KHB, DN 04 - 25



KHM, DN 32 - 50



Seal kit	Order No. = Part No.
DN 04/06	703 048
DN 08/10	703 014
DN 13	703 046
DN 12/16	703 010
DN 20	703 005
DN 25	703 004
DN 32	703 045
DN 40	701 292
DN 50	703 007

The parts indicated by numbers in the above drawings are contained in the seal kit.

NOTE

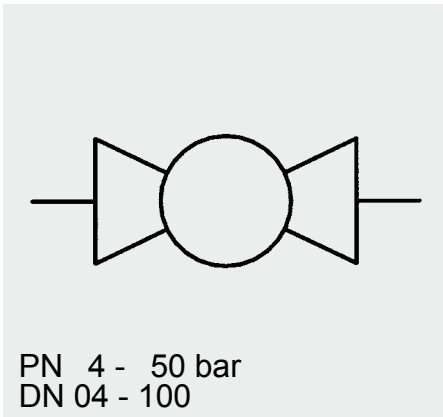
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Subject to technical modifications.

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Low Pressure Ball Valves KHNVN / KHNVS / KHN



Model code

(also order example)

KHNVS Rp 1/2 2233 12 X ...

Designation

KHNVN – Low pressure ball valve – standard model
 KHNVS – Low pressure ball valve – heavy-duty model
 KHN – Low pressure ball valve – DIN-DVGW
 (German Technical Association for Gas & Water)

Connection type

Thread Size

Materials

Housing, control spindle
 2 = brass, nickel-plated

Ball
 2 = brass, chrome-plated

Ball seals
 3 = PTFE

Soft seals
 2 = NBR (Perbunan)
 3 = PTFE

Handle

12 = aluminium handle, cranked, supplied fitted

Series

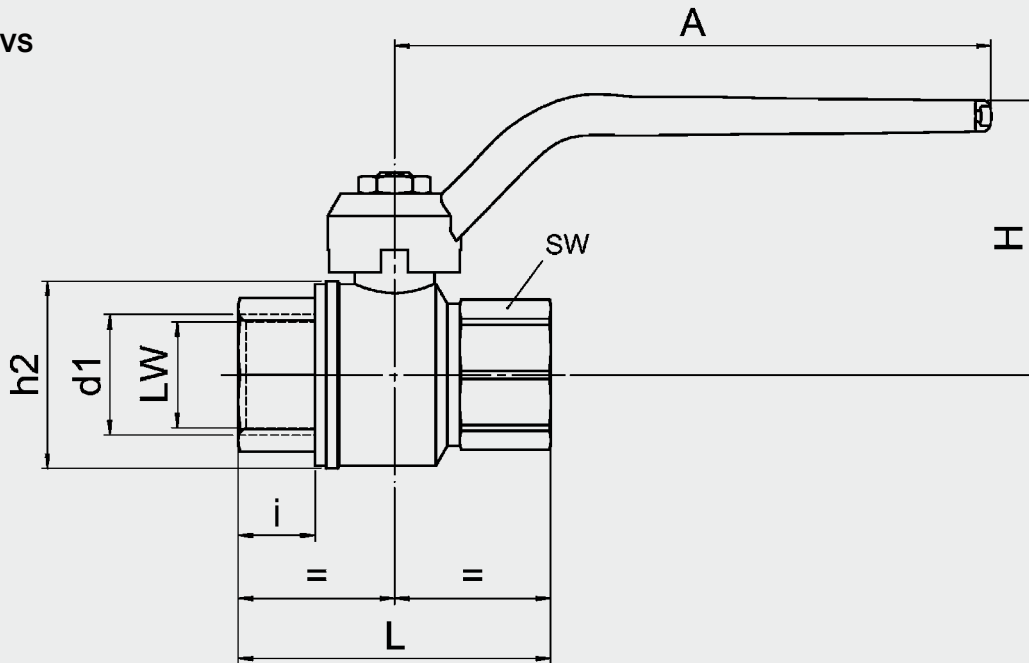
(determined by manufacturer)

Approval

DIN-DVGW (KHN only)

Dimensions

KHNVN / KHNVS



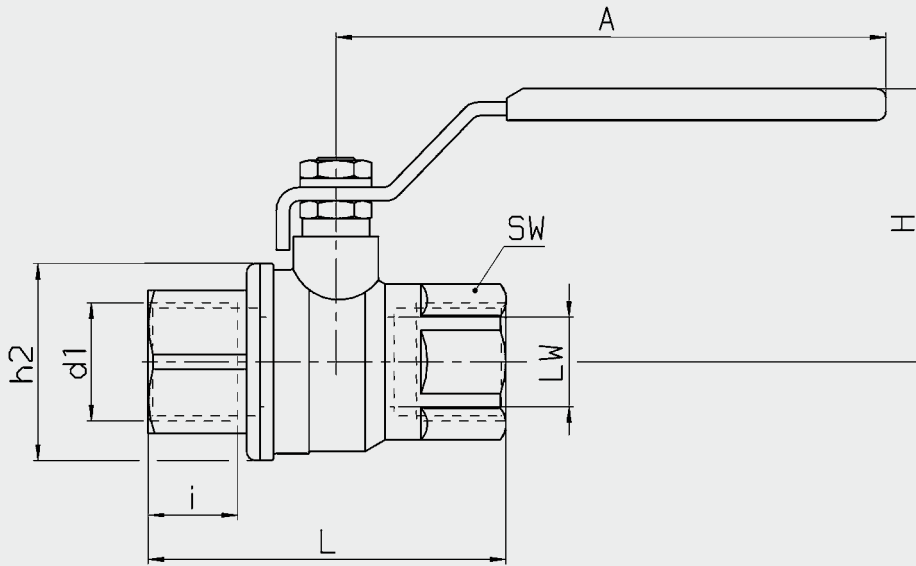
Type	d1	L [mm]	h2 [mm]	H [mm]	A [mm]	i [mm]	LW [mm]	SW [mm]	Nom. pressure PN [bar]
KHNVN	G 1/4	44.4	23.5	37	80	10	10	18	50
KHNVN	G 3/8	44.4	24	37	80	10	10	21	50
KHNVN	G 1/2	50.5	30.5	41	80	12	15	25	50
KHNVN	G 3/4	57.5	37.0	55	113	12.5	20	31	40
KHNVN	G 1	70	45.5	59	113	15	25	38	40
KHNVN	G 1 1/4	80.5	57	74.5	137.5	17	32	47	30
KHNVN	G 1 1/2	94	70	80.5	137.5	18.5	40	54	30
KHNVN	G 2	112.5	84	96.5	157	22	50	66	25
KHNVN	G 2 1/2	134.5	109	116	197	24	65	85	18
KHNVN	G 3	157	131	133	250	26	80	99	16
KHNVN	G 4	190	164	148	250	30	100	125	14

Type	d1	L [mm]	h2 [mm]	H [mm]	A [mm]	i [mm]	LW [mm]	SW [mm]	Nominal pressure PN [bar]
KHNVS	Rp 1/4	49.5	23.5	37	80	11	10	18	50
KHNVS	Rp 3/8	52.4	24	37	80	11.4	10	21	50
KHNVS	Rp 1/2	61	30.5	48.3	88.5	15	15	25	50
KHNVS	Rp 3/4	68	37	54.8	113	16.3	20	31	40
KHNVS	Rp 1	85	45.5	58.8	113	19.1	25	38	40
KHNVS	Rp 1 1/4	99.5	58	75	137.5	21.4	32	47	30
KHNVS	Rp 1 1/2	109	71	90	157.3	21.4	40	54	30
KHNVS	Rp 2	130	85	97	157.3	25.7	50	66	25

Technical specifications

Type of connection:	Whitworth female thread to ISO 228 (G) Whitworth female thread to DIN 2999 (Rp)	
Mounting position:	Optional	
Ambient temperature:	-20 °C to + 160 °C	
Nominal pressure:	up to PN 50 bar	
Operating media:	Mineral oil to DIN 51524 Part 1 + 2, gaseous media, compressed air, water other media on request	
Temperature of operating media:	-20 °C to + 160 °C	
Accessories:	All ball valves can be supplied with the following options:	Actuator Limit controls Lock

KHN - DVGW



Type DVGW	d1	Nom. bore DN	ØLW	Nom. press. PN [bar]	i	L	Øh2	H	A	SW	Weight [kg]
KHN	Rp1/4	06	8	4	11.4	51.5	23	48	95	20	0.14
KHN	Rp3/8	10	10	4	11.4	51.5	23	48	95	20	0.13
KHN	Rp1/2	16	15	4	15.0	62	32	51	95	25	0.21
KHN	Rp3/4	20	20	4	16.3	69	39	60	110	31	0.33
KHN	Rp1	25	25	4	19.1	83	49	64	110	38	0.53
KHN	Rp1 1/4	32	32	4	21.4	96	59	78	160	48	0.97
KHN	Rp1 1/2	40	40	4	21.4	108	73	86	160	54	1.45
KHN	Rp2	50	50	4	25.7	126	86	104	170	67	1.98

Technical specifications

Type of connection:	Whitworth female thread to ISO 7/1 (Rp)
Mounting position:	Optional
Certification:	<u>DIN</u> -DVGW (EN 331)
Ambient temperature:	-10 °C to + 70 °C
Nominal pressure:	PN 4 bar
Operating media:	all gases in accordance with DVGW – Worksheet G260/I
Temp. of operating media:	5 °C to + 50 °C

NOTE

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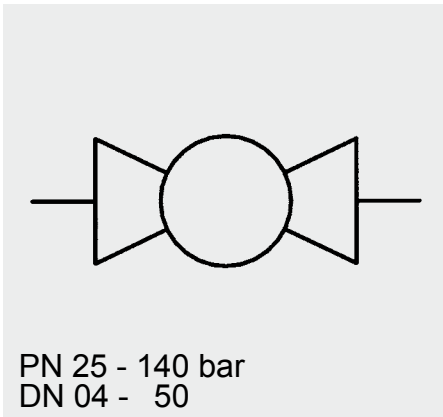
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Stainless Steel Low Pressure Ball Valves

KHNVN / KHNVS



Model code

(also order example)

KHNVS Rp 1/2 3333 18 X

Designation

KHNVN – Low pressure ball valve - standard model
KHNVS – Low pressure ball valve - heavy duty model

Type of connection

Rp
G

Thread size

Materials

Housing, control spindle
3 = stainless steel (1.4401)

Ball
3 = stainless steel (1.4401)

Ball seals
3 = PTFE

Seals
3 = PTFE

Handle

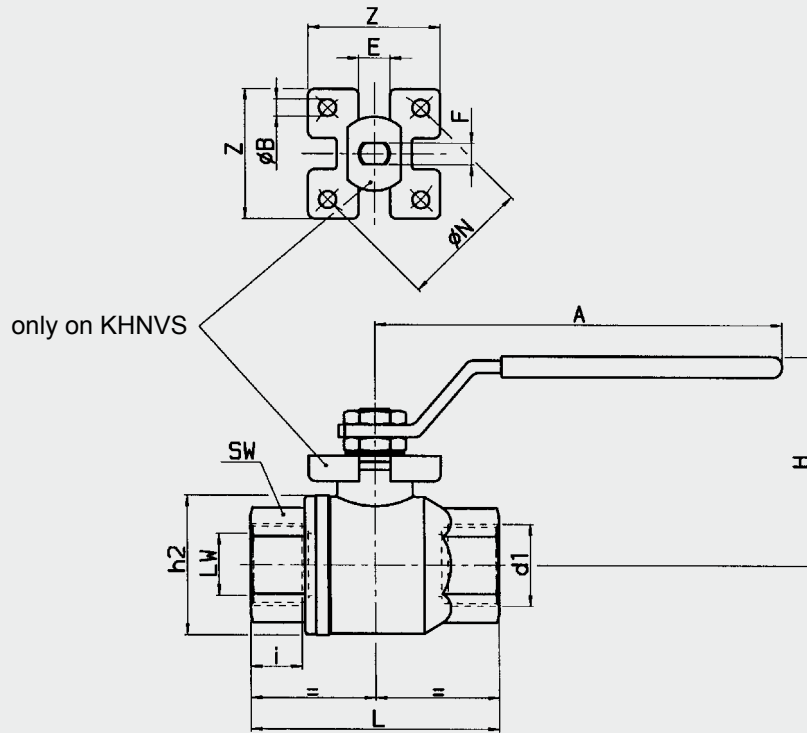
18 = stainless steel handle, cranked, supplied fitted

Series

(determined by manufacturer)

Dimensions

KHNVN / KHNVS



Type	d1	Nominal bore DN	ØLW Int. diam.	PN [bar]	i	L	Øh2	H	A	SW	Weight [kg]
KHNVN	G1/4	6	8	64	11	50	30	50	100	22	0.22
KHNVN	G3/8	10	10	64	11	50	30	50	100	22	0.2
KHNVN	G1/2	16	15	64	14	58	35	52	100	27	0.25
KHNVN	G3/4	20	20	64	14	65	42	57	115	32	0.45
KHNVN	G1	25	25	50	17	80	50	75	150	41	0.85
KHNVN	G1 1/4	32	32	50	18	92	63	80	150	50	1.2
KHNVN	G1 1/2	40	40	40	19	105	73	95	180	55	1.8
KHNVN	G2	50	50	40	24	125	90	100	180	70	2.7

Type	d1	Nominal bore DN	ØLW Int. diam.	PN [bar]	i	L	Øh2	H	A	SW	Weight [kg]
KHNVS	Rp1/8	04	8	140	7.4	55.5	30	50	111	22	0.25
KHNVS	Rp1/4	06	10	140	11	55.5	30	50	111	22	0.24
KHNVS	Rp3/8	10	10	140	11.4	55.5	30	50	111	22	0.22
KHNVS	Rp1/2	16	15	140	15	66	36	53	111	27	0.30
KHNVS	Rp3/4	20	20	105	16.3	79	45	68	132	32	0.50
KHNVS	Rp1	25	25	105	19.1	93	54	77	175	41	0.95
KHNVS	Rp1 1/4	32	32	64	21.4	100	64	83	175	50	1.30
KHNVS	Rp1 1/2	40	40	64	21.4	110	80	100	250	55	2.10
KHNVS	Rp2	50	50	64	25.7	131	95	108	250	70	3.30

Type	d1	ØB	F	E	ØN	Z
KHNVS	Rp1/8	–	5	8	–	–
KHNVS	Rp1/4	5.5	5	8	36F03	36
KHNVS	Rp3/8	5.5	5	8	36F03	36
KHNVS	Rp1/2	5.5	5	8	36F03	36
KHNVS	Rp3/4	5.5	7	10	42F04	42
KHNVS	Rp1	5.5	8	12	42F04	42
KHNVS	Rp11/4	5.5	8	12	42F04	42
KHNVS	Rp11/2	6.5	10	16	50F05	50
KHNVS	Rp2	8.5	10	16	50F05	50

Technical specifications

Type of connection:	Whitworth female thread to ISO 228 (G) Whitworth female thread to DIN 2999 (Rp)
Mounting position:	Optional
Ambient temperature:	-20 °C to + 160 °C
Nominal pressure:	up to PN 140 bar
Operating media:	Mineral oil to DIN 51524 Part 1 + 2, Gaseous media, compressed air, water Other media on request
Temperature of operating media:	-20 °C to + 160 °C
Accessories:	All ball valves can be supplied with the following options: Actuator Limit switch Lock

NOTE

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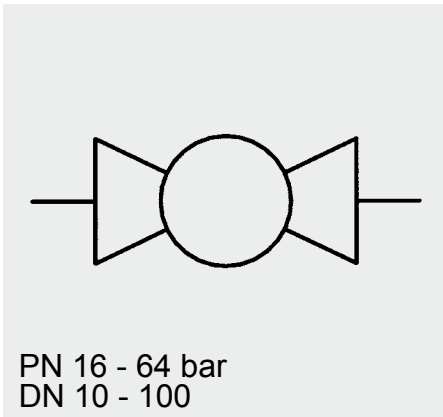
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Weld-Type Low Pressure Ball Valves KHM3S



Model code
(also order example)

KHM3S 20 1333 16 X

Description

KHM3S = Three-part weld-type low pressure ball valve

Nominal bore

Materials

Housing, butt weld, spindle

- 1 = steel
- 3 = stainless steel

Ball

- 3 = stainless steel

Ball seals

- 3 = PTFE

Seals

- 3 = PTFE

Handle

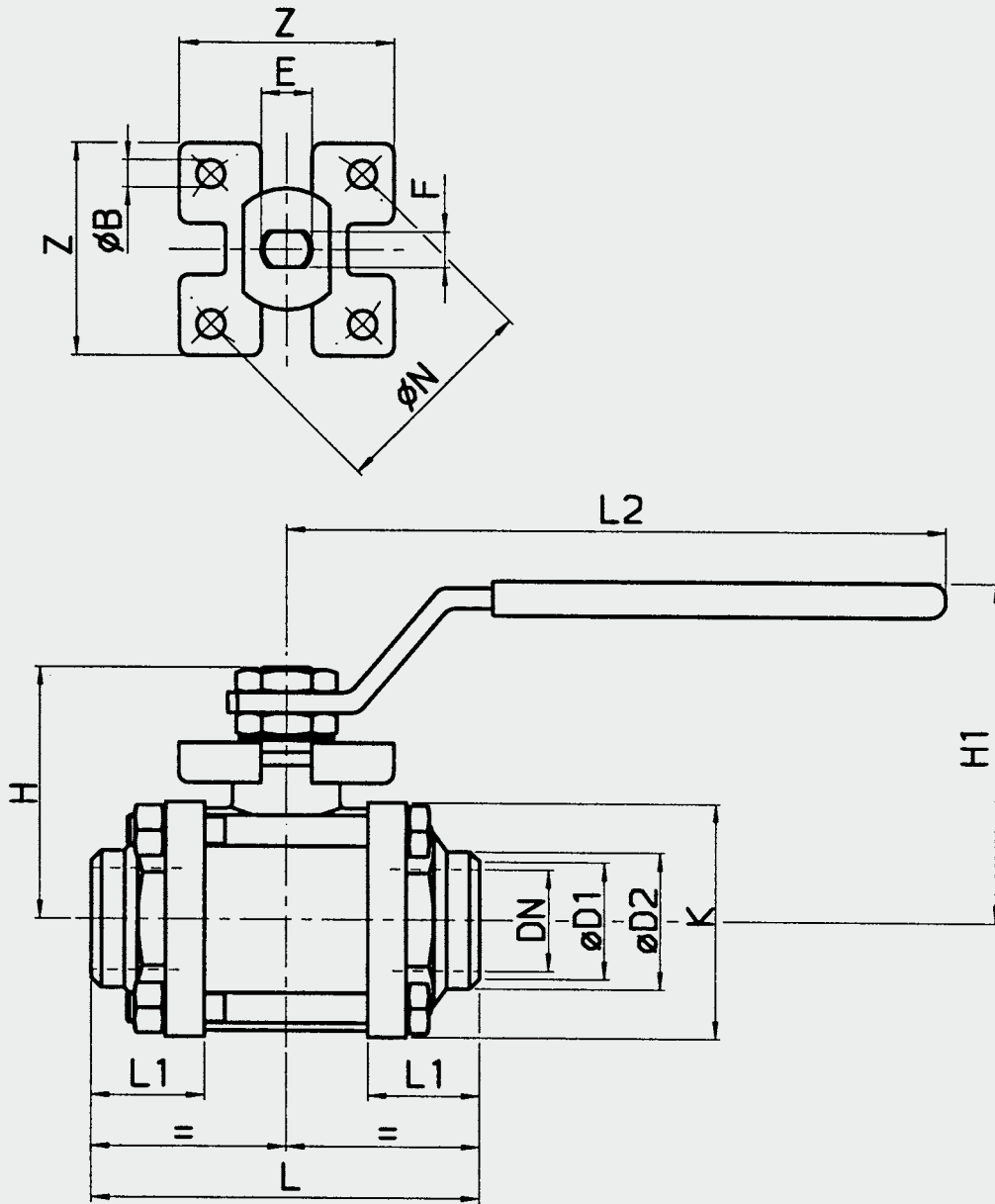
- 16 = steel bolt-on handle, cranked, supplied fitted
- 18 = stainless steel bolt-on handle, cranked, supplied fitted DN 10 - 50

Series

(determined by manufacturer)

Dimensions

KHM3S



Type / Steel 1333	DN	D1	D2	H	H1	L	L1	L2
KHM3S - 10	10	12.48	17.1	35	64	65	20.5	110
KHM3S - 15	15	15.76	21.3	47	64	65	20.5	131
KHM3S - 20	20	20.96	26.7	51	68	76	22.5	131
KHM3S - 25	25	26.64	33.4	60	78	92	27	174
KHM3S - 32	32	35.08	42.2	64	83	106.5	30	174
KHM3S - 40	40	40.94	48.3	79	99.5	116	31	250
KHM3S - 50	50	52.48	60.3	86	107	136	36	250
KHM3S - 65	65	62.68	73	103	126.5	153.5	38.5	321
KHM3S - 80	80	77.92	88.9	114	137.5	180	43	321
KHM3S - 100	100	102.26	114.3	137	156.5	217	50	381

Type / Steel 1333	K	Z	B	N	F	E	Weight (kg)	PN (bar)
KHM3S - 10	38	–	–	–	7	10	0.45	64
KHM3S - 15	38	–	–	–	7	10	0.40	64
KHM3S - 20	46.5	–	–	–	7	10	0.60	40
KHM3S - 25	58	–	–	–	8	12	1.10	40
KHM3S - 32	66.5	–	–	–	8	12	1.53	25
KHM3S - 40	76	–	–	–	10	16	2.10	25
KHM3S - 50	90	50	–	–	10	16	3.20	25
KHM3S - 65	134	65	M 8	70 F07	14	20	8.30	16
KHM3S - 80	161	65	M 8	70 F07	14	20	13.40	16
KHM3S -100	190	92	M10	102 F10	18	24	22.20	16

Type / Stainless steel 3333	DN	D1	D2	H	H1	L	L1	L2
KHM3S - 10	10	13.6	17.2	35	50	55	17	110.5
KHM3S - 15	15	18	21.4	47	64	65	20.5	131.5
KHM3S - 20	20	23	27	51.5	68	76	22.5	131.5
KHM3S - 25	25	28	34	60	78	92	27	174.5
KHM3S - 32	32	35	42	64.5	83	106.5	30	174.5
KHM3S - 40	40	43	49	78	100	116	31	250.5
KHM3S - 50	50	54	60	85	107	136	36	250.5
KHM3S - 65	65	69	77	103	126.5	153.5	38.5	321.5
KHM3S - 80	80	84	90	114	137.5	180	43	321.5
KHM3S -100	100	104	116	137	156.5	217	50	381.5

Type / Stainless steel 3333	K	Z	B	N	F	E	Weight (kg)	PN (bar)
KHM3S - 10	33	–	–	–	5	8	0.28	64
KHM3S - 15	38	36	6	36 F03	7	10	0.40	64
KHM3S - 20	46.5	42	5.5	42 F04	7	10	0.60	40
KHM3S - 25	58	42	5.5	42 F04	8	12	1.10	40
KHM3S - 32	66.5	42	5.5	42 F04	8	12	1.50	25
KHM3S - 40	76	50	6.5	50 F05	10	16	2.10	25
KHM3S - 50	90	50	6.5	50 F05	10	16	3.20	25
KHM3S - 65	134	65	M 8	70 F07	14	20	8.10	16
KHM3S - 80	161	65	M 8	70 F07	14	20	12.80	16
KHM3S -100	190	92	M10	102 F10	18	24	21.50	16

Technical specifications

Type of connection:	butt weld
Mounting position:	Optional
Ambient temperature:	-20 °C to + 160 °C
Nominal pressure:	up to PN 64 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 + 2, gaseous media, compressed air, water other media on request
Temperature of operating fluid:	-20 °C to + 160 °C

Spare parts:	Seal kits available on request
Accessories:	All ball valves can be supplied with the following options: Actuator Limit controls Lock

NOTE

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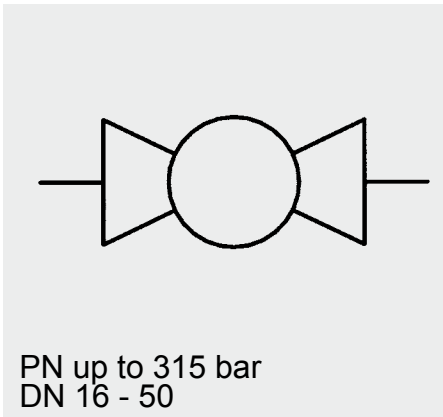
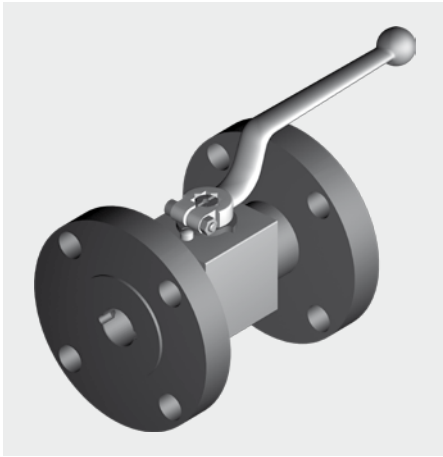
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Flanged Ball Valves

KHBF / KHMFF / KHMFF



PN up to 315 bar
DN 16 - 50

Model code

(also order example)

KHBF 16 PN040 11141 02 X ...

Designation

KHBF	=	Block-type ball valve	DN 16 - 25 (steel)
KHMFF	=	Sleeve-type ball valve	DN 32 - 50 (steel)
		Long version –	DN 16 - 50 (stainless steel)
		DIN-EN 558-1, FTF, basic range 1	DIN 3202 - F1
KHMFF	=	Sleeve-type ball valve	DN 32 - 50 (steel / stainless steel)
		Short version –	DIN 3202 - F4
		DIN-EN 558-1, FTF, basic range 14	

Nominal bore

(DN)

Pressure range

(to DIN 2401)

Materials

Housing, connection adapters and control spindle

- 1 = Steel
- 3 = Stainless steel (1.4571)

Ball

- 1 = Steel
- 3 = Stainless steel (1.4571)

Ball seal

- 1 = POM (polyacetal)

Soft seal

- 4 = FKM (Viton)

Flanges

- 1 = Steel
- 3 = Stainless steel (1.4571)

(other material combinations on request)

Handle

- 02 = aluminium clamped handle, cranked, supplied loose DN 16 - 25
- 06 = steel bolt-on handle, cranked, supplied loose DN 32 - 50

Series

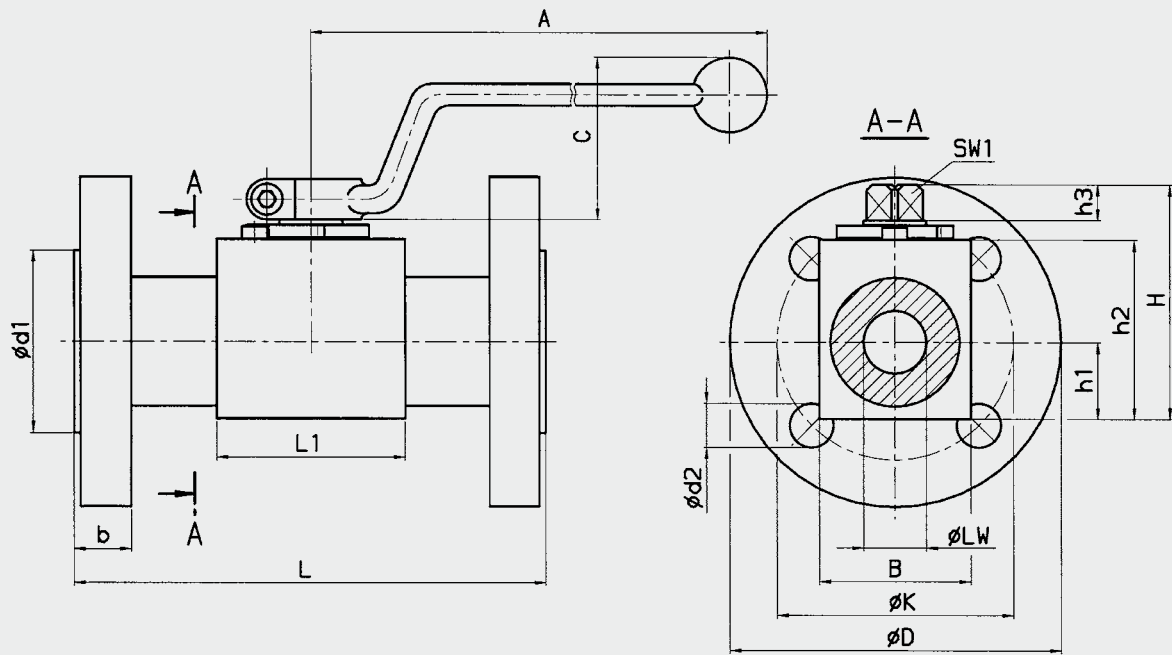
(determined by manufacturer)

Surface protection

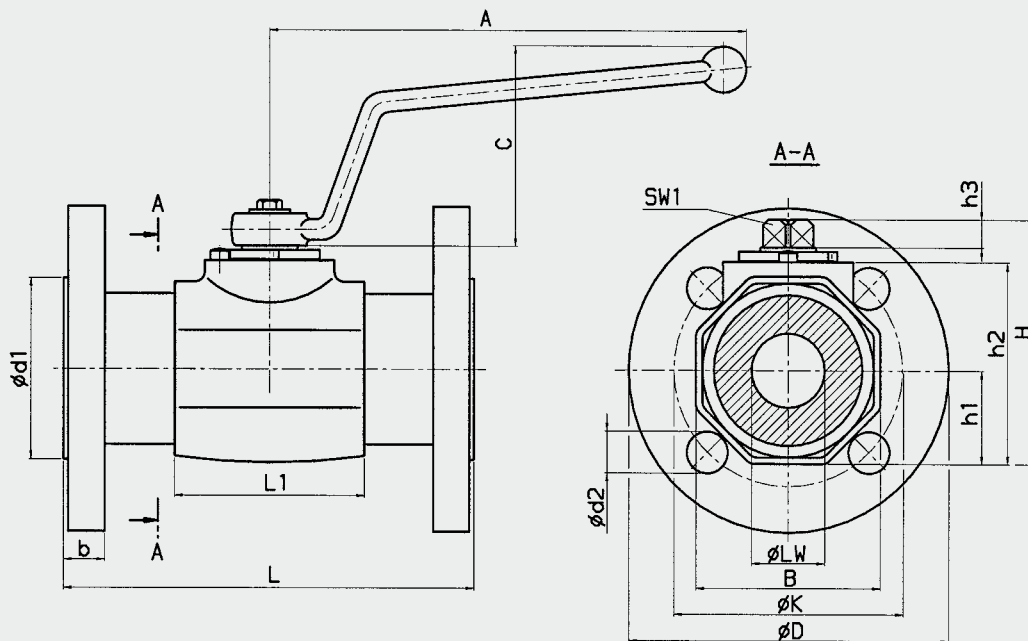
- ... = phosphate-plated (no details required)
- A = zinc-plated, chrome (VI)-free

Dimensions

KHBF



KHMF / KHMFF



Version	Housing dimensions											PN (Ball valve) [bar]
	DN	LW	L1	B	H	h1	h2	h3	SW1	A	C	
Block housing KHBF DN16-25 (steel)	16	15	47	38	62	19	45	11	12	185	47	400
	20	20	60	48	75	24.5	57	11	14	203	54	315
	25	25	65	57	81.5	28.5	64	11	14	203	54	315
Sleeve housing KHMF / KHMFF DN16-50 (stainless steel) DN32-50 (steel)	16	15	46	45	66.5	22.5	48.5	11	12	185	47	400
	20	20	58	55	78	27.5	60	11	14	203	54	315
	25	25	64	60	83.5	30	65.5	11	14	203	54	315
	32	30	84	75	103	38	85	12	17	228	80	315
	40	38	91	85	114	43	96	12	17	228	80	315
50	48	100	105	131.5	53	113	12	17	228	80	315	

Type of connection / Seal face	Type	Pressure range PN [bar]	L	D	d1	d2	K	b	Z*	Weight [kg]
F1 (FTF, basic range 1)	KHBF - 16 KHMFF - 16	40	130	95	45	14	65	16	4	2.2
		160	130	105	45	14	75	20	4	3.0
		315	130	130	45	18	90	26	4	4.1
	KHBF - 20 KHMFF - 20	40	150	105	58	14	75	18	4	3.4
	KHBF - 25 KHMFF - 25	40	160	115	68	14	85	18	4	5.0
		160	160	140	68	18	100	24	4	7.1
		250	160	150	68	22	105	28	4	8.6
		315	160	160	68	22	115	34	4	9.2
	KHMFF - 32	40	180	140	78	18	100	18	4	7.3
		160	180	155	78	22	110	26	4	10.0
	KHMFF - 40	40	200	150	88	18	110	18	4	9.5
		160	200	170	88	22	125	28	4	13.0
		250	200	185	88	26	135	34	4	15.5
		315	200	195	88	26	145	38	4	17.5
	KHMFF - 50	40	230	165	102	18	125	20	4	13.1
		63	230	180	102	22	135	26	4	18.0
160		230	195	102	26	145	30	4	23.5	
250		230	200	102	26	150	38	8	28.5	
315		230	210	102	26	160	42	8	31.0	
Flange connection DIN 2501, Form E F4 (FTF, basic range 14)	KHMFF - 032	40	130	140	78	18	100	18	4	6.1
	KHMFF - 040	40	140	150	88	18	110	18	4	7.7
	KHMFF - 050	40	150	165	102	18	125	20	4	10.7

z* = number of fixing holes

Technical specifications

Length:	DIN-EN 558-1 - FTF, basic range 1 (DIN 3202 – F1, long version) DIN-EN 558-1 - FTF, basic range 14 (DIN 3202 – F4, short version)
Flange dimensions:	DIN 2501, Form E
Flange connections:	rotating flanges
Mounting position:	optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 315 bar (see pressure range)
Operating fluids:	mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	seal kits available on request
Accessories:	all ball valves can be supplied with the following options: Actuator Limit switch Lock

NOTE

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Subject to technical modifications.

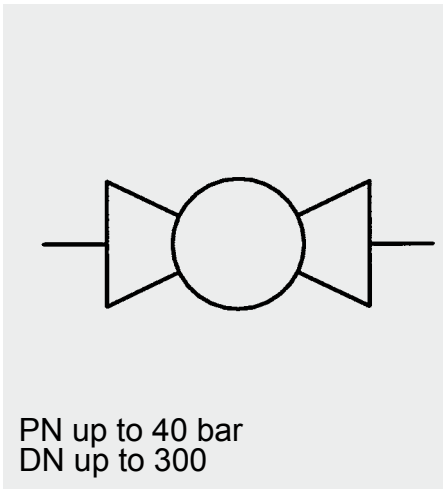
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Flange Type Ball Valve DN 65 - 300

KHMFF



PN up to 40 bar
DN up to 300

Model code
(also order example)

KHMFF 080 PN016 8834 02 X

Designation

KHMFF = Sleeve-type flange ball valve
(short version F4) DN 65 - 100
and DN 125 reduced

KHMFF = Sleeve-type flange ball valve
(short version F5) DN 125 -300

Nominal bore

DN 65 - 100	PN 16	Material code	8834
DN 65 - 100	PN 40	Material code	10834
DN 65 - 125	PN 16 reduced	Material code	8232
DN 125 - 150	PN 16	Material code	8834
DN 125 - 150	PN 40	Material code	10333
DN 200 - 300	on request	Material code	10333

Pressure range

to DIN 2501

Materials

Housing, flange

- 8 = Cast iron (GG25), spindle in steel
- 10 = Cast steel (GS-C25), spindle in stainless steel

Ball

- 2 = Brass
- 3 = Stainless steel
- 8 = Cast iron, hard-chromed

Ball seal

- 3 = PTFE

Housing seal and control spindle seal

- 2 = NBR (Perbunan)
- 3 = PTFE
- 4 = FKM (Viton)

Handle

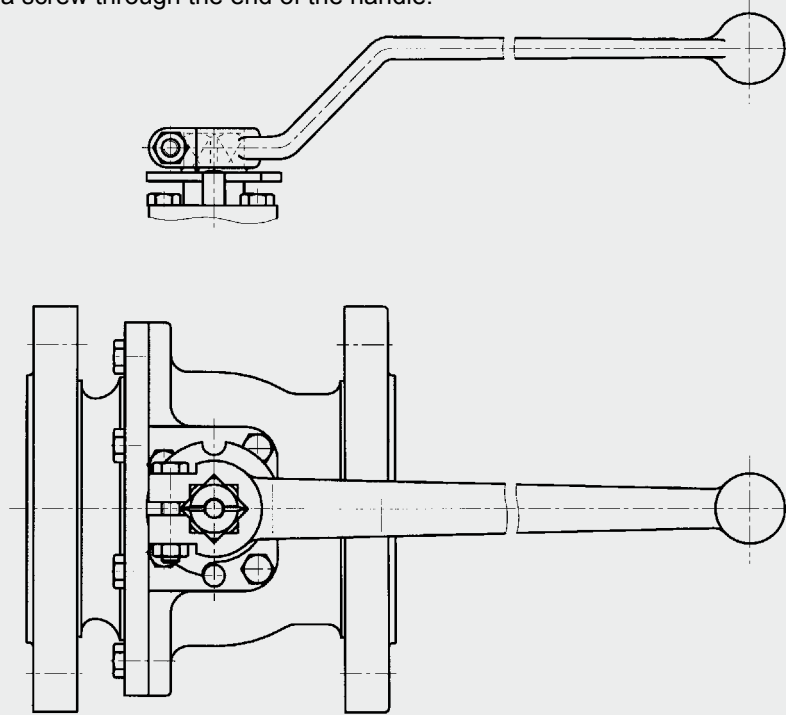
02	= Aluminium clamped handle, cranked (AK)	DN 65 - 100
05	= Steel bolt-on handle, straight (SG)	DN 150 - 200
06	= Steel bolt-on handle, cranked (SK)	DN 125 PN 40
16	= Steel bolt-on handle, cranked, supplied fitted reduced nominal bores	DN 65 - 125
AM	= Mechanical drive (worm gear with handwheel)	DN 250 - 300

Series

(determined by manufacturer)

Notes on assembly

The clamped handle is pushed onto the square end of the ball valve spindle and clamped to the square by means of a screw through the end of the handle.



The handles can be displaced by 45° DN 65 - 100.
(Except for DN 65 - 125 reduced and DN 125 - 200 with fixed handle position)

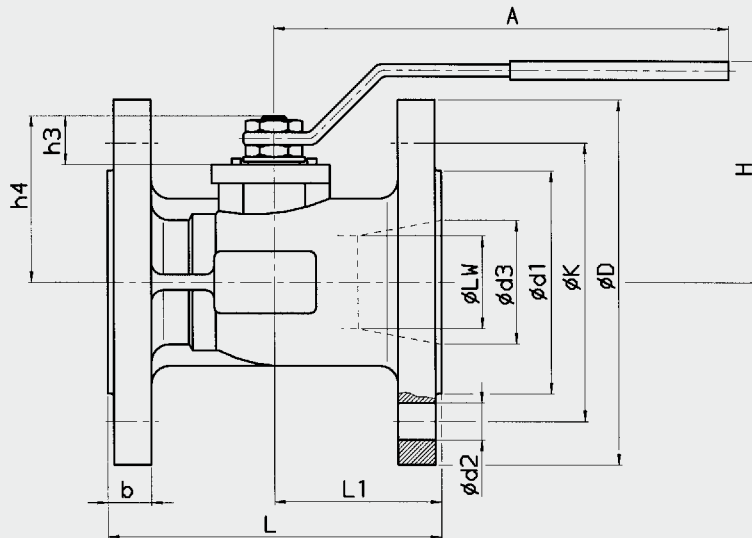
SW 22

Torque value

10 Nm

Dimensions

KHMFF (reduced)

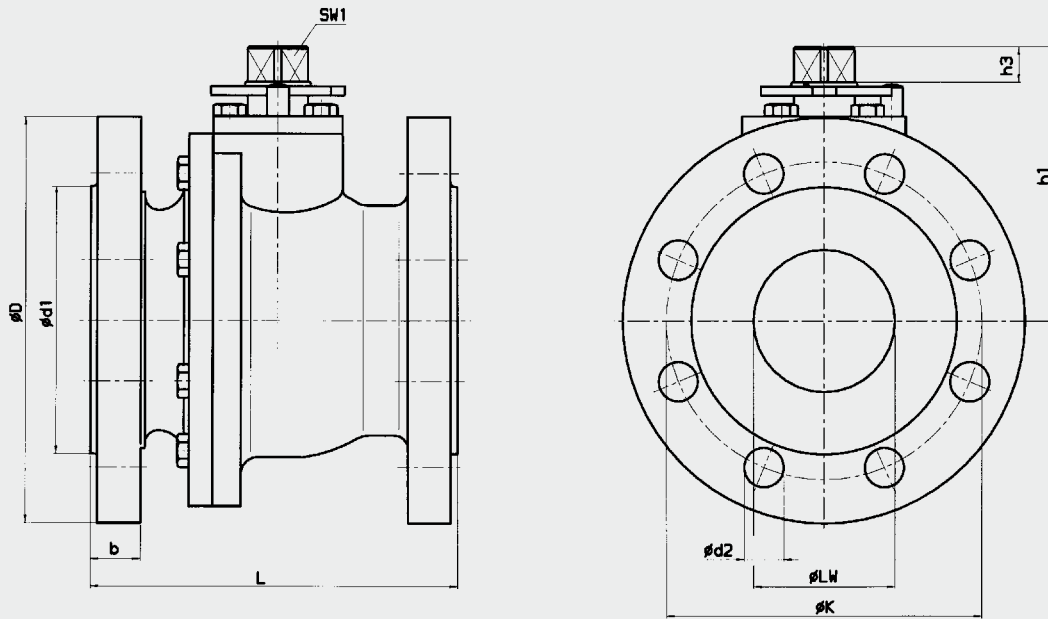


Type of conn. / Seal face	Type	Pressure range	LW	A	L	L1	D	d1	d2	d3	K	b	H	h3	h4	Z*	Weight [kg]	Length DIN 3202
Flange connection DIN 2501, Form E F4	KHMFF - 065	16	50.2*	250	170	85	185	122	18	65	145	18	112	23	86.5	4	10.5	F4
	KHMFF - 080	16	64*	321	180	90	200	138	18	80	160	20	128	29	105	8	15	F4
	KHMFF - 100	16	76*	321	190	95	220	158	18	100	180	20	138	29	114.5	8	18	F4
	KHMFF - 125	16	95*	381	200	100	250	188	18	125	210	22	157	33	137.5	8	26.5	F4

* = reduced nominal bore

Z* = number of fixing holes

KHMFF (DN 65-300)



Type of conn. / Seal face	Type	Pressure range	LW	L	D	d1	d2	K	b	h1	h3	SW1	Z*	Weight [kg]
F4 Flange connection DIN 2501, Form E	KHMFF - 065	10 - 16	65	170	185	122	18	145	21.5	118	16	22	4	17
	KHMFF - 065	25 - 40	65	170	185	122	18	145	22	150	18	14	8	17.5
	KHMFF - 080	10 - 16	80	180	200	138	18	160	24	128	16	22	8	20
	KHMFF - 080	25 - 40	80	180	200	138	18	160	24	161	20	19.3	8	21
	KHMFF - 100	10 - 16	100	190	220	158	18	180	22	142.5	16	22	8	24
	KHMFF - 100	25 - 40	100	190	235	162	22	190	24	178	20	19.3	8	25
F5 Flange connection DIN 2501, Form C	KHMFF - 125	10 - 16	125	325	250	188	18	210	22	265	30	25.5	8	48
	KHMFF - 125	25 - 40	125	325	270	188	26	220	26	265	30	25.5	8	67
	KHMFF - 150	10 - 16	150	350	285	212	22	240	22	297.5	41.5	32	8	72
	KHMFF - 150	25 - 40	150	350	300	218	26	250	28	297.5	41.5	32	8	95
	KHMFF - 200	16	200	400	340	268	22	295	26	335	41.5	32	12	146
	KHMFF - 200	40	200	400	375	285	30	320	34	335	41.5	32	12	172
	KHMFF - 250	16	250	450	405	320	26	355	26	390	51	36	12	242
	KHMFF - 250	40	250	450	450	345	33	385	38	390	51	36	12	287
	KHMFF - 300	16	300	500	460	378	26	410	28	425	51	36	12	330
	KHMFF - 300	40	300	500	515	410	33	450	42	425	51	36	16	375

Z* = number of fixing holes

NOTE

The information in this brochure relates to the operating conditions and applications described.

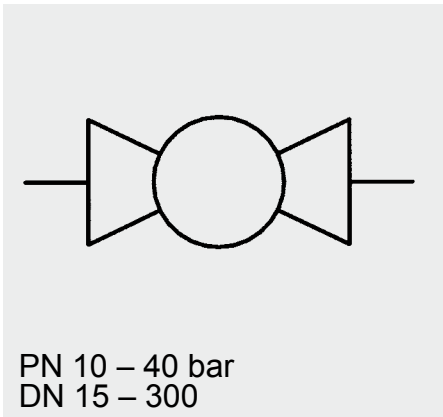
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Flanged Ball Valves KHFF



Model code
(also order example)

KHFF 100 PN040 10333 06 X

Designation

KHFF = Flange ball valve DN 15 - 200 (short version - DIN EN 558-1 - Series 27)
KHF = Flange ball valve DN 15 - 200 (long version - DIN EN 558-1 - Series 1)

Nominal bore

Pressure range

Materials

Housing

3 = stainless steel (1.4408)
10 = cast steel (1.0619)

Ball

3 = stainless steel (1.4408 / 1.4308)

Ball seal

3 = PTFE + 25% glass fibre reinforced

Stem seal

3 = PTFE

(other materials on request)

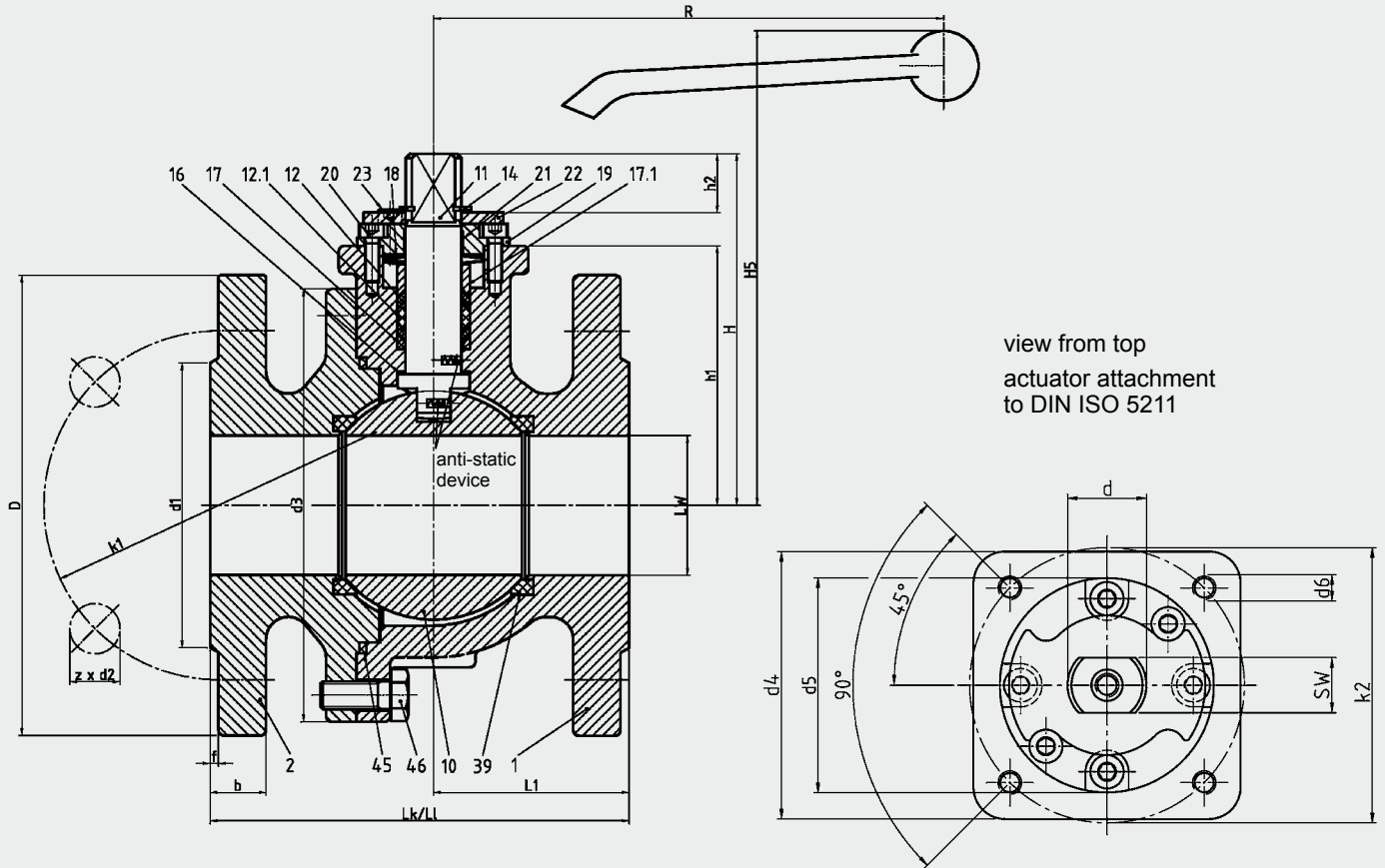
Handle

06 = steel bolt-on handle, cranked

Series

(determined by manufacturer)

KHFF



Item	Description
1	Body 1
2	Body 2
10	Ball
11	Stem
12	Stem seal
12.1	Stem seal
14	Safety ring
16	Thrust ring
17	Ring
17.1	Gland
18	Belleville-type washer
19	Cover
20	Socket head screw
21	Bearing strip
22	Stop disc
23	Socket head screw
39	Ball seat ring
45	Body seal
46	Hexagon bolt

Dimensions

DN	PN	LW	L _k *	L _l *	L1	d3	H	H5	h1	h2	d	SW	k1	d1	d2	d4	d5	d6	k2	R	D	b	f	z	Wt. kg L _k *	Wt. kg L _l *	ISO 5211	
15	40	16	115	130	47								65	45								95	16			3.9	4	
20	40	20	120	150	49	90	80	133	63	10	16	12.4	75	58	14	48	35	M6	50	160	105					4.4	4.5	F 05
25	40	25	125	160	52								85	68							115					4.6	4.7	
32	40	32	130	180	55	98	85	138	68				100	78							140	18		4		6.4	6.8	
40	40	40	140	200	69.5	129	109	158	80	14			110	88							150					8.5	8.9	F 07
50	40	50	150	230	70	155	126	171	93				125	102		68	55	M8	70		165	20				12.8	13.5	
65	16									18	20	14			18						215					19	20.5	
65	40	65	170	290	80	190	150	195	115				145	122								185	22			20	21.5	
80	40	80	180	310	86	208	161	211	124				160	138		96	70	M10	102		200	24				25	27.5	F 10
100	16									20	25	19.3	180	158							300	220	20			30	34	
100	40	100	190	350	94.5	242	178	228	141				190	162	22							235	24			33.5	37.5	
125	16												210	188	18						635	250	22	8		67	72	
125	40	125	325	400	162.5	290	265	270	222	30	35	25.5	220		26							270	26			72	77	
150	16												240	212	22							285	22	2		100	106	
150	40	150	350	480	175	327	297.5	301	242.5				250	218	26	150	85	M12	125			300	28			106	112	F 12
200	10									41.5	44	32	295	268	22						800	340	24			161	173	
200	16												310	278	26							360	30			164	176	
200	25	200	400	600	200	400	335	338	280				320	285	30							375	34			172	184	
250	10												350	320	22							395	26			255		
250	16												355		26							405		12		257		
250	25	250	450	-	225	492	390	-	330				370	335	30							425	32			272		
250	40												385	345	33							450	38			292		
300	10									51	48	36	400	370	22	175	100	M16	140	-		445	26			339		F 14
300	16												410	378	26							460	28			340		
300	25	300	500	-	250	575	425	-	365				430	395	30							485	34			355		
300	40												450	410	33							515	42	16		380		

* L_k = short version - DIN EN 558-1 - Series 27

* L_l = long version - DIN EN 558-1 - Series 1

Technical specifications

Flange connections:	DIN EN 1092 - 1 : 2000, DN 15 - DN 300, PN 10 - PN 40
Raised face:	DIN EN 1092 - 1 : 2000 Form B1 (others on request)
Face-to-face:	DIN EN 558- 1 Series 27 (F4/F5), DIN EN 558- 1 Series 1 (F1)
Stem seal:	PTFE or graphite stuffing box, supported by Belleville-type washer. Belleville-type washers are completely enclosed and protected against ingress of dirt.
Operation:	By stem on two flats according to NAMUR recommendation.
Top flange:	DIN ISO 5211 for hand-operation by worm gear, pneumatic, electric or hydraulic actuator.
Test certificates:	EN 10204 2.2 or 3.1 B/C/A
Certification according to:	PED 97/23/EC manufactured to AD-2000 TA - Luft 2002 (Technical Instructions on Air Quality Control) Fire Safe BS 6755, part 2 (DN 25 - DN 100) DIN DVGW Reg.- No. NG-4313AP1147 (German Technical and Scientific Association for Gas and Water) DIN EN ISO 9001 - TÜV CERT -
Accessories:	Stem extension, locking and positioning device, heating jackets and high quality sensors (additional equipment on request).
Temperature range:	-50 °C to + 230 °C, depending on ball seats.
Application:	Neutral gases and fluids, mineral oil products, alkalis, corrosive fluids and gases.

NOTE

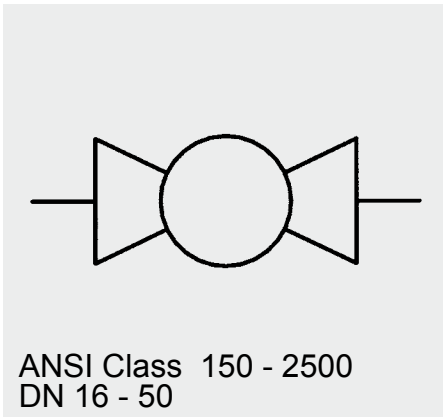
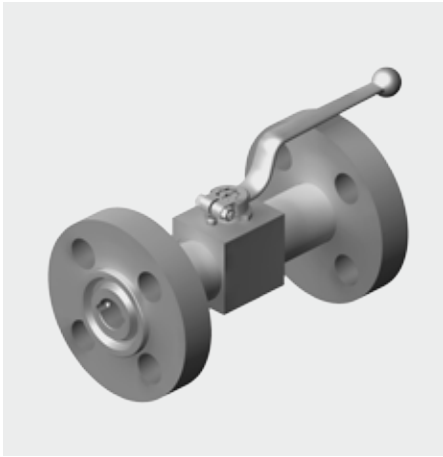
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ANSI Flange Ball Valves KHBF / KHMF

Model code

(also order example)

KHBF 16 A0150 ... 11141 06 X ...

Designation

KHBF = Block-type ball valve DN 16 – 25 (steel)
KHMF = Sleeve-type ball valve DN 32 – 50 (steel)
DN 16 – 50 (stainless steel)

Nominal bore

Pressure range ANSI class

150 220 psi / 15 bar
300 574 psi / 40 bar
400 768 psi / 54 bar
600 1151 psi / 81 bar
900 1725 psi / 121 bar
1500 2876 psi / 202 bar
2500 4792 psi / 337 bar

Sealing surface

... = smooth seal face (no details required)
RTJ = seal face with O-ring

Materials

Housing, connection adapters and control spindle

1 = steel
3 = stainless steel (1.4571)

Ball

1 = steel
3 = stainless steel (1.4571)

Ball seal

1 = POM (polyacetal)

Soft seal

4 = FKM (Viton)

Flanges

1 = steel
3 = stainless steel (1.4571)

(other materials on request)

Handle

06 = steel bolt-on handle, cranked (supplied loose)

Series

(determined by manufacturer)

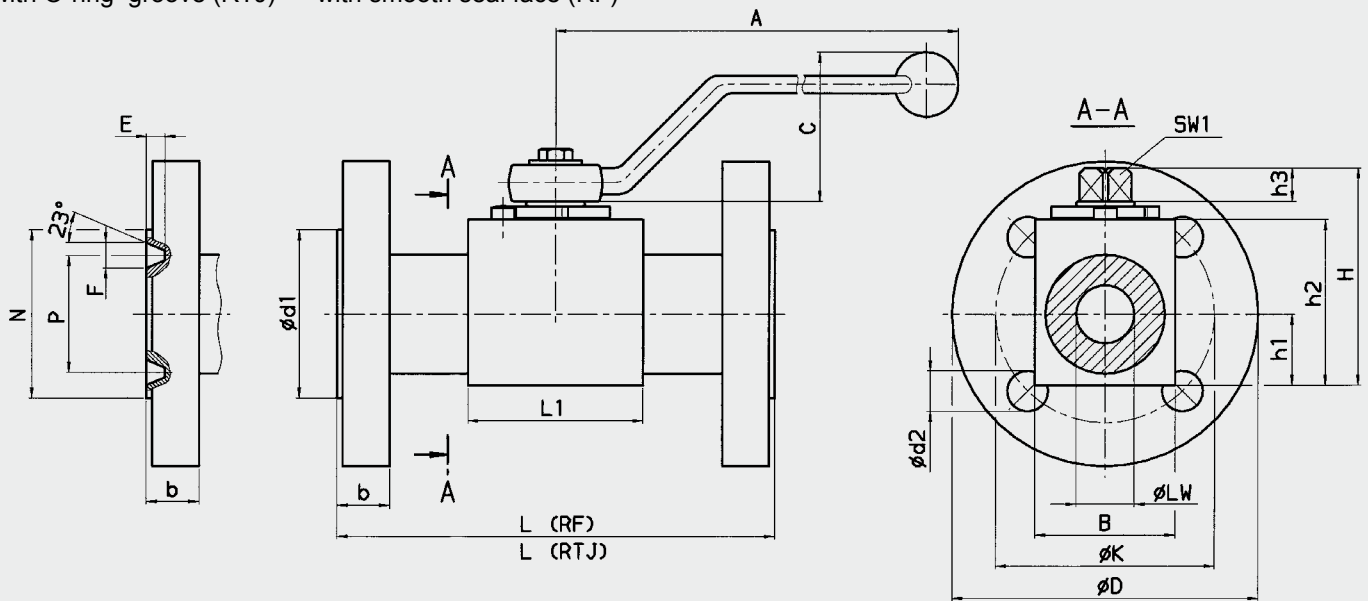
Surface protection

... = phosphate-plated (no details required)
A = zinc-plated, chrome (VI)-free

Dimensions

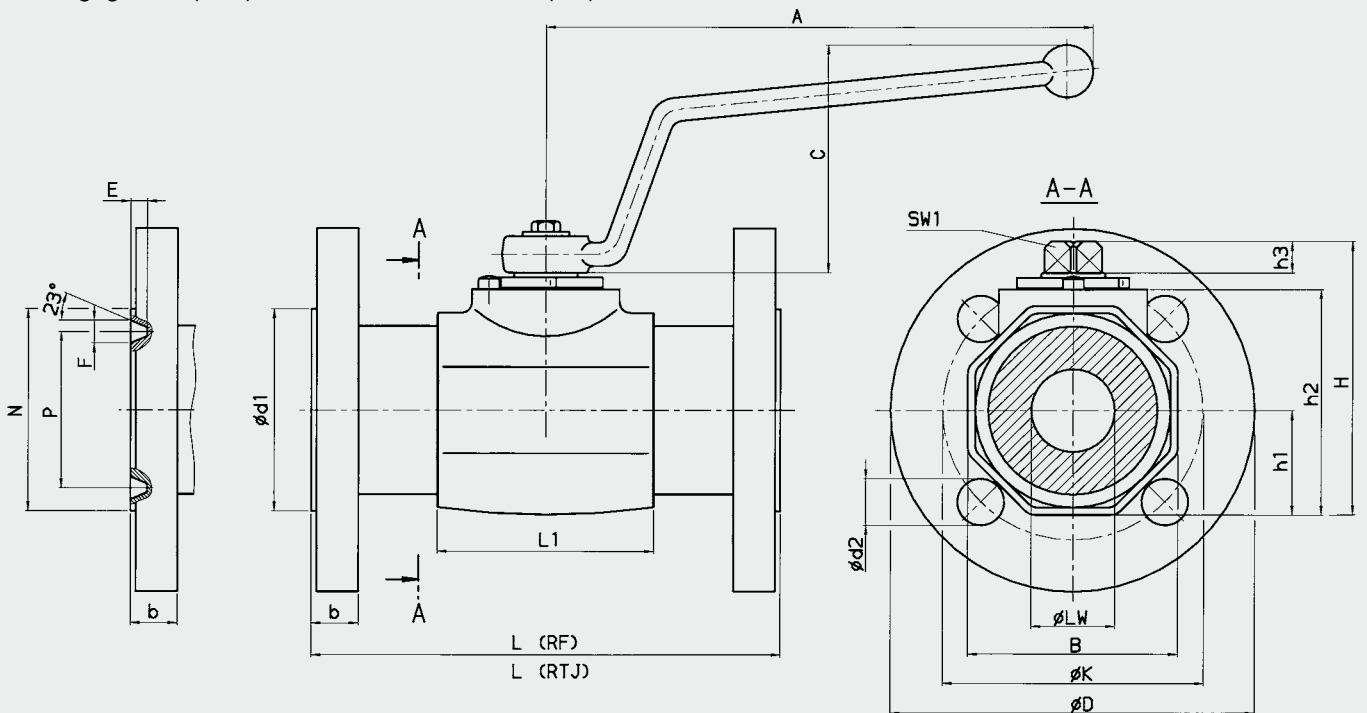
KHBF

with O-ring groove (RTJ) with smooth seal face (RF)



KHMF

with O-ring groove (RTJ) with smooth seal face (RF)



Type of constr.	Housing dimensions												PN (Ball valve) [bar]
	Type	DN	LW	L1	B	H	h1	h2	h3	SW1	A	C	
Block housing DN16-25 (steel)	KHBF-16	1/2"	15	47	38	62	19	45	11	12	169	59	400
	KHBF-20	3/4"	20	60	48	75	24.5	57	11	14	169	59	350
	KHBF-25	1"	25	65	57	81.5	28.5	64	11	14	169	59	350
Sleeve housing DN16-50 (stainless steel) DN32-50 (steel)	KHMF-16	1/2"	15	45.8	45	66.5	22.5	48.5	11	12	169	59	400
	KHMF-20	3/4"	20	58.3	55	78	27.5	60	11	14	169	59	350
	KHMF-25	1"	25	63.5	60	83.5	30	65.5	11	14	169	59	350
	KHMF-32	1 1/4"	30	84	75	103	38	85	12	17	228	80	350
	KHMF-40	1 1/2"	38	91	85	114	43	96	12	17	228	80	350
KHMF-50	2"	48	100	105	131.5	53	113	12	17	228	80	350	

Flange dimensions ANSI Class 150

DN	L (RF)	L (RTJ)	D	d1	d2	k	b	z*	N	P	F	E	Weight [kg]
16 - 1/2"	108	-	88.9	35.1	15.8	60.5	11.2	4	-	-	-	-	1.8
20 - 3/4"	117.4	-	98.6	42.9	15.8	69.9	12.7	4	-	-	-	-	2.9
25 - 1"	127	139.7	108	50.8	15.8	79.2	14.2	4	63.5	47.6	8.7	6.4	4.0
32 - 1 1/4"	139.7	152.4	117.3	63.5	15.8	88.9	15.7	4	73.2	57.2	8.7	6.4	6.4
40 - 1 1/2"	165.1	177.8	127	73.2	15.8	98.6	17.5	4	82.6	65.1	8.7	6.4	7.5
50 - 2"	177.8	190.5	152.4	91.9	19	120.7	19	4	101.6	82.6	8.7	6.4	11.1

Flange dimensions ANSI Class 300

DN	L (RF)	L (RTJ)	D	d1	d2	k	b	z*	N	P	F	E	Weight [kg]
16 - 1/2"	139.7	150.9	95.3	35.1	15.8	66.6	14.2	4	50.8	34.1	7.1	5.6	2.2
20 - 3/4"	152.4	165.1	117.4	42.9	19	82.6	15.7	4	63.5	42.9	8.7	6.4	3.9
25 - 1"	165.1	177.8	124	50.8	19	88.9	17.5	4	69.9	50.8	8.7	6.4	5.0
32 - 1 1/4"	177.8	190.5	133.4	63.5	19	98.6	19	4	79.3	60.3	8.7	6.4	8.3
40 - 1 1/2"	190.5	203.2	155.5	73.2	22.4	114.3	20.6	4	90.4	68.3	8.7	6.4	9.9
50 - 2"	215.9	231.7	165.1	91.9	19	127	22.4	8	108	82.6	11.9	7.9	12.8

Flange dimensions ANSI Class 400/600

DN	L (RF)	L (RTJ)	D	d1	d2	k	b	z*	N	P	F	E	Weight [kg]
16 - 1/2"	165.1	163.6	95.3	35.1	15.8	66.6	20.6	4	50.8	34.1	7.1	5.6	2.5
20 - 3/4"	190.5	190.5	117.4	42.9	19	82.6	22.1	4	63.5	42.9	8.7	6.4	4.4
25 - 1"	215.9	215.9	124	50.8	19	88.9	23.9	4	69.9	50.8	8.7	6.4	5.5
32 - 1 1/4"	228.6	228.6	133.4	63.5	19	98.6	26.9	4	79.3	60.3	8.7	6.4	9.2
40 - 1 1/2"	241.3	241.3	155.4	73.2	22.4	114.3	28.7	4	90.4	68.3	8.7	6.4	11.1
50 - 2"	292.1	295.2	165.1	91.9	19	127	31.8	8	108	82.6	11.9	7.9	14.7

Flange dimensions ANSI Class 900/1500

DN	L (RF)	L (RTJ)	D	d1	d2	k	b	z*	N	P	F	E	Weight [kg]
16 - 1/2"	215.9	215.9	120.7	35.1	22.4	82.6	28.7	4	60.5	39.7	8.7	6.4	4.9
20 - 3/4"	228.6	228.6	130.1	42.9	22.4	88.9	31.8	4	66.6	44.5	8.7	6.4	6.7
25 - 1"	254	254	149.4	50.8	25.4	101.6	34.8	4	71.4	50.8	8.7	6.4	9.7
32 - 1 1/4"	279.4	279.4	158.8	63.5	25.4	111.3	34.8	4	81	60.3	8.7	6.4	13.5
40 - 1 1/2"	304.8	304.8	177.8	73.2	28.5	124	38.1	4	92	68.3	8.7	6.4	17.4
50 - 2"	368.3	371.4	215.9	91.9	25.4	165.1	44.5	8	124	95.3	11.9	7.9	28.4

Flange dimensions ANSI Class 2500

DN	L (RF)	L (RTJ)	D	d1	d2	k	b	z*	N	P	F	E	Weight [kg]
16 - 1/2"	263.7	263.7	133.4	35.1	22.4	88.9	36.6	4	65	42.9	8.7	6.4	9.0
20 - 3/4"	273.1	273.1	139.7	42.9	22.4	95.3	38.1	4	73.2	50.8	8.7	6.4	11.5
25 - 1"	307.9	307.9	158.8	50.8	25.4	108	41.4	4	82.6	60.3	8.7	6.4	14.8
32 - 1 1/4"	349.3	352.3	184.2	63.5	28.5	130.1	44.5	4	101.6	72.2	11.9	7.9	21.9
40 - 1 1/2"	384.1	387.1	203.1	73.2	31.8	146	50.8	4	114.3	82.6	11.9	7.9	29.5
50 - 2"	450.9	453.9	235	91.9	28.5	171.5	57.2	8	133.4	101.6	11.9	7.9	43.0

z* = number of fixing holes

Technical specifications

Length:	ASME / ANSI - B16.10		
Flange dimensions:	ASME / ANSI - B16.5		
Flange connections:	Rotating flanges		
Mounting position:	Optional		
Ambient temperature:	-10 °C to +80 °C		
Nominal pressure:	up to PN 337 bar (see pressure range)		
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)		
Temperature of operating fluid:	-10 °C to +80 °C		
Spare parts:	Seal kits available on request		
Accessories:	All ball valves can be supplied with the following options:		Actuator Limit controls Lock

NOTE

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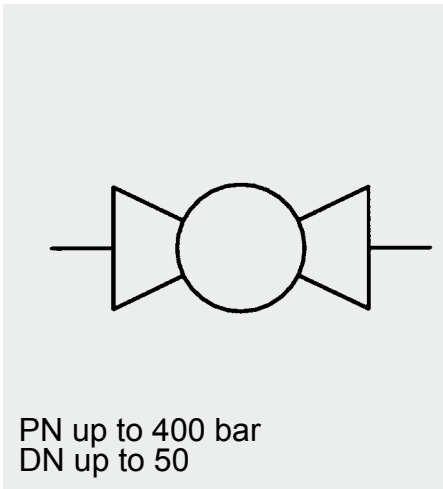
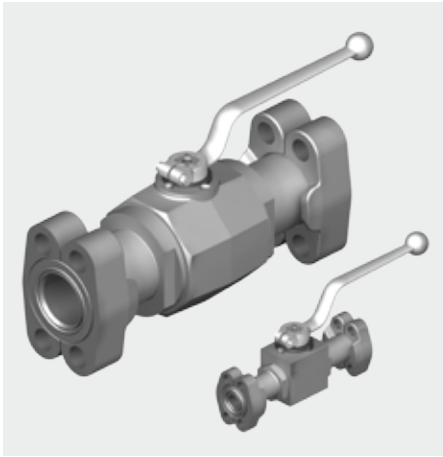
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SAE Flanged Ball Valves

KHB-F3/6 / KHM-F3/6



Model code

(also order example)

KHB 20 F3 11141 02 X

Designation

KHB = Block-type ball valve DN 16 - 25
KHM = Sleeve-type ball valve DN 32 - 50

Nominal bore

Type of SAE flange

Materials

Housing, connection adapters and control spindle

- 1 = steel
- 3 = stainless steel

Ball

- 1 = steel
- 3 = stainless steel

Ball seals

- 1 = POM

Control spindle seal and connection seal

- 4 = FKM (Viton)

SAE threaded flange

- 1 = steel
- 3 = stainless steel

Handle

- 02 = aluminium clamped handle, cranked
- 06 = steel bolt-on handle, cranked

Series

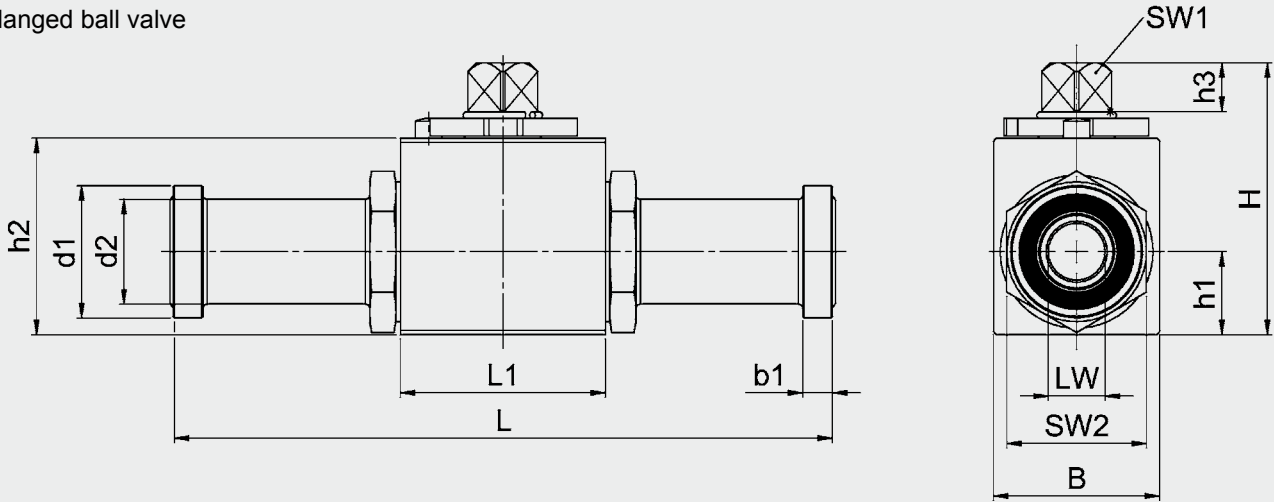
(determined by manufacturer)

Technical specifications

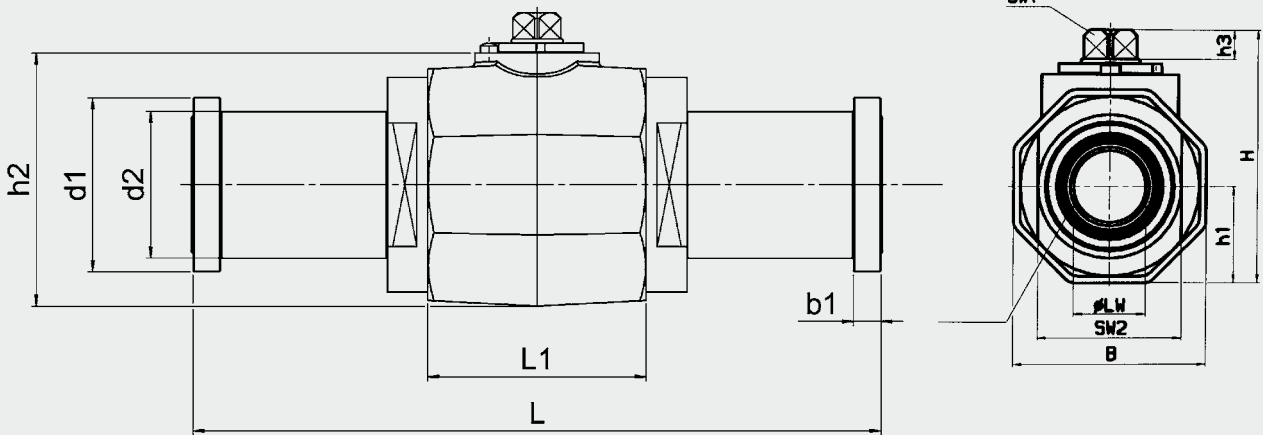
Type of construction:	Block-type KHB DN 16 - 25 Sleeve-type KHM DN 32 - 50
Flange dimensions:	ISO 6162, Table 1 and 2 (SAE J 518 c)
Flange connections:	SAE split flanges
Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 400 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request

Dimensions

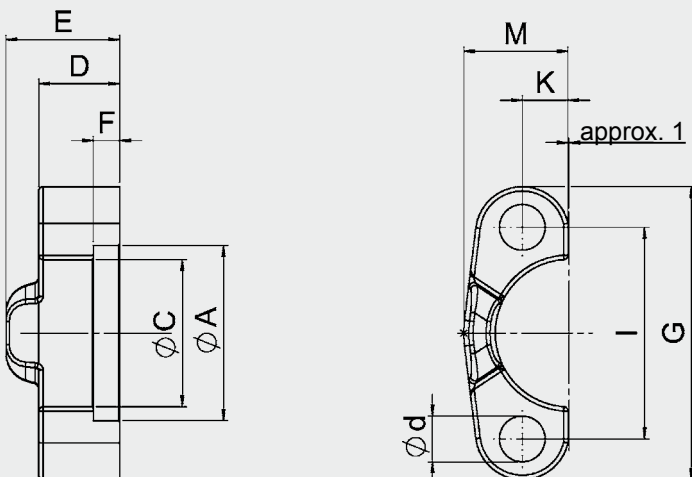
SAE flanged ball valve
KHB



KHM



SAE Split flanges



KHB / KHM - F3

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	b1	d1	d2	SW1	SW2	O-ring
KHB-16-F3	3/4"	16	16*	170	47	62	19	45	11	38	6.8	38.1	31.5	12	32	25x3.53
KHB-20-F3	3/4"	20	19	170	60	75	24.5	57	11.6	48	6.8	38.1	31.5	14	41	25x3.53
KHB-25-F3	1"	25	25	176.5	65	82	28.5	64	11.6	57	8	44.45	38	14	50	32.92x3.53
KHM-32-F3	1 1/4"	32	30	191.4	83.4	105.2	40	86.7	12	80	8	50.8	43	17	60	37.7x3.53
KHM-40-F3	1 1/2"	40	38	231	91	116.2	45	97.7	12	90	8	60.35	50	17	70	47.22x3.53
KHM-50-F3	2"	50	48	234	100	134.2	55.5	115.7	12	111	9.6	71.4	62	17	80	56.74x3.53

KHB / KHM - F3 - XL

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	b1	d1	d2	SW1	SW2	O-ring
KHM-32-F3-XL	1 1/4"	32	30	274	83.4	105.2	40	86.7	12	80	8	50.8	43	17	60	37.7x3.53
KHM-40-F3-XL	1 1/2"	40	38	320	91	116.2	45	97.7	12	90	8	60.35	50	17	70	47.22x3.53
KHM-50-F3-XL	2"	50	48	323	100	134.2	55.5	115.7	12	111	9.6	71.4	62	17	80	56.74x3.53

SAE Split flanges - F3

Type	A	C	D	E	F	M	K	I	G	d	Nominal size	Weight (kg)
KHB-16-F3	38.9	32.1	14	22	6.2	26	11.1	47.6	65	10.5	350	1.6
KHB-20-F3	38.9	32.1	14	22	6.2	26	11.1	47.6	65	10.5	350	2.1
KHB-25-F3	45.2	38.5	16	22	7.5	29.2	13.1	52.4	70	10.5	350	2.8
KHM-32-F3	51.6	43.7	14	22	7.5	36.3	15.1	58.7	80	12	275	4.7
KHM-40-F3	61.1	50.8	16	24	7.5	41.1	17.9	69.9	94	13.5	210	6.9
KHM-50-F3	72.2	62.7	16	26	9	48.2	21.4	77.8	102	13.5	210	9.7

KHB / KHM - F6

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	b1	d1	d2	SW1	SW2	O-ring
KHB-16-F6	3/4"	16	16*	170	47	62	19	45	11	38	8.8	41.3	32	12	32	25x3.53
KHB-20-F6	3/4"	20	19	170	60	75	24.5	57	11.6	48	8.8	41.3	32	14	46	25x3.53
KHB-25-F6	1"	25	25	198.5	65	82	28.5	64	11.6	57	9.5	47.6	38	14	50	32.92x3.53
KHM-32-F6	1 1/4"	32	30	223.4	83.4	105.2	40	86.7	12	80	10.3	54	44	17	60	37.7x3.53
KHM-40-F6	1 1/2"	40	38	281	91	116.2	45	97.7	12	90	12.6	63.5	51	17	70	47.22x3.53
KHM-50-F6	2"	50	48	315	100	134.2	55.5	115.7	12	111	12.6	79.4	67	17	80	56.74x3.53

KHB / KHM - F6 - XL

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	b1	d1	d2	SW1	SW2	O-ring
KHM-32-F6-XL	1 1/4"	32	30	322	83.4	105.2	40	86.7	12	80	10.3	54	44	17	60	37.7x3.53
KHM-40-F6-XL	1 1/2"	40	38	380	91	116.2	45	97.7	12	90	12.6	63.5	51	17	70	47.22x3.53
KHM-50-F6-XL	2"	50	48	385	100	134.2	55.5	115.7	12	111	12.6	79.4	67	17	80	56.74x3.53

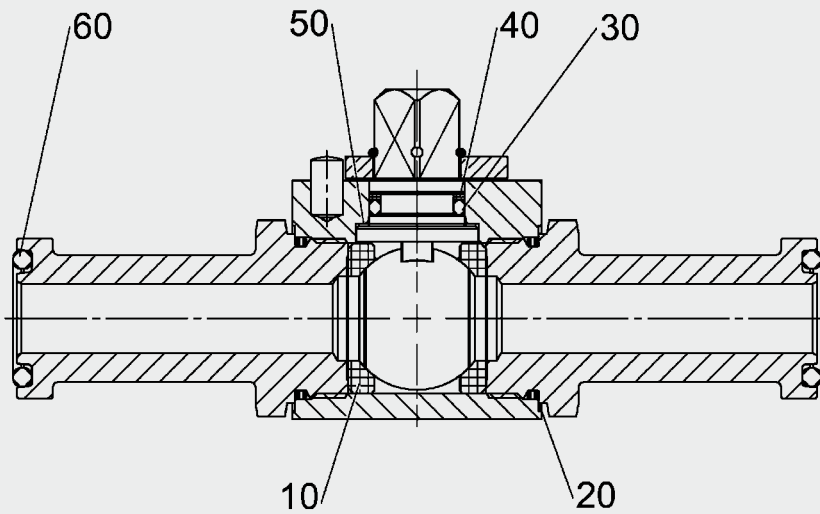
SAE Split flanges - F6

Type	A	C	D	E	F	M	K	I	G	d	Nominal size	Weight (kg)
KHB-16-F6	42	32.5	19	28	8.3	30	11.9	50.8	72	10.5	400	1.9
KHB-20-F6	42	32.5	19	28	8.3	30	11.9	50.8	72	10.5	350	2.5
KHB-25-F6	48.4	38.9	24	32	9	35	13.9	57.2	81	13	350	3.5
KHM-32-F6	54.8	44.5	27	38	9.8	39	15.9	66.7	96	15	350	6.4
KHM-40-F6	64.3	51.6	30	42	12.1	48	18.3	79.4	113	17	350	9.7
KHM-50-F6	80.2	67.6	37	52	12.1	57	22.2	96.8	134	21	350	14.7

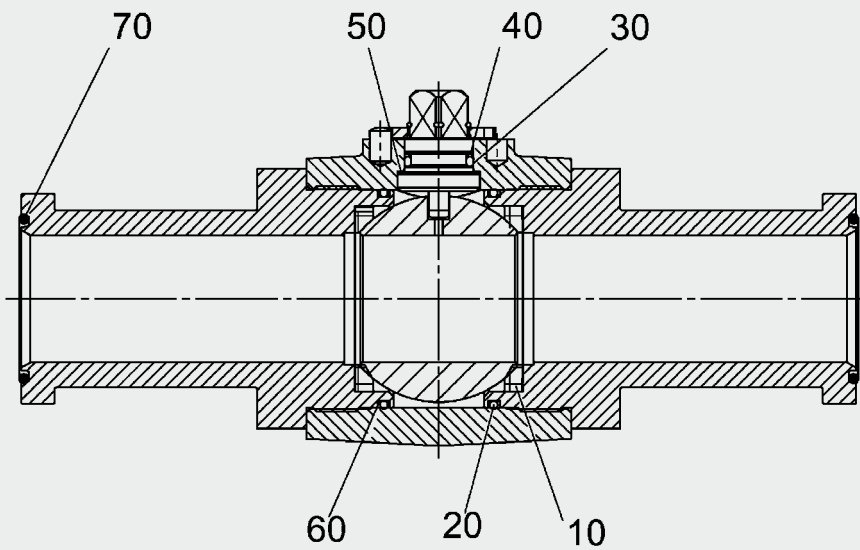
Spare parts

(Seal kit)

KHB, DN 16 - 25



KHM, DN 32 - 50



Seal kit	Order No. = Part No.
DN 16	554819
DN 20	703153
DN 25	703117
DN 32	703142
DN 40	703030
DN 50	703031

The parts indicated by numbers in the above drawing are contained in the seal kit.

NOTE

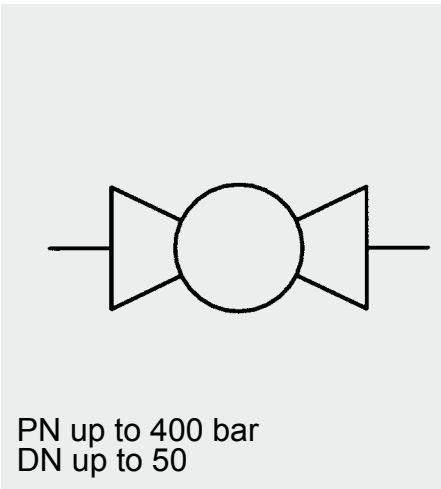
The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

SAE Threaded Flange Ball Valves

KHBG-F3/6 / KHMG-F3/6



Model code
(also order example)

KHBG 20 F3 11141 02 X ...

Designation

KHBG = Block type ball valve - threaded flange
DN 16 - 25

KHMG = Sleeve type ball valve - threaded flange
DN 32 - 50

Nominal bore

SAE flange type

F3
F6

Materials

Housing, connection adapters and control spindle

1 = steel
3 = stainless steel

Ball

1 = steel
3 = stainless steel

Ball seals

1 = POM

Control spindle seal and connection seal

4 = FKM (Viton)

SAE threaded flange

1 = steel
3 = stainless steel

Handle

02 = aluminium clamped handle, cranked
06 = steel bolt-on handle, cranked

Series

(determined by manufacturer)

Surface protection

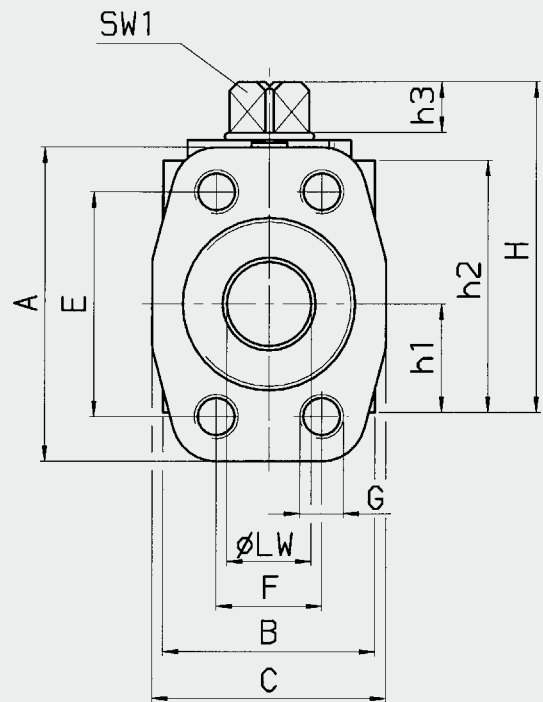
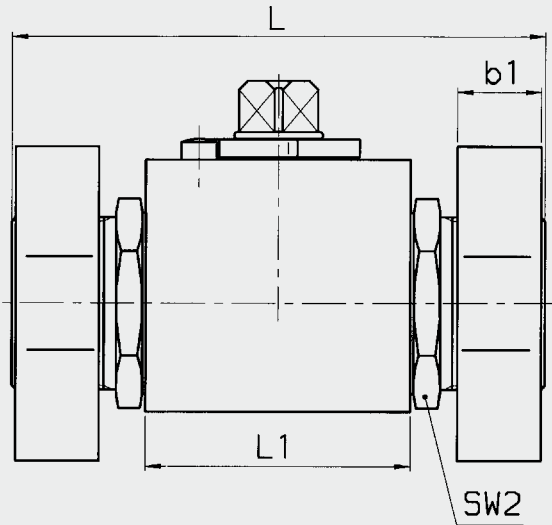
... = phosphate-plated (no details required)
A = zinc-plated, chrome (VI)-free

Technical specifications

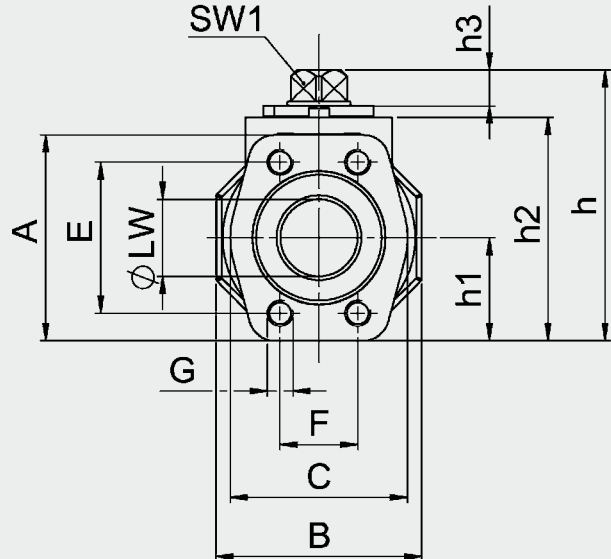
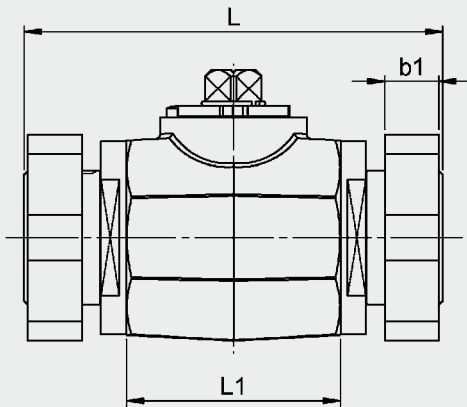
Type of construction:	Block type KHBG DN 16 - 25 Sleeve type KHMG DN 32 - 50
Type of connection:	ISO 6162, Table 1 and 2 (SAE J 518 c)
Flange connections:	SAE threaded flange
Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 400 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request, see Spare Parts List

Dimensions

SAE Threaded flange ball valve
KHBG



KHMG



KHBG / KHMG - F3

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	SW1	SW2
KHBG-16-F3	1/2"	16	13	104	47	62	19	45	11	38	12	32
KHBG-20-F3	3/4"	20	19	121	60	75	24.5	57	11.6	48	14	41
KHBG-25-F3	1"	25	25	133	65	82	28.5	64	11.6	57	14	50
KHMG-32-F3	1 1/4"	32	30	163	83.4	105.2	40	86.7	12	80	17	60
KHMG-40-F3	1 1/2"	40	38	168	91	116.2	45	97.7	12	90	17	70
KHMG-50-F3	2"	50	48	186	100	134.2	55.5	115.7	12	111	17	80

Flange F3

Type	b1	A	C	E	F	G	Nom. pressure PN [bar]	Weight (kg)
KHBG-16-F3	16	57	47	38.1	17.5	M8	350	1.1
KHBG-20-F3	18	66	49	47.6	22.3	M10	350	1.9
KHBG-25-F3	19	71	53	52.4	26.2	M10	350	2.4
KHMG-32-F3	21	80	69	58.7	30.2	M10	275	3.8
KHMG-40-F3	24	95	77	69.9	35.7	M12	210	4.5
KHMG-50-F3	24	103	89	77.8	42.9	M12	210	6.5

KHBG / KHMG - F6

Type	SAE size	DN	LW	L	L1	H	h1	h2	h3	B	SW1	SW2
KHBG-16-F6	1/2"	16	13	104	47	62	19	45	11	38	12	32
KHBG-20-F6	3/4"	20	19	121	60	75	24.5	57	11.6	48	14	46
KHBG-25-F6	1"	25	25	133	65	82	28.5	64	11.6	57	14	50
KHMG-32-F6	1 1/4"	32	30	163	83.4	105.2	40	86.7	12	80	17	60
KHMG-40-F6	1 1/2"	40	38	168	91	116.2	45	97.7	12	90	17	70
KHMG-50-F6	2"	50	48	186	100	134.2	55.5	115.7	12	111	17	80

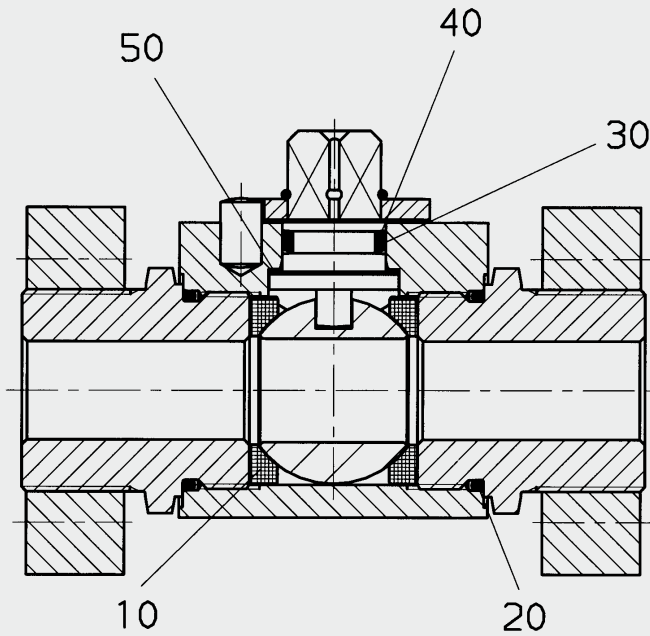
Flange F6

Type	b1	A	C	E	F	G	Nom. pressure PN [bar]	Weight (kg)
KHBG-16-F6	16	57	47	40.5	18.2	M8	400	1.2
KHBG-20-F6	19	71	53	50.8	23.8	M10	350	2
KHBG-25-F6	21	80	66	57.2	27.8	M12	350	2.6
KHMG-32-F6	24	94	77	66.6	31.8	M14	350	4
KHMG-40-F6	24	103	89	79.3	36.5	M16	350	4.7
KHMG-50-F6	30	135	123	96.9	44.5	M20	350	7.2

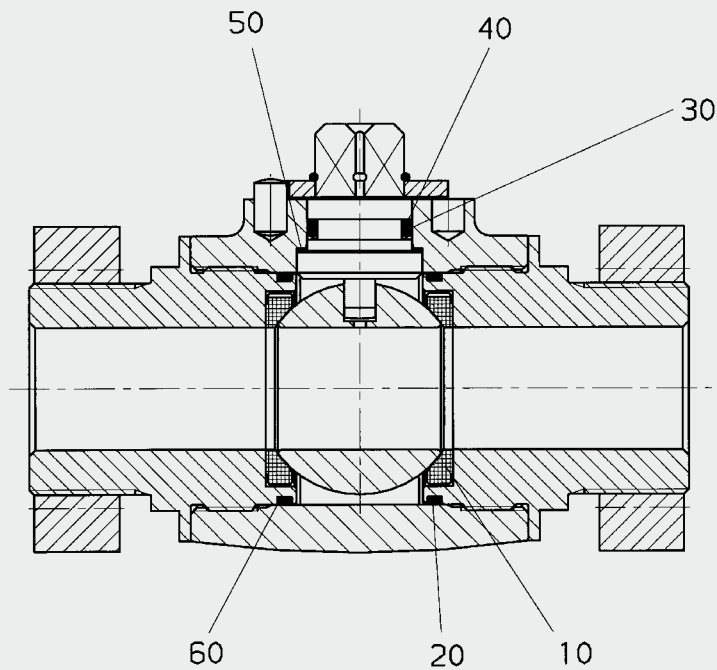
Spare parts

(Seal kit)

KHBG, DN 16 - 25



KHMG, DN 32 - 50



Seal kit	Order No. = Part No.
DN 16	703003
DN 20	703016
DN 25	700978
DN 32	703025
DN 40	703015
DN 50	701293

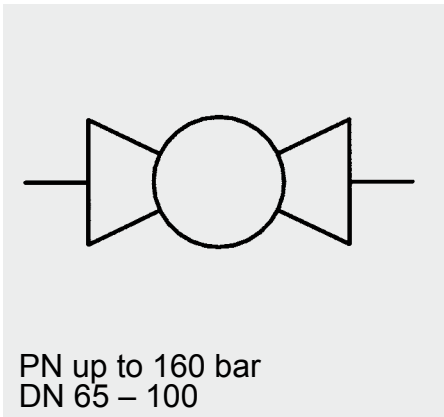
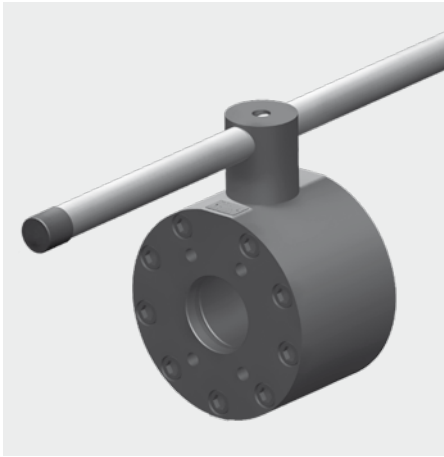
NOTE

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For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

SAE Fixed Flange Ball Valves KHF3



Model code
(also order example)

KHF3 65 1114 05 X A ...

Designation

KHF3 = Fixed flange ball valve DN 65 - 100

Nominal bore

Materials

Housing, housing flange, control spindle

- 1 = steel
- 3 = stainless steel

Ball

- 1 = steel
- 3 = stainless steel

Ball seal

- 1 = POM (polyacetal)

Soft seal

- 4 = FKM (Viton)

(other materials on request)

Handle

- 05 = steel bolt-on handle, straight

Series

(determined by manufacturer)

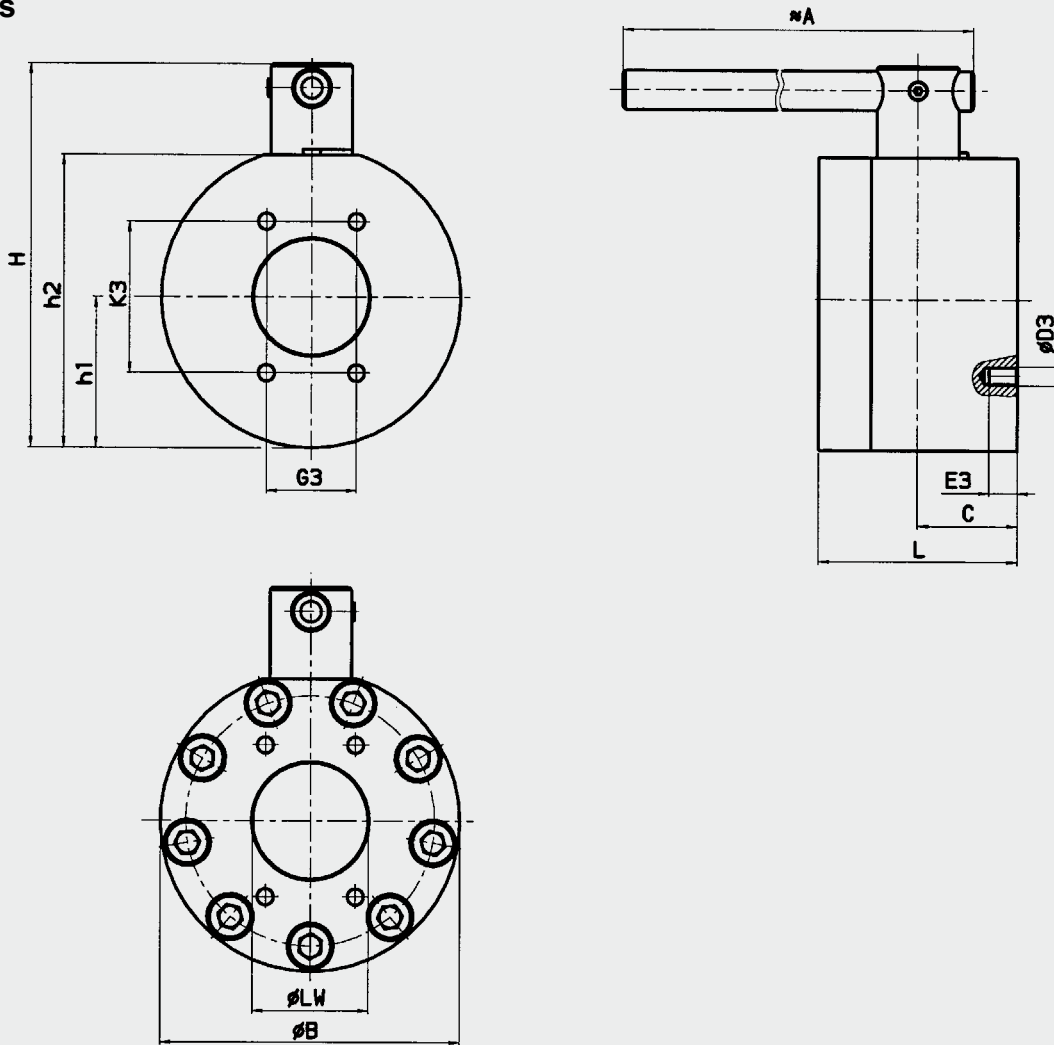
Surface protection

- ... = phosphate-plated (no details required)
- A = zinc-plated, chrome (VI)-free

Version

- ... = metric connection thread (no details required)
- UNC = UNC connection thread

Dimensions KHF3



Connection type			Housing dimensions								PN [bar]	Weight [kg]
	DN	SAE size	LW	L	C	H	h1	h2	B	A		
Fixed flange to ISO 6162 Table 1 (SAE J 518 c) SAE - F3	65	2 1/2"	63	150	75	274	99	193	198	800	160	33.3
	80	3"	76	140	70	290	105	209	210	800	100	40.0
	100	4"	100	170	85	332	129	251	258	800	25	59.5

DN	SAE Size	Connection dimensions - metric				Connection dimensions - UNC			
		K3	G3	D3	E3	K3	G3	D3	E3
65	2 1/2"	88.9	50.8	M12	20	88.9	50.8	1/2-13 UNC	20
80	3"	106.4	61.9	M16	24	106.4	61.9	5/8-11 UNC	24
100	4"	130.2	77.8	M16	24	130.2	77.8	5/8-11 UNC	24

Technical specifications

Mounting position:	optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 160 bar (see pressure range)
Operating fluids:	mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	seal kits available on request
Accessories:	All ball valves can be supplied with the following options: Actuator Limit switch Lock

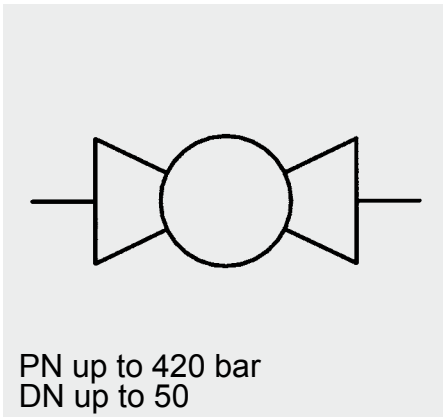
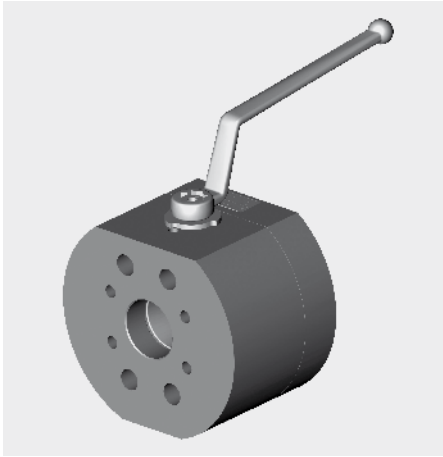
NOTE

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Subject to technical modifications.

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Fax: +49 (0)6897 - 509-1009
Internet: www.hydac.com
E-Mail: info@hydac.com



SAE Fixed Flange Ball Valves

KHF3/6

Model code

(also order example)

KHF3/6 20 1114 16 X A

Designation

KHF3/6 = Fixed flange ball valve

Nominal bore

Materials

Housing, connection adapters and control spindle

- 1 = steel
- 3 = stainless steel

Ball

- 1 = steel
- 3 = stainless steel

Ball seal

- 1 = POM
- 3 = PTFE
- 8 = PEEK

Control spindle seal

- 2 = NBR (Perbunan)
- 3 = PTFE
- 4 = FKM (Viton)

Handle

- 16 = steel bolt-on handle, cranked, fitted
- 18 = stainless steel bolt-on handle, cranked, fitted
- 36 = steel bolt-on handle, cranked, long, fitted

Series

(determined by manufacturer)

Surface protection

- ... = phosphate-plated (no details required)
- A = zinc-plated, chrome (VI)-free

Technical specifications

Types of connection:	SAE fixed flanges to ISO 6162, Table 1 and 2 (SAE J 518 c), either with metric or UNC thread
Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	420 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request

Metric thread version

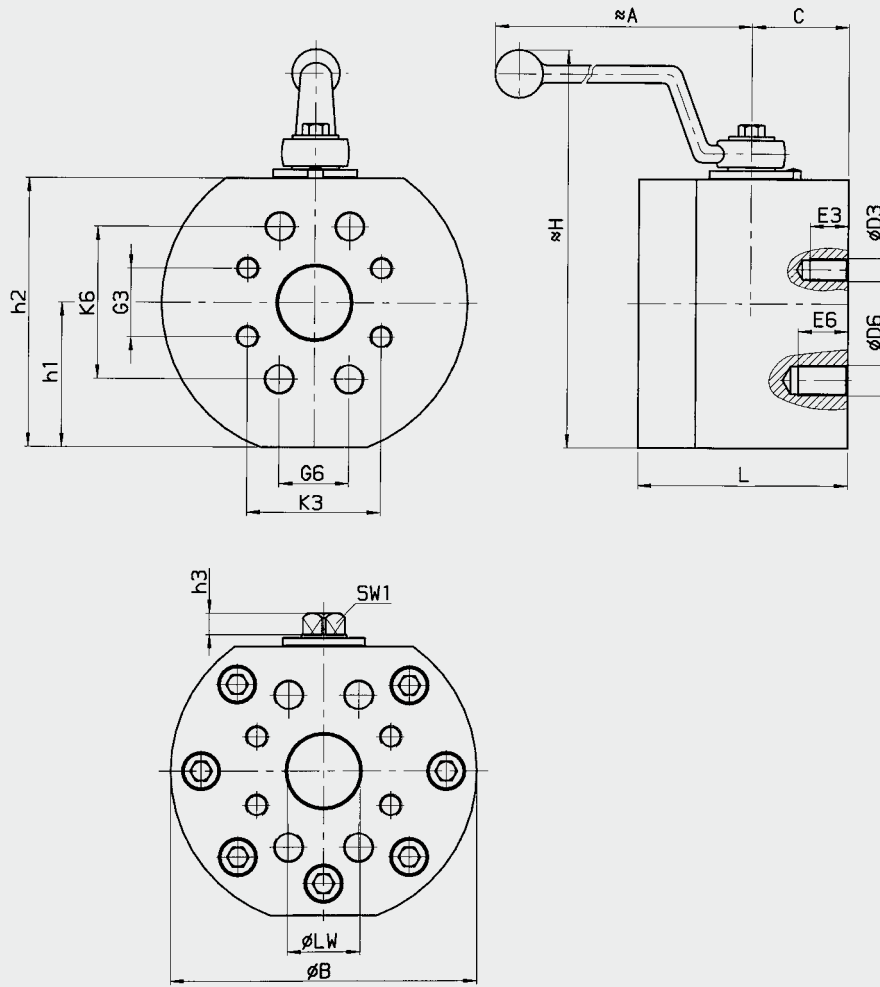
Connection type	SAE Size	Nominal bore / Type	Nominal bore DN	Nominal pressure PN [bar] *	Weight [kg]
Fixed flange connection to ISO 6162 Table 1+2 (SAE J 518 c) F3/F6	1/2 "	KHF3/6 - 16 - 1114-16X-G	16	420	2.5
	3/4 "	KHF3/6 - 20 - 1114-16X-G	20	420	3.9
	1 "	KHF3/6 - 25 - 1114-16X-G	25	420	6.0
	1 1/4 "	KHF3/6 - 32 - 1114-36X-G-M12	32	420	11.6
	1 1/4 "	KHF3/6 - 32 - 1114-36X-G-M14	32	420	11.6
	1 1/2 "	KHF3/6 - 40 - 1114-36X-G	40	420	16.4
	2 "	KHF3/6 - 50 - 1114-36X-G	50	420	24.9

UNC thread version

Connection type	SAE Size	Nominal bore / Type	Nominal bore DN	Nominal pressure PN [bar] *	Weight [kg]
Fixed flange connection to ISO 6162 Table 1+2 (SAE J 518 c) F3/F6	1/2 "	KHF3/6 - 16 - 1114-16X-UNC	16	420	2.5
	3/4 "	KHF3/6 - 20 - 1114-16X-UNC	20	420	3.9
	1 "	KHF3/6 - 25 - 1114-16X-UNC	25	420	6.0
	1 1/4 "	KHF3/6 - 32 - 1114-36X-UNC	32	420	11.6
	1 1/2 "	KHF3/6 - 40 - 1114-36X-UNC	40	420	16.4
	2 "	KHF3/6 - 50 - 1114-36X-UNC	50	420	24.9

* = The permitted operating pressure for the flange connection must be adhered to.

Dimensions



KHF3/6

Type	SAE size	DN	LW	L	C	H	h1	h2	h3	B	SW1	A
KHF3/6-16	1/2"	16	13	75	32.5	136.6	37.5	77.5	11	79	12	169
KHF3/6-20	3/4"	20	19	80	34.3	155.2	46	90	11.6	99	14	169
KHF3/6-25	1"	25	25	88	38	167.2	55	102	11.6	119	14	169
KHF3/6-32	1 1/4"	32	30	100	44	211.5	65	124	12	139	17	306
KHF3/6-40	1 1/2"	40	38	110	51	227.5	75	140	12	159	17	306
KHF3/6-50	2"	50	48	116	54	244	84	156.6	12	179	17	306

Connection dimensions - metric

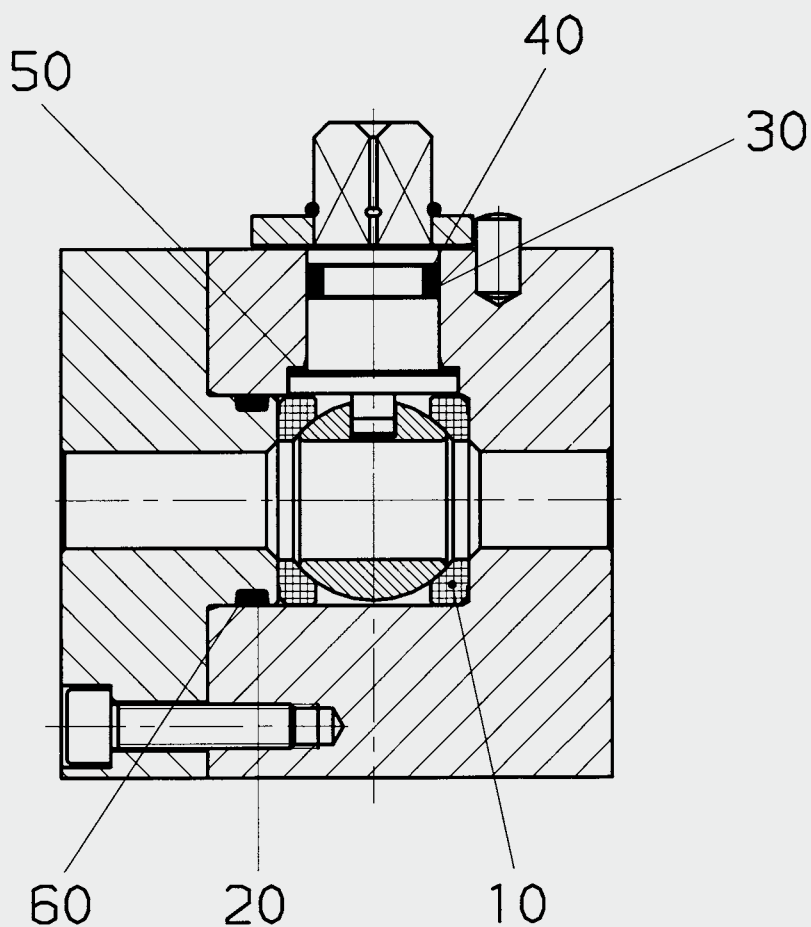
Type	K3	G3	D3	E3	K6	G6	D6	E6
KHF3/6-16	38.1	17.5	M8	16	40.5	18.2	M8	16
KHF3/6-20	47.6	22.3	M10	18	50.8	23.8	M10	18
KHF3/6-25	52.4	26.2	M10	18	57.2	27.8	M12	21
KHF3/6-32 / M12	58.7	30.2	M10	18	66.6	31.8	M12	21
KHF3/6-32 / M14	58.7	30.2	M10	18	66.6	31.8	M14	21
KHF3/6-40	69.9	35.7	M12	20	79.3	36.5	M16	26
KHF3/6-50	77.8	42.9	M12	22	96.8	44.5	M20	34

Connection dimensions - UNC

Type	K3	G3	D3	E3	K6	G6	D6	E6
KHF3/6-16	38.1	17.5	5/16-18-UNC	16	40.5	18.2	5/16-18-UNC	16
KHF3/6-20	47.6	22.3	3/8-16-UNC	18	50.8	23.8	3/8-16-UNC	19
KHF3/6-25	52.4	26.2	3/8-16-UNC	21	57.2	27.8	7/16-14-UNC	21
KHF3/6-32	58.7	30.2	7/16-14-UNC	18	66.6	31.8	1/2-13-UNC	21
KHF3/6-40	69.9	35.7	1/2-13-UNC	26	79.3	36.5	5/8-11-UNC	26
KHF3/6-50	77.8	42.9	1/2-13-UNC	22	96.8	44.5	3/4-10-UNC	30

Spare parts

(Seal kit)



Seal kit	Order No. = Part number
DN 16	3015691
DN 20	3015694
DN 25	3015695
DN 32	3015696
DN 40	3015697
DN 50	3015698

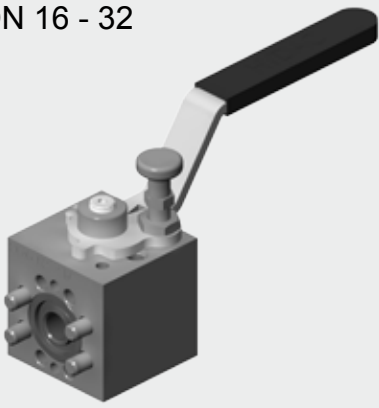
NOTE

The information in this brochure relates to the operating conditions and applications described.

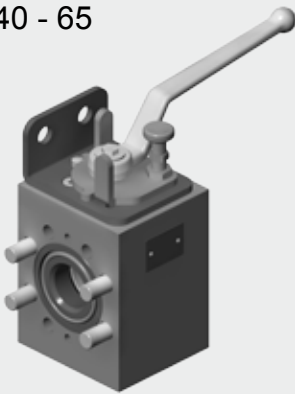
For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

DN 16 - 32



DN 40 - 65



PN up to 420 bar
DN up to 80

Direct Flange Ball Valves KHDF3 / KHDF6

Model code

(also order example)

KHDF3 16 1114 18X A X

Designation

KHDF3 = Direct flange ball valve 3000PSI
KHDF6 = Direct flange ball valve 6000PSI

Nominal bore

Materials

Housing, connection adapters and control spindle

1 = steel (standard)
3 = stainless steel

Ball

1 = steel (standard)
3 = stainless steel

Ball seal

1 = POM

Control spindle seal

2 = NBR (Perbunan)
4 = FKM (Viton) (Standard)

Handle

18 = stainless steel bolt-on handle, cranked DN16-32
16 = steel bolt-on handle, cranked DN40-80

Surface protection

... = phosphate-plated (no details required)
A = zinc-plated, chrome (VI)-free

Options

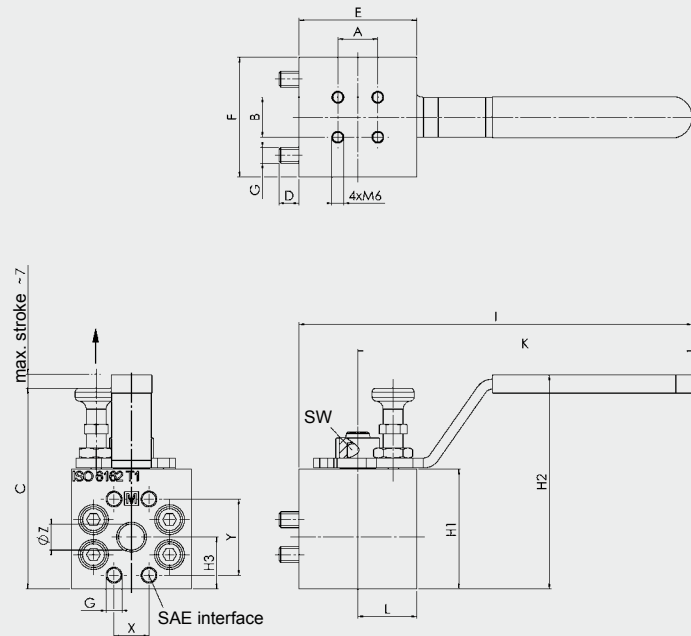
SO 760 = can be locked in open and closed position using padlock.
Padlock not supplied
I-1.300 = adapted for proximity switch M12,
monitoring of ball valve in either open, closed or both positions
I-1.200 = with standard proximity switch M12,
monitoring of ball valve in open position
I-3.200 = with 2 standard proximity switches M12,
monitoring of ball valve in open and closed positions

Note

For DN40-50-65 the ball is trunnion mounted (double bearing, easy operation)
Detent on open and closed position as standard
4 mounting bolts are supplied

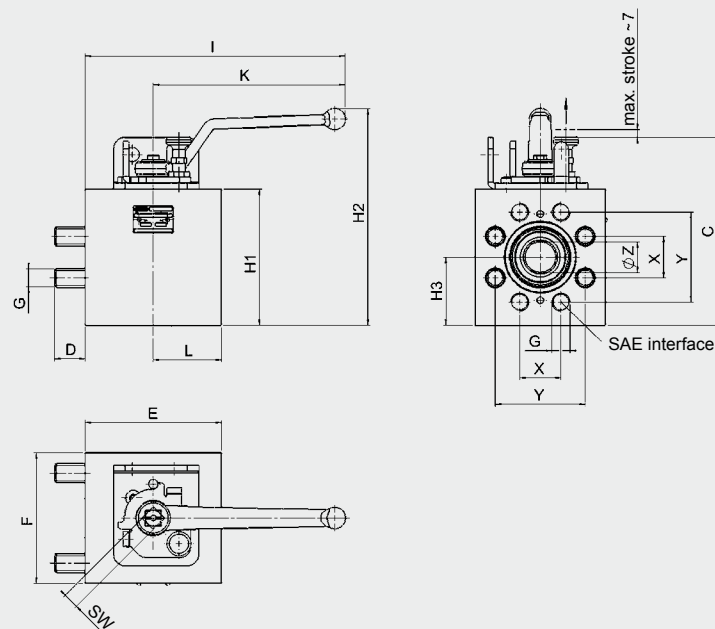
Dimensions

KHDF3



Type	A	B	C	D	E	F	G	H1	H2	H3	I	K	L	X	Y	SW	Z	PN		Proximity switch
																		bar	PSI	
KHDF3-16	20	20	100.6	10	59	60	M8	60	107.1	26	197	167	29.5	17.5	38.1	12	13	350	5000	
KHDF3-20	20	20	111	12.6	68	70	M10	70	118	32.5	206	170	32	22.3	47.6	14	19	350	5000	
KHDF3-25	25	25	116	11.6	69	75	M10	75	123	37.5	206	170	33	26.2	52.4	14	20	350	5000	
KHDF3-32	25	25	126	12	81	85	M10	85	133	42.5	209	170	42	30.2	58.7	14	25	250	3600	
KHDF3-40			165.5	19	84	94	M12	120	190.7	60	208	169	45	35.7	69.9	14	27	210	3000	M12
KHDF3-50			185.4	19	94	102	M12	140	238.7	70	275	228	47	42.9	77.8	17	35	210	3000	M12
KHDF3-65			200.4	19	114	120	M12	155	253.7	77.5	286	228	56	50.8	88.9	17	45	160	2300	M12
KHDF3-80			217	25.5	162	158	M16	171	258	85.5	381	300	81	61.9	106.4	22	55	100	1400	M18

KHDF6



Type	A	B	C	D	E	F	G	H1	H2	H3	I	K	L	X	Y	SW	Z	PN		Proximity switch
																		bar	PSI	
KHDF6-16	20	20	105.6	13.5	65	60	M8	65	112.1	31	200	167	32.5	18.2	40.5	12	13	400	5800	
KHDF6-20	20	20	116	15	71	75	M10	75	123	37.5	206	170	35	23.8	50.8	14	19	400	5800	
KHDF6-25	25	25	126	18	81	85	M12	85	133	42.5	209	170	42	27.8	57.2	14	25	400	5800	
KHDF6-32	25	25	141	20	81	100	M12	100	147	49.5	209	147	42	31.8	66.6	14	25	400	5800	
KHDF6-32	25	25	141	19	81	100	M14	100	147	49.5	209	170	42	31.8	66.6	14	25	400	5800	
KHDF6-40			165.4	27	120	115	M16	120	190.7	60	229	169	60	36.5	79.3	14	32	420	6000	M12
KHDF6-50			185.5	29	142	135	M20	140	238.8	70	299	228	71	44.5	96.8	17	35	420	6000	M12

Technical specifications

Types of connection	SAE fixed flanges to ISO 6161, Table 1 and 2 (SAE J 518c)
Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	210 bar or 420 bar
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Spare parts	Seal kits available on request

NOTE

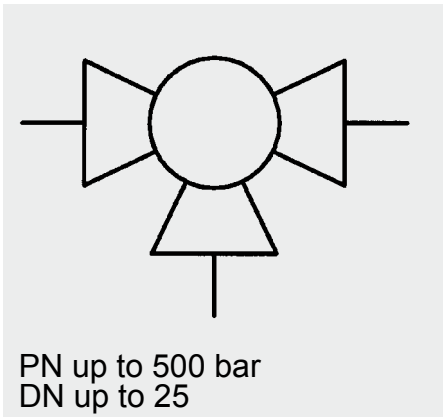
The information in this brochure relates to the operating conditions and applications described.

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Subject to technical modifications.

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E-Mail: info@hydac.com





3/2 Way Ball Valves KHB3K

Model code

(also order example)

KHB3K G 1/2 L 1112 01 X A

Designation

KHB3K = 3/2 way ball valve

Type of connection

G = Whitworth female thread ISO 228
LR = Pipe connection - light range DIN 2353
SR = Pipe connection - heavy range DIN 2353
NPT = Female thread ANSI B 1.20.1

Ball bore

Materials

Housing, connection adapters and control spindle

1 = Steel
3 = Stainless steel

Ball

1 = Steel
3 = Stainless steel

Ball seal

1 = POM
3 = PTFE
8 = PEEK

Control spindle seal

2 = NBR (Perbunan)
3 = PTFE
4 = FKM (Viton)

Handle

01 = Aluminium clamped handle, straight
02 = Aluminium clamped handle, cranked
03 = Zinc die-cast clamped handle, straight
04 = Zinc die-cast bolt-on handle, cranked
06 = Steel bolt-on handle, cranked
09 = Without handle

Series

(determined by manufacturer)

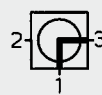
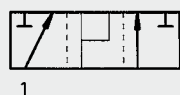
Surface protection

... = phosphate-plated (no details required)
A = zinc-plated, chrome (VI)-free

Function diagram

3/2 way ball valve L-bore 90° switch

2 3



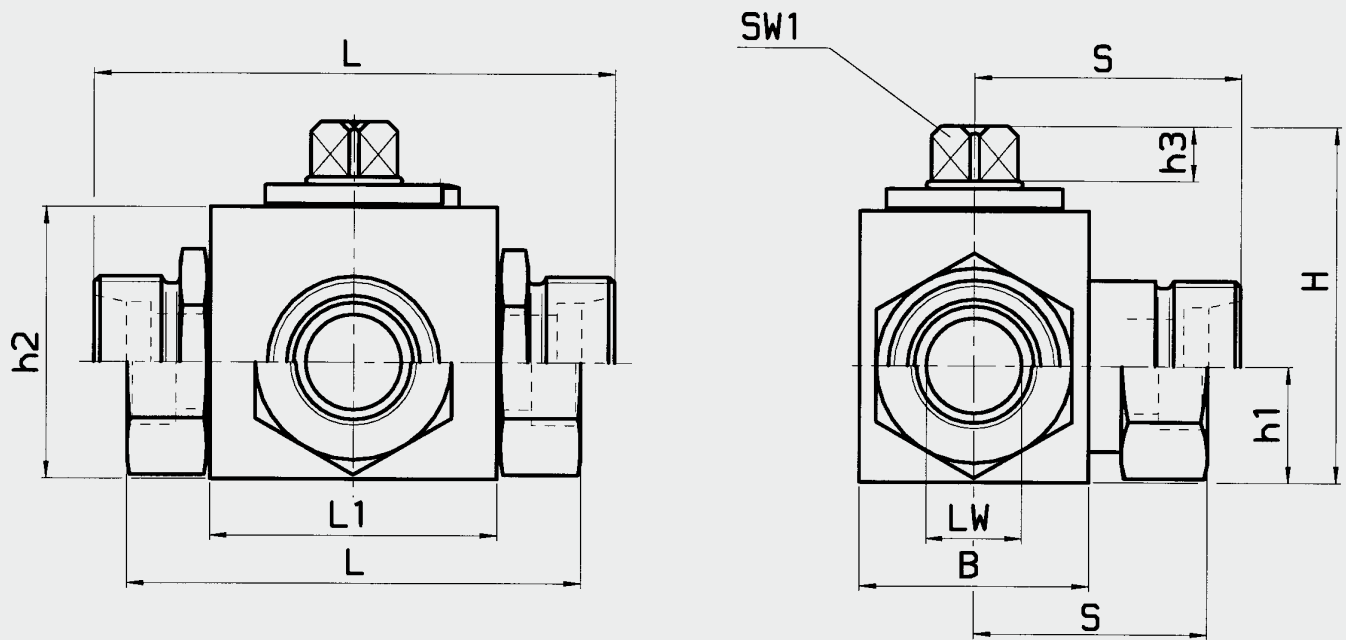
* undefined switching position

Technical specifications

Types of connection:	Light and heavy threaded pipe connection to DIN 2353 Whitworth female thread to ISO 228 NPT SAE
Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 500 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request

Dimensions

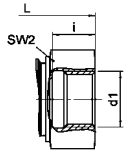
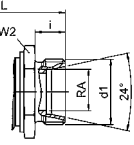
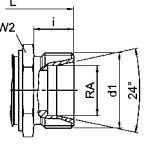
3/2 way ball valve



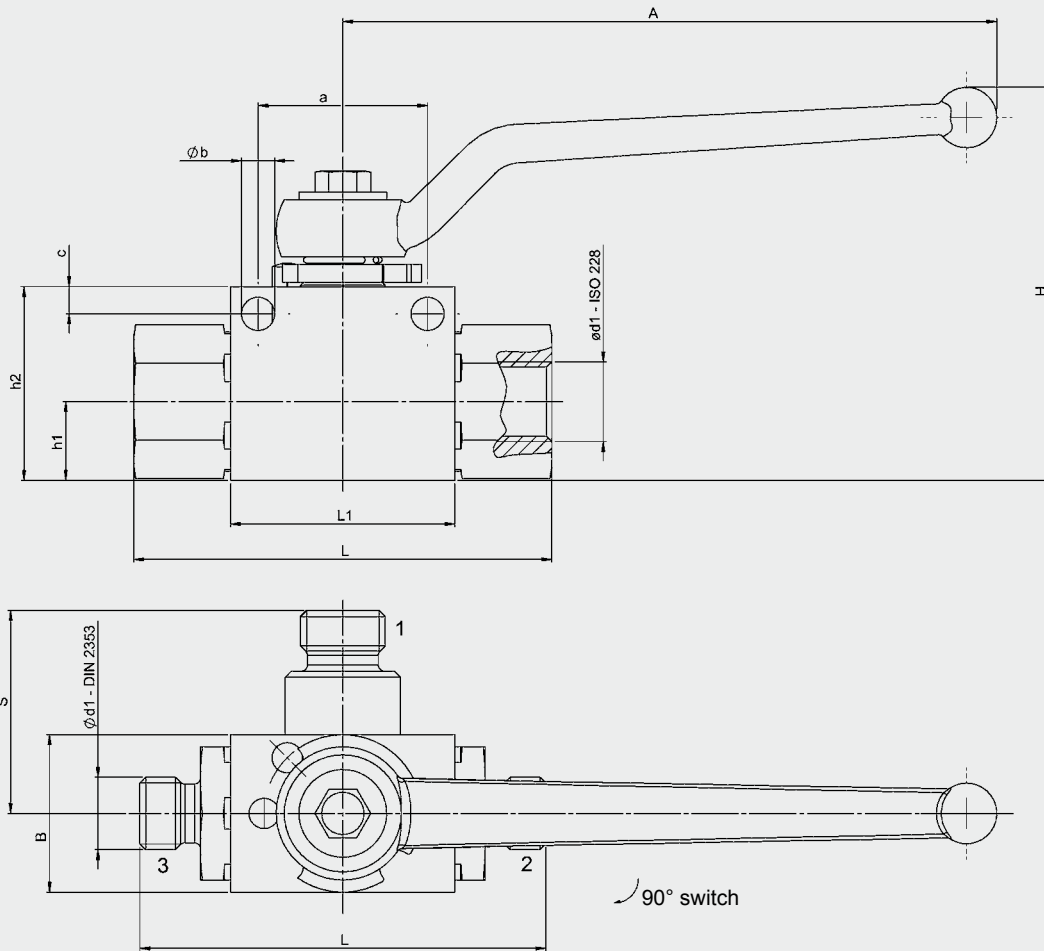
Steel

Connection type	Type	DN	Int. dia.	RA	d1	i	L	L1	B	H	h1	h2	h3	S	SW1	SW2	Wt. [kg]	Nom. press. PN [bar]
DIN ISO 228 Female thread	KHB3K-G1/8	4	8	-	G1/8	10	69	37	26	43.7	13	32	7	34.5	9	22	0.40	500
	KHB3K-G1/4	6	8	-	G1/4	14	69	37	26	43.7	13	32	7	34.5	9	22	0.49	500
	KHB3K-G3/8	10	10	-	G3/8	14	72	42	32	53.2	17.2	40	8.5	36	9	27	0.61	500
	KHB3K-G1/2	13	12	-	G1/2	15	84	47	35	53.2	17.2	40	8.5	41.5	9	30	0.76	500
	KHB3K-G1/2	16	15	-	G1/2	16	83	47	38	62.2	19	45	11	41.5	12	32	0.87	400
	KHB3K-G3/4	20	20	-	G3/4	18	95	60	49	77.8	27.5	60	11.6	47.5	14	41	1.57	315
	KHB3K-G1	25	25	-	G1	20.5	113	65	58	82.6	29.5	65	11.6	56.5	14	50	2.36	315
	KHB3K-G11/4	32	30	-	G11/4	20	110	76	80	108.5	43.3	90	12	70.5	17	65	5.50	350
	KHB3K-G11/2	40	35	-	G11/2	24	120	85	87	114.7	43.5	96.2	12	72	17	75	6.40	350
	KHB3K-G2	50	44	-	G2	28	150	120	120	138.5	59.8	120	12	75	17	80	16.90	350
DIN 2353 Light range	KHB3K-06LR	4	4	6	M12x1.5	7	67	37	26	43.7	13	32	7	33.5	9	22	0.30	500
	KHB3K-08LR	6	6	8	M14x1.5	7	67	37	26	43.7	13	32	7	33.5	9	22	0.38	500
	KHB3K-10LR	8	8	10	M16x1.5	11	74	42	32	53.2	17.2	40	8.5	37	9	27	0.55	500
	KHB3K-12LR	10	10	12	M18x1.5	11	74	42	32	53.2	17.2	40	8.5	37	9	27	0.55	500
	KHB3K-15LR	13	12	15	M22x1.5	12	82	47	35	53.2	17.2	40	8.5	41	9	30	0.69	500
	KHB3K-18LR	13	12	18	M26x1.5	12	82	47	35	53.2	17.2	40	8.5	41	9	30	0.77	500
	KHB3K-18LR	16	15	18	M26x1.5	12	82	47	38	62.2	19	45	11	41	12	32	0.78	400
	KHB3K-22LR	20	19	22	M30x2	14	101	60	49	77.8	27.5	60	11.6	50.5	14	41	1.49	315
	KHB3K-28LR	25	24	28	M36x2	14	108	65	58	82.6	29.5	65	11.6	54	14	50	1.98	315
	KHB3K-35LR	32	30	35.3	M45x2	16	128	76	80	108.5	43.3	90	12	69	17	65	2.90	350
KHB3K-42LR	40	35	42.3	M52x2	16	149	85	87	114.7	43.5	96.2	12	74.5	17	75	5.20	350	
DIN 2353 Heavy range	KHB3K-08SR	4	5	8	M16x1.5	7	73	37	26	43.7	13	32	7	36.5	9	22	0.41	500
	KHB3K-10SR	6	7	10	M18x1.5	7.5	73	37	26	43.7	13	32	7	36.5	9	22	0.41	500
	KHB3K-12SR	8	8	12	M20x1.5	12	76	42	32	53.2	17.2	40	8.5	38	9	27	0.58	500
	KHB3K-14SR	10	10	14	M22x1.5	14	80	42	32	53.2	17.2	40	8.5	40	9	27	0.71	500
	KHB3K-16SR	13	12	16	M24x1.5	14	86	47	35	53.2	17.2	40	8.5	43	9	30	0.79	500
	KHB3K-20SR	13	12	20	M30x2	16	90	47	35	53.2	17.2	40	8.5	45	9	30	0.84	500
	KHB3K-20SR	16	15	20	M30x2	16	90	47	38	62.2	19	45	11	45	12	32	1.54	400
	KHB3K-25SR	20	20	25	M36x2	18	109	60	49	77.8	27.5	60	11.6	54.5	14	41	2.11	315
	KHB3K-30SR	25	25	30	M42x2	20	120	65	58	82.6	29.5	65	11.6	60	14	50	2.40	315
	KHB3K-38SR	32	30	38.3	M52x2	22	140	76	80	108.5	43.3	90	12	74	17	65	2.60	350
ANSI B1.20.1 NPT female thread	KHB3K-06NPT	6	8	-	1/4-18 NPT	10.21	69	37	26	43.7	13	32	7	34.5	9	22	0.60	500
	KHB3K-10NPT	10	10	-	3/8-18 NPT	10.36	72	42	32	53.2	17.2	40	8.5	36	9	27	0.60	500
	KHB3K-16NPT	13	12	-	1/2-14 NPT	13.56	84	47	35	53.2	17.2	40	8.5	41.5	9	30	0.30	500
	KHB3K-16NPT	16	15	-	1/2-14 NPT	13.56	83	47	38	62.2	19	45	11	41.5	12	32	0.80	400
	KHB3K-20NPT	20	20	-	3/4-14 NPT	13.86	95	60	49	77.8	27.5	60	11.6	47.5	14	41	1.57	315
	KHB3K-25NPT	25	25	-	1-11 1/2 NPT	17.34	113	65	58	82.6	29.5	65	11.6	56.5	14	50	2.20	315
	KHB3K-32NPT	25	25	-	1 1/4-11 1/2 NPT	17.95	120	65	58	86.5	29.5	65	12.4	60	17	50		315
	KHB3K-32NPT	32	32	-	1 1/4-11 1/2 NPT	17.95	115	76	110	108.5	43.3	90	12	70	17	65	5.90	350
	KHB3K-40NPT	40	35	-	1 1/2-11 1/2 NPT	18.38	135	85	118.5	114.7	43.5	96.2	12	75	17	75	7.90	350
	KHB3K-50NPT	50	48	-	2 - 11 1/2 NPT	19.22	150	120	145	138.5	59.8	120	12	85	17	80	13.80	350
SAE J 5/4 UN/UNF Female thread	KHB3K-06SAE	6	8	-	7/16-20 UNF	12	69	37	26	43.7	13	32	7	34.5	9	22	0.36	500
	KHB3K-10SAE	10	10	-	9/16-18 UNF	13	72	42	32	53.2	17.2	40	8.5	36	9	27	0.54	500
	KHB3K-16SAE	16	15	-	3/4-16 UNF	15	83	47	38	62.2	19	45	11	41.5	12	32	0.80	500
	KHB3K-20SAE	20	20	-	1 1/16-12 UN	20	100	65	58	77.8	27.5	60	11.6	56.5	14	41	1.45	315
	KHB3K-25SAE	25	25	-	1 5/16-12 UN	20	113	65	58	82.5	29.5	65	11.6	56.5	14	50	2.28	315
	KHB3K-32SAE	32	32	-	1 5/8-12 UN	20	110	76	110.5	108.5	43.3	90	12	40.5	17	65	5.60	350
	KHB3K-40SAE	40	35	-	1 7/8-12 UN	20	120	85	119	114.7	43.5	96.2	12	75.5	17	75	7.40	350
	KHB3K-50SAE	50	48	-	2 1/2-12 UN	20	150	120	145.5	138.5	59.8	120	12	85.5	17	80	14.50	350

Stainless steel

Connection type	Type	DN	Int. Ø.	RA	d1	i	L	L1	B	H	h1	h2	h3	S	SW1	SW2	Wt. [kg]	Nom. press. PN [bar]
DIN ISO 228 Female thread 	KHB3K-G1/8	4	8	–	G1/8	10	69	37	29	45.2	14.5	33.5	7	34.5	9	22	0.41	500
	KHB3K-G1/4	6	8	–	G1/4	14	69	37	29	45.2	14.5	33.5	7	34.5	9	22	0.49	500
	KHB3K-G3/8	10	10	–	G3/8	14	72	42	35	50.7	17.2	40	8.5	36	9	27	0.62	500
	KHB3K-G1/2	13	12	–	G1/2	16	84	42	35	53.2	17.2	40	8.5	41.5	9	30	0.8	500
	KHB3K-G1/2	16	15	–	G1/2	16	82.8	47	41	63.7	20.5	46.5	11	41.5	12	32	1	400
	KHB3K-G3/4	20	20	–	G3/4	18	95	60	49	77.8	27.5	60	11.6	47.5	14	41	1.9	315
	KHB3K-G1	25	25	–	G1	20.5	113	65	58	82.6	29.5	65	11.6	56.5	14	50	2.4	315
DIN 2353 Light range 	KHB3K-06LR	4	4	6	M12x1.5	10	67	37	29	45.2	14.5	33.5	7	33.5	9	22	0.36	500
	KHB3K-08LR	6	6	8	M14x1.5	10	67	37	29	45.2	14.5	33.5	7	33.5	9	22	0.36	500
	KHB3K-10LR	8	8	10	M16x1.5	11	74	42	35	53.2	17.2	40	8.5	37	9	27	0.72	500
	KHB3K-12LR	10	10	12	M18x1.5	11	74	42	35	53.2	17.2	40	8.5	37	9	27	0.73	500
	KHB3K-15LR	13	12	15	M22x1.5	12	82	42	35	53.2	17.2	40	8.5	41	9	30	0.9	500
	KHB3K-18LR	13	12	18	M26x1.5	12	82	42	35	53.2	17.2	40	8.5	41	9	30	0.92	500
	KHB3K-18LR	16	15	18	M26x1.5	12	81.8	47	41	63.7	20.5	46.5	11	41	12	32	0.95	400
	KHB3K-22LR	20	19	22	M30x2	14	101	60	49	77.8	27.5	60	11.6	50.5	14	41	2.02	315
	KHB3K-28LR	25	24	28	M36x2	14	108	65	58	82.6	29.5	65	11.6	54	14	50	2.13	315
DIN 2353 Heavy range 	KHB3K-08SR	4	5	8	M16x1.5	12	73	37	29	45.2	14.5	33.5	7	36.5	9	22	0.39	500
	KHB3K-10SR	6	7	10	M18x1.5	12	73	37	29	45.2	14.5	33.5	7	36.5	9	22	0.39	500
	KHB3K-12SR	8	8	12	M20x1.5	12	76	42	35	53.2	17.2	40	8.5	38	9	27	0.74	500
	KHB3K-14SR	10	10	14	M22x1.5	14	80	42	35	53.2	17.2	40	8.5	40	9	27	0.77	500
	KHB3K-16SR	13	12	16	M24x1.5	14	81	42	35	53.2	17.2	40	8.5	40.5	9	30	0.92	500
	KHB3K-20SR	13	12	20	M30x2	16	85	42	35	53.2	17.2	40	8.5	42.5	9	32	1.02	500
	KHB3K-20SR	16	15	20	M30x2	16	89.8	47	41	63.7	20.5	46.5	11	45	12	32	1.6	400
	KHB3K-25SR	20	20	25	M36x2	18	109	60	49	77.8	27.5	60	11.6	54.5	14	41	2.2	315
	KHB3K-30SR	25	25	30	M42x2	20	120	65	58	82.6	29.5	65	11.6	60	14	50	2.4	315

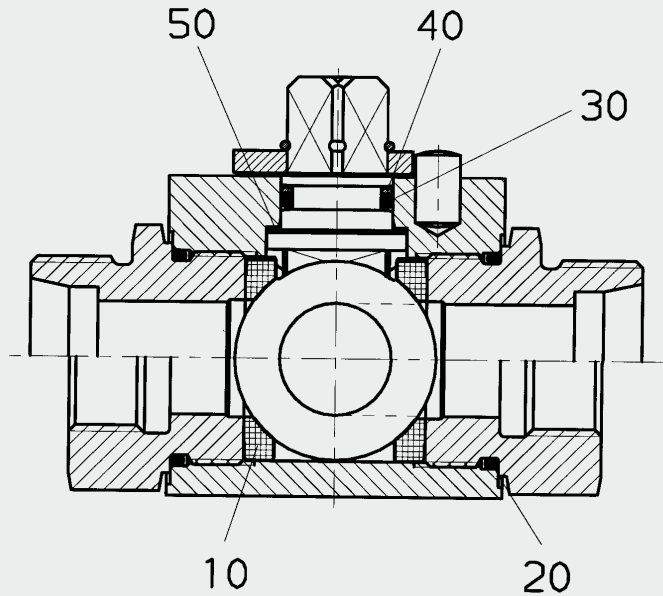
Dimensions, Mounting bore (S0 1073)



$\phi d1$	DN	PN	L	L1	B	H	h1	h2	a	ϕb	c	A	S
G 1/8	04	500	69	37	26	64	13.0	32	28	5.5	4.5	108	34.5
G 1/4	06	500	69	37	26	64	13.0	32	28	5.5	4.5	108	34.5
G 3/8	10	500	72	42	32	68	17.0	40	32	5.5	5.0	108	36.0
G 1/2*	13	500	84	47	35	68	17.0	40	32	5.5	5.0	108	41.5
G 1/2	16	400	83	47	38	102	19.0	45	38	5.5	5.0	174	41.5
G 3/4	20	315	95	60	48	115	24.5	57	46	6.6	6.0	174	47.5
G 1	25	315	113	65	57	122	28.5	64	46	6.6	6.0	174	56.5
08LR	06	500	67	37	26	64	13.0	32	28	5.5	4.5	108	33.5
10LR	08	500	71	37	26	64	13.0	32	28	5.5	4.5	108	35.5
12LR	10	500	74	42	32	68	17.0	40	32	5.5	5.0	108	37.0
15LR*	13	500	82	47	35	68	17.0	40	32	5.5	5.0	108	41.0
15LR	12	400	82	47	38	102	19.0	45	38	5.5	5.0	174	41.0
18LR	16	400	82	47	38	102	19.0	45	38	5.5	5.0	174	41.0
22LR	20	315	101	60	48	115	24.5	57	46	6.6	6.0	174	50.5
28LR	25	315	108	65	57	122	28.5	64	46	6.6	6.0	174	54.0

* reduced bore

SPARE PARTS (seal kit)



Seal kit	Order No. = Part No.
DN 04/06	703 048
DN 08/10	703 014
DN 13	703 046
DN 12/16	703 010
DN 20	703 005
DN 25	703 004

The parts indicated by numbers in the above drawing are contained in the seal kit.

NOTE

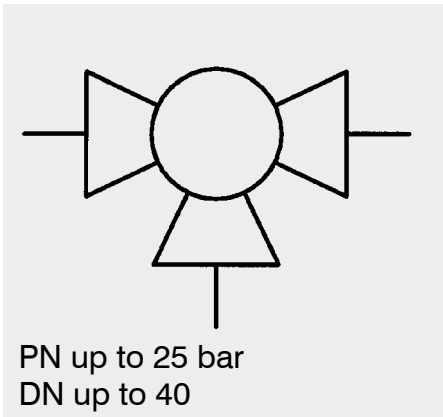
The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

Change-Over Low Pressure Ball Valves

KHN3K



Model code

(also order example)

KHN3K **G1/2** **L** **2233** **12** **X**

Designation

KHN3K = Change-over low pressure ball valve

Connection type

Thread size

Ball bore

L

T

Materials

Housing, connection adapters and control spindle

2 = brass, nickel-plated

Ball

2 = brass, hard-chromed

Ball seal

3 = PTFE (Teflon)

Control spindle seal

3 = PTFE (Teflon)

Handle

12 = aluminium clamped handle, cranked, fitted

Series

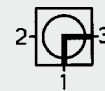
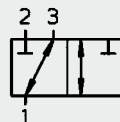
X = determined by manufacturer

Switching functions (as supplied)

3/2 way change-over ball valve

L-bore

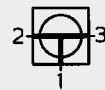
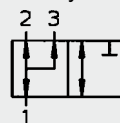
90° switch



3/2 way change-over ball valve

T-bore

90° switch

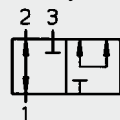


By moving the control spindle through 90°, the following switching positions can also be achieved.

3/2 way change-over ball valve

T-bore

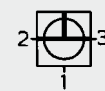
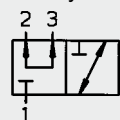
90° switch



3/2 way change-over ball valve

T-bore

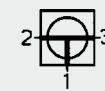
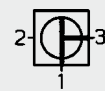
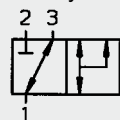
90° switch



3/2 way change-over ball valve

T-bore

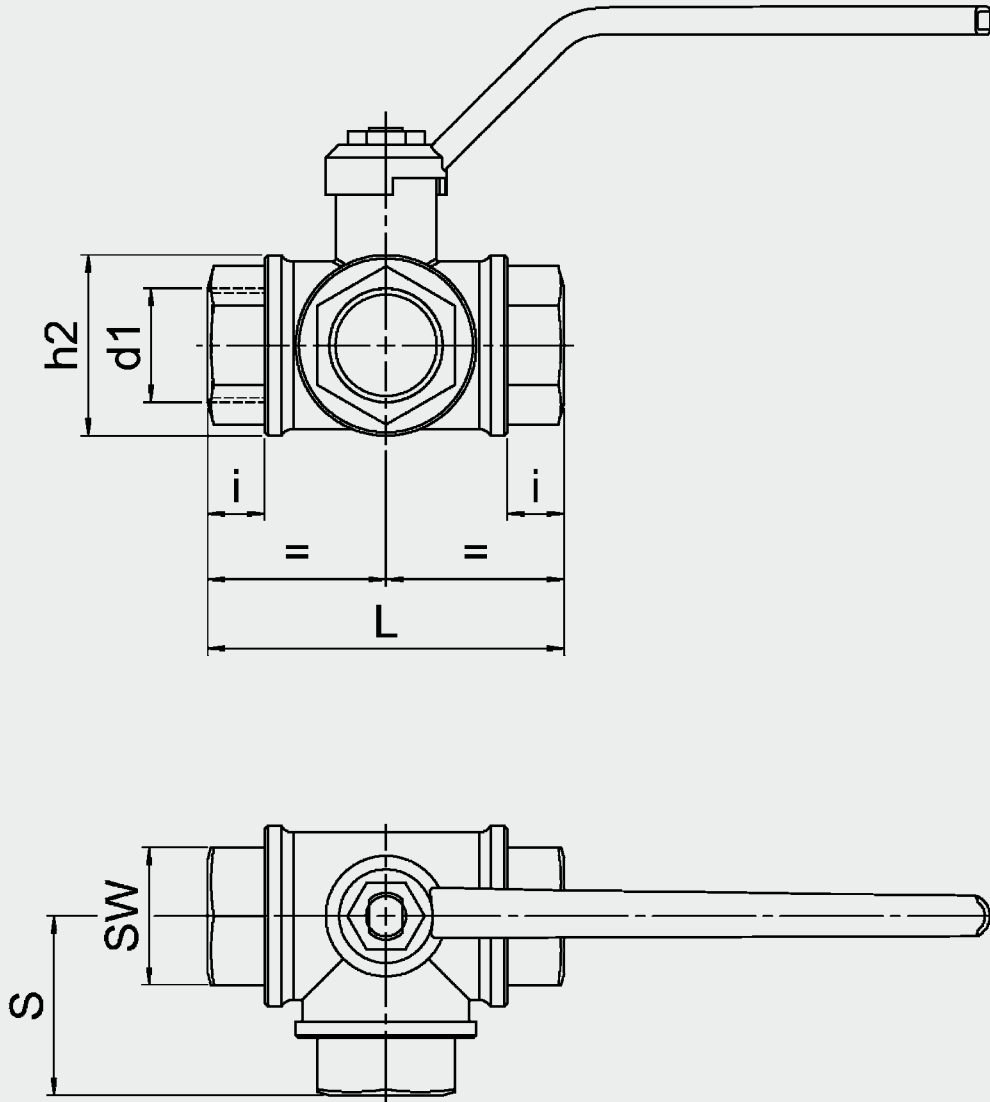
90° switch



Technical specifications

Connection:	Whitworth female thread to ISO 228
Mounting position:	Optional
Ambient temperature:	-20 °C to +150 °C
Nominal pressure:	Up to 25 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2, water and compressed air (other media on request)
Temperature of operating fluid:	-20 °C to +150 °C

DIMENSIONS



Type	Ball bore	Size	L [mm]	h2 [mm]	SW	A [mm]	i [mm]	Nominal bore DN	S [mm]	h3 [mm]	Nominal pressure PN [bar]	Weight [kg]
KHN3K-G1/4	L, T	1/4"	77	39	22	125	16	10	38.5	65	25	0.78
KHN3K-G3/8	L, T	3/8"	77	39	22	125	16	12	38.5	65	25	0.74
KHN3K-G1/2	L, T	1/2"	77	39	27	125	16	14	38.5	65	25	0.77
KHN3K-G3/4	L, T	3/4"	92	47	34	145	20	18	46	83	25	1.26
KHN3K-G1	L, T	1"	104	55	41	170	22	23	52	86	25	1.91
KHN3K-G11/4	L, T	1 1/4"	118	65	50	170	24	29	59	102	25	2.64
KHN3K-G11/2	L, T	1 1/2"	138	79	57	170	28	36	69	109	25	4.2
KHN3K-G2	L, T	2"	162	93	70	260	33	45	81	139	25	6.66

NOTE

The information in this brochure relates to the operating conditions and applications described.

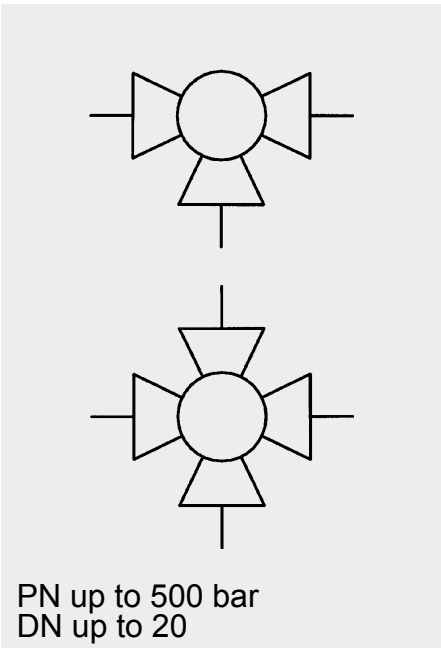
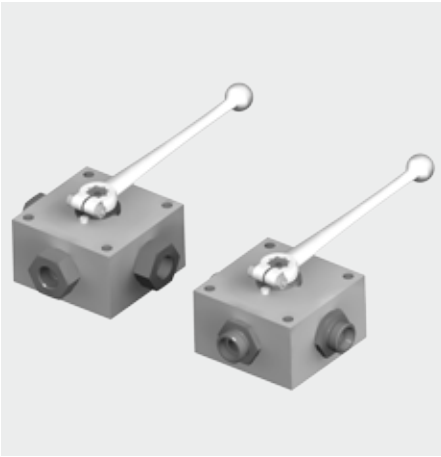
For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC Accessories GmbH
Hirschbachstr. 2
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Fax: +49 (0)6897 - 509-1009
Internet: www.hydac.com
E-Mail: info@hydac.com

3-Way and 4-Way Ball Valves

KH3 / KH4



PN up to 500 bar
DN up to 20

Model code

(also order example)

KH3 **G1/2** **L** **1114** **06** **X**

Designation

KH3 = 3-way ball valve

KH4 = 4-way ball valve

Nominal bore

Ball bore

KH3 - L

KH3 - T

KH4 - T

KH4 - X

Materials

Housing, connection adapters and control spindle

1 = Steel

3 = Stainless steel

Ball

1 = Steel

3 = Stainless steel

Ball seal

1 = POM

3 = PTFE

8 = PEEK

Control spindle seal

2 = NBR (Perbunan)

3 = PTFE

4 = FKM (Viton)

Handle

01 = Aluminium clamped handle, straight

02 = Aluminium clamped handle, cranked

03 = Zinc die-cast clamped handle, straight

04 = Zinc die-cast bolt-on handle, cranked

06 = Steel bolt-on handle, cranked

09 = Without handle

Series

(determined by manufacturer)

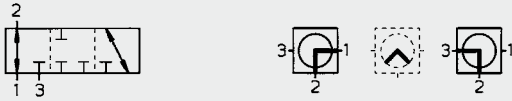
Standard model functions

(Standard)

(Positive switching overlap)

3-way ball valve L-bore

90° switch



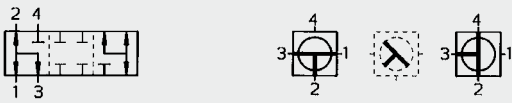
3-way ball valve T-bore

90° switch



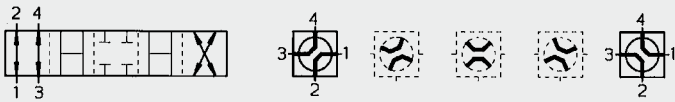
4-way ball valve T-bore

90° switch



4-way ball valve X-bore

90° switch

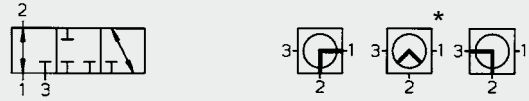


Non-standard model functions

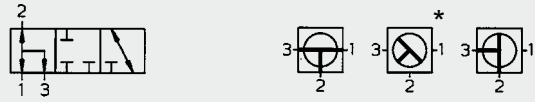
(positive switching overlap)

For different applications, it is possible to produce other non-standard models by using special limit discs and detent pins.

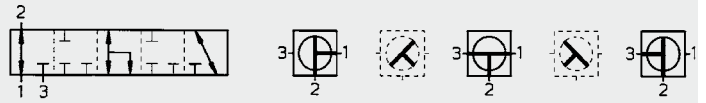
3-way ball valve L-bore, 90° switch, detent at 45°, SO 378



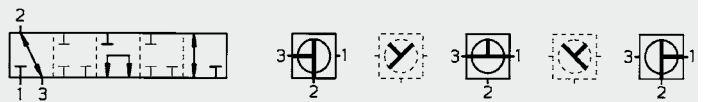
3-way ball valve T-bore, 90° switch, detent at 45°, SO 379



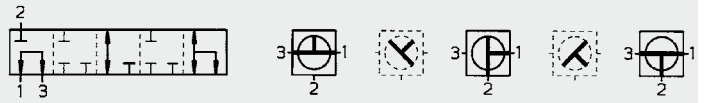
3-way ball valve T-bore, 180° switch, no detent on centre setting



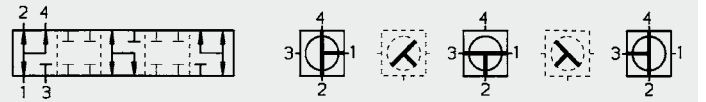
3-way ball valve T-bore, 180° switch, SO 926.1, no detent on centre setting



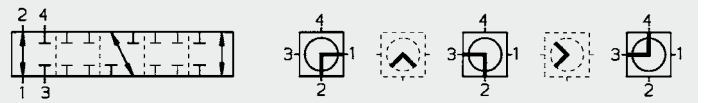
3-way ball valve T-bore, 180° switch, SO 926.2, no detent on centre setting



4-way ball valve T-bore, 180° switch, no detent on centre setting



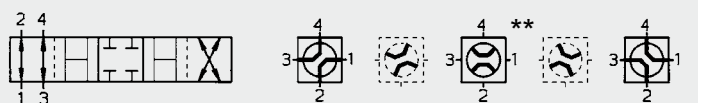
4-way ball valve L-bore, 180° switch, no detent on centre setting



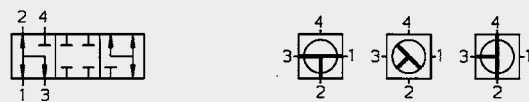
4-way ball valve X-bore, 45° switch, SO 384




4-way ball valve X-bore, 90° switch with detent position at 45°, SO 385



4-way ball valve T-bore, 90° switch with detent position at 45°, SO 389



 undefined switching position

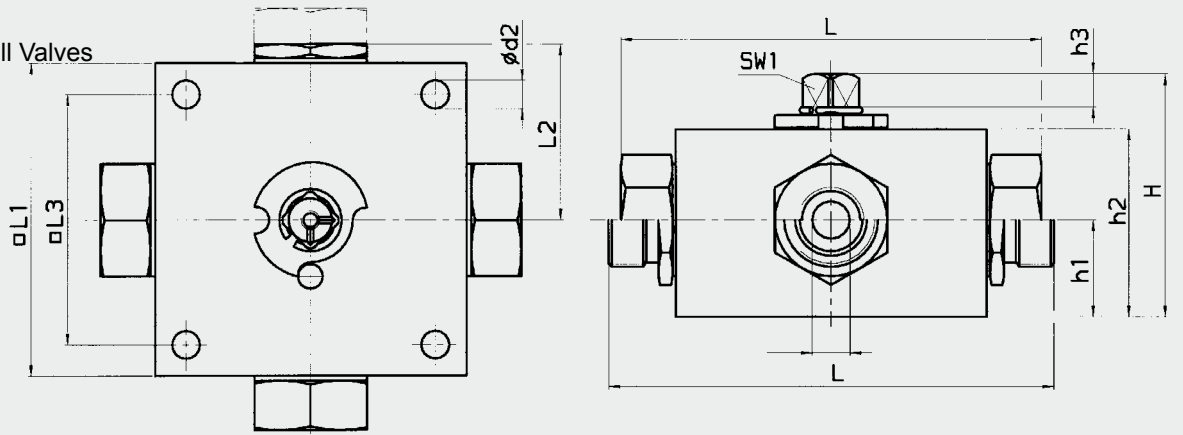
* The centre setting is held by a detent pin.

Technical specifications

Types of connection:	Light and heavy threaded pipe connection to DIN 2353 Whitworth female thread to ISO 228 NPT SAE
Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	up to PN 500 bar
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request

Dimensions

3-Way and 4-Way Ball Valves



Type	DN	Bore int. Ø			RA	d1	i	L	L1	L2	L3	H	h1	h2	h3	d2	SW1	SW2	Weight [kg]	Nom. press. PN [bar]
KH3/4-G1/8	4	6	6	4.5		G1/8	10	100	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-G1/4	6	6	6	4.5		G1/4	14	100	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-G3/8	10	9	9	6		G3/8	14	115	80	46	65	67.5	27	50	11.5	6.5	14	30	2.4	500
KH3/4-G1/2	16	13	13	10		G1/2	16	135	100	56	80	77.5	31	60	11.5	9	14	36	4.3	400
KH3/4-G3/4	20	18	18	14		G3/4	18	144	100	58	85	91	36	73	11.5	9	17	46	6	315

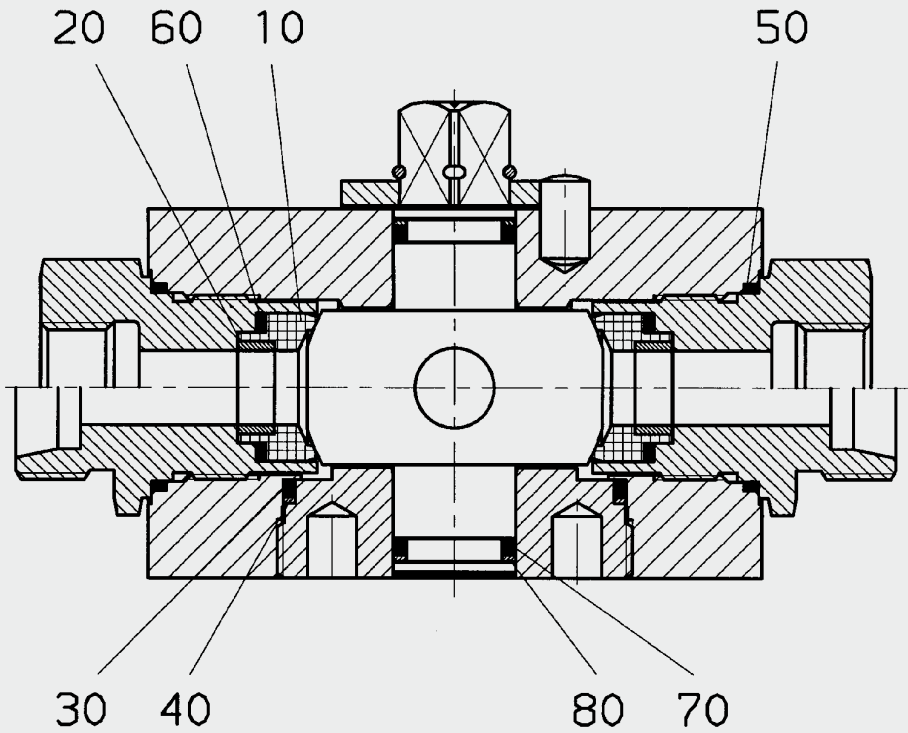
Type	DN	Bore int. Ø			RA	d1	i	L	L1	L2	L3	H	h1	h2	h3	d2	SW1	SW2	Weight [kg]	Nom. press. PN [bar]
KH3/4-06LR	4	6	6	4.5	6	M12x1.5	10	105	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-08LR	6	6	6	4.5	8	M14x1.5	10	105	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-10LR	8	9	9	6	10	M16x1.5	11	114	80	46	65	67.5	27	50	11.5	6.5	14	30	2.4	500
KH3/4-12LR	10	9	9	6	12	M18x1.5	11	114	80	46	65	67.5	27	50	11.5	6.5	14	30	2.4	500
KH3/4-15LR	12	13	13	10	15	M22x1.5	12	136	100	56	80	77.5	31	60	11.5	9	14	36	4.3	400
KH3/4-18LR	16	13	13	10	18	M26x1.5	12	136	100	56	80	77.5	31	60	11.5	9	14	36	4.3	400
KH3/4-22LR	20	18	18	14	22	M30x2	14	143	100	58	85	91	36	73	11.5	9	17	46	6	315

Type	DN	Bore int. Ø			RA	d1	i	L	L1	L2	L3	H	h1	h2	h3	d2	SW1	SW2	Weight [kg]	Nom. press. PN [bar]
KH3/4-08SR	4	6	6	4.5	8	M16x1.5	12	105	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-10SR	6	6	6	4.5	10	M18x1.5	12	105	70	42.5	55	57	22	40	11	6.5	12	24	1.6	500
KH3/4-12SR	8	9	9	6	12	M20x1.5	12	116	80	46	65	67.5	27	50	11.5	6.5	14	30	2.4	500
KH3/4-14SR	10	9	9	6	14	M22x1.5	14	120	80	46	65	67.5	27	50	11.5	6.5	14	30	2.4	500
KH3/4-16SR	12	13	13	10	16	M24x1.5	14	140	100	56	80	77.5	31	60	11.5	9	14	36	4.3	400
KH3/4-20SR	16	13	13	10	20	M30x2	16	144	100	56	80	77.5	31	60	11.5	9	14	36	4.3	400
KH3/4-25SR	20	18	18	14	25	M36x2	18	151	100	58	85	91	36	73	11.5	9	17	46	6	315

Type	DN	Bore int. Ø			RA	d1	i	L	L1	L2	L3	H	h1	h2	h3	d2	SW1	SW2	Weight [kg]	Nom. press. PN [bar]
KH3/4-06NPT	6	6	6	4.5		1/4 - 18 NPT	10.21	100	70	42.5	55	83	22	40	11	6.5	12	24	1.75	500
KH3/4-10NPT	10	9	9	6		3/8 - 18 NPT	10.36	115	80	46	65	63.5	27	50	11.5	6.5	14	30	2.7	500
KH3/4-12NPT	12	13	13	10		1/2 - 14 NPT	13.56	135	100	56	85	75.5	31	60	11.5	9	14	36	4.8	400
KH3/4-20NPT	20	18	18	14		3/4 - 14 NPT	13.86	144	100	58	85	92	36	73	11.5	9	17	46	6.3	315

Type	DN	Bore int. Ø			RA	d1	i	L	L1	L2	L3	H	h1	h2	h3	d2	SW1	SW2	Weight [kg]	Nom. press. PN [bar]
KH3/4-10SAE	10	9	9	6		9/16-18 UNF	13	115	80	46	65	63.5	27	50	11.5	6.5	14	30	2.68	500
KH3/4-12SAE	12	9	9	10		3/4-16 UNF	15	135	100	56	80	75.5	31	60	11.5	9	14	36	4.75	400
KH3/4-20SAE	20	13	13	14		1 1/16 - 12 UN	20	144	100	58	85	91	36	73	10.5	9	17	46	6.1	315

Spare parts (seal kit)



Seal kit	Order No. = Part No.
DN 04/06	703 028
DN 08/10	703 017
DN 12/16	703 129
DN 20	703 029

The parts indicated by numbers in the above drawing are contained in the seal kit.

NOTE

The information in this brochure relates to the operating conditions and applications described.

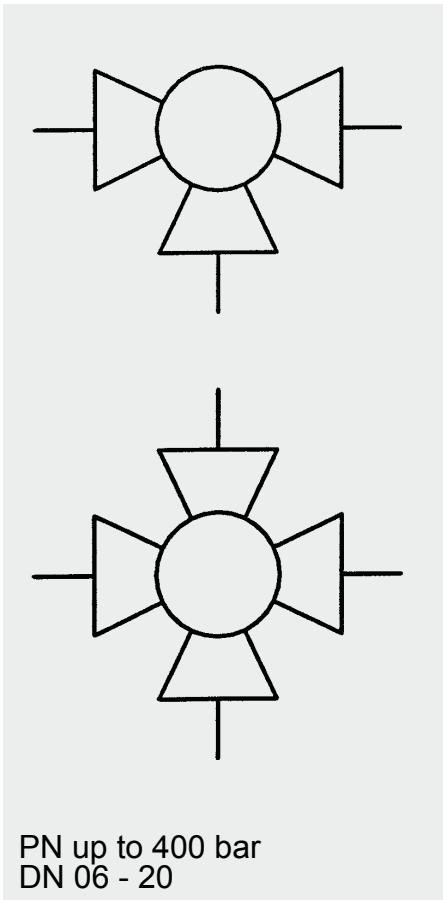
For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.



3-Way and 4-Way Manifold Mounted Ball Valves

KH3P / KH4P



Model code
(also order example)

KH3P 16 L 1114 02 X ...

Description

KH3P = 3-way manifold mounted ball valves
KH4P = 4-way manifold mounted ball valves

Nominal bore

Ball bore

L, T, X
(according to table on page 2)

Materials

Housing, blanking plug, locking screw

- 1 = Steel
- 3 = Stainless steel

Ball spindle

- 1 = Steel
- 3 = Stainless steel

Ball seal

- 1 = POM (polyacetal)

Soft seal

- 4 = FKM (Viton)

(other materials on request)

Handle

- 09 = without handle
- 02 = aluminium clamped handle, cranked

Series

(determined by manufacturer)

Special model

- SO ... = special model according to customer specification
- 180° = 180° switch

(Please see examples on the next page)

Standard models

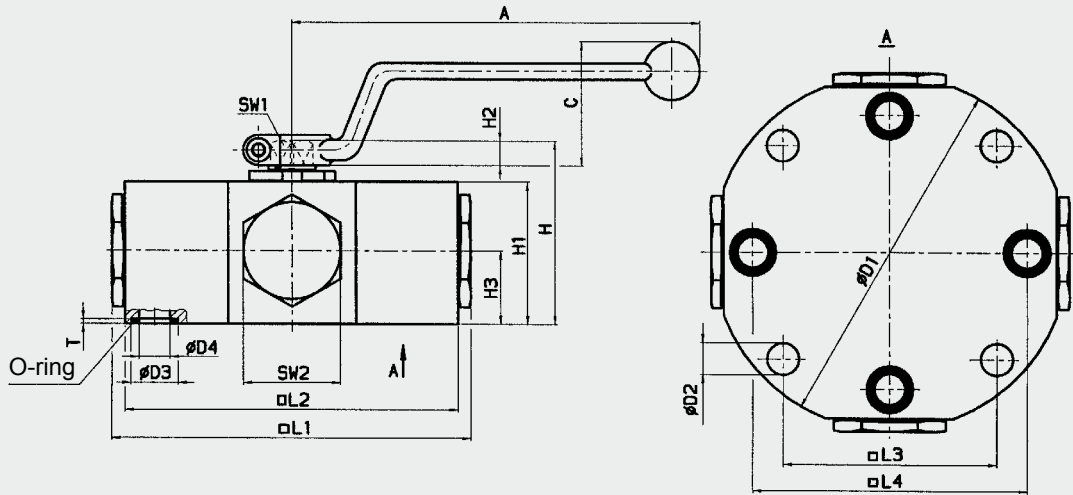
	Ball bore	Switching movement	Function diagram	SO ... model	
KH3P	L	0° - 90°			-
	T	0° - 45°			45°
	T	0° - 90°			-
	T	0° - 90° - 180°			180°
	L	0° - 45° - 90°			SO 378
	T	0° - 45° - 90°			SO 379
KH4P	T	0° - 90°			-
	X	0° - 45°			45°
	X	0° - 90°			-
	L	0° - 90° - 180°			180°
	T	0° - 90° - 180°			180°
	X	0° - 45° - 90°			SO 385
	T	0° - 45° - 90°			SO 389

* - detent position at 45°

--- undefined switching position

Other models or special ball bores on request

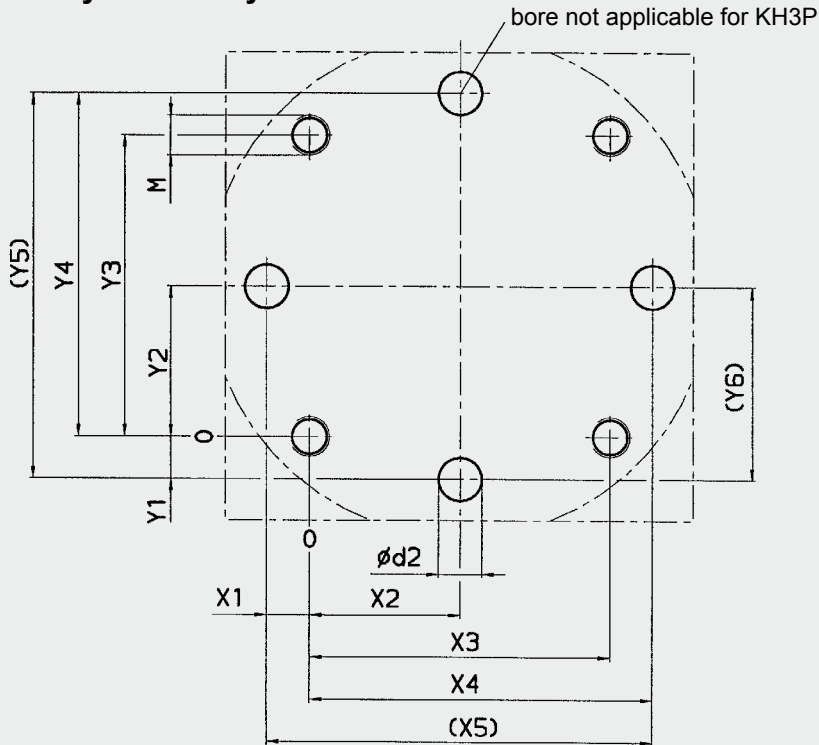
3-way and 4-way manifold mounted ball valve with cranked aluminium handle



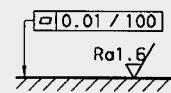
DN	Int. diam.			L1	L2	L3	L4	H	H1	H2	H3	D1	D2	D3	D4	SW 1	SW 2	T
	L	T	X															
06	5	5	4.5	103	90	70	68.6	57	40	11	22	--	6.5	11.7	6	12	27	1.9
10	9	9	6	113	100	80	81	67.5	50	11.5	27	--	9	14.7	8	14	30	1.9
16	12	12	10	152.5	140	90	115.4	77.5	60	11.5	31.5	150	13.5	19.7	13	14	41	2
20	18	18	14	184	170	100	137	92	73	11.5	36	180	13.5	28.8	18	17	46	2

DN	A	C	O-ring	Weight [kg]	Pressure range PN [bar]
06	163	52	7.3 x 2.4	2.5	400
10	183	54	10.3 x 2.4	3.7	315
16	183	54	15 x 2.5	7.5	315
20	227	55	24 x 2.5	13.1	250

Interface for 3-way and 4-way manifold mounted ball valve



Required surface finish on interface area



Dimensional tolerances ISO 2768 m

DN	Y1	Y2	Y3	Y4	Y5	Y6	X1	X2	X3	X4	X5	d2	M	Int. hex. screw ISO 4762 (property class)	Torque value MA [Nm]*
06	0.7	35	70	69.3	68.6	34.3	0.7	35	70	69.3	68.6	6	M 6	M 6 - 12.9	10
10	-0.5	40	80	80.3	81.0	40.5	-0.5	40	80	80.5	81.0	8	M 8	M 8 - 12.9	20
16	-12.7	45	90	102.7	115.4	57.7	-12.7	45	90	102.7	115.4	13	M 12	M 12 - 12.9	65
20	-18.5	50	100	118.5	137.0	68.5	-18.5	50	100	118.5	137.0	18	M 12	M 12 - 12.9	70

* Standard values for friction coefficient μ 0.14

Technical specifications

Mounting position:	Optional
Ambient temperature:	-10 °C to +80 °C
Nominal pressure:	Up to PN 400 bar (see pressure range)
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid:	-10 °C to +80 °C
Spare parts:	Seal kits available on request
Accessories:	All ball valves can be supplied with the following options: Actuator Limit switch Lock

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC Accessories GmbH

Hirschbachstr. 2

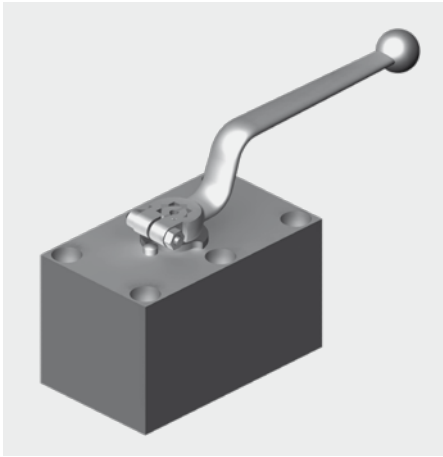
66280 Sulzbach/Saar

Tel.: +49 (0)6897 - 509-1001

Fax: +49 (0)6897 - 509-1009

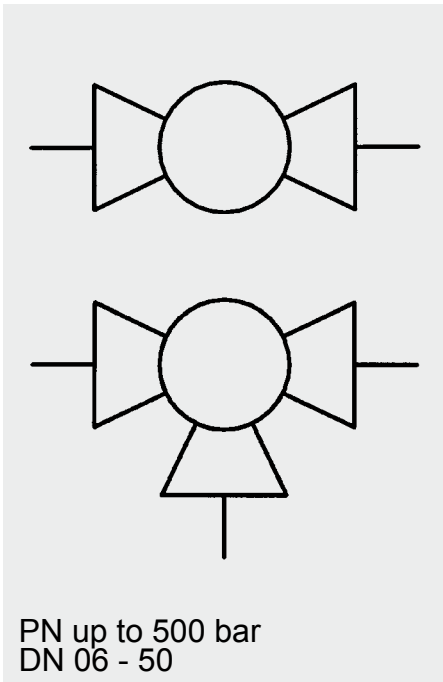
Internet: www.hydac.com

E-Mail: info@hydac.com



Manifold Mounted Ball Valves

KHP / KHP3K



PN up to 500 bar
DN 06 - 50

Model code
(also order example)

KHP3K 16 L 1114 06 X ...

Designation

KHP = 2/2 way manifold ball valve (DN 06 - 50)

KHP3K = 3/2 or 3/3 way manifold mounted ball valve (DN 06 - 50)

Nominal bore

Ball bore (not applicable for KHP)

	Switch	Function diagram	SO No.:
L	0° - 90°		—
L (positive)	0° - 90° - 180°		SO 560.1

Materials

Housing, locking screw, control spindle

1 = Steel

3 = Stainless steel

Ball

1 = Steel

3 = Stainless steel

Ball seal

1 = POM (polyacetal)

Soft seal

4 = FKM (Viton)

(other materials on request)

Handle

09 = Without handle

14 = Zinc die-cast bolt-on handle, cranked DN06

04 = Zinc die-cast bolt-on handle, cranked DN10

02 = Aluminium clamped handle, cranked DN16 - 25

06 = Steel bolt-on handle, cranked DN32 - 50

Series

(determined by manufacturer)

Special model

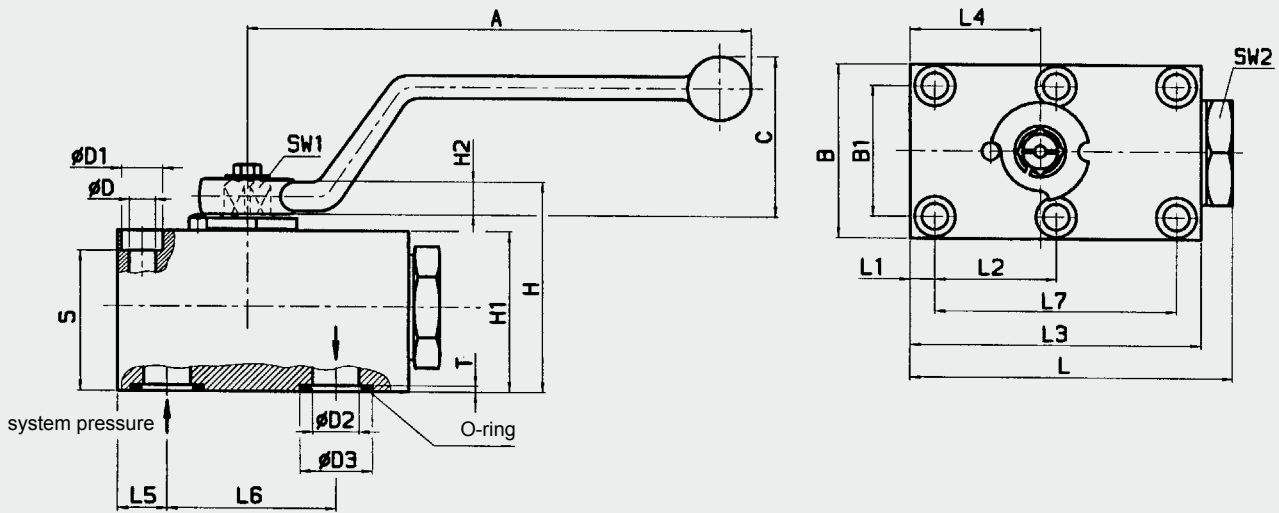
SO 560.1 - positive switching overlap

T-bore on request

Dimensions

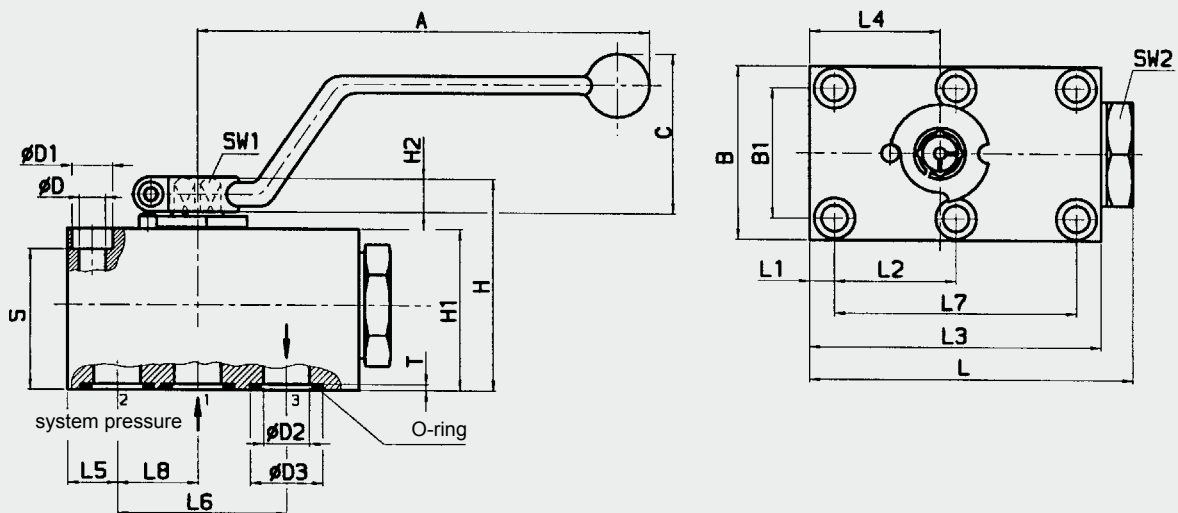
KHP

Manifold mounted ball valve with cranked bolt-on steel handle



KHP3K

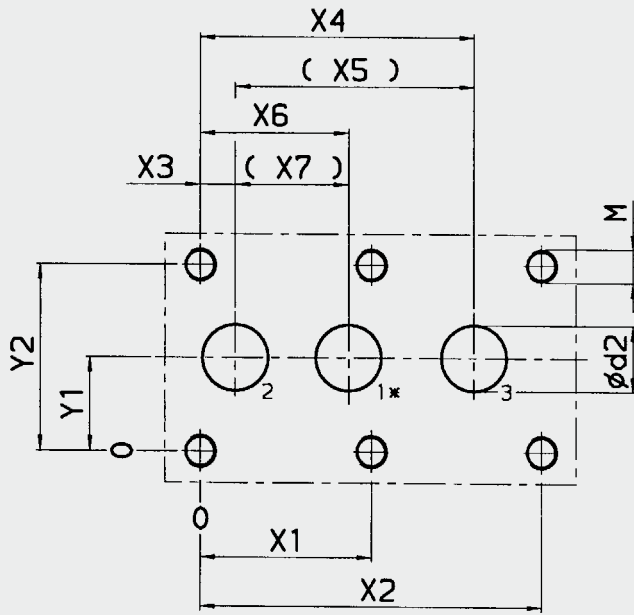
3-way manifold mounted ball valve with cranked clamped aluminium handle



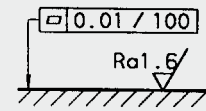
DN	Int. Ø.	L	L1	L2	L3	L4	L5	L6	L7	L8	B	B1	SW1	A	C
06	6	64	8.5	17.5	59	25	8.5	35	35	17.5	40	27	6	60	23
10	9.5	80	7.5	27.5	70	29	10	44	55	19	55	40	9	108	28
16	16	109.4	8.5	41.5	100	44	17	58	83	26.5	60	45	12	163	50
20	20	127	10	48.5	117	51	20	69	97	31	70	51	14	169	59
25	23.5	145	10	57.5	135	62	24	81	115	38	80	60	14	169	59
32	32	176	12	68	165	75	29	96	136	46	100	78	17	228	80
40	38	205	28.5	56	180	84.6	28.5	112	112	56.1	130	95	17	228	80
50	48	245	38	68	220	106	38	136	136	68	149	112	17	228	80

DN	SW2	H	H1	H2	D	D1	D2	D3	T	S	O-ring	Weight KHP [kg]	Weight KHP3K [kg]	Press. range PN [bar]
06	22	37.5	30	7	6.6	11	6	11.7	1.6	23.2	8x2	0.6	0.55	500
10	30	58	45	8.5	9	14	9.5	15	2	36	10x2.6	1.2	1.2	350
16	36	72.2	55	11	9	14	16	25	2	46	20.29x2.62	2.1	2	350
20	41	87.8	70	11.6	10.5	16.5	20	30	3	59.5	23.39x3.53	3.7	3.6	35

Interface for (3-way) manifold mounted ball valve



required surface finish on interface area



dimensional tolerances
ISO 2768 m

* = bore 1 not applicable
for KHP

DN	Y1	Y2	X1	X2	X3	X4	X5	X6	X7	d2	M	Int. hex. screw ISO 4762 (property class)	Torque value MA [Nm] *
06	13.5	27	17.5	35	0	35	35	17.5	17.5	6	M6	M6 - 10.9	13
10	20	40	27.5	55	2.5	46.5	44	21.5	19	9.5	M8	M8 - 10.9	30
16	22.5	45	41.5	83	8.5	66.5	58	35	26.5	16	M8	M8 - 12.9	35
20	25.5	51	48.5	97	10	79	69	41	31	20	M10	M10 - 12.9	60
25	30	60	57.5	115	14	95	81	52	38	23.5	M10	M10 - 12.9	60
32	39	78	68	136	17	113	96	63	46	32	M12	M12 - 12.9	110
40	47.5	95	56	112	0	112	112	56.1	56.1	38	M16	M16 - 12.9	300
50	56	112	68	136	0	136	136	68	68	48	M20	M20 - 12.9	600

* = standard values for friction coefficient μ 0.14

Technical specifications

Mounting position:	KHP: optional	
	KHP3K: when pressure is applied from port 2 or 3 to port 1, some leakage can be expected, depending on the pressure.	
Ambient temperature:	-10 °C to +80 °C	
Nominal pressure:	up to PN 500 bar (see pressure range)	
Operating fluids:	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)	
Temperature of operating fluid:	-10 °C to +80 °C	
Spare parts:	Seal kits available on request	
Accessories:	All ball valves can be supplied with the following options:	Actuator Limit controls Lock

NOTE

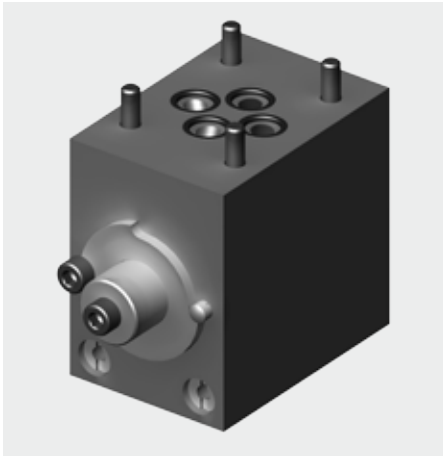
The information in this brochure relates to the operating conditions and applications described.

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Subject to technical modifications.

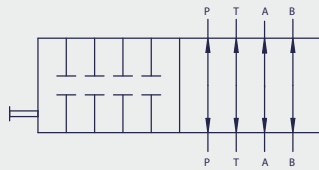
HYDAC Accessories GmbH
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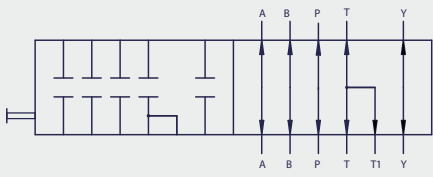


Isolator Sandwich Plate CETOP

Symbol DN 06



Symbol DN 10



Model code

(also order example)

KHB4K **DN10** **CETOP** **5302** **09** **X**

Designation

KHB4K = 4-galley isolator ball valve
KHB6K = 6-galley isolator ball valve

Nominal bore

DN06
DN10

Connection type

CETOP

Materials

Housing

1 = steel 1.0718 (DN06)
5 = steel 1.0570 (DN10)

Spindle

3 = stainless steel 1.4462

Gasket

0 = metal

O-ring

2 = NBR

Handle

09 = without handle

Series

(determined by manufacturer)

Function

The sandwich plate is mounted before DN06/DN10 directional valves and is used to isolate all channels at the same time via a common spindle. This is operated manually using an open-ended spanner SW9. This means that the directional valve mounted on the sandwich plate can be changed quickly without having to relieve the pressure or drain the system, and with a minimum of leakage.

In normal operation, all channels are open. The spindle is secured and locked with two screws to prevent unauthorized operation.

Advantages

- Reduction in downtimes for hydraulic systems
- Minimum of internal leakage during normal operation
- Minimum of leakage during the short time when the valve is being replaced
- Not necessary to vent the line after changing the components
- Components can be changed without risk of accidents because all the channels are isolated

Technical specifications

Design	Sandwich plate
Mounting position	Optional
Medium	Mineral oil
Viscosity range	10 to 380 mm ² /s
Leakage rate	1 ml / min at 160 bar / 35°C
Surface protection	Phosphated
Applied standards	PED 97/93/EC; DIN EN 19; ISO 4401, DIN 24340-T2

KHB4K-DN06-1302-09X

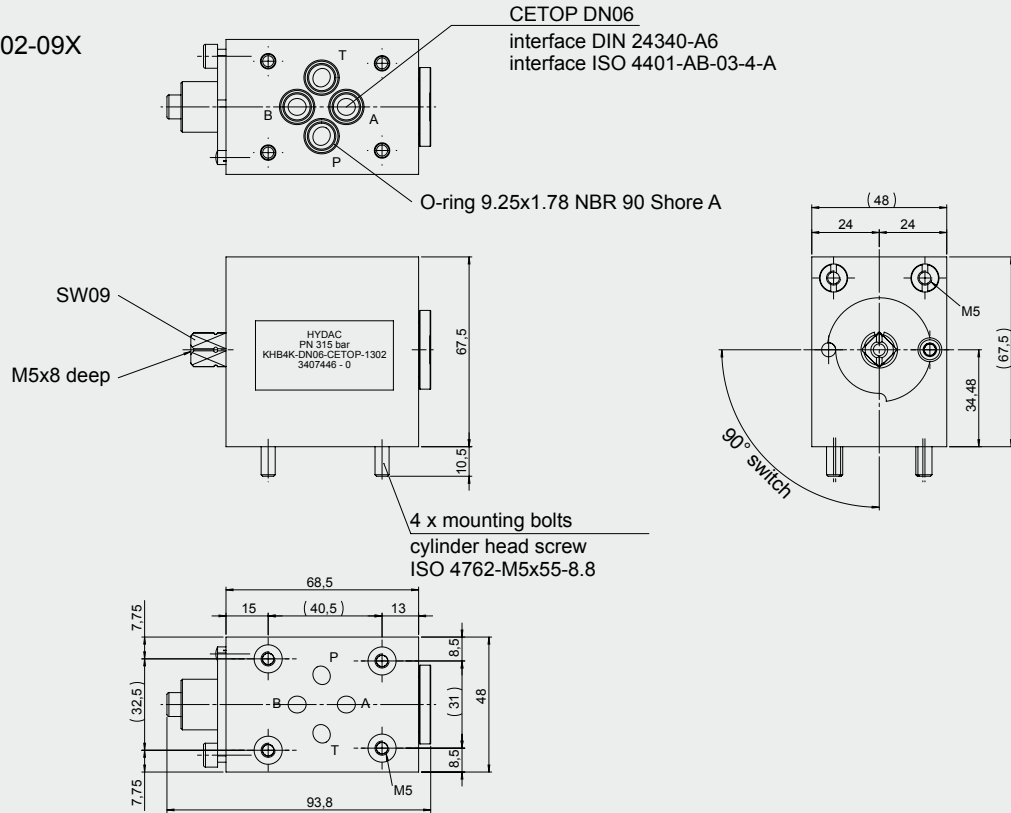
Connection type	CETOP DN06
Interface	DIN 24340-A6 ISO 4401
Temperature of the medium	-10°C to + 70°C
Ambient temperature	-10°C to + 70°C
Nominal pressure	PN 315 bar
Max. operating pressure	PB 315 bar

KHB6K-DN10-5302-09X

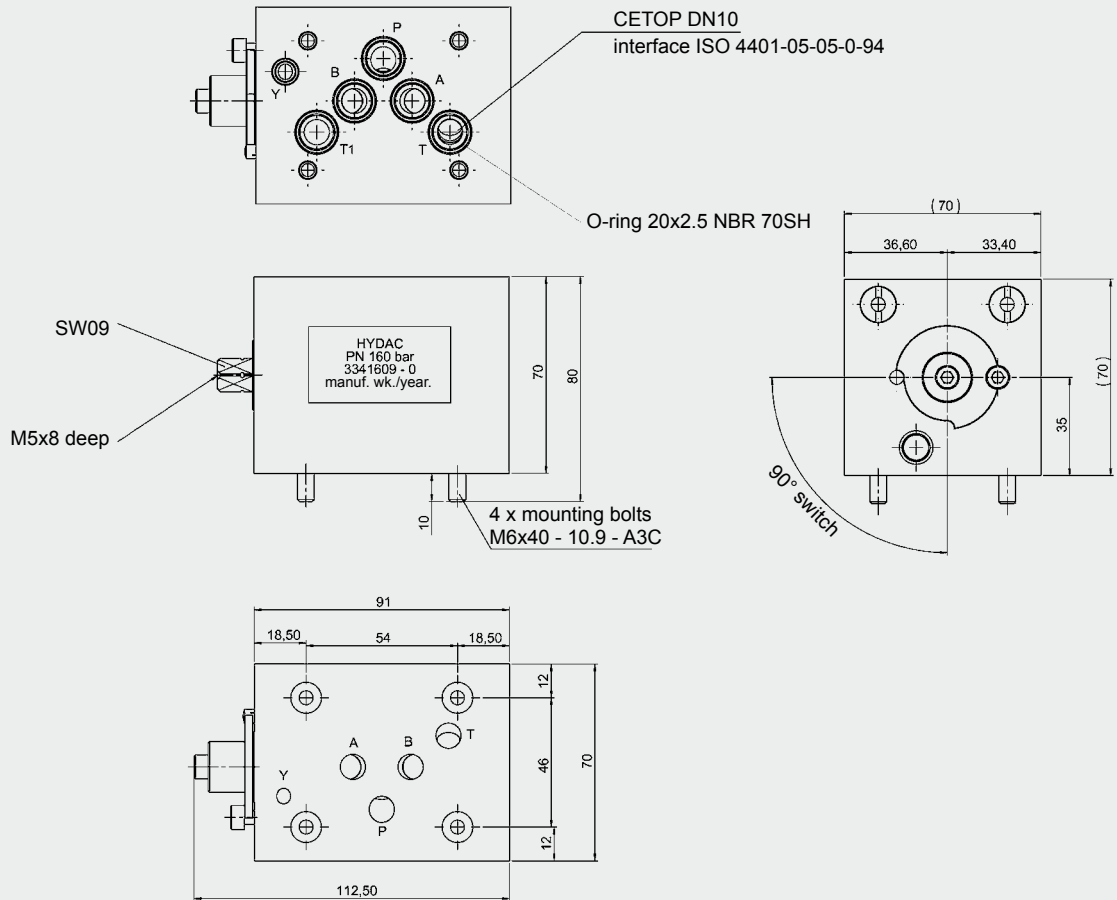
Connection type	CETOP DN10
Interface	DIN 24340-A10 ISO 4401
Temperature of the medium	+30°C to + 60°C
Ambient temperature	-20°C to + 70°C
Nominal pressure	PN 160 bar
Max. operating pressure	PB 160 bar

Dimensions

KHB4K-DN06-CETOP-1302-09X



KHB4K-DN10-CETOP-5302-09X



NOTE

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Subject to technical modifications.

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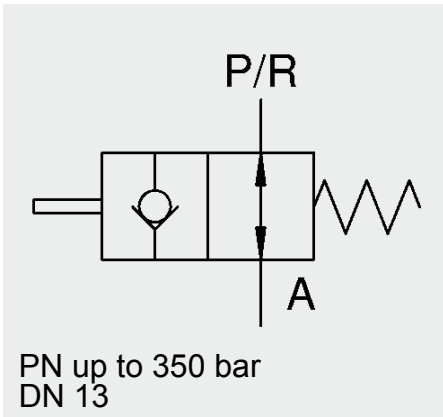
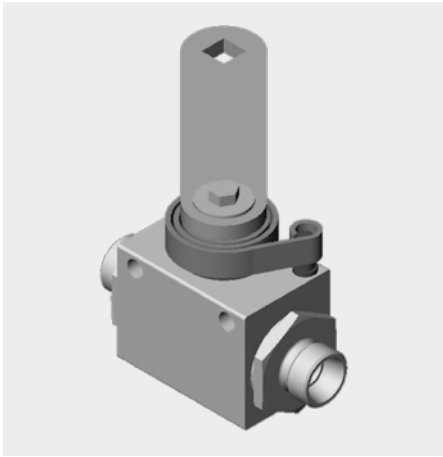
Fax: +49 (0)6897 - 509-1009

Internet: www.hydac.com

E-Mail: info@hydac.com



Spring Return Isolator HKHB



Model code

(also order example)

HKHB 12LR 1112 09X A CCW OK 0°

Designation

HKHB = Block ball valve with 2 mounting holes $\varnothing 6.5$, 37.5mm apart, 5mm from top edge of block and spring return.

Type of connection

LR = threaded connection - light range DIN 2353
SR = threaded connection - heavy range DIN 2353
Other types of connection on request

Materials

Housing, connection adapters and control spindle

1 = steel

Ball

1 = steel

Ball seal

1 = POM

Control spindle seal

2 = NBR (Perbunan)

Handle

15 = steel bolt-on handle, straight

09 = without handle

Surface protection

A = zinc-plated, chrome (VI)-free

Switching direction

CW = clockwise

CCW = anti-clockwise

Ball valve

Ball valve port

O = open

C = closed

Handle

L = long

K = short

Handle position

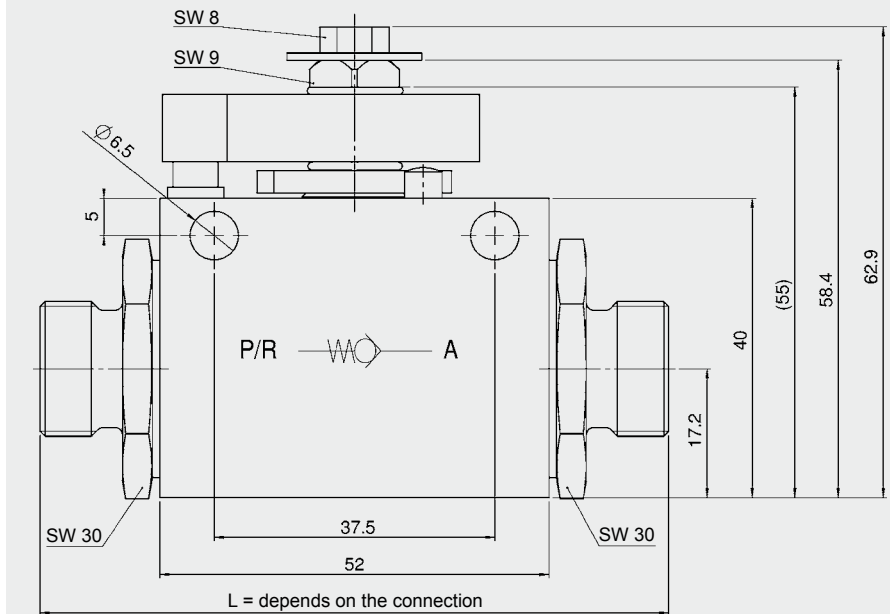
0° 315°

(see Order Form)

APPLICATION

- Controlled by a spring, this valve shuts off the pressure line, thereby accurately limiting the cylinder stroke,
- e.g. for tipping cylinders on truck bodies, tail-lifts and agricultural machinery hydraulics

DIMENSIONS

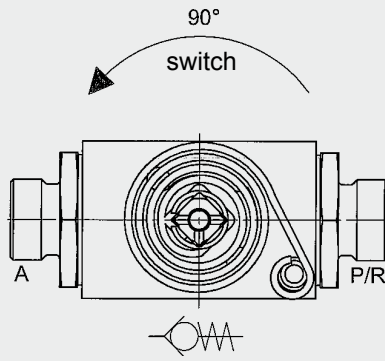
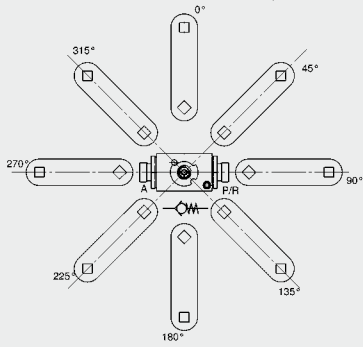


Technical specifications

DN/Nominal bore	13
Connection	10L, 12L and 15L
Operating pressure	350 bar
Medium	Hydraulic oil
Temperature of the medium	-10°C to + 80°C
Housing width	35 mm
Handle	short 75mm (100x25x4) long 125mm (150x25x4)
Reset torque	2 Nm
End position	8 Nm

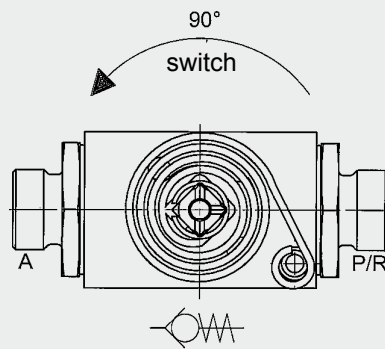
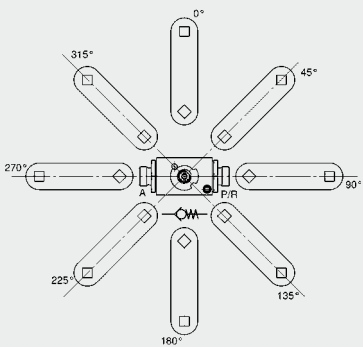
ORDER FORM

Handle position



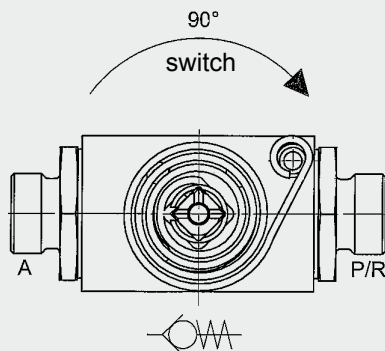
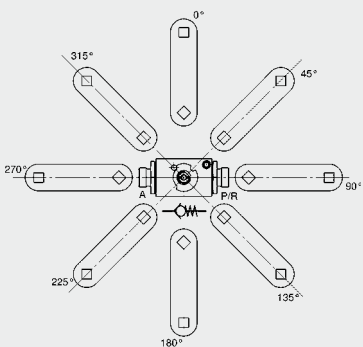
- Open
- Anti-clockwise CCW
- Connection: 10L
- 12L
- 15L
- 10SR
- Handle: short
- long
- Handle position:°

Handle position



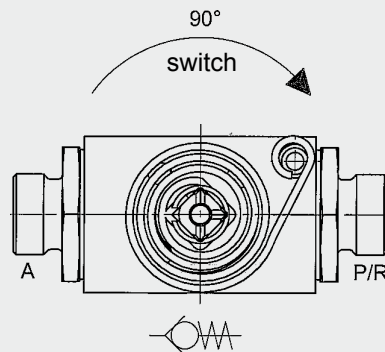
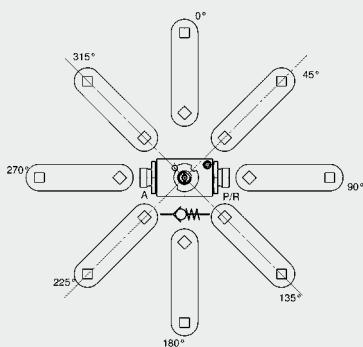
- Closed
- Anti-clockwise CCW
- Connection: 10L
- 12L
- 15L
- 10SR
- Handle: short
- long
- Handle position:°

Handle position



- Open
- Clockwise CW
- Connection: 10L
- 12L
- 15L
- 10SR
- Handle: short
- long
- Handle position:°

Handle position



- Closed
- Clockwise CW
- Connection: 10L
- 12L
- 15L
- 10SR
- Handle: short
- long
- Handle position:°

NOTE

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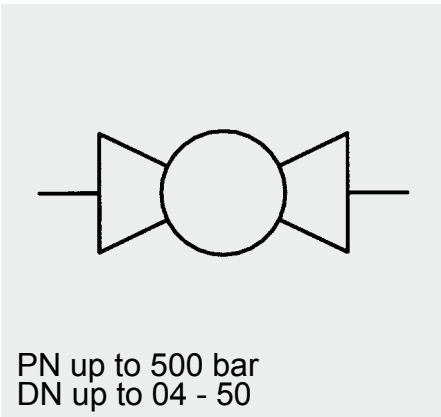
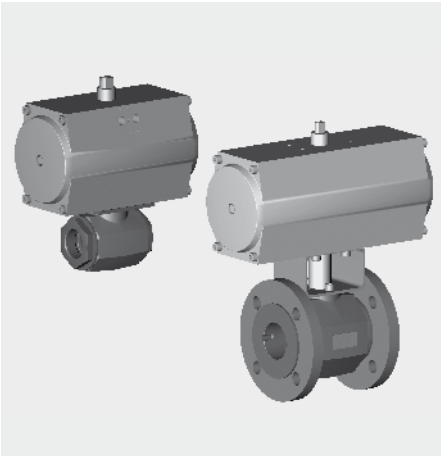
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Subject to technical modifications.

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Ball Valves with Pneumatic Actuator



Model code
(also order example)

KHB-G1/4-1114 AP.E 3/2DC E

Designation

Type of ball valve

Actuator code

AP = pneumatic actuator
.E = spring return actuator
.D = double-acting actuator

Directional valve options

3/2 = 3/2 directional NAMUR control valve
5/2 = 5/2 directional NAMUR control valve
DC = 24V
AC = 230V 50Hz

Limit switch box options

E = electro-mechanical, visual indication open and closed
I = contactless (inductive), visual indication open and closed

Dimensions

Ball valves with pneumatic actuator	Spring-return				Double acting				
	DN	A	B	C	D	A	B	C	D
04/06-SW09	182	91	108	5	139	70	88	5	
08/10/13	215	100	117	5	160	83	100	5	
16	222	120	140	5	182	91	108	10	
20	222	120	140	5	182	91	108	10	
25	294	120	140	5	215	100	117	10	
32	300	137	160	5	222	120	140	5	
40	350	172	198	5	294	120	140	5	
50	350	172	198	5	294	120	140	5	

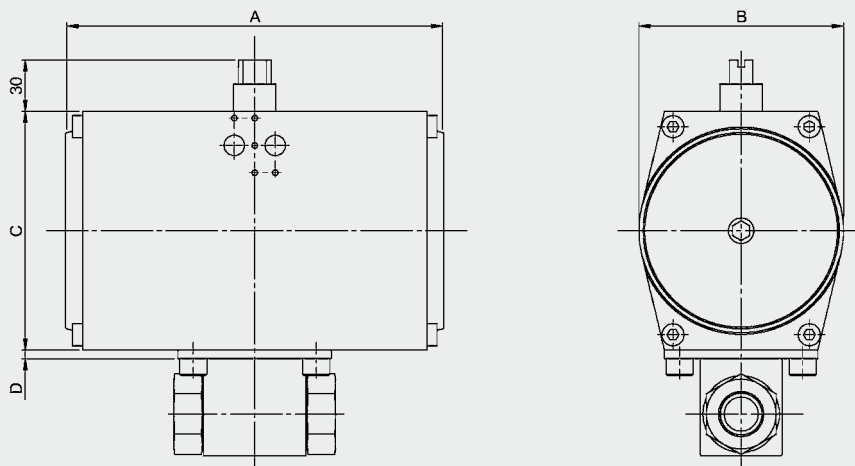
Note

We recommend using an adapter plate when fitting a pneumatic actuator to block-type, sleeve-type and 3-way change-over ball valves.

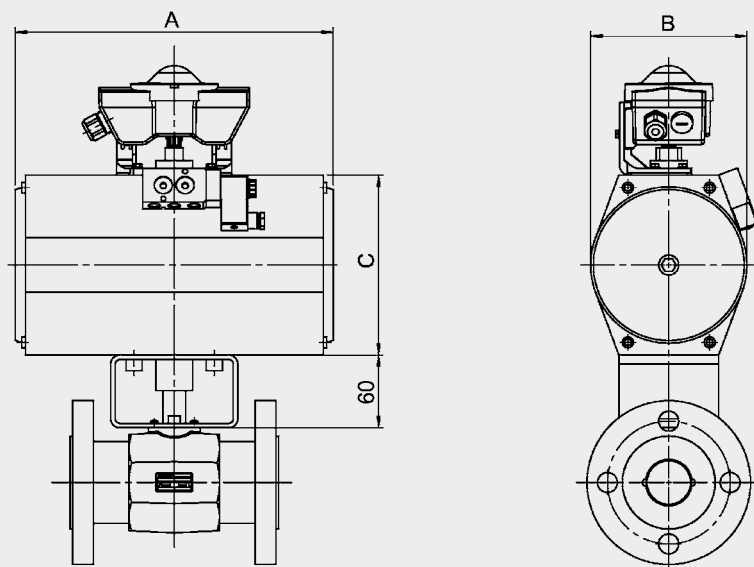
For flanged, manifold and 3-way and 4-way ball valves, a separate coupling is required for assembly.

On request other versions are available to suit almost all applications.

Assembly using adapter plate



Assembly using separate coupling



Technical specifications

Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	Up to PN 500 bar (see pressure range)
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Spare parts	Seal kits available on request

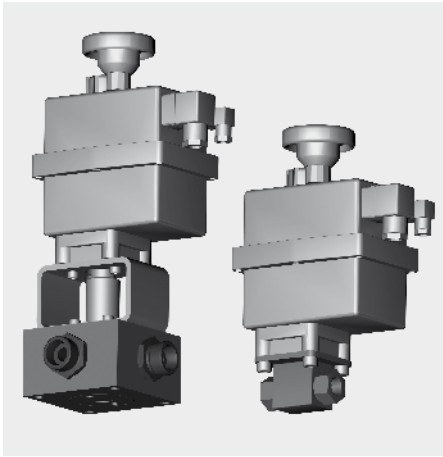
NOTE

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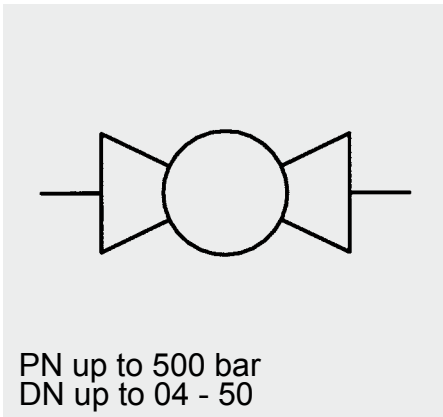
Subject to technical modifications.

Electrically Actuated Ball Valves



Model code
(also order example)

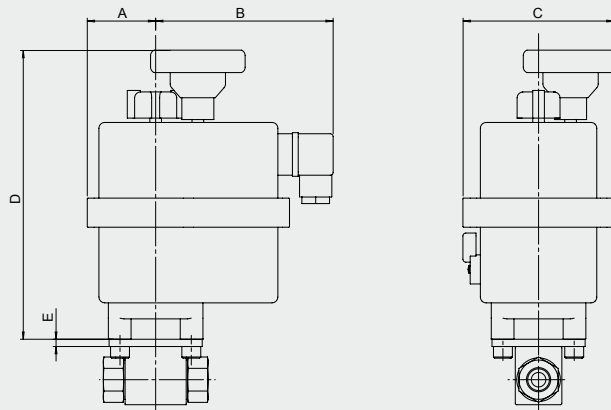
KHB-G1/4-1114 AE.24V



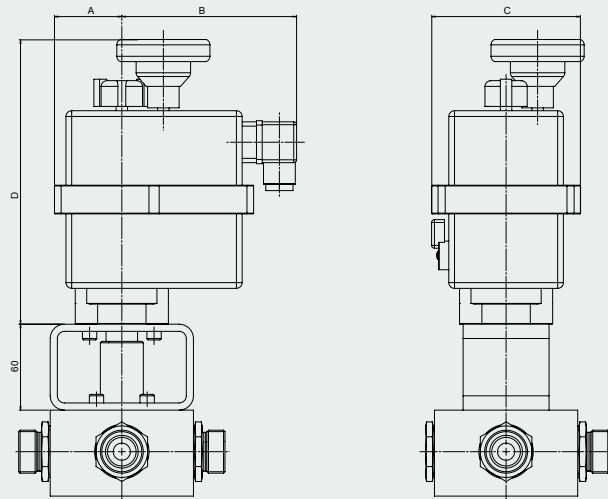
Designation
Type of ball valve

Actuator code
 AE = electric actuation
 .24V = 12-24V AC/DC
 .240V = 85 - 240V AC/DC

Assembly using adapter plate



Assembly using separate coupling



Dimensions

DN	A	B	C	D	E
04/06-SW09	51	126	110	196	5
08/10/13	51	126	110	196	5
16	51	126	110	196	10
20	107	128	214	254	5
25	107	128	214	254	5
32	107	128	214	254	5
40	107	128	214	254	5
50	107	128	214	254	5

Note

We recommend using an adapter plate when fitting an electric actuator to block-type, sleeve-type and 3-way change-over ball valves.

For flanged, manifold and 3-way and 4-way ball valves, a separate coupling is required for assembly.

On request other versions are available to suit almost all applications.

Equipment

Electrical actuator

- ETL (electronic torque limiter)
- AVS (automatic voltage sensor)
- ATC (automatic temperature control) to prevent condensation
- Mechanical release in event of jam
- Manual override
- Two integrated, volt-free micro switches for position confirmation
- Protection class IP 65

Technical specifications

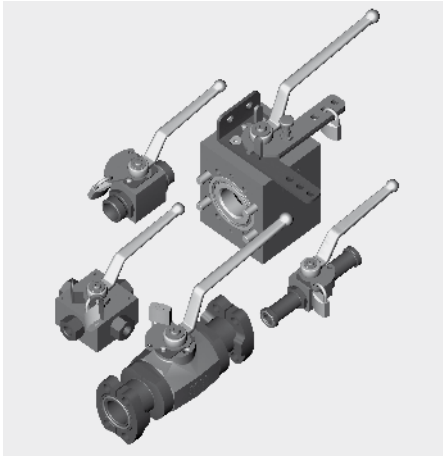
Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	Up to PN 500 bar (see pressure range)
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Spare parts	Seal kits available on request

NOTE

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Subject to technical modifications.



Lockable Ball Valves

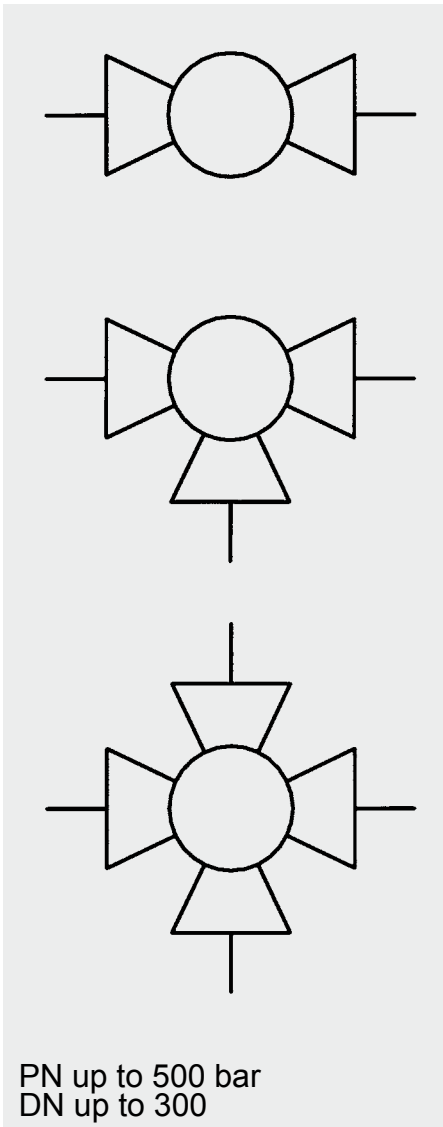
Model code
(also order example)

KHB-16SR-1114-16X SO 760

Designation
Type of ball valve

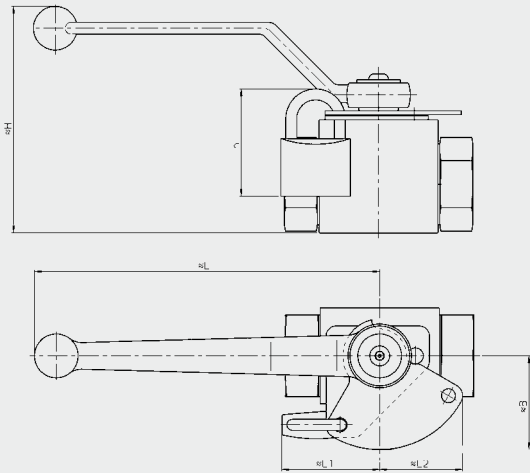
Lockable

- SO 760 = Ball valve can be locked in open and closed position using padlock. Padlock not supplied.
- SO 770 = Ball valve can be locked in open and closed position using padlock.
- SO 160 = Ball valve can be locked in open and closed position using cylinder lock. Key can be removed once locked.



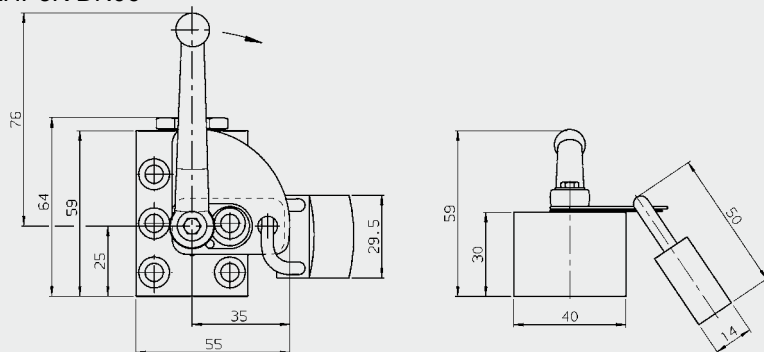
Lockable ball valves SO 760/770

KHB/KHM

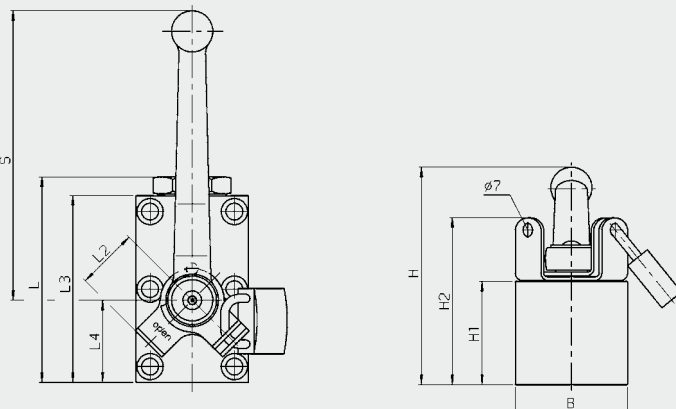


DN		L1	L2	h	B	H	L
04/06	M5	42	28.5	54	32	63.5	108
08/10/13	M5	42	28.5		32	68.5	108
12/16	M5	43	30.5		34	102	174
20	M6	50	41.7		47	114	174
25	M6	50	41.7		47	121	174
32	M8	47	37.9		42	158.5	213
40	M8	47	37.9		42	169.5	213
50	M8	47	37.9		42	186	213

KHP/KHP3K DN06



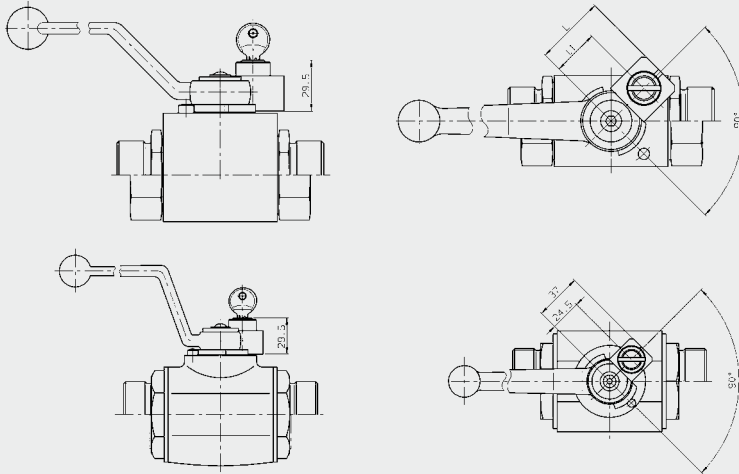
KHP/KHP3K DN10 - 50



Type	DN	B	H	H1	H2	L	L2	L3	L4	S
KHP/ KHP3K	06	40	59	30	-	64	35	59	25	76
	10	55	78	45	74	80	22	70	29	108
	16	60	120	55	89	110	33	100	44.5	174
	20	70	136	70	106	127	35	117	51	174
	25	80	146	80	116	145	35	135	62	174
	32	100	187	100	137	176	36	165	75	231
KHP	40	130	187	100	137	205	36	180	85	231
	50	149	197	110	147	245	36	220	106	231

Lockable ball valve SO 160

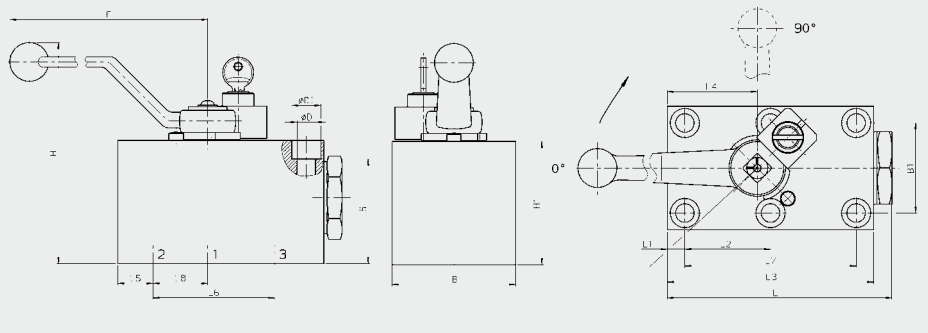
KHM-32-50 SO160



SO 160 - Ball valve can be locked in open or closed position.
Key can be removed once locked

DN	L	L1
04/06	35	22.5
08/10/13	31.5	19
12/16	33.5	21
20/25	37	24.5

KHP3K 16-25



Type	DN	LW	L	L1	L2	L3	L4	L5	L6	L7	L8	B	B1	E	H	H1	ØD	ØD1	S
KHP3K	16	16	110	8.5	41.5	100	44.5	17	58	83	26.5	60	45	169	119	55	9	14	48
	20	20	127	10	48.5	117	51	20	69	97	31	70	51	169	134	70	10.5	16.5	59.5
	25	23.5	145	10	57.5	135	62	24	81	115	38	80	60	169	144	80	10.5	17	69

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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Ball Valves with Electrical Limit Controls



Model code (Limit switch)
(also order example)

KHM-G2-1114-16X E 1. 000

Designation

Type of ball valve

Limit control

E = limit switch (position switch)

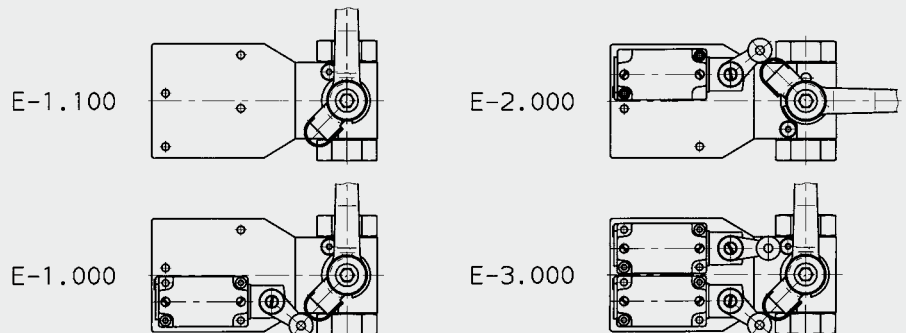
Monitored switching position

- 1 = monitoring of ball valve in open position
- 2 = monitoring of ball valve in closed position
- 3 = monitoring of ball valve in open and closed position

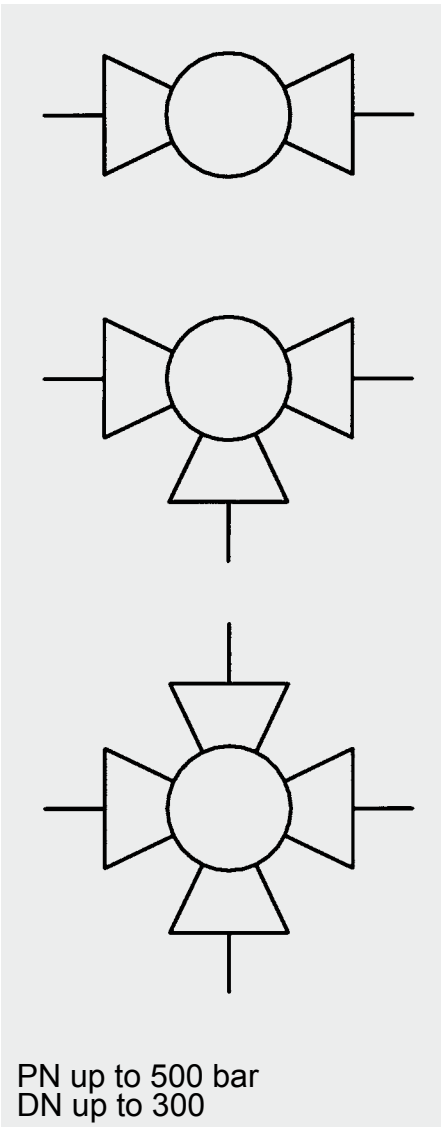
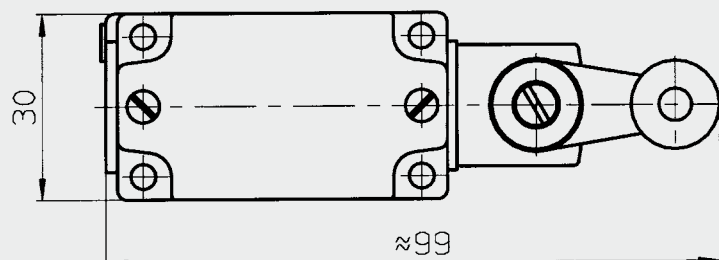
Limit switch code

000 = limit switch to DIN EN 50041 - Form A
100 = adapted for limit switch to DIN EN 50041 - Form A
... = on request, almost all commercially available makes and protection classes can be supplied..

Examples of different models



Limit switch



PN up to 500 bar
DN up to 300

Model code (Inductive proximity switch)
(also order example)

KHM-G2-1114-16X I 1. 200

Designation

Type of ball valve

Limit control

I = inductive proximity switch

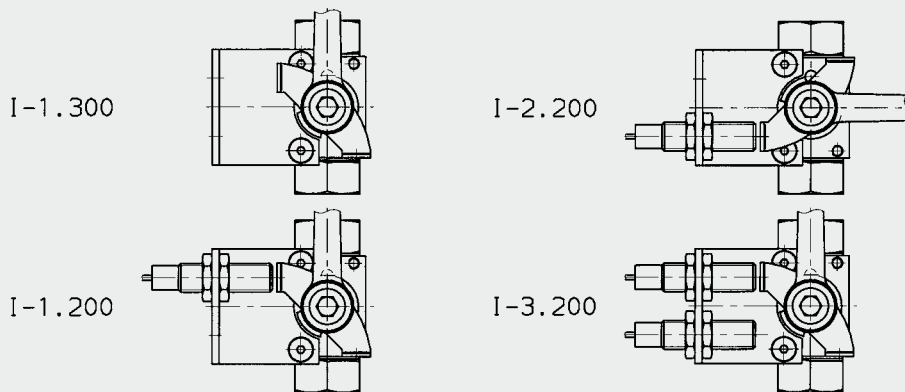
Monitored switching position

- 1 = monitoring of ball valve in open position
- 2 = monitoring of ball valve in closed position
- 3 = monitoring of ball valve in open and closed position

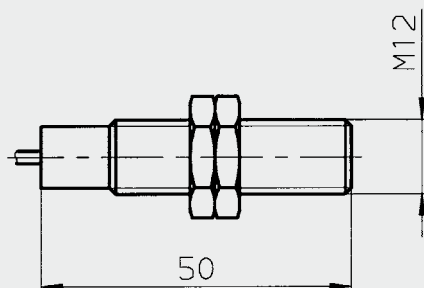
Proximity switch code

- 200 = with built-in cylindrical proximity switch M12 to DIN EN 60947 Type: IA
- 300 = adapted for cylindrical proximity switch M12 to DIN EN 60947 Type: IA
- ... = on request, almost all commercially available makes and protection classes can be supplied.

Examples of different models



Inductive proximity switch



Technical specifications

Limit switch:

Position switch:	to DIN EN 50041 Form A, metal enclosure with roller lever
Switch equipment:	1 N/C contact and 1 N/O contact
Protection class:	IP 67
Insulation group:	500 V AC
Continuous current:	10 A
Nominal voltage:	300 V AC
Mechanical service life:	30 x 10 ⁶ switching cycles
Switching frequency:	6 x 10 ³ switching cycles per hour
Permitted ambient temperature:	-40 to +85 °C

Inductive proximity switch:

Type of construction:	Cylindrical form M12 to DIN EN 60947
Rated switching distance:	4 mm
Output:	Normally open contact / PNP logic
Protection type:	IP 67
Operating voltage:	10 - 30 V DC (including residual ripple)
Nominal voltage:	12 - 24 V DC
Switching current:	≤ 200 mA
Current consumption without load:	< 11 mA
Switching hysteresis:	10%
Switching frequency:	800 Hz
Permitted ambient temperature:	-25 to +70 °C
Function display:	LED
Type of connection:	Cable 3 conductor, 5 m long

Spare parts

Retrofit kit for electrical switching position monitoring can be supplied on request.

NOTE

The information in this brochure relates to the operating conditions and applications described.

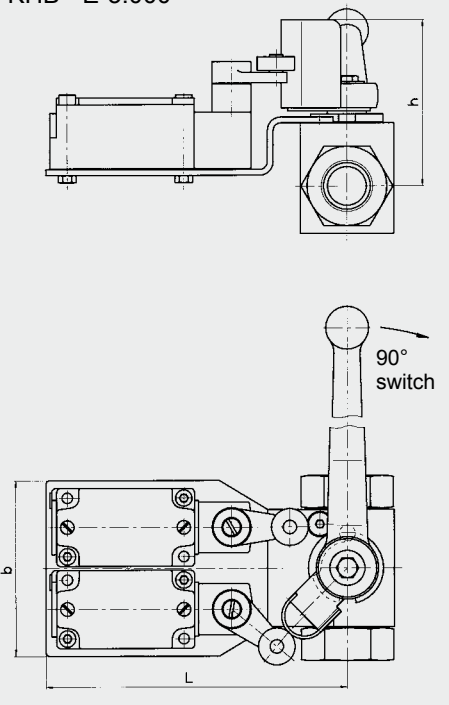
For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

DIMENSIONS

BALL VALVE WITH LIMIT SWITCH

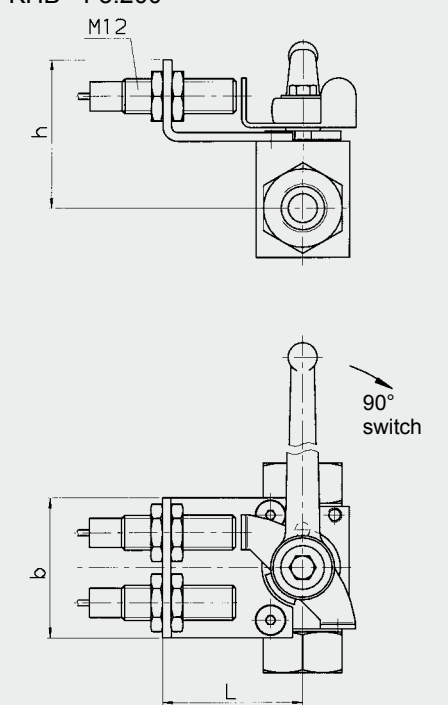
KHB - E-3.000



DN	L	b	h
04/06	155	90	75
08/10/13	155	90	75
16	155	90	82
20	155	90	87
25	155	90	90
32	155	90	103
40	155	90	109
50	155	90	115

BALL VALVE WITH INDUCTIVE PROXIMITY SWITCH M12

KHB - I-3.200



DN	L	b	h
06	45	47	59
08/10/13	46	47	51
16	46	47	54
20	49	60	61
25	49	60	64
32	50	60	78
40	50	60	84
50	50	60	91

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Handles SW 06–22

Model code
(also order example)

Handle

AG

SW12

Description

Handle

Materials and type

AG (01) = aluminium clamped handle, straight

ZG (03) = zinc die-casting clamped handle, straight

AK (02) = aluminium clamped handle, cranked

ZK (04) = zinc die-casting bolt-on handle, cranked

SK (06) = steel bolt-on handle, cranked

SK (26) = steel bolt-on handle, cranked, long (SW 17 only)

Widths of control spindle square

SW 06

SW 09

SW 12

SW 14

SW 17

SW 22

Other handles (e.g. stainless steel) on request

Description

Handles are designed to switch shut-off valves/ball valves.

Clamped handle

The handle is pushed onto the square end of the ball valve spindle and clamped to the square by means of a screw through the end of the handle.

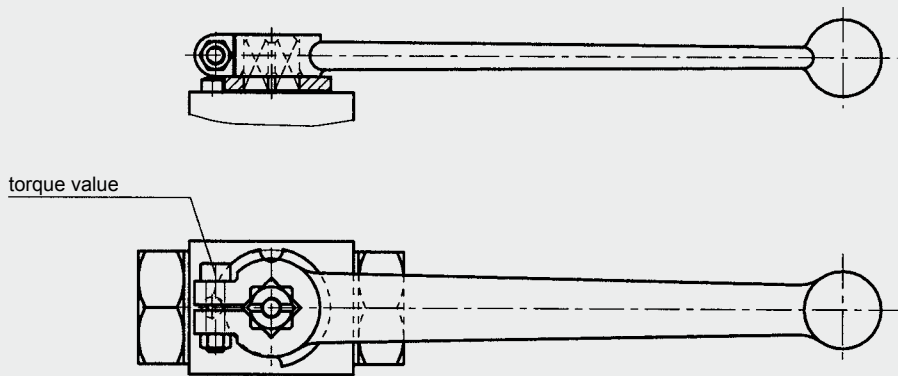
Bolt-on handle

The handle is screwed to the ball valve control spindle by means of a fixing bolt from above.

Both types of handle can be displaced by 45°.

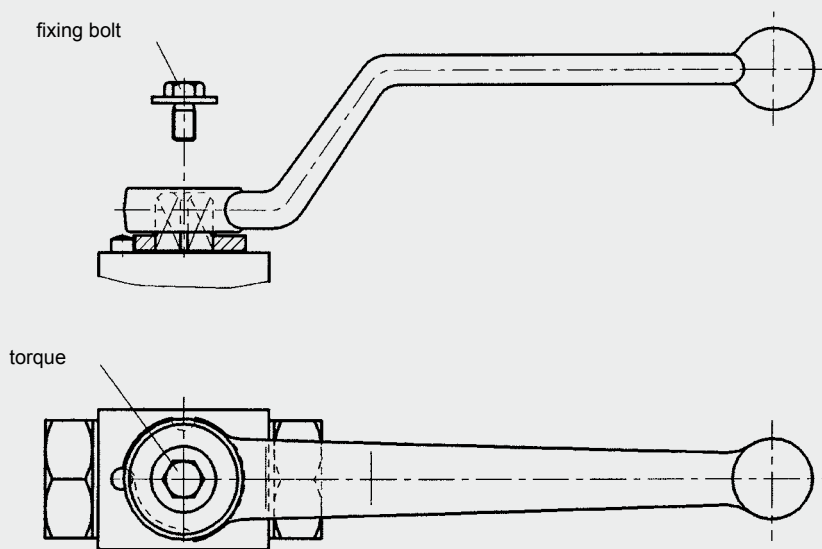
The fixing bolts for the bolt-on handles must be ordered separately.

CLAMPED HANDLE



	SW 09	SW 12	SW 14	SW 17	SW 22
	M 5 x 20	M 5 x 20	M 6 x 30	M 6 x 30	M 8 x 40
Torque	3 Nm	3 Nm	5 Nm	7 Nm	10 Nm

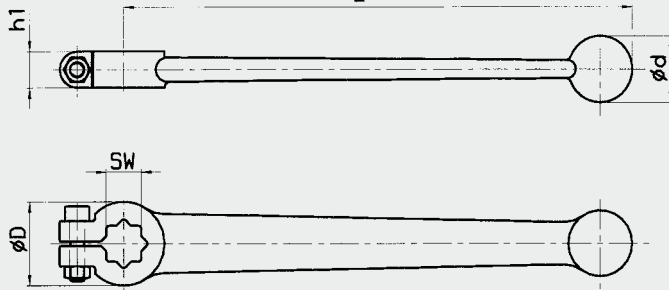
BOLT-ON HANDLE



	SW 06	SW 09	SW 12	SW 14	SW 17
Fixing bolt	M 3 x 6	M 5 x 10	M 5 x 12	M 6 x 10	M 8 x 16
Torque	0.5 Nm	3 Nm	3 Nm	3 Nm	5 Nm

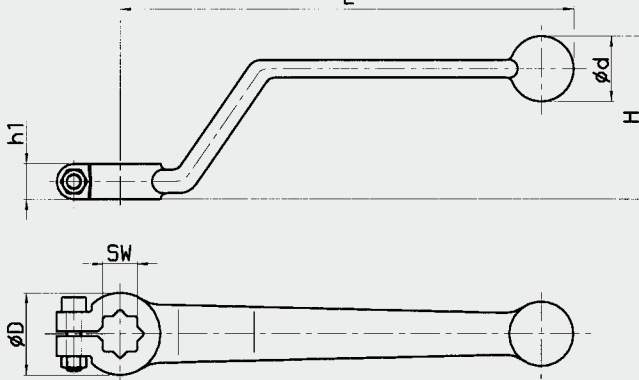
Dimensions

STRAIGHT HANDLE - CLAMPED HANDLE



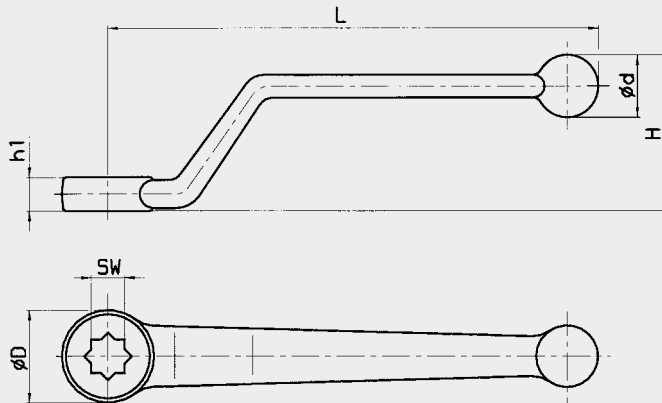
L	$\varnothing D$	$\varnothing d$	h_1	SW	Type	Part number	Weight (kg)
150	22	15	10	09	ZG (03)	559419	0.090
150	25	20	11	09	AG (01)	270099	0.054
175	28	22	12	12	AG (01)	270100	0.073
200	32	24	12	14	AG (01)	270101	0.096
240	36	26	14	17	AG (01)	270311	0.12

CRANKED HANDLE - CLAMPED HANDLE



L	H	$\varnothing D$	$\varnothing d$	h_1	SW	Type	Part number	Weight (kg)
140	41	25	20	11	09	AK (02)	271423	0.054
163	50	28	22	12	12	AK (02)	270381	0.072
183	54	32	24	12	14	AK (02)	270382	0.097
227	55	36	26	14	17	AK (02)	270383	0.12
360	85	44	32	18	22	AK (02)	281604	0.29

CRANKED HANDLE - BOLT-ON HANDLE



L	H	$\varnothing D$	$\varnothing d$	h_1	SW	Type	Part number	Weight [kg]	Fixing bolt/washer Part no.
76	27	16	12	6	06	ZK (04)	554893	0.030	637051
108	28	22	10	9.5	09	ZK (04)	556352	0.053	637052
169	59	31	18	12.5	12	SK (06)	275036	0.28	639387
169	59	31	18	12.5	14	SK (06)	282976	0.275	638601
228	80	34	20	14	17	SK (06)	273662	0.342	638600
306	81	35	22	16	17	SK (26)	561681	0.591	638600

Technical specifications

Material:

Aluminium	- red anodised
Zinc die-casting	- blue zinc-plated
Steel handle	- blue zinc-plated

Widths of control spindle square

SW 06, SW 09, SW 12, SW 14,
SW 17, SW 22

NOTE

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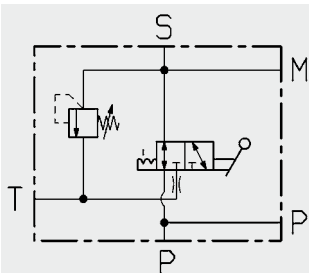
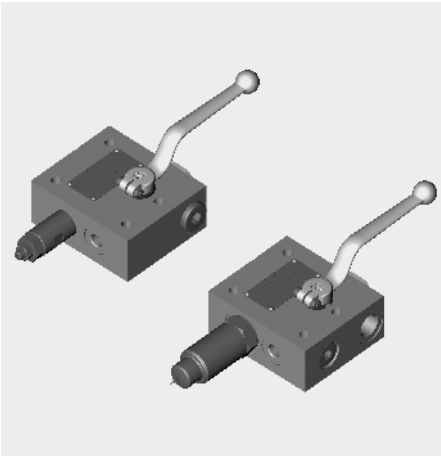
Fax: +49 (0)6897 - 509-1009

Internet: www.hydac.com

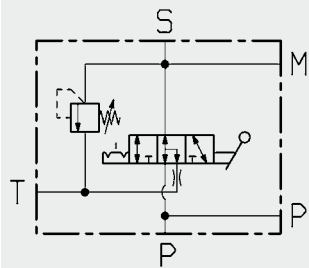
E-Mail: info@hydac.com



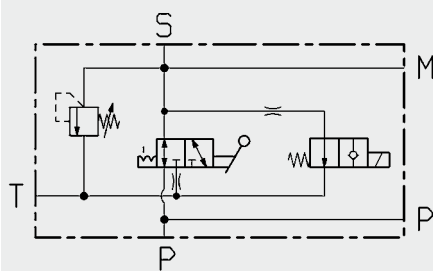
3-Way Safety Block DSV



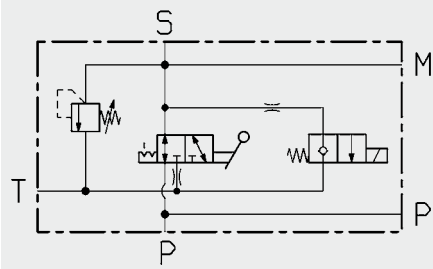
DSV 10 - M



DSV 10 - M - T-ball



DSV 10 - EY



DSV 10 - EZ

PN up to 350 bar
DN 10

1. DESCRIPTION

1.1. GENERAL

3-way safety block is used to shut off and discharge hydraulic accumulators or consumers. It complies with relevant safety standards in accordance with accident prevention regulations (UVV (VBG 17)), safety regulations to DIN 24552, pressure vessels regulations (Druckbeh.V) and technical regulations on pressure vessels (TRB 403 and TRB 404).

The pressure relief valve can be supplied either pre-set by the manufacturer according to order, adjustable or pressure-set & lead-sealed by TÜV.

There are four different models:

- DSV 10 M
manual discharge
standard - L-ball
- DSV 10 M - T-ball
manual discharge,
T-ball
- DSV 10 EY
manual /
solenoid-operated discharge,
open when de-energised
- DSV 10 EZ
manual /
solenoid-operated discharge,
closed when de-energised

Benefits of the accumulator block:

- Slot on the control spindle gives visual indication of the switching position
- Switching limited by means of stop pin and stop disc
- Sealing principle with floating ball, sealing on the inlet side
- Easy operation
- Two pump ports
- Optimised block design
- Minimum of space and fitting required
- All types of connection adapters for various makes and systems of accumulator
- Surface protection phosphate-plated

On request we can supply other models to cover nearly all applications e.g. for aggressive media. Test certificates to EN 10204 and quality test certificates to DIN 55350 Part 18 can be supplied if required.

1.2. FUNCTION

When the accumulator is in operation the change-over ball valve connects the pump port with the accumulator. At the same time the accumulator is monitored for pressure via the built-in pressure relief valve. By switching over the ball valve, the pump port is shut off leakage-free on the inlet side and the accumulator is discharged simultaneously to the tank. During switching all three ports (P, S and T) are momentarily interconnected (negative switching overlap).

If a solenoid operated 2/2 directional poppet valve is fitted, automatic discharge is possible (e.g. in the event of a power failure or shut-down).

1.3. APPLICATION

The three-way safety block DSV is used to protect, shut-off and discharge hydraulic accumulators and consumers.

Areas of application:

- Hydraulic systems using accumulators
- Accumulators stations
- System engineering

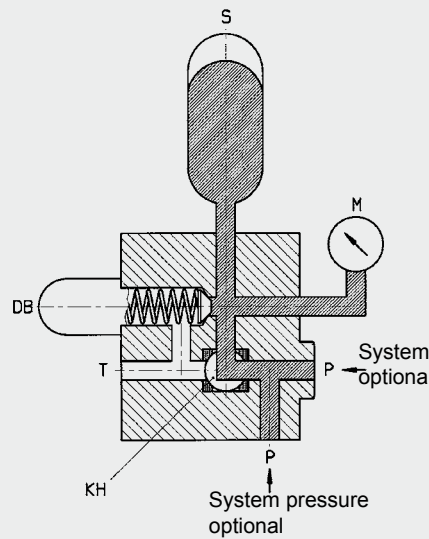
1.4. NOTES

Ball valves are not designed to be used as flow control valves. Therefore they should always be either fully open or fully closed, to avoid damaging the sealing cups.

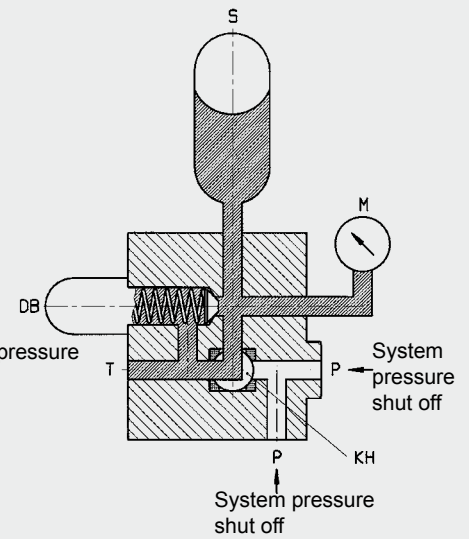
To ensure correct functioning, pressure and temperature specifications must be observed.

The handles are supplied loose.

Accumulator operation



Shutting off the system pressure and simultaneously discharging the accumulator



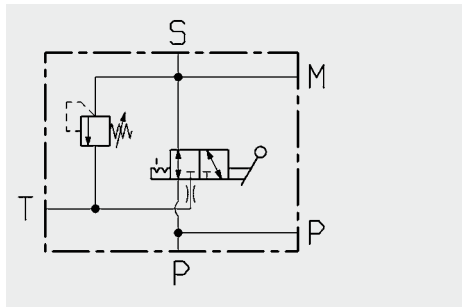
P	Pump port	S	Accumulator
KH	Change-over ball valve	DB	Pressure relief valve
M	Pressure gauge port	T	Tank port

2. SPECIFICATIONS

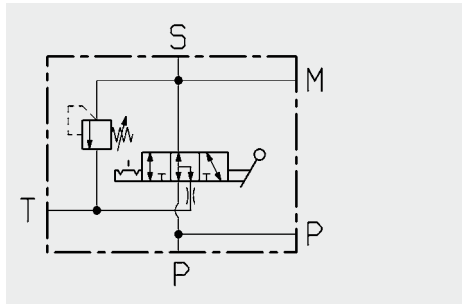
2.1. GENERAL

2.1.1 Designation and symbol 3-way safety block DSV

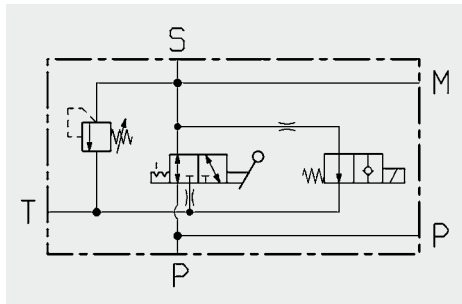
DSV 10 - M



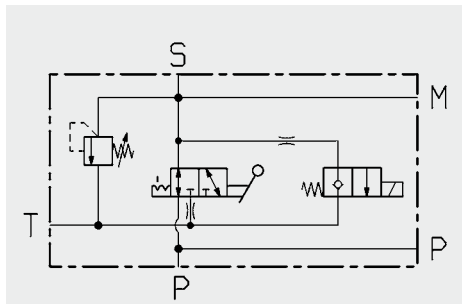
DSV 10 - M - T-ball



DSV 10 - EY



DSV 10 - EZ



2.1.2 Model code (also order example)

DSV - 10 - M ... - 4 . 1 / 1 / X / T 100 - G 24 - Z4 - ...

3-way safety block _____

Nominal bore _____
10

Discharge _____

M = manual

E = manual / solenoid-operated

**For solenoid-operated discharge
with manual override, also indicate:**

Y = open when de-energised

Z = closed when de-energised

Type of pressure relief valve _____

4 = DB 12

2 = DB 4

0 = DBD 6 (on request)

With / without fitted _____

pressure relief valve

1 = with pressure relief valve

0 = without pressure relief valve

Accumulator connection _____

1 = M 33 x 2

(M 20 x 1.5 - DBD6, on request)

Series _____

(determined by manufacturer)

Setting of pressure relief valve _____

T = TÜV certificate (pressure set & lead sealed)

V = adjustable using tool

F = preset by manufacturer

x = no details (for model without relief valve cartridge)

Pressure setting _____

... = customer-specified opening pressure

xxx = no details (for model without relief valve cartridge)

Pressure setting range

DB 4 – 100 bar

DB 12 – 150 bar

DB 4 – 200 bar

DB 12 – 250 bar

DB 4 / 12 – 350 bar

Type of voltage for solenoid (see 2.3.2) _____

G = DC

W = AC

Nominal voltage for solenoid (see 2.3.2) _____

24 = 24 Volt DC (for type G voltage)

230 = 230 Volt 50/60 Hz AC (for type W voltage)

Type of connection for solenoid _____

Z4 = connector to DIN 43650 - AF2 - PG11

Supplementary details _____

T-ball = ball bore (180° switch)

Viton (FKM) = O-ring seal

When ordering please quote Part No. (see Table 2.1.3)

Delivery is longer for non-standard models.

2.1.3 Standard models

Nominal bore / Type	Pressure relief valve	Order No. = Part No.	Weight [kg]
DSV - 10 - M - 2.0/1/X/XXXX	without DB 4	555998	2.5
DSV - 10 - M - 2.1/1/X/T100	DB 4	557361	2.6
DSV - 10 - M - 2.1/1/X/T200	DB 4	557362	2.6
DSV - 10 - M - 2.1/1/X/T210	DB 4	555408	2.6
DSV - 10 - M - 2.1/1/X/T315	DB 4	557363	2.6
DSV - 10 - M - 2.1/1/X/T330	DB 4	557364	2.6
DSV - 10 - EY - 2.0/1/X/XXXX - G24 - Z4	without DB 4	557366	3.6
DSV - 10 - EY - 2.1/1/X/T210 - G24 - Z4	DB 4	557365	3.8
DSV - 10 - M - 4.0/1/X/XXXX	without DB 12	555999	3.1
DSV - 10 - M - 4.1/1/X/T100	DB 12	555971	3.5
DSV - 10 - M - 4.1/1/X/T200	DB 12	555973	3.5
DSV - 10 - M - 4.1/1/X/T210	DB 12	555974	3.5
DSV - 10 - M - 4.1/1/X/T315	DB 12	555977	3.4
DSV - 10 - M - 4.1/1/X/T330	DB 12	555978	3.5
DSV - 10 - EY - 4.0/1/X/XXXX - G24 - Z4	without DB 12	557367	4.5
DSV - 10 - EY - 4.1/1/X/T100 - G24 - Z4	DB 12	555983	4.9
DSV - 10 - EY - 4.1/1/X/T200 - G24 - Z4	DB 12	555985	3.9
DSV - 10 - EY - 4.1/1/X/T210 - G24 - Z4	DB 12	555986	4.9
DSV - 10 - EY - 4.1/1/X/T315 - G24 - Z4	DB 12	555989	3.9
DSV - 10 - EY - 4.1/1/X/T330 - G24 - Z4	DB 12	555990	4.9

2.1.4 Type of construction

Ball valve isolating device
 Pressure relief valve is a direct-acting cone poppet valve
 Poppet valve is pilot-operated

2.1.5 Mounting position

Optional

2.1.6 Weight

See table 2.1.3

2.1.7 Flow direction

According to symbol

2.1.8 Ambient temperature

- 10 °C to + 80 °C

2.1.9 Materials

Housing and blanking plug

- Steel
- Surface protection: phosphate-plated

Ball

- Steel
- Hard-chromed

Pressure relief valve and poppet valve

Valve body:

- High tensile steel

Closing element:

- Hardened and polished steel
- Wear-resistant
- Surface protection: phosphate-plated

Ball seal

- High quality synthetic material (POM)

Soft seals

- Perbunan (NBR)

Clamped handle SW 09, cranked

- Red anodised aluminium

2.2. HYDRAULIC SPECIFICATIONS

2.2.1 **Nominal pressure**
PN 350 bar

2.2.2 **Operating fluids**
Mineral oil to DIN 51524 Part 1 and 2
(other fluids on request)

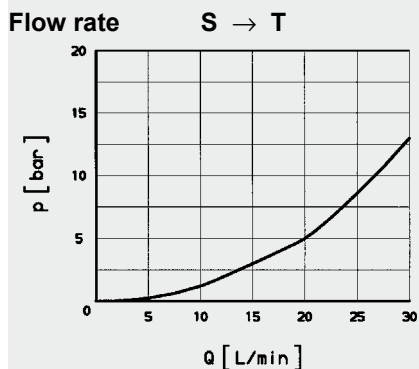
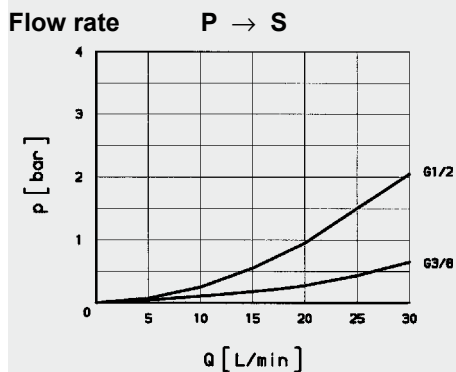
2.2.3 **Temperature of operating fluid**
- 10 °C to + 80 °C

2.2.4 **Viscosity range**
min. 10 mm²/s
max. 380 mm²/s

2.2.5 **Filtration**
Max. permitted contamination level of the operating fluid to NAS 1638 class 10. We therefore recommend a filter with a minimum retention rate of $\beta_{20} \geq 100$. The fitting of filters and regular replacement of filter elements guarantees correct operation, reduces wear and tear and extends the service life.

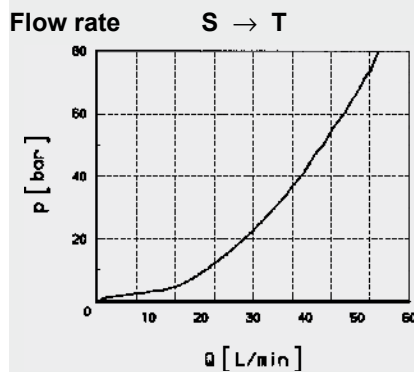
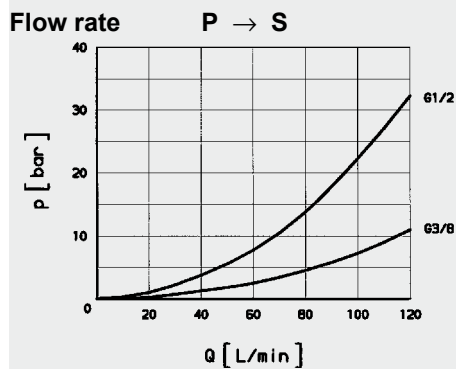
2.2.6 **Δp - Q graph DSV - 10 with pressure relief valve DB 4**

Measured at $v = 30 \text{ mm}^2/\text{s}$ and $t_{\text{oil}} = 50 \text{ }^\circ\text{C}$



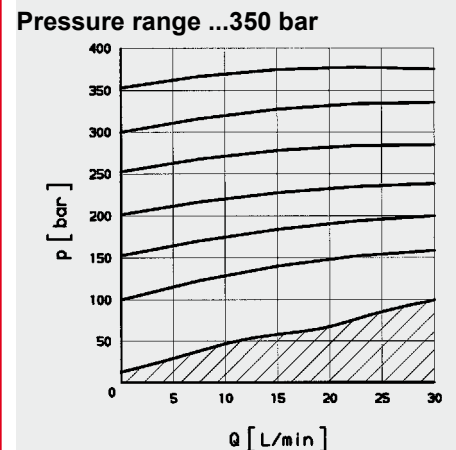
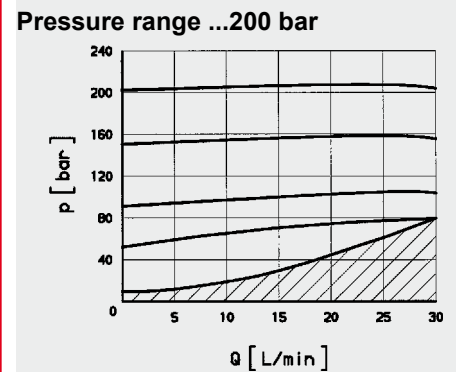
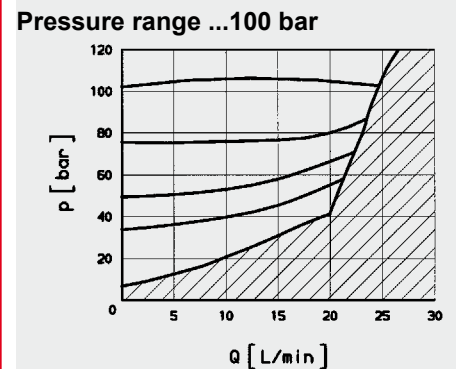
2.2.7 **Δp - Q Graph DSV - 10 with pressure relief valve DB 12**

Measured at $v = 30 \text{ mm}^2/\text{s}$ and $t_{\text{oil}} = 50 \text{ }^\circ\text{C}$



2.2.8 **Pressure, dependent on flow rate DB 4**

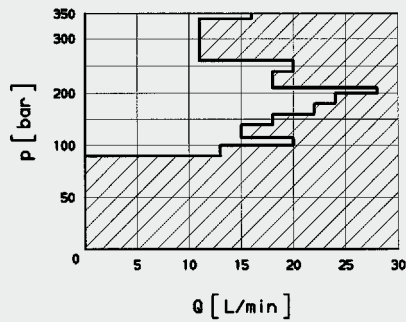
measured at $v = 36 \text{ mm}^2/\text{s}$ and $t_{\text{oil}} = 50 \text{ }^\circ\text{C}$



2.2.9 Pressure, flow rate dependent DB 4 - TÜV

measured at $v = 36 \text{ mm}^2/\text{s}$ and
 $t_{\text{oil}} = 50 \text{ }^\circ\text{C}$

Application range of DB 4 - TÜV



Q_{max} table for DB 4 - TÜV

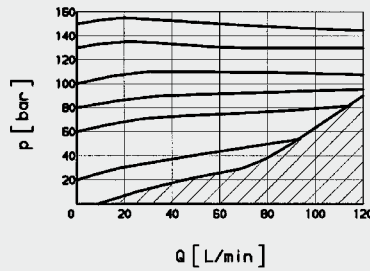
Max. permitted flow rate of the pump

Q_{max} [l/min]	p [bar]
13	90 - 100
20	101 - 115
15	116 - 140
18	141 - 160
22	161 - 180
24	181 - 200
28	201 - 210
18	211 - 240
20	241 - 260
11	261 - 340
16	341 - 360

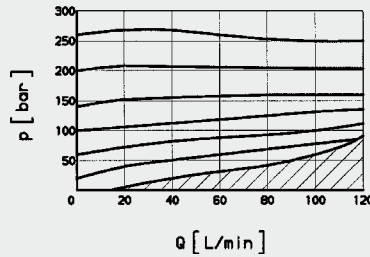
2.2.10 Pressure, dependent on flow rate DB 12

Measured at $v = 28 \text{ mm}^2/\text{s}$ and
 $t_{\text{oil}} = 50 \text{ }^\circ\text{C}$

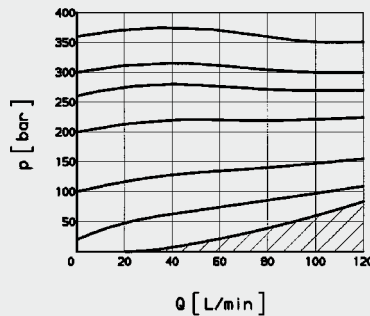
Pressure range ...150 bar



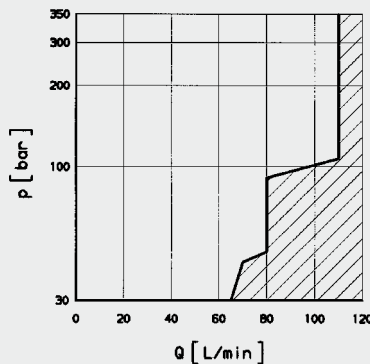
Pressure range ...250 bar



Pressure range ...350 bar



Application range of DB 12 - TÜV



Q_{max} table for DB 12 - TÜV

Max. permitted flow rate of the pump

Q_{max} [l/min]	p [bar]
65	30, 35
72	40, 45
80	50, 60, 70, 80, 90
95	100
110	110, 120, 140, 160... to 400

Note:

This valve cannot be set to values in the shaded areas.

2.3. TYPE OF OPERATION

2.3.1 Type of construction

Solenoid-operated by means of pressure-tight, oil-immersed, single-stroke solenoids in accordance with VDE 0580.

Actuating solenoid with male connector to DIN 43650, standard for general industrial applications, available for 24 V DC and 230 V AC.

2.3.2 Type of voltage

DC solenoid (type G)
When connected to AC voltage (type W) the necessary DC voltage is produced by means of a bridge rectifier connector.

2.3.3 Nominal voltage

Standard nominal voltages : Voltage type G : 24 V
Voltage type W : 230 V

2.3.4 Voltage tolerance

- 5 %
+ 10 %

2.3.5 Nominal current

Dependent on the nominal voltage
G 24 V : 1.04 A
W 230 V : 0.13 A

2.3.6 Power consumption

$p_{20} = 26 \text{ W}$

2.3.7 Duty cycle

100% = continuous operation

2.3.8 Switching time

Depending on the symbol, pressure across the individual ports and flow rate, switch-on time approx 25 ms, switch-off time approx. 35 ms.

2.3.9 Protection class

Protection class IP 65 to DIN 40050 provided connector has been fitted correctly.

2.3.10 Ambient temperature range

- 10 °C to + 40 °C

3. ADAPTERS

3.1. GENERAL

Adapters for mounting different makes and systems of accumulator must be ordered separately.

3.2. MODEL CODE

(also order example)

UEBERG-ST - S30 - NBR

Adapter _____

Type _____

- S10 = M 33 x 2 / G 3/4 A
 - S11 = M 33 x 2 / G 1 A
 - S12 = M 33 x 2 / G 1 1/4 A
 - S13 = M 33 x 2 / G 2 A
 - S20 = M 33 x 2 / M 30 x 1.5
 - S21 = M 33 x 2 / M 40 x 1.5
 - S22 = M 33 x 2 / M 50 x 1.5
 - S30 = M 33 x 2 / G 1/2 A
 - S31 = M 33 x 2 / G 3/4 A
 - S32 = M 33 x 2 / G 1 A
 - S33 = M 33 x 2 / G 1 1/4 A
- (M 20 x 1.5 / ... on request)

Seal _____

NBR = Perbunan

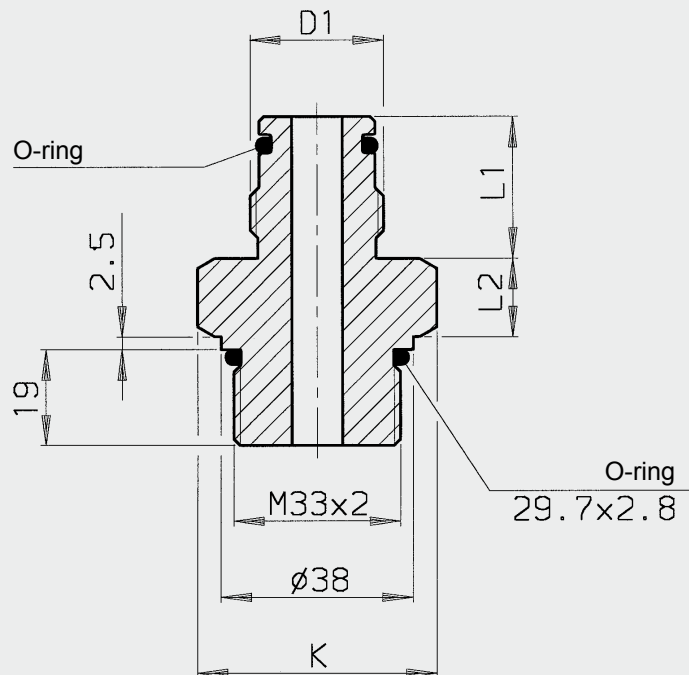
When ordering, please quote part number (see Table 3.3.)
Delivery is longer for non-standard models.

3.3. STANDARD MODELS

Adapter / Type	Order No.= Part No.
ADAPTER - S10 - NBR	369479
ADAPTER - S11 - NBR	372750
ADAPTER - S12 - NBR	369480
ADAPTER - S13 - NBR	369481
ADAPTER - S20 - NBR	369482
ADAPTER - S21 - NBR	369483
ADAPTER - S22 - NBR	369484
ADAPTER - S30 - NBR	369485
ADAPTER - S31 - NBR	369486
ADAPTER - S32 - NBR	369487
ADAPTER - S33 - NBR	379009

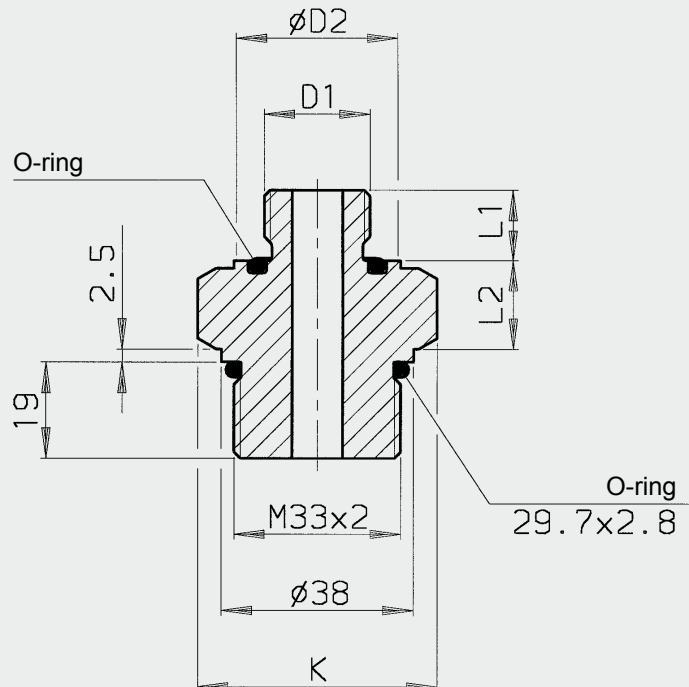
3.4. DIMENSIONS OF ADAPTERS

Adapter - M 33 x 2, Figure 1



Type	Thread D1	D2	L1	L2	K	O-ring
S10	ISO 228 - G $\frac{3}{4}$ A	-	28	15.5	SW 41	17 x 3
S11	ISO 228 - G 1 A	-	34	16.5	SW 46	22 x 3
S12	ISO 228 - G 1 $\frac{1}{4}$ A	-	37	16.5	SW 46	30 x 3
S13	ISO 228 - G 2 A	-	44	20.5	SW 65	48 x 31

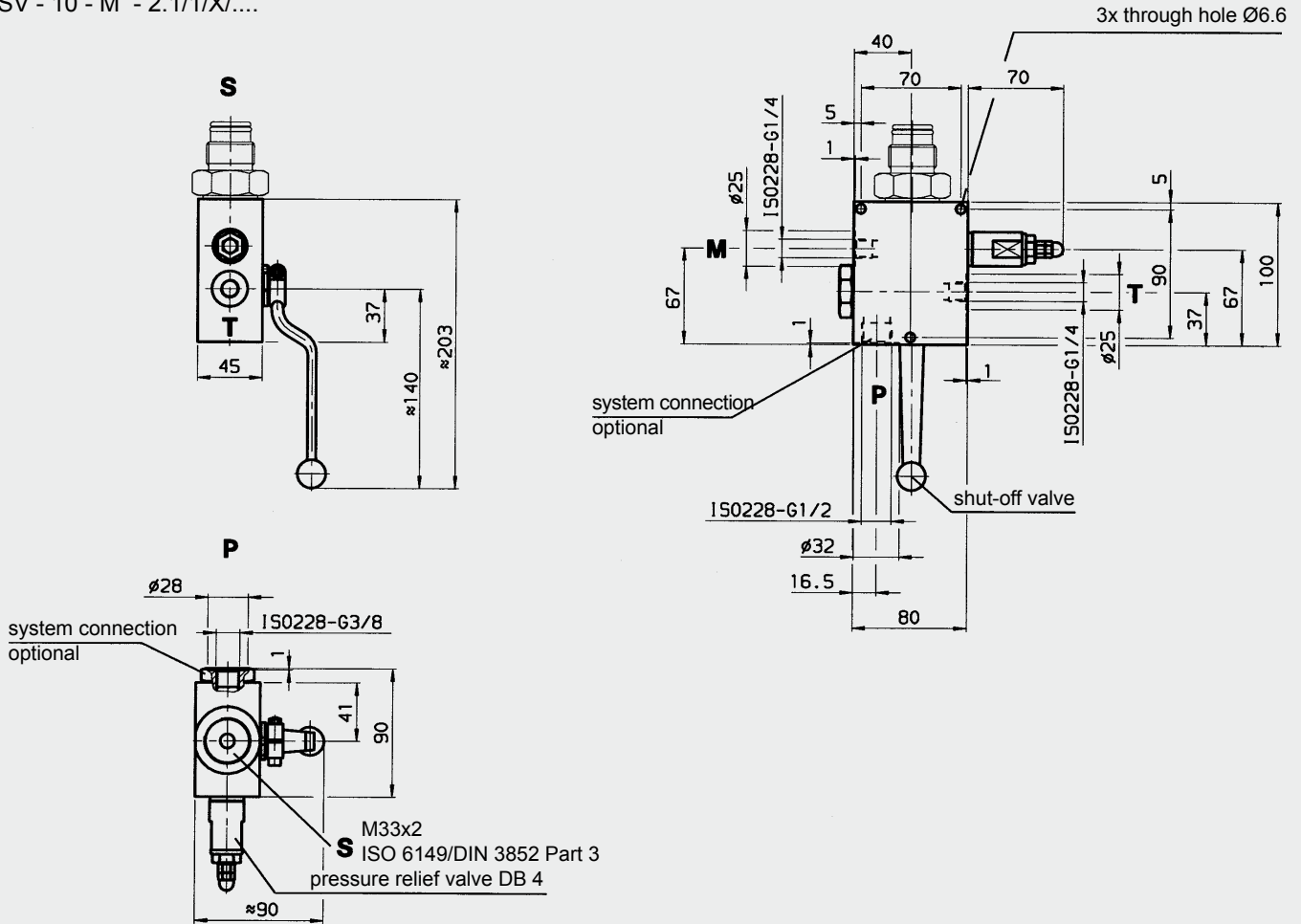
Adapter - M 33 x 2, Figure 2



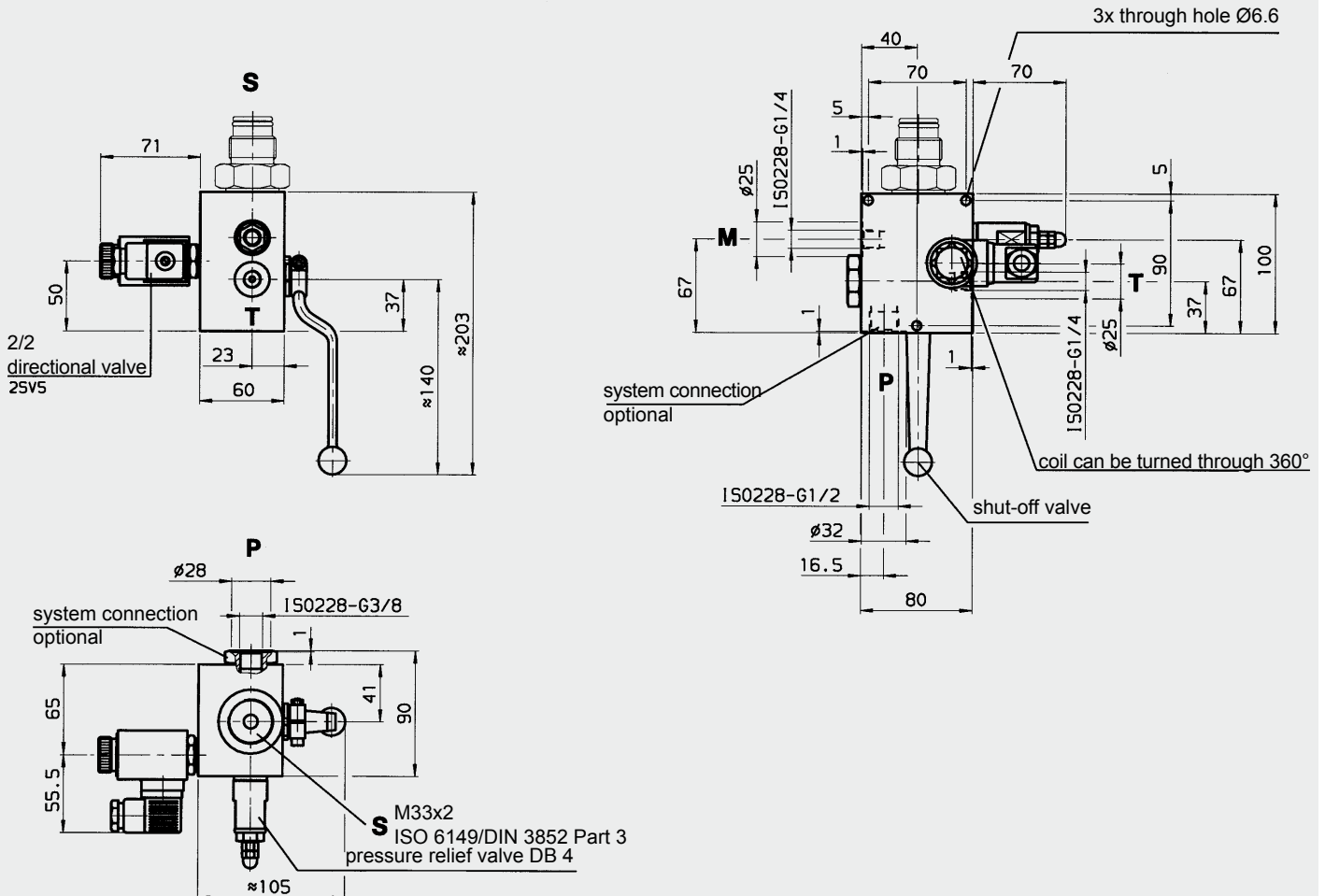
Type	Thread D1	D2	L1	L2	K	O-ring
S20	M 30 x 1.5	40	15	17.5	SW 41	32 x 2
S21	M 40 x 1.5	54	20	20.5	SW 55	43 x 3
S22	M 50 x 1.5	64	20	20.5	SW 65	53 x 3
S30	ISO 228 - G $\frac{1}{2}$ A	33	14	17.5	SW 41	22 x 3
S31	ISO 228 - G $\frac{3}{4}$ A	40	16	17.5	SW 41	28 x 3
S32	ISO 228 - G 1 A	45	18	18.5	SW 46	35 x 3
S33	ISO 228 - G 1 $\frac{1}{4}$ A	55	20	18.5	SW 65	44 x 33

4. DIMENSIONS

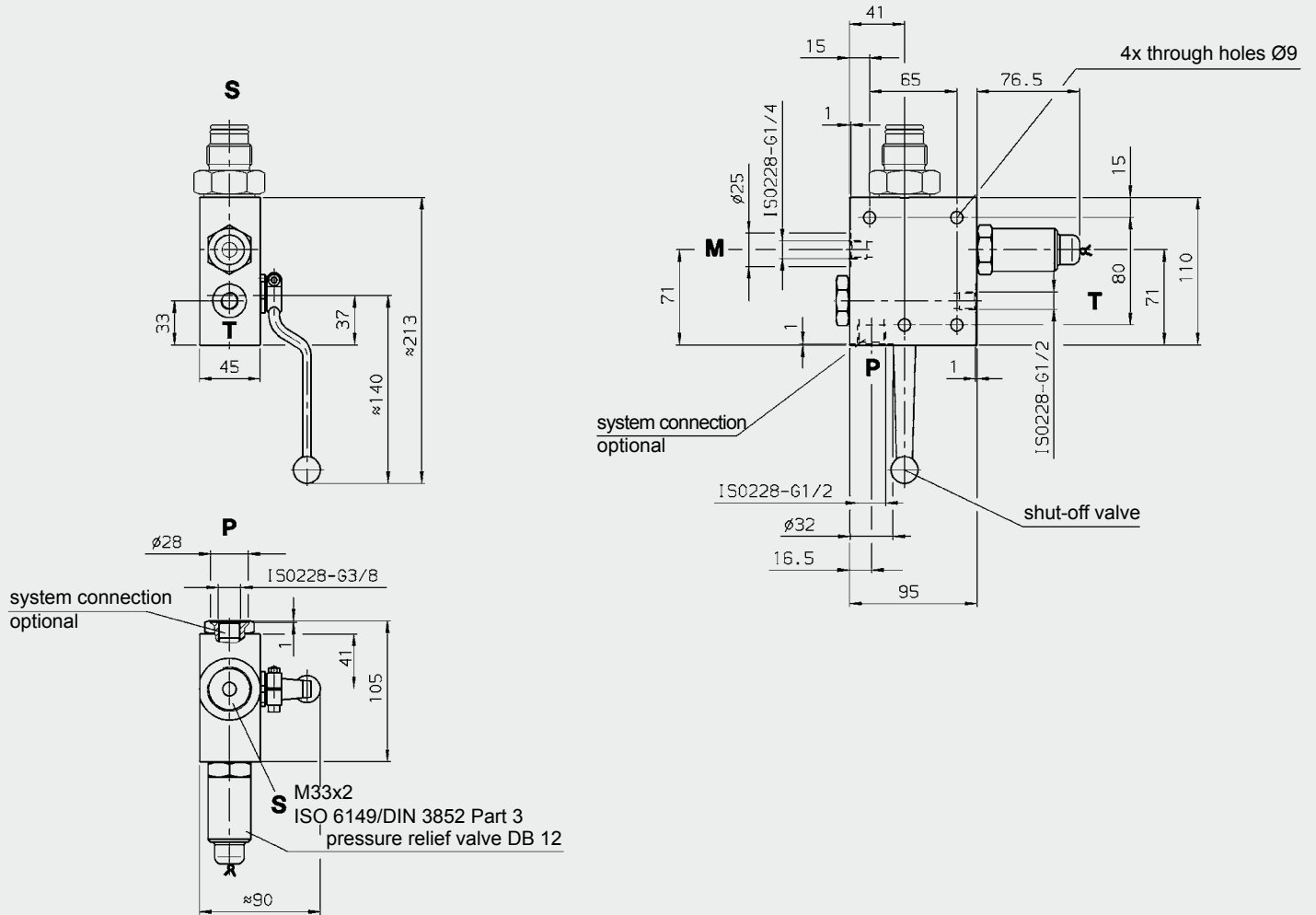
DSV - 10 - M - 2.1/1/X/....



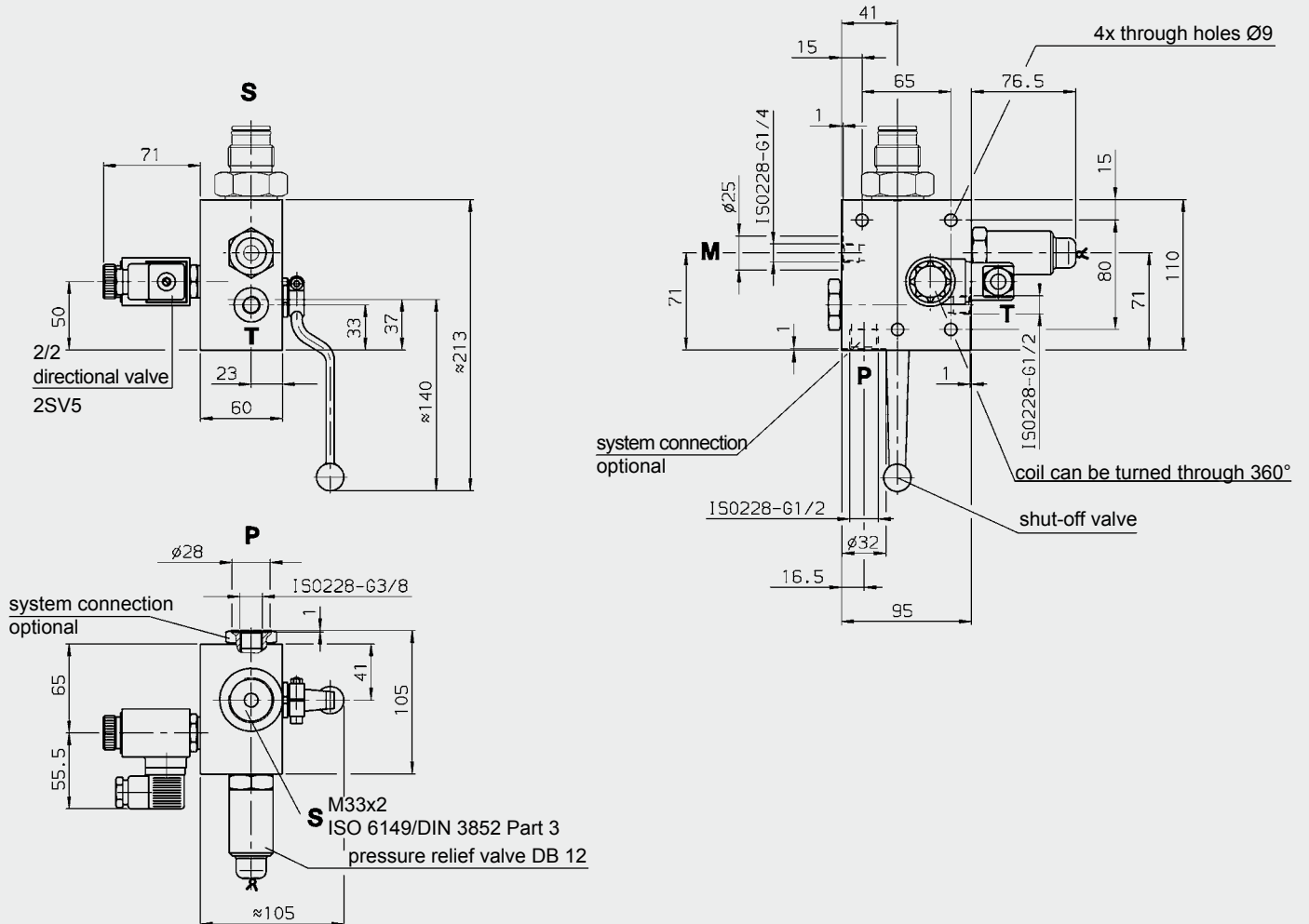
DSV - 10 - E. - 2.1/1/X/....



DSV - 10 - M - 4.1/1/X/....

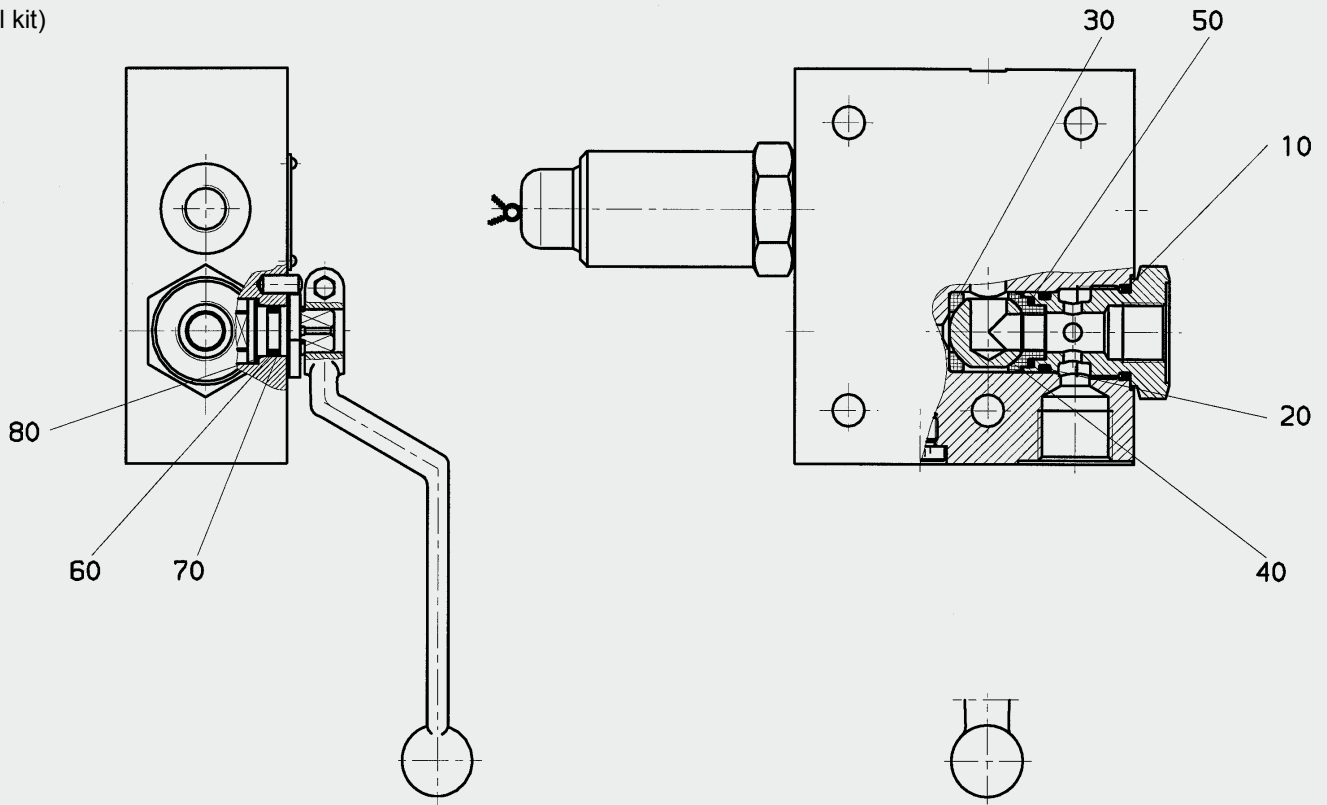


DSV - 10 - E. - 4.1/1/X/....



5. SPARE PARTS

(Seal kit)



The parts indicated by numbers in the above drawing are contained in the seal kit.

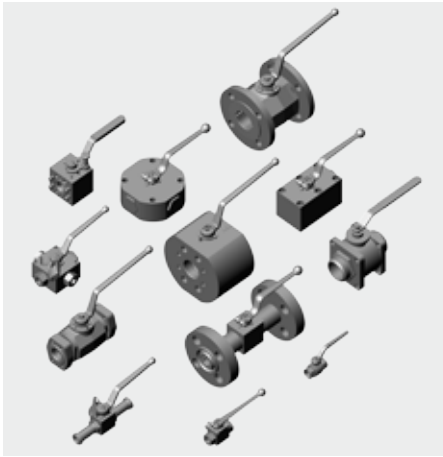
Seal kit	Order No. = Part number
DSV - 10	702513
DB 4	715870
DB 12	557399
2 SV 5	480078

NOTE

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

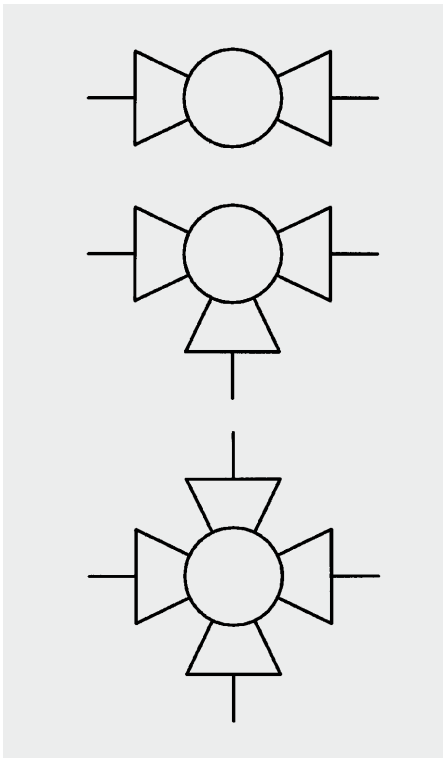
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Fax: +49 (0)6897 - 509-1009
Internet: www.hydac.com
E-Mail: info@hydac.com





Compatibility List

For 2/2-, 3/2- and 4/2-Way Ball Valves



1. DESCRIPTION

1.1 GENERAL

The HYDAC compatibility list is intended as a non-binding recommendation for the selection of materials for the housing, connection adapters, control spindle, ball and seals for ball valves.

The data given in this brochure is based on the tests, recommendations and experience of our suppliers. Given the immense variety of applications, media concentrations, pressures and temperatures, the data is intended to be a general guideline only.

1.2 NOTES

All the data applies to the usual concentrations of the media at room temperature, 20 °C. In individual cases we can select specific seal combinations and suitable materials for problematic operating conditions on request.

Medium	Ball valve materials				Soft seals		Sealing cups				
	Housing	Ball	Control spindle	Steel	Brass	GG, GS-C	1.4571	NBR	FKM	POM	PTFE
A											
Acetaldehyde	3	2	3	1	4	3	2	1			
Acetic acid	3	3	3	1	4	4	4	1			
Acetic anhydride	4	3	4	2	4	4	4	1			
Acetone	1	1	1	1	4	4	2	2			
Acetylene	1	4	1	1	2	2	2	2			
Acrylonitrile	1	1	3	1	4	3	4	1			
Air	1	1	1	1	1	1	1	1			
Alcohol	4	4	4	4	4	1	1	1			
Alum, aqueous	3	3	3	1	2	1	2	1			
Aluminium chloride	3	3	3	1	2	1	1	1			
Ammonia	1	4	2	1	3	4	2	1			
Ammonium carbonate	2	4	2	2	3	3	3	1			
Ammonium chloride	4	4	4	2	2	1	2	1			
Ammonium phosphate, aqueous	4	4	4	2	2	1	2	1			
Ammonium sulphate	3	4	3	2	2	1	2	1			
Amyl acetate	3	3	3	2	4	4	2	1			
Aniline	2	3	3	1	4	2	2	1			
Argon gas	1	1	1	1	1	1	1	1			
Aviation fuel JP 3-6	1	1	1	1	3	2	3	1			
B											
Beer	4	1	4	1	1	1	1	1			
Beet sugar solution	2	-	2	1	2	1	1	1			
Benzene	2	2	2	2	4	3	2	1			
Bitumen	1	2	2	1	4	2	3	1			
Borax, aqueous	3	3	3	2	1	1	1	1			
Boric acid, aqueous	3	3	4	2	1	1	2	1			
Brake fluid	2	2	3	2	4	3	2	1			
Brandy	2	2	3	2	2	1	2	1			
Bromine	4	3	4	4	4	2	-	1			
Brown coal tar	1	4	1	1	4	4	4	1			
Butane, gaseous	2	1	2	2	2	2	2	1			
Butter fat	4	4	4	1	1	4	1	1			
Butyric acid, aqueous	4	3	4	2	2	2	2	1			
C											
Cadmium chloride	4	4	4	1	1	4	4	1			
Cadmium sulphate	1	1	1	1	1	1	1	1			
Calcareous water	1	1	1	1	1	1	1	1			
Calcium bisulphate, aqueous	4	2	4	2	2	2	2	1			
Calcium carbonate	1	4	4	1	1	1	4	1			
Calcium chloride, aqueous	3	2	3	2	1	1	1	1			
Calcium hydroxide	3	1	3	2	1	1	2	1			
Carbon dioxide	1	1	2	1	2	1	4	1			
Carbon disulphide	3	3	3	2	4	1	2	1			
Carbonic acid	2	4	4	2	2	2	2	1			
Castor oil	2	1	2	1	1	1	1	1			
Cellolube 220	1	1	1	1	4	1	1	1			
Chlorine wet + dry	4	4	4	4	4	2	4	1			
Chlorine, gaseous up to 100 °C	4	4	4	1	4	1	4	1			
Chlorobenzene	2	2	2	1	4	2	2	1			
Chloroform	2	2	2	1	4	2	4	1			
Citric acid	4	2	4	2	2	1	2	1			
Clophen A	1	1	1	1	4	1	4	1			
Coal tar oil	1	1	1	1	4	2	3	1			
Coke oven gas	2	3	2	1	4	2	-	1			
Condenser oil	1	4	1	1	4	1	1	1			

Medium	Ball valve materials				Soft seals		Sealing cups				
	Housing	Ball	Control spindle	Steel	Brass	GG, GS-C	1.4571	NBR	FKM	POM	PTFE
C											
Copper nitrate, aqueous	4	4	4	2	2	1	2	1			
Copper sulphate, aqueous	4	4	4	2	2	1	2	1			
Cresoly, aqueous	3	3	4	2	4	2	4	1			
Crude oil	2	2	2	1	2	1	1	1			
Crude oil	2	2	2	1	2	1	2	1			
Cutting oil	1	1	1	1	1	1	1	1			
Cutting oil emulsion	3	3	2	2	1	2	1	1			
D											
Diesel fuel	1	1	1	1	3	1	2	1			
E											
Edible oil	4	4	4	1	1	4	4	1			
Ethane	2	1	2	2	1	1	1	1			
Ethanol	2	2	2	1	3	3	2	1			
Ether	1	1	1	1	4	4	4	1			
Ethyl acetate	2	3	2	2	4	4	2	1			
Ethylene	2	-	2	1	2	2	2	1			
F											
Faecal matter	1	4	1	1	1	1	1	1			
Fatty acids	4	-	4	1	3	1	1	1			
Fertilizer solution	4	3	4	3	4	4	-	1			
Fire extinguishing substance	1	1	1	1	1	4	4	1			
Fish oil	2	2	2	1	2	1	1	1			
Formaldehyde	3	1	3	1	2	2	1	1			
Formic acid	4	2	4	2	4	4	4	1			
Freon	2	2	2	1	2	2	2	1			
Fruit juices	4	3	4	1	2	1	1	1			
Fuel oil, heavy	2	2	3	1	4	3	3	1			
Fuel oil, light	2	2	2	1	3	2	3	1			
Furan	1	4	4	1	4	4	4	1			
Furfural	1	1	2	1	4	4	2	1			
G											
Gas liquor	2	2	2	2	2	1	2	1			
Gas oil	2	2	2	1	3	1	2	1			
Gasoline, pure	1	1	2	1	2	2	2	1			
Gelatine	3	3	4	1	1	1	1	1			
Glucose	2	1	2	1	1	1	2	1			
Glycerine	2	2	2	1	1	2	3	1			
Glycol	2	2	2	2	2	2	3	1			
H											
Heavy oil	1	1	1	1	4	4	4	1			
Heptane	2	1	2	1	2	1	1	1			
Hexane	2	2	2	2	2	1	1	1			
Hydraulic fluid, based on phosphate-ester	2	4	2	1	4	1	1	1			
Hydraulic fluid, based on glycol	2	3	2	1	3	2	3	1			
Hydraulic fluid, based on mineral oil	1	1	1	1	1	1	1	1			
Hydrochloric acid	4	4	4	4	-	1	-	1			
Hydrogen	2	2	2	1	2	2	-	1			
Hydrogen peroxide	4	4	4	2	4	2	4	1			
Hydrogen sulphide	3	4	4	2	3	2	3	1			
I											
Ink	4	3	4	1	1	1	1	1			
Iron chloride	4	2	4	4	2	1	3	1			
Iron sulphate	4	2	4	2	3	1	1	1			

Medium	Ball valve materials				Soft seals		Sealing cups	
	Housing	Ball	Control spindle		NBR	FKM	POM	PTFE
			Steel	Brass				
I								
Isobutyl alcohol	2	2	3	2	3	1	3	1
Isooctane	1	1	1	1	1	1	3	1
Isopropyl alcohol	2	2	3	2	3	1	2	1
Isopropyl ether	1	1	3	1	3	4	-	1
K								
Kerosene	2	2	2	1	2	1	1	1
Ketone	4	4	4	1	4	4	4	1
L								
Lacquers	2	1	2	1	4	3	2	1
Latex emulsion	2	1	2	1	-	-	1	1
Lead acetate, aqueous	4	3	4	1	4	2	3	1
Linseed oil	1	2	1	2	2	1	1	1
Lubricating oil	1	2	1	1	1	1	1	1
Lubricating oil, mineral	1	1	1	1	1	1	2	1
Lyes, alkaline	4	4	4	1	1	4	1	1
M								
Magnesium chloride	3	3	4	2	2	1	1	1
Magnesium hydroxide	2	4	2	1	2	1	1	1
Magnesium sulphate	3	2	3	2	2	1	1	1
Maleic anhydride	4	2	4	2	-	2	3	1
Malic acid	4	3	4	2	1	1	1	1
Mercury	1	4	1	1	1	1	1	1
Mercury chloride	4	4	4	3	2	1	4	1
Methane	2	1	2	2	1	1	2	1
Methanol	2	2	2	2	3	4	2	1
Methyl ethyl ketone	1	1	3	1	4	4	1	1
Methylamine, aqueous	2	4	2	1	4	4	-	1
Methylene bromide	4	1	4	4	4	1	3	1
Methylene chloride	2	1	3	1	4	3	3	1
Milk of lime	2	-	2	1	4	2	2	1
Mine gas	1	1	4	1	1	1	1	1
N								
Naphtha	2	2	2	1	2	1	1	1
Naphthalene	2	2	2	2	4	1	1	1
Natural gas	2	2	2	1	2	1	2	1
Nickel chloride	4	4	4	2	1	1	2	1
Nickel sulphate	4	4	4	2	2	1	2	1
Nitric acid	1	4	1	1	4	4	4	1
Nitrobenzene	-	4	3	1	4	3	4	1
Nitrogen	1	1	1	1	1	1	1	1
O								
Oil-water emulsion	1	1	1	1	1	1	1	1
Oleic acid	2	2	3	2	2	1	1	1
Oleum	3	4	3	2	4	2	4	1
Oxalic acid	4	4	4	2	2	1	3	1
Oxygen	2	1	3	1	4	2	4	1
Oxygen gas	1	1	1	1	1	1	1	1
Ozone	4	4	4	1	-	-	-	1
P								
Palm oil	4	4	4	1	4	1	1	1
Palmitic acid	2	2	2	2	2	1	2	1
Paraffin	2	1	2	1	1	1	2	1
Pentane	2	1	2	1	1	1	2	1
Perchloroethylene	1	4	1	1	4	4	4	1
Petroleum	2	2	2	1	2	1	1	1
Phenol	2	2	2	2	4	2	4	1

Medium	Ball valve materials				Soft seals		Sealing cups	
	Housing	Ball	Control spindle		NBR	FKM	POM	PTFE
			Steel	Brass				
P								
Picric acid	4	3	4	1	2	1	-	1
Pine needle oil	2	2	2	1	2	1	2	1
Pit water	1	1	1	1	1	1	1	1
Potassium bromide, aqueous	4	3	4	1	2	1	2	1
Potassium carbonate, aqueous	2	2	2	2	1	1	2	1
Potassium chlorate, aqueous	2	2	2	2	4	1	2	1
Potassium chloride, aqueous	3	2	3	3	1	1	2	1
Potassium nitrate, aqueous	2	2	2	2	1	1	1	1
Potassium sulphate, aqueous	2	2	2	2	1	1	1	1
Propane	2	1	2	2	2	2	2	1
Propyl alcohol	4	1	4	1	4	-	-	1
Propylene glycol	2	2	2	2	2	1	3	1
Pydraul F9	1	1	1	1	4	1	1	1
S								
Salicylic acid	4	3	4	1	1	1	2	1
Silver nitrate	4	4	4	2	2	2	2	1
Soap solutions	1	1	2	1	1	1	1	1
Sodium bicarbonate	2	2	2	2	2	1	2	1
Sodium carbonate	2	2	2	2	2	1	2	1
Sodium chlorate	3	-	3	2	3	1	2	1
Sodium chloride	2	2	2	2	1	1	1	1
Sodium cyanide	2	4	2	2	2	1	2	1
Sodium hydroxide	2	2	2	1	3	3	-	1
Sodium hydroxide solution	4	4	4	1	1	4	4	1
Sodium nitrate	2	2	2	2	2	1	1	1
Sodium phosphate	3	2	3	1	2	1	2	1
Sodium silicate	2	2	2	2	2	1	2	1
Sodium sulphate	2	2	2	1	2	1	1	1
Sodium sulphide	2	4	3	2	2	1	2	1
Sodium sulphite, aqueous	4	-	4	1	4	3	3	1
Sodium thiosulphate	2	3	2	1	4	1	1	1
Solvents	2	2	2	1	4	3	2	1
Spirit	1	1	1	1	4	4	4	1
Steam (water)	2	1	2	1	4	4	4	1
Stearic acid	3	3	3	2	1	1	1	1
Styrene	1	1	2	1	4	2	2	1
Sugar solution	4	4	4	1	1	4	1	1
Sulphur	3	4	3	2	4	1	2	1
Sulphur dioxide	2	2	2	1	4	1	2	1
Sulphuric acid	2	3	2	1	4	2	4	1
T								
Tannic acid	3	2	3	1	2	2	1	1
Tartaric acid	4	2	4	2	2	1	2	1
Tin chloride	4	4	4	4	2	1	2	1
Toluene	1	1	1	1	4	2	2	1
Town gas	1	1	1	1	2	1	2	1
Transformer oil	1	2	2	1	2	2	1	1
Transmission oil	1	1	1	1	1	1	1	1
Tributyl phosphate	2	2	2	1	4	3	-	1
Trichloroacetic acid	4	4	4	1	4	4	4	1
Trichloroethylene	2	3	3	2	4	3	3	1
Turbine oil	1	1	1	1	4	1	4	1
Turpentine oil	3	2	2	2	2	1	1	1
Urea, aqueous	3	2	3	2	2	2	2	1
V								
Vinegar	4	3	4	1	3	2	4	1

	Ball valve material				Soft seals		Sealing cups	
	Housing	Ball	Control spindle					
Medium	Steel	Brass	GG, GS-C	1.4571	NBR	FKM	POM	PTFE
V								
Vinyl chloride	2	3	2	2	4	3	2	1
Viscose	1	4	1	1	1	4	1	1
Volatile oils	2	2	2	1	3	2	2	1
W								
Water up to 180 °C.	2	1	2	1	4	4	4	1
Water up to 80 °C.	2	1	2	1	2	2	2	1
Water, distilled	4	1	4	1	2	2	2	1
Water, sea water	4	2	4	2	3	2	3	1
Wax	1	1	1	1	3	2	1	1
X								
Xylenes	2	1	2	1	4	2	1	1
Z								
Zinc chloride	4	4	3	4	3	1	2	1
Zinc sulphate	4	2	4	2	1	1	2	1

- 1 = recommended
2 = mostly suitable
3 = probably suitable
4 = not recommended
– = not yet determined

NOTE:
MEDIUM TESTED AT ROOM TEMPERATURE 20 °C

MATERIALS SUMMARY AND APPLICATIONS OF THE MATERIALS IN HYDAC BALL VALVES.

Housing, connection adapter, control spindle and ball:

Material code	Material	Application
1	9SMnPb28K	General oil hydraulics without special materials requirement.
2	Brass (MS58)	General oil and water hydraulics with increased corrosion protection requirements. Low and medium pressure range.
3	Stainless steel (1.4571)	Special application in the chemical and power industry with high corrosion protection requirements of the material.
5	Structural steel (ST52-3)	General oil and water hydraulics with special materials requirement.
6	Tempered steel (C 22.8)	As for code 5.
8	Cast iron (GG25)	Low pressure applications with good corrosion resistance.
10	Cast steel (GS-C 25)	High temperature applications with high stability values. Poor corrosive property.

Material of ball sealing cup:

Material code	Material	Application
1	Polyacetal (POM)	Primarily for high pressure hydraulics in the temperature range from - 20 °C to + 100 °C. Operating pressure up to max. 500 bar. Not resistant to aggressive media.
2	Perbunan (NBR)	Primarily for pneumatics and gas applications (DVGW, German Technical Association for Gas and Water). Temperature range from - 5 °C to + 70 °C. Operating pressure up to max. 100 bar. Not resistant to aggressive media.
3	PTFE	Given the excellent chemical and thermal properties, the application ranges are varied. Temperature range from - 200 °C to + 250 °C. Operating pressure up to max. 100 bar.
8	Victrex-Peek	Good chemical and thermal properties. Temperature range from - 150 °C to + 200 °C. Operating pressure up to max. 500 bar.

Material of O-rings on the control spindle and the connection adapters:

Material code	Material	Application
2	Perbunan (NBR)	General hydraulics. Temperature range from - 20 °C to + 100 °C. Operating pressure up to max. 500 bar
4	Viton (FKM)	General hydraulics, however primarily for aggressive media. Temperature range from - 10 °C to + 200 °C. Operating pressure up to max. 500 bar.

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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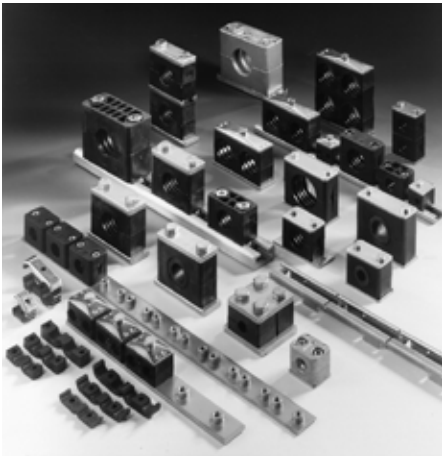
HY-ROS Mounting Technology for ...

	Catalogue Section ...	Mounting for ...	Pipes	Hoses, cables	Components
Clamps to DIN 3015	1	Light range DIN 3015 Part 1	●		
		Heavy range DIN 3015 Part 2	●		
		Light range DIN 3015 Part 1 with elastomer insert	●	●	
		Heavy range DIN 3015 Part 2 with elastomer insert	●	●	
		Twin clamps DIN 3015 Part 3	●		
HYDAC Clamps	2	Diagonal clamp	●		
		Buegu clamp	●	●	●
		Oval clamp	●	●	
Series strips	3	Series strips, light range	●		
		Series strips, heavy range with elastomer insert	●	●	
U-bolt clamps	4	U-bolt clamps similar to DIN 3570	●		
		Flat steel bolt clamp DIN 3567	●		
Swivel bolt clamps	5	Swivel bolt clamping band			●
		Support, short, for mounting air reservoirs			●
		Quick release swivel bolt clamp		●	●
		Quick release swivel bolt band clamp			●
		Quick release swivel bolt band clamp "Multi"	●		●
		Swivel bolt prism clamp	●		●
		Clamps for cylinders	●	●	●
Other solutions	6	Sensor clamp			●
		Rubber tank bush	●		

HY-ROS Mounting Technology for ...



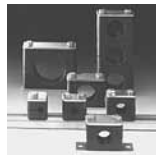
Mounting for ...	Catalogue section ...	Design	Single clamps	Multiple clamps	Swivel bolt clamps	Combinations
Pipes	1	Clamp DIN 3015	●	●		
	4	Clamp DIN 3567	●			
	4	Clamp DIN 3570 with support	●			
	3	Series strip, light range		●		
	3	Series strip, heavy range with elastomer insert		●		
	2	Clamps with rubber insert	●	●		
	2	HYDAC clamps	●			
	5	Clamps for mounting pipes to cylinders	●	●		●
Hoses and cables	1	Clamp DIN 3015	●	●		
	2	Clamps with rubber insert	●	●		
	5	Clamps for mounting hoses/cables to cylinders	●	●		●
	5	Hose clamps	●	●	●	
	3	Series strip, heavy range with elastomer insert		●		
Components	5	Clamps for hydraulic accumulators			●	●
	5	Clamps for mounting air reservoirs			●	●
	5	Clamps for mounting components to cylinders	●	●		●
	6	Sensor clamps	●	●		



Schellen nach DIN 3015

Clamps to DIN 3015

Colliers selon DIN 3015



BT 1.1 Leichte Reihe DIN 3015 Teil 1

BT 1.1 Light range DIN 3015 part 1

BT 1.1 Série légère selon DIN 3015 chap. 1



BT 1.2 Schwere Reihe DIN 3015 Teil 2

BT 1.2 Heavy range DIN 3015 Part 2

BT 1.2 Série lourde selon DIN 3015 chap. 2



BT 1.3 Leichte Reihe DIN 3015 Teil 1 mit Elastomereinsatz

BT 1.3 Light range DIN 3015 part 1 with elastomer insert

BT 1.3 Série légère avec garniture élastomère selon DIN 3015 chap. 1



BT 1.4 Schwere Reihe DIN 3015 Teil 2 mit Elastomereinsatz

BT 1.4 Heavy range DIN 3015 Part 2 with elastomer insert

BT 1.4 Série lourde avec garniture élastomère selon DIN 3015 chap. 2



BT 1.5 Zweiroherschelle DIN 3015 Teil 3

BT 1.5 Twin clamps DIN 3015 Part 3

BT 1.5 Collier double selon DIN 3015 chap. 3

BT 1.6 Technische Daten

BT 1.6 Technical Details

BT 1.6 Caractéristiques techniques

BT 1.7 Verpackungseinheiten

BT 1.7 Packing details

BT 1.7 Conditionnement

BT 1.8 Maße Metrisch / Zoll

BT 1.8 Comparison metric / imperial measurements

BT 1.8 Correspondance métrique/pouce

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ANMERKUNG

Die Angaben in diesem Prospekt beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle. Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung. Technische Änderungen sind vorbehalten.

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

REMARQUE

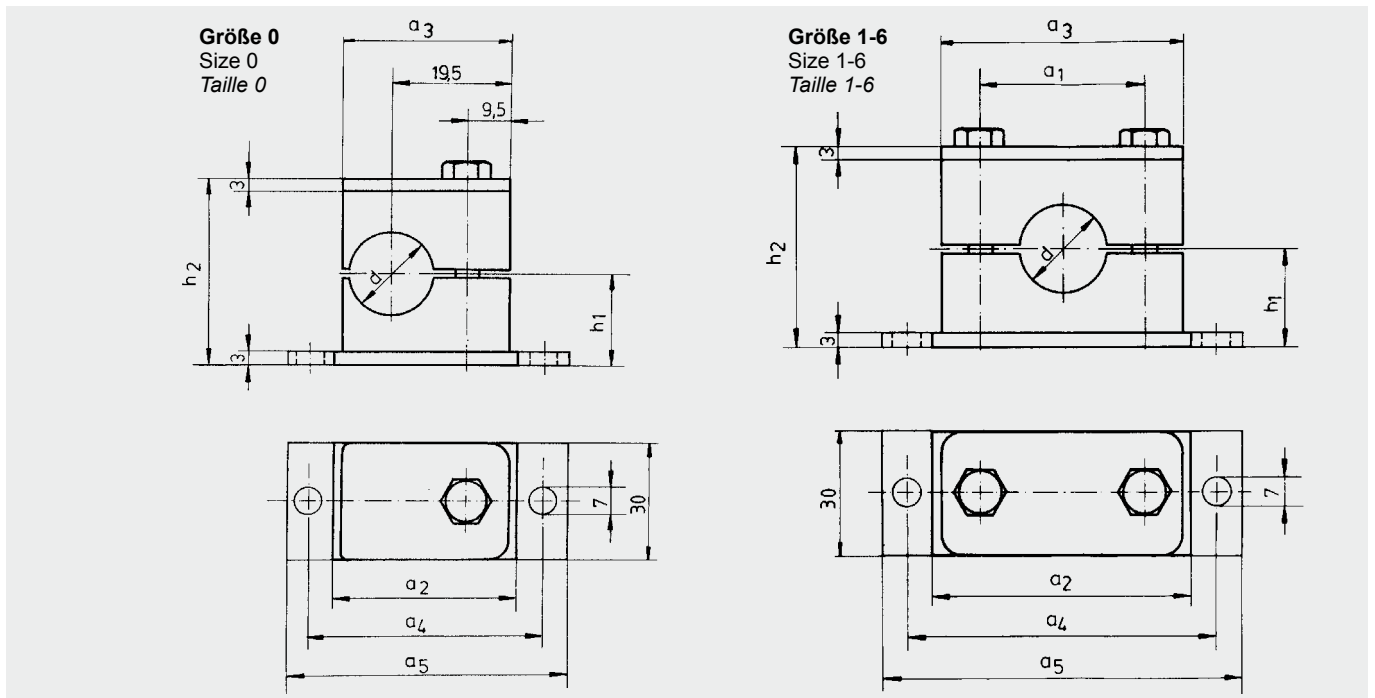
Les données de ce prospectus se réfèrent aux conditions de fonctionnement et d'utilisation décrites. Pour des conditions d'utilisation et de fonctionnement différentes, veuillez vous adresser au service technique compétent. Sous réserve de modifications techniques.

1.1 Leichte Reihe DIN 3015 Teil 1

1.1 Light range DIN 3015 part 1

1.1 SERIE LEGERE selon DIN 3015 chap. 1

BT 1



Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Abmessungen Dimensions Dimensions							h1	h2	ASKT ISO 4014 Ext. hex. ISO 4014 Vis H ISO 4014	ISKT ISO 4762 Int. hex. ISO 4762 Vis CHc ISO 4762	STIFT DIN 938 STUD DIN 938 Goujon DIN 938	SCHLITZ ISO 1207 SLOTTED HEAD ISO 1207 Vis tête fendue ISO 1207
		a1	a2	a3	a4	a5								
6 6,4 8 9,5 10 12	0	-	30	28	44	58	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20		
6 6,4 8 9,5 10 12	1	20	36	36	50	64	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20		
12,7 13,7 14 15 16 17,1 18	2	26	42	40	56	70	19,5	39	M6 x 35	M6 x 25	M6 x 25	M6 x 25		
19 20 21,3 22 23 25 25,4	3	33	50	48	64	78	20,5	41	M6 x 40	M6 x 30	M6 x 30	M6 x 30		
26,9 28 30	4	40	59	57	73	87	24	48	M6 x 45	M6 x 35	M6 x 35	M6 x 35		
32 33,7 35 38 40 42	5	52	72	70	86	100	32	64	M6 x 60	M6 x 50	M6 x 50	M6 x 50		
44,5 48,3 50,8	6	66	88	86	100	116	36	72	M6 x 70	M6 x 60	M6 x 60	M6 x 60		

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1.1 Leichte Reihe DIN 3015 Teil 1

1.1 Light range DIN 3015 part 1

1.1 SERIE LEGERE selon DIN 3015 chap. 1

Ausführung A
Model A
Exécution A

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille
6 .. 12	0
6 .. 12	1
12,7 .. 18	2
19 .. 25,4	3
26,9 .. 30	4
32 .. 42	5
44,5 .. 50,8	6

Ausführung AV
Model AV
Exécution AV

Ausführung A1
Model A1
Exécution A1

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille
6 .. 12	0
6 .. 12	1
12,7 .. 18	2
19 .. 25,4	3
26,9 .. 30	4
32 .. 42	5
44,5 .. 50,8	6

Ausführung A1TM
Model A1TM
Exécution A1TM

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série

HRL
HRGL

Baugröße / size / taille

0 / 1 / 2 / 3 / 4 / 5 / 6

Ausführung / model / exécution

A / A1 / A1TM / AV

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage

PP / PA / AL

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier

ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement

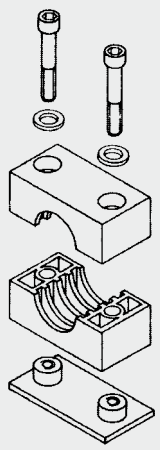
ZN verzinkt / zinc plated / zingué

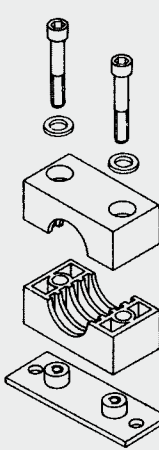
HRL 2 A 16 PP ST M BL

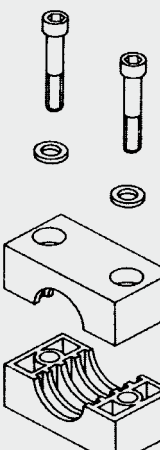
1.1 Leichte Reihe DIN 3015 Teil 1

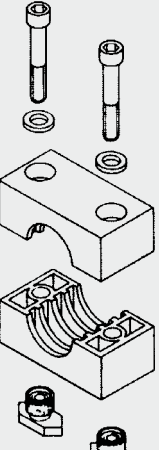
1.1 Light range DIN 3015 part 1

1.1 SERIE LEGERE selon DIN 3015 chap. 1

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung B Model B Exécution B
6 .. 12	0	 <p>entfällt bei AL not required for AL sauf exécution AL</p>
6 .. 12	1	
12,7 .. 18	2	
19 .. 25,4	3	
26,9 .. 30	4	
32 .. 42	5	
44,5 .. 50,8	6	

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung BV Model BV Exécution BV
6 .. 12	0	 <p>entfällt bei AL not required for AL sauf exécution AL</p>
6 .. 12	1	
12,7 .. 18	2	
19 .. 25,4	3	
26,9 .. 30	4	
32 .. 42	5	
44,5 .. 50,8	6	

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung B1 Model B1 Exécution B1
6 .. 12	0	 <p>entfällt bei AL not required for AL sauf exécution AL</p>
6 .. 12	1	
12,7 .. 18	2	
19 .. 25,4	3	
26,9 .. 30	4	
32 .. 42	5	
44,5 .. 50,8	6	

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung B1TM Model B1TM Exécution B1TM
6 .. 12	0	 <p>entfällt bei AL not required for AL sauf exécution AL</p>
6 .. 12	1	
12,7 .. 18	2	
19 .. 25,4	3	
26,9 .. 30	4	
32 .. 42	5	
44,5 .. 50,8	6	

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série

HRL
HRGL

Baugröße / size / taille

0 / 1 / 2 / 3 / 4 / 5 / 6

Ausführung / model / exécution

B / B1 / B1TM / BV

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage

PP / PA / AL

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier

ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement
ZN verzinkt / zinc plated / zingué

HRL 2 B 16 PP ST M BL

1.1 Leichte Reihe DIN 3015 Teil 1

1.1 Light range DIN 3015 part 1

1.1 SERIE LEGERE selon DIN 3015 chap. 1

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung C Model C Exécution C	Ausführung CV Model CV Exécution CV	Ausführung C1 Model C1 Exécution C1
6 .. 12	0	 entfällt bei AL not required for AL sauf exécution AL	 entfällt bei AL not required for AL sauf exécution AL	 entfällt bei AL not required for AL sauf exécution AL
6 .. 12	1			
12,7 .. 18	2			
19 .. 25,4	3			
26,9 .. 30	4			
32 .. 42	5			
44,5 .. 50,8	6			

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung C1TM Model C1TM Exécution C1TM	Ausführung D Model D Exécution D
6 .. 12	0	 entfällt bei AL not required for AL sauf exécution AL	
6 .. 12	1		
12,7 .. 18	2		
19 .. 25,4	3		
26,9 .. 30	4		
32 .. 42	5		
44,5 .. 50,8	6		

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série

HRL
HRGL

Baugröße / size / taille

0 / 1 / 2 / 3 / 4 / 5 / 6

Ausführung / model / exécution

C / C1 / C1TM / CV / D

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage

PP / PA / AL

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier

ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement
ZN verzinkt / zinc plated / zingué

HRL 2 C 16 PP ST M BL

1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

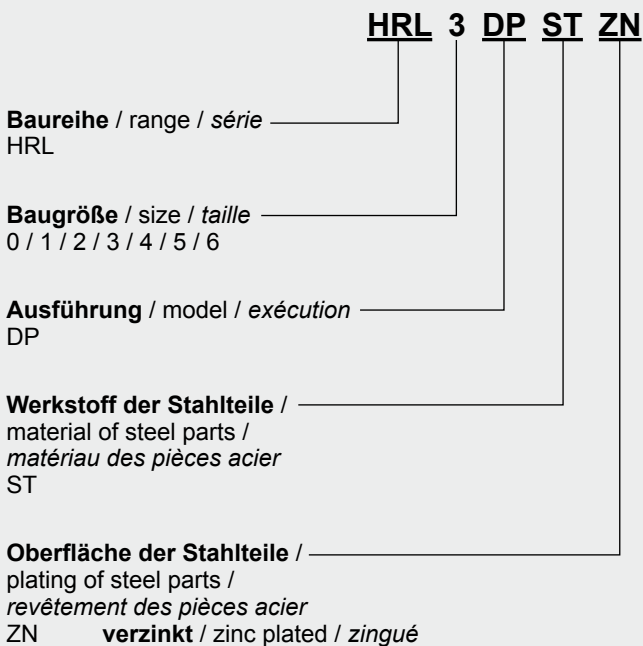
1.1 *SERIE LEGERE* selon DIN 3015 chap. 1, pièces individuelles

Größe Size Taille	Deckplatte Cover plate Plaque de protection (DP)	
0		0
1		0
2		0
3		1 ... 6
4		1 ... 6
5		1 ... 6
6		1 ... 6

Größe Size Taille	Anschweißplatte Weld plate Plaque à souder (AP)	
0		0
1		1 ... 6
2	Anschweißplatte verlängert Extended weld plate Plaque à souder rallongée (APV)	0
3		0
4		1 ... 6
5		1 ... 6
6		1 ... 6

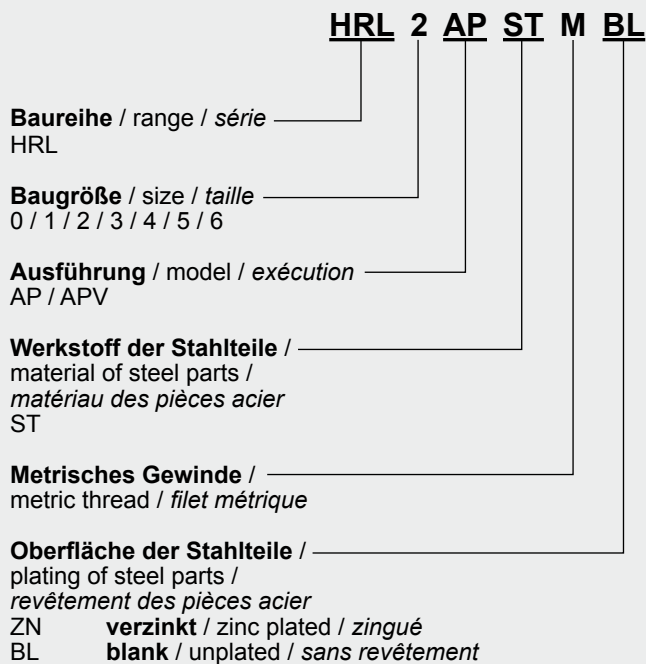
Bestellschlüssel

Order code / Code de commande



Bestellschlüssel

Order code / Code de commande



1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

1.1 SERIE LEGERE DIN 3015 chap. 1, pièces individuelles

Größe
Size
Taille

Reihenanschweißplatte
Interconnecting weld plate
Plaque de combinaison à souder
(RAP)

0
1b
2a
2b
3a
3b
4
5
6

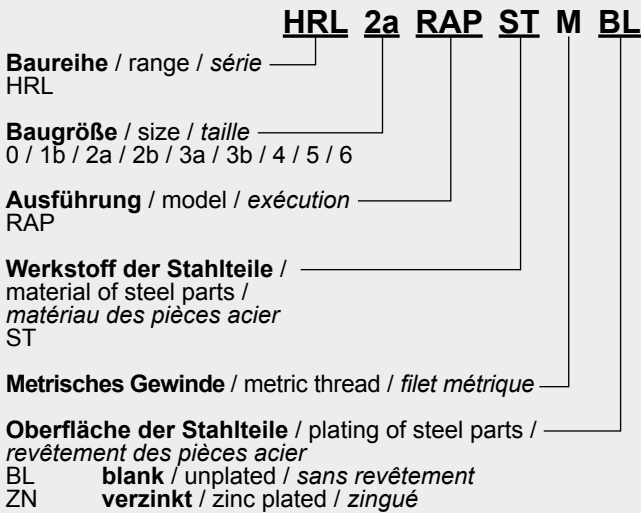
Größe
Size
Taille

Doppelanschweißplatte
Double weld plate
Plaque à souder double
(DAP)

0
1b
2a
2b
3a
3b
4
5
6

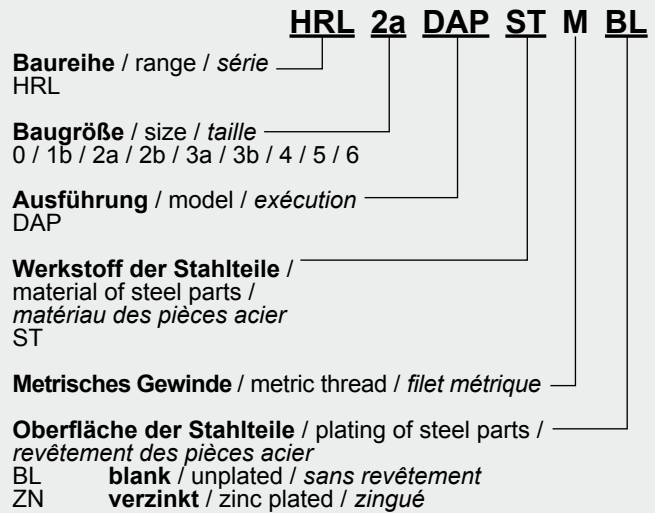
Bestellschlüssel

Order code / Code de commande



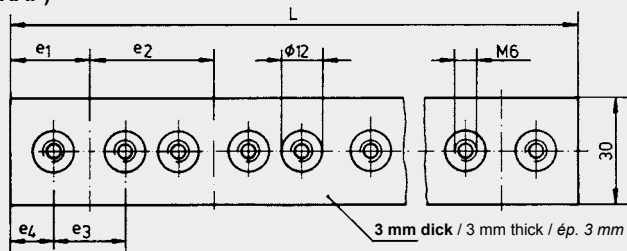
Bestellschlüssel

Order code / Code de commande



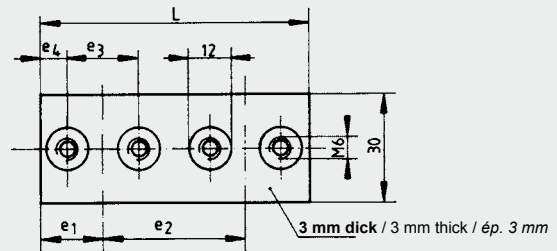
Reihenanschweißplatte

Interconnecting weld plate
Plaque de combinaison à souder
(RAP)



Doppelanschweißplatte

Double weld plate
Plaque à souder double
(DAP)



Größe Size Taille	Schellenanzahl Number of clamps Nombre de colliers	Abmessungen Dimensions Dimensions				
		e1	e2	e3	e4	L
0	10	—	30	—	—	298
1b	10	17	40	20	7	394
2a	10	20	43	26	7	427
2b	10	20	52	26	7	508
3a	10	24	52	33	7,5	516
3b	10	24	75	33	7,5	723
4	5	28,5	60	40	8,5	297
5	5	35	75	52	9	370
6	5	43	90	66	10	446

Größe Size Taille	Schellenanzahl Number of clamps Nombre de colliers	Abmessungen Dimensions Dimensions				
		e1	e2	e3	e4	L
0	2	—	—	30	9,5	63
1b	2	18	40	20	8	76
2a	2	21,5	43	26	8,5	86
2b	2	21	52	26	8	94
3a	2	26	52	33	9,5	104
3b	2	25	75	33	8,5	125
4	2	28,5	60	40	8,5	117
5	2	35	75	52	9	145
6	2	43	90	66	10	176

1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

1.1 SERIE LEGERE DIN 3015 chap. 1, pièces individuelles

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Klemmbackenpaar gerippt Pair of clamp jaws, ribbed body Paire de pièces de serrage, rainurée (HRL ... KP ...)	
		0	1 ... 6
6 .. 12	0		
6 .. 12	1		
12,7 .. 18	2		
19 .. 25,4	3		
26,9 .. 30	4		
32 .. 42	5		
44,5 .. 50,8	6		

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Klemmbackenpaar glatt Pair of clamp jaws, smooth Paire de pièces de serrage, lisse (HRGL ... KP ...)	
		0	1 ... 6
6 .. 12	0		
6 .. 12	1		
12,7 .. 18	2		
19 .. 25,4	3		
26,9 .. 30	4		
32 .. 42	5		
44,5 .. 50,8	6		

Bestellschlüssel

Order code / Code de commande

HRL 3 KP 23 PP

Baureihe / range / série _____

HRL
HRGL

Baugröße / size / taille _____

0 / 1 / 2 / 3 / 4 / 5 / 6

Ausführung / model / exécution _____

KP

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage _____

PP / PA / AL*

andere Werkstoffe auf Anfrage / other materials on request / autres matériaux sur demande

* nicht für Größe 0

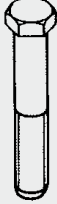
not for size 0


pas pour la taille 0

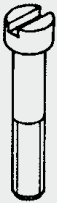
1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

1.1 SERIE LEGERE selon DIN 3015 chap. 1, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	6-kt-Schraube ISO 4014 Ext. hex. bolt ISO 4014 Vis H ISO 4014 (6kt-shr.ISO4014)	
M6 x 30	0		
M6 x 30	1		
M6 x 35	2		
M6 x 40	3		
M6 x 45	4		
M6 x 60	5		
M6 x 70	6		

Abmessungen Dimensions Dimensions	Größe Size Taille	Zylinder-Schraube ISO 4762 Int. hex. bolt ISO 4762 Vis CHc ISO 4762 (zyl-schr.ISO4762)	
M6 x 20	0		
M6 x 20	1		
M6 x 25	2		
M6 x 30	3		
M6 x 35	4		
M6 x 50	5		
M6 x 60	6		

Abmessungen Dimensions Dimensions	Größe Size Taille	Zylinder-Schraube ISO 1207 Slotted head bolt ISO 1207 Vis tête fendue ISO 1207 (zyl-schr.ISO1207)	
M6 x 20	0		
M6 x 20	1		
M6 x 25	2		
M6 x 30	3		
M6 x 35	4		
M6 x 50	5		
M6 x 60	6		

Bestellschlüssel

Order code / Code de commande

6kt-schr. ISO4014 - M6 x 30 - 8.8 - A4B

Bauart / design / série

6kt-schr. ISO4014
 zyl-schr.ISO4762
 zyl-schr.ISO1207

Baugröße / size / taille

ISO4014|ISO4762|ISO1207
 M6 x 30 M6 x 20 M6 x 20
 M6 x 35 M6 x 25 M6 x 25
 M6 x 40 M6 x 30 M6 x 30
 M6 x 45 M6 x 35 M6 x 35
 M6 x 60 M6 x 50 M6 x 50
 M6 x 70 M6 x 60 M6 x 60

Schraubenqualität / bolt quality / qualité de vis

ISO4014, ISO4762 = 8.8 ISO 1207 = 5.6

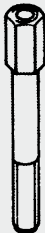
Oberfläche der Schraube / bolt plating / revêtement de vis


A4B verzinkt / zinc plated / zingué

1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

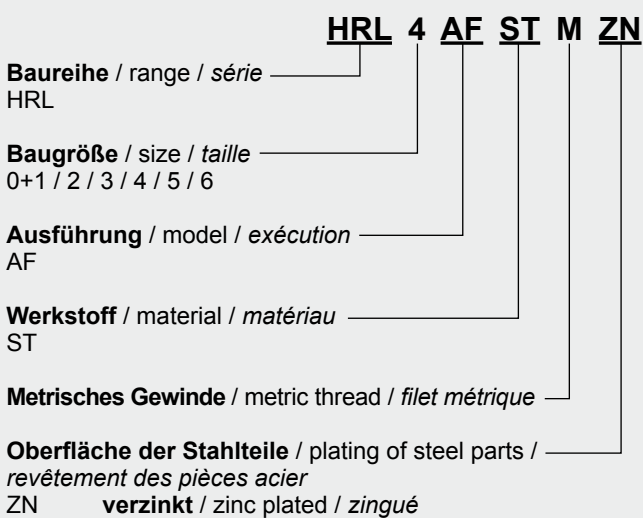
1.1 *SERIE LEGERE* selon DIN 3015 chap. 1, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	Aufbauschraube Build-up bolt Goujon-écrou (AF ...)
AF 6	0+1	
AF 6	2	
AF 6	3	
AF 6	4	
AF 6	5	
AF 6	6	

Abmessungen Dimensions Dimensions	Größe Size Taille	Sicherungsblech Locking plate Plaque intermédiaire (SIP)
SIP	0	

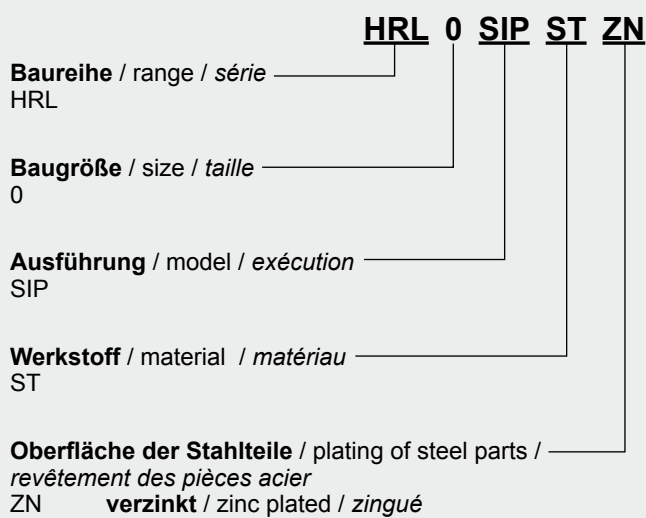
Bestellschlüssel

Order code / Code de commande

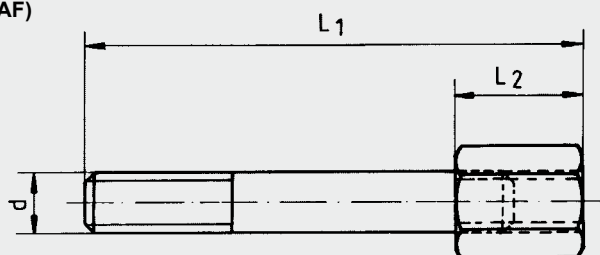


Bestellschlüssel

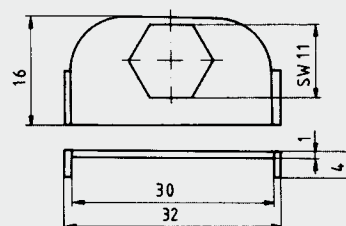
Order code / Code de commande



Aufbauschraube Gr. 0-6L
Build-up bolt size 0-6L
Goujon-écrou taille 0-6L
(AF)



Sicherungsblech Gr. 0L
Locking plate size 0L
Plaque intermédiaire taille 0L
(SIP)



Größe Size Taille	Abmessungen Dimensions Dimensions	L1	L2	d
0+1		34	14	M6
2		39	14	M6
3		42	14	M6
4		49	14	M6
5		64	14	M6
6		74	14	M6

für alle Größen

for all sizes

pour toutes les tailles

1.1 Leichte Reihe DIN 3015 Teil 1, Einzelteile

1.1 Light range DIN 3015 part 1, individual parts

1.1 SERIE LEGERE selon DIN 3015 chap. 1, pièces individuelles

Abmessungen Dimensions Dimensions	C-Tragschiene C-rail C-Rail porteur (TS)	
28 x 11	C-Tragschiene m. Anschweißstegen C-rail with weld struts C-Rail porteur avec barres à souder (TS28x11AS)	
28 x 14		
28 x 30		
28 x 11AS		

Abmessungen Dimensions Dimensions	Tragschiennenmutter Bayonet nut Ecrou rail porteur (TMV6)	
	TMV6	

Bestellschlüssel

Order code / Code de commande

	HRL	TS28x11	ST	BL	1m
Baureihe / range / série	_____				
HRL					
Ausführung / model / exécution	_____				
TS28x11					
TS28x14					
TS28x30					
TS28x11AS					
Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier	_____				
ST / AL *					
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier	_____				
BL blank / unplated / sans revêtement					
ZN verzinkt / zinc plated / zingué					
Baulänge (nur für Ausführung TS) / length (only for model TS) / longueur (seulement pour exécution TS)	_____				
1m / 2m					

* AL auf Anfrage / AL on request / AL sur demande

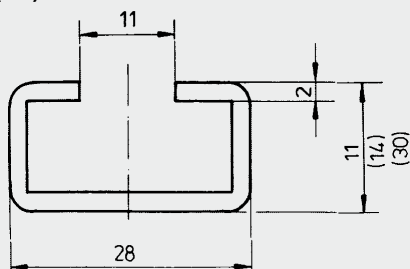
Bestellschlüssel

Order code / Code de commande

	HRL	TMV6	ST	ZN
Baureihe / range / série	_____			
HRL				
Ausführung / model / exécution	_____			
TMV 6				
Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier	_____			
ST				
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier	_____			
ZN verzinkt / zinc plated / zingué				

C-Tragschiene

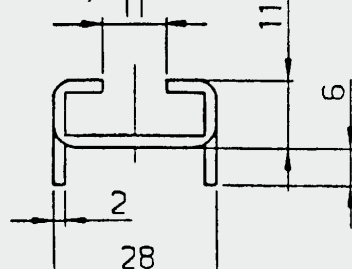
C-rail
C-Rail porteur
(TS)



Lieferbar in 1m und 2m Stücken
Available in 1m and 2m lengths
Existe en longueur de 1m et 2m

C-Tragschiene m. Anschweißstegen

C-rail with weld struts
C-Rail porteur avec barres à souder
(TS28x11AS)

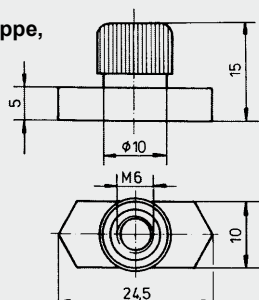


Lieferbar in 1m Stücken
Available in 1m lengths
Existe en longueur de 1m

Tragschiennenmutter M6

Bayonet nut M6
Ecrou rail porteur M6
(TMV6)

Kunststoff-Kappe, gerändelt
Plastic cap knurled
Capouchon plastique moleté

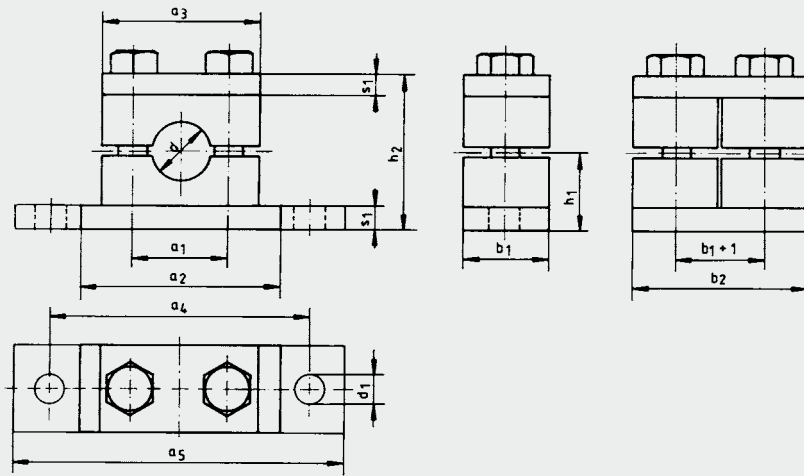


1.2 SCHWERE REIHE DIN 3015 Teil 2

1.2 HEAVY RANGE DIN 3015 part 2

1.2 SERIE LOURDE selon DIN 3015 chap. 2

BT 1



Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Abmessungen Dimensions Dimensions											ASKT ISO 4014 Ext. hex. 4014 Vis H ISO 4014	ISKT ISO 4762 Int. hex. 4762 Vis CHc ISO 4762	
		a1	a2	a3	a4	a5	b1	b2	h1	h2	s1	d1			
6 6,4 8 9,5 10 12 12,7	13,7 14 15 16 17,1 18	1	33	73	55	85	113	30	60	24	48	8	11	M10 x 45	M10 x 25
19 20 21,3 22 25	25,4 26,9 28 30	2	45	85	70	97	125	30	60	32	64	8	11	M10 x 60	M10 x 40
25 30 32 33,7 35	38 40 42	3	60	100	85	112	140	30	60	38	76	8	11	M10 x 70	M10 x 50
30 38 42 44,5 48,3 50,8	54 57 60,3 63,5 65 70	4	90,5	140	115	160	190	45	90	55	110	10	14	M12 x 100	M12 x 80
38 66 70 73	76,1 80 88,9	5	122	180	152	205	240	60	120	70	140	10	18	M16 x 130	M16 x 110
65 96 101,6 108	114,3	6	168	225	205	270	310	80	160	100	200	15	22	M20 x 190	M20 x 150
90 136 139,7 168		7	205	270	252	320	370	90	180	115	230	15	26	M24 x 220	M24 x 180
168 177,8 193,7 219,1		8	265	340	320	-	-	120	240	160	320	25	-	M30 x 300	-
219,1 244,5 273	323,9	9	395	520	466	-	-	160	324	235	470	30	-	M30 x 450	-
355,6 406,4		10	530	680	630	-	-	180	364	295	590	30	-	M30 x 560	-

DEF 8.183.0/03.10

1.2 SCHWERE REIHE DIN 3015 Teil 2

1.2 HEAVY RANGE DIN 3015 part 2

1.2 SERIE LOURDE selon DIN 3015 chap. 2

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung S Model S Exécution S	Ausführung S1 Model S1 Exécution S1	Ausführung I Model I Exécution I
6 .. 18	1			
19 .. 30	2			
25 .. 42	3			
30 .. 70	4			
38 .. 88,9	5			
65 .. 114,3	6			
90 .. 168	7			
168 .. 219,1	8			
219,1 .. 323,9	9			
355,6 .. 406,4	10			

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Ausführung SV Model SV Exécution SV	Ausführung S1TM Model S1TM Exécution S1TM
6 .. 18	1		
19 .. 30	2		
25 .. 42	3		
30 .. 70	4		
38 .. 88,9	5		
65 .. 114,3	6		
90 .. 168	7		
168 .. 219,1	8		
219,1 .. 323,9	9		
355,6 .. 406,4	10		

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série _____

HRS
HGRS

Baugröße / size / taille _____

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10

Ausführung / model / exécution _____

S / SV / S1 / S1TM / I

S1TM nur bis Größe 4 / S1TM only up to size 4 / S1TM seulement jusqu'à taille 4

I nur bis Größe 7 / I only up to size 7 / I seulement jusqu'à taille 7

Durchmesser / O/D / diamètre _____

Werkstoff der Klembacken / clamp material / matériau des pièces de serrage _____

PP / PA / AL

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier _____

ST

Metrisches Gewinde / metric thread / filet métrique _____

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier _____

BL blank / unplated / sans revêtement

ZN verzinkt / zinc plated / zingué

HRS 2 S 30 PP ST M BL

1.2 SCHWERE REIHE DIN 3015 Teil 2

1.2 HEAVY RANGE DIN 3015 part 2

1.2 SERIE LOURDE selon DIN 3015 chap. 2

Ausführung A
Model A
Exécution A

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille
6 .. 18	1
19 .. 30	2
25 .. 42	3
30 .. 70	4
38 .. 88,9	5
65 .. 114,3	6
90 .. 168	7
168 .. 219,1	8
219,1 .. 323,9	9
355,6 .. 406,4	10

Ausführung D
Model D
Exécution D

Bestellschlüssel

Order code / Code de commande

HRS 5 D 76.1 PP ST M BL

Baureihe / range / série

HRS
HGRS

Baugröße / size / taille

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10

Ausführung / model / exécution

A / D

Ausführung A nur bis Größe 7 / model A up to size 7 / exécution A seulement jusqu'à taille 7

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage

PP / PA / AL

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier

ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement

ZN verzinkt / zinc plated / zingué

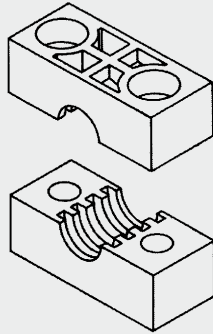
1.2 SCHWERE REIHE DIN 3015 Teil 2, Einzelteile

1.2 HEAVY RANGE DIN 3015 part 2, individual parts

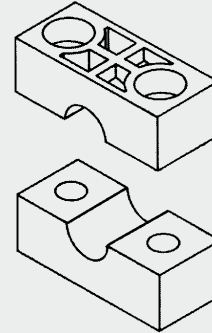
1.2 SERIE LOURDE selon DIN 3015 chap. 2, pièces individuelles

Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille
6 .. 18	1
19 .. 30	2
25 .. 42	3
30 .. 70	4
38 .. 88,9	5
65 .. 114,3	6
90 .. 168	7
168 .. 219,1	8
219,1 .. 323,9	9
355,6 .. 406,4	10

Klemmbackenpaar gerippt
Pair of clamp jaws, ribbed
Paire de pièces de serrage, rainurée
(HRS ... KP ...)



Klemmbackenpaar glatt
Pair of clamp jaws, smooth
Paire de pièces de serrage, lisse
(HRGS ... KP ...)



nicht in AL
not in AL
ne pas en AL

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série _____

HRS...

HRGS... (auf Anfrage / on request / sur demande)

Baugröße / size / taille _____

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10

Ausführung / model / exécution _____

KP

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage _____

PP / PA / AL

andere Werkstoffe auf Anfrage / other material on request / autres matériaux sur demande

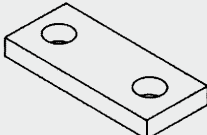
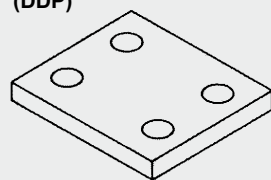
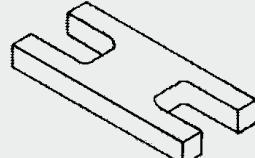
HRS 2 KP 30 PP

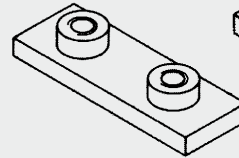
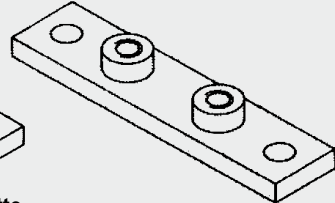
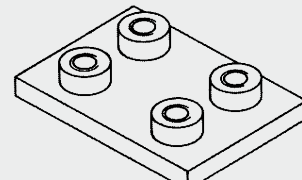
1.2 SCHWERE REIHE DIN 3015 Teil 2, Einzelteile

1.2 HEAVY RANGE DIN 3015 part 2, individual parts

1.2 SERIE LOURDE selon DIN 3015 chap. 2, pièces individuelles

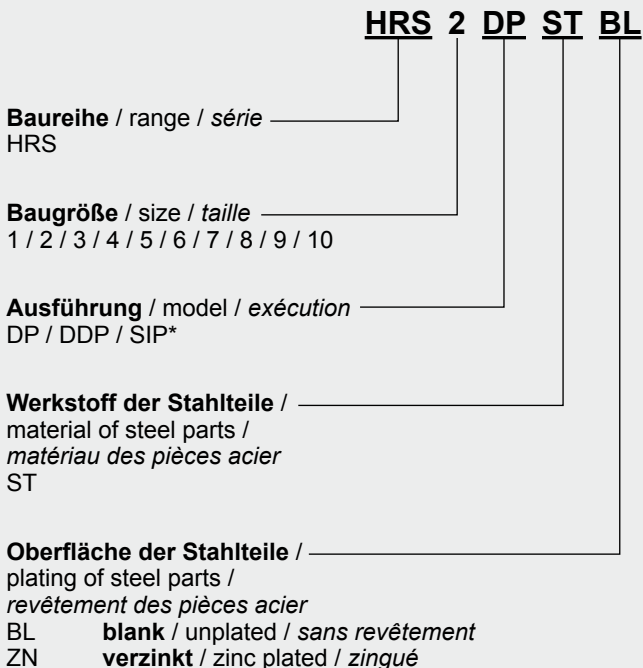
BT 1

Größe Size Taille	Deckplatte Cover plate Plaque de protection (DP)	Doppeldeckplatte Double cover plate Plaque de protection double (DDP)
0		
1		
2		
3		
4	Sicherungsblech* Locking plate* Plaque intermédiaire* (SIP)	
5		
6		
7		
8		
9		
10		

Größe Size Taille	Anschweißplatte Weld plate Plaque à souder (AP)	Anschweißplatte verlängert Extended weld plate Plaque à souder rallongée (APV)
0		
1		
2		
3		
4	Doppelanschweißplatte Double weld plate Plaque à souder double (DAP)	
5		
6		
7		
8		
9		
10		

Bestellschlüssel

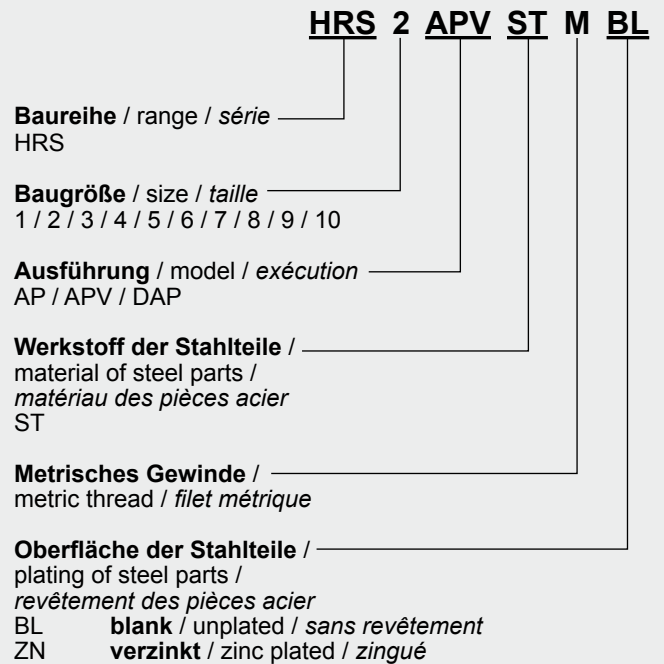
Order code / Code de commande



* nur bis Größe 7
only up to size 7
seulement jusqu'à la taille 7

Bestellschlüssel

Order code / Code de commande

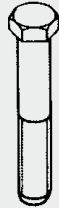


1.2 SCHWERE REIHE DIN 3015 Teil 2, Einzelteile

1.2 HEAVY RANGE DIN 3015 part 2, individual parts

1.2 SERIE LOURDE selon DIN 3015 chap. 2, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	6-kt-Schraube ISO 4014 Ext. hex. bolt ISO 4014 Vis H ISO 4014 (6kt-schr.ISO4014)
M10 x 45	1	
M10 x 60	2	
M10 x 70	3	
M12 x 100	4	
M16 x 130	5	
M20 x 190	6	
M24 x 220	7	
M30 x 300	8	
M30 x 450	9	
M30 x 560	10	



Abmessungen Dimensions Dimensions	Größe Size Taille	Zylinder-Schraube ISO 4762 Int. hex. bolt ISO 4762 Vis CHc ISO 4762 (zyl-schr.ISO4762)
M10 x 25	1	
M10 x 40	2	
M10 x 50	3	
M12 x 80	4	
M16 x 110	5	
M20 x 150	6	
M24 x 180	7	



Bestellschlüssel

Order code / Code de commande

6kt-schr. ISO4014 - M10 x 70 - 8.8 - A4B

Bauart / design / série

6kt-schr. ISO4014
zyl-schr. ISO4762

Baugröße / size / taille

ISO4014 | ISO4762

M10 x 45	M10 x 25
M10 x 60	M10 x 40
M10 x 70	M10 x 50
M12 x 100	M12 x 80
M16 x 130	M16 x 110
M20 x 190	M20 x 150
M24 x 220	M24 x 180
M30 x 300	
M30 x 450	
M30 x 560	

Schraubenqualität / bolt quality / qualité de vis

8.8

Oberfläche der Schraube / bolt plating / revêtement de vis

keine Angabe (blank) / no details (unplated) / pas d'indication (pas de couvert)

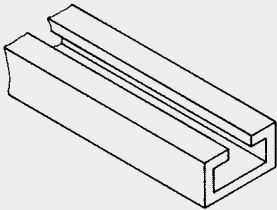
A4B verzinkt / zinc plated / zingué

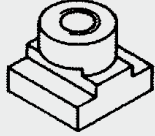
1.2 SCHWERE REIHE DIN 3015 Teil 2, Einzelteile

1.2 HEAVY RANGE DIN 3015 part 2, individual parts

1.2 SERIE LOURDE selon DIN 3015 chap. 2, pièces individuelles

BT 1

Abmessungen Dimensions Dimensions	C-Tragschiene C-rail C-Rail porteur (TS)
	
40 x 22	

Abmessungen Dimensions Dimensions	Tragschienenmutter Bayonet nut Ecrou rail porteur (TM ...)
	
TM10	
TM12	

Bestellschlüssel

Order code / Code de commande

HRS TS40x22 ST BL 2m

Baureihe / range / série
HRS

Ausführung / model / exécution
40 x 22

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Oberfläche der Stahlteile /
plating of steel parts /
revêtement des pièces acier
BL **blank** / unplated / sans revêtement
ZN **verzinkt** / zinc plated / zingué

Baulänge / length / longueur
1 m / 2 m

Bestellschlüssel

Order code / Code de commande

HRS TM10 ST M ZN

Baureihe / range / série
HRS

Ausführung / model / exécution
TM10 / TM12

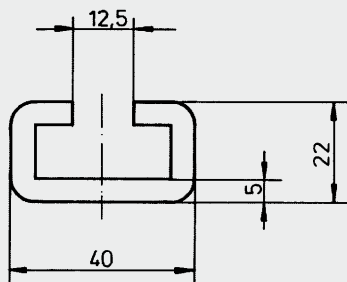
Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Metrisches Gewinde /
metric thread / filet métrique

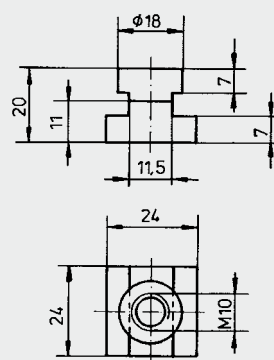
Oberflächenbeschichtung /
plating / revêtement
ZN **verzinkt** / zinc plated / zingué

C-Tragschiene

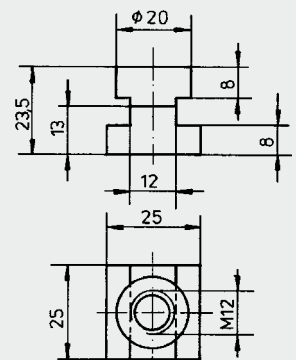
C-rail
C-Rail porteur
(TS)



Tragschienenmutter M10
Bayonet nut M10
Ecrou pour rail porteur M10
(TM10)



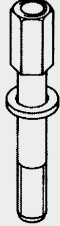
Tragschienenmutter M12
Bayonet nut M12
Ecrou pour rail porteur M12
(TM12)



1.2 SCHWERE REIHE DIN 3015 Teil 2, Einzelteile

1.2 HEAVY RANGE DIN 3015 part 2, individual parts

1.2 SERIE LOURDE selon DIN 3015 chap. 2, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	Aufbauschraube Build-up bolt Goujon-écrou (AF...)
AF 10	1	
AF 10	2	
AF 10	3	
AF 12	4	
AF 16	5	
AF 20	6	
AF 24	7	

Bestellschlüssel

Order code / Code de commande

HRS 5 AF16 ST M ZN

Baureihe / range / série
HRS

Baugröße / size / taille
1 / 2 / 3 / 4 / 5 / 6 / 7

Ausführung / model / exécution
AF10, AF12, AF16, AF20, AF24

Werkstoff / material / matériau
ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

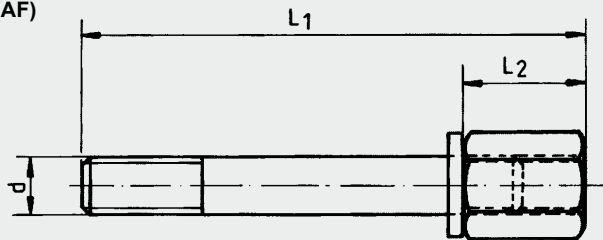
BL **blank / unplated / sans revêtement**
ZN **verzinkt / zinc plated / zingué**

Aufbauschraube Gr. 1-7S

Build-up bolt size 1-7S

Goujon-écrou taille 1-7S

(AF)



* ohne U-Scheibe
without washer
sans rondelle

Größe Size Taille	Abmessungen Dimensions Dimensions		
	L1	L2	d
1	50	25	M10
2	65	25	M10
3	75	25	M10
4	106	26	M12
5*	145	35	M16
6*	200	50	M20
7*	236	56	M24

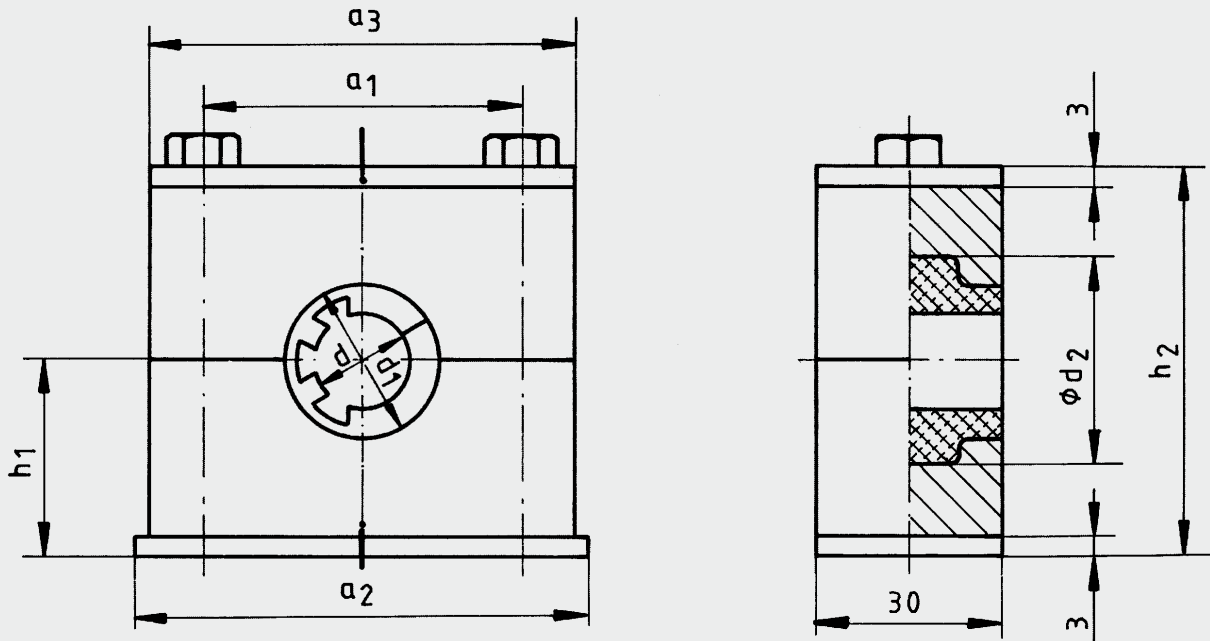
1.3 Leichte Reihe mit Elastomereinsatz DIN 3015 Teil 1

1.3 Light range with elastomer insert DIN 3015 part 1

1.3 SERIE LEGERE avec garniture élastomère selon DIN 3015 chap. 1

BT 1

Schelle in PP- und PA-Ausführung, Elastomereinsatz: Thermoplastisches Elastomer
 Clamp in PP or PA, elastomer insert: thermoplastic elastomer
 Collier en exécution PP et PA: garniture élastomère



d	Innenfläche glatt Intern. surface smooth Portée lisse	Größe Size Taille	Abmessungen Dimensions Dimensions								ASKT ISO 4014 Ext. hex. ISO 4014 Vis H /ISO 4014	ISKT ISO 4762 Int. hex ISO 4762 Vis CHc /ISO 4762	STIFT DIN 938 STUD DIN 938 Goujon DIN 938	SCHLITZ ISO 1207 SLOTTED HEAD ISO 1207 Vis tête fondue /ISO 1207
	d		Innenfläche gerippt Intern. surface ribbed Portée rainurée	d1	d2	a1	a2	a3	h1	h2				
6	-	4	25,5	31	40	59	57	23,5	47	M6 x 45	M6 x 35	M6 x 35	M6 x 35	
8	-													
10	10													
12	12													
12,7	-													
14	14													
15	15													
16	16													
17,2	17,2													
18	-													
19	-													
20	20	6	39	46	66	88	86	36	72	M6 x 70	M6 x 60	M6 x 60	M6 x 60	
22	22													
23	-													
25	25													
26,9	-													
28	28													
30	30													
32	-													

1.3 Leichte Reihe mit Elastomereinsatz DIN 3015 Teil 1

1.3 Light range with elastomer insert DIN 3015 part 1

1.3 SERIE LEGERE avec garniture élastomère selon DIN 3015 chap. 1

			Ausführung A Model A Exécution A
d Innenfläche glatt Intern. surface smooth Portée lisse	d Innenfläche gerippt Intern. surface ribbed Portée rainurée	Größe Size Taille	
6-19	10-17,2	4	
20-32	20-30	6	

Bestellschlüssel

Order code / Code de commande

HREL 4 A 16 PP ST M BL

Baureihe / range / série _____

HREL
HRERL

Baugröße / size / taille _____

4 / 6

Ausführung / model / exécution _____

A

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage _____

PP / PA

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier _____

ST

Metrisches Gewinde / metric thread / filet métrique _____

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier _____

BL **blank / unplated / sans revêtement**

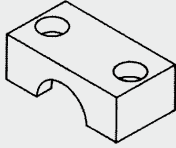
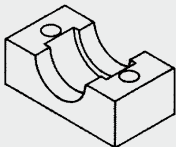
ZN **verzinkt / zinc plated / zingué**

1.3 Leichte Reihe mit Elastomereinsatz DIN 3015 Teil 1, Einzelteile

1.3 Light range with elastomer insert DIN 3015 part 1, individual parts

1.3 SERIE LEGERE avec garniture élastomère selon DIN 3015 chap. 1, pièces individuelles

BT 1

	Klemmbackenpaar Pair of clamp jaws Paire de pièces de serrage (KP)
Größe Size Taille	
4	
6	

Bestellschlüssel

Order code / Code de commande

HREL 4 KP PP

Baureihe / range / série _____
HREL

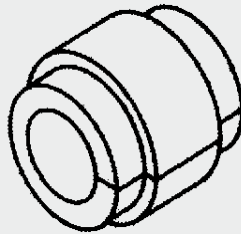
Baugröße / size / taille _____
4 / 6

Ausführung / model / exécution _____
KP

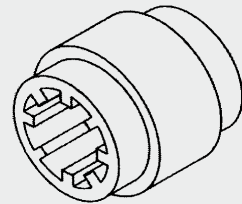
Werkstoff der Klemmbacken / _____
material of clamp jaws / matériau de la garniture élastomère
PP / PA

d	Innenfläche glatt Intern. surface smooth Portée lisse	d	Innenfläche gerippt Intern. surface ribbed Portée rainurée	Größe Size Taille
6	-	-	-	2/4L
8	-	10	-	
10	-	12	-	
12	-	-	-	
12,7	-	14	-	
14,4	-	15	-	
15,5	-	16	-	
16	-	17,2	-	
17,2	-	-	-	
18	-	-	-	
19	-	-	-	3/6L
20	20	20	-	
22	22	22	-	
23	-	-	-	
25	25	25	-	
26,9	-	-	-	
28	28	28	-	
30	30	30	-	
32	-	-	-	

Elastomereinsatz glatt
Elastomer insert smooth
Garniture élastomère lisse
(HRES ... EE ...)



Elastomereinsatz gerippt
Elastomer insert ribbed
Garniture élastomère rainurée
(HRERS ... EE ...)



Bestellschlüssel

Order code / Code de commande

HRES 2/4L EE 16 TPE

Baureihe / range / série _____
HRES / HRERS

Baugröße / size / taille _____
2/4L / 3/6L

Ausführung / model / exécution _____
EE

Durchmesser / O/D / diamètre _____

Werkstoff des Einsatzes / insert material / matériau de la garniture élastomère _____
TPE

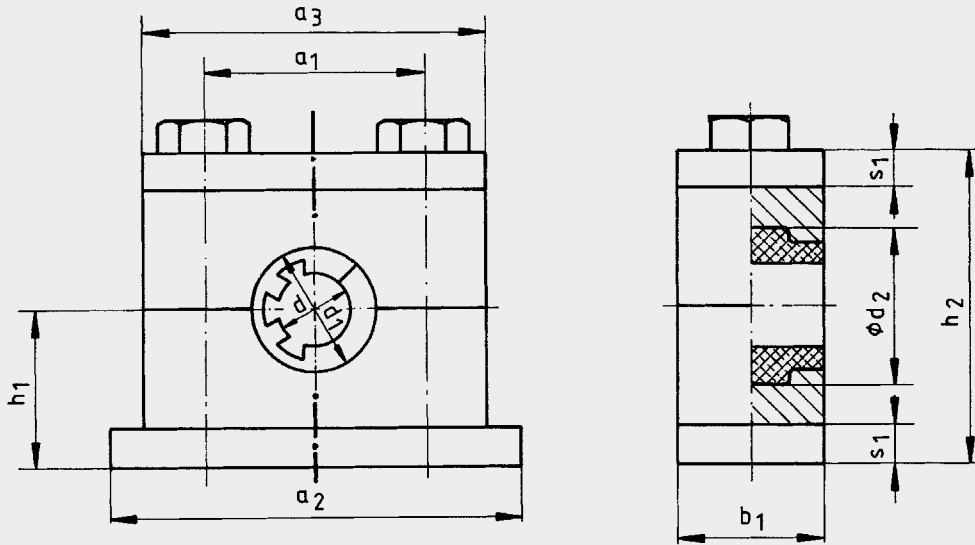
1.4 SCHWERE REIHE mit Elastomereinsatz DIN 3015 Teil 2, Einzelteile

BT 1

1.4 HEAVY RANGE with elastomer insert DIN 3015 part 2, individual parts

1.4 SERIE LOURDE avec garniture élastomère selon DIN 3015 chap. 2, pièces individuelles

Schelle in PP- und PA-Ausführung, Elastomereinsatz: Acrylnitril-Butadien-Elastomer (NBR), Thermoplastisches Elastomer
 Clamp in PP or PA, elastomer insert: acrylonitrile butadiene rubber (NBR), thermoplastic rubber
 Collier en PP et PA, garniture élastomère: Acrylnitril-Butadien élastomère (NBR), élastomère thermoplastique



d Innenfläche glatt Intern. surface smooth Portée lisse	d Innenfläche gerippt Intern. surface ribbed Portée rainurée	Größe Size Taille	Abmessungen Dimensions Dimensions										ASKT ISO 4014 Ext. hex ISO 4014 Vis H ISO 4014
			d1	d2	b1	h1	h2	a1	a2	a3	s1		
6	-	2	25,5	31	30	31	62	45	85	70	8	M10 x 60	
8	-												
10	10												
12	12												
12,7	-												
14	14												
15	15												
16	16												
17,2	17,2												
18	-												
19	-	3	39	46	30	37	74	60	100	85	8	M10 x 70	
20	20												
22	22												
23	-												
25	25												
26,9	-												
28	28												
30	30												
32	-												
33,7	-												4
35	-												
38	38												
40	-												
42	42												
45,5	44,5												
48	48												
51	-												
53,4	-												
56,4	57												
60	-	5	89	98	60	68,5	137	122	180	152	10	M16 x 130	
65	-												
70	-												
73	-												
76	76												
83	-	6	116	132	80	98,5	197	168	225	205	15	M20 x 190	
89	89												
94	-												
101	-												
108	108	7	154	168	90	113,5	227	205	270	252	15	M24 x 220	
114	-												
133	-												
140	-												

DEF 8.183.0/03.10

1.4 SCHWERE REIHE mit Elastomereinsatz DIN 3015 Teil 2

1.4 HEAVY RANGE with elastomer insert DIN 3015 part 2

1.4 SERIE LOURDE avec garniture élastomère selon DIN 3015 chap. 2

			Ausführung S Model S Exécution S
d Innenfläche glatt Intern. surface smooth Portée lisse	d Innenfläche gerippt Intern. surface ribbed Portée rainurée	Größe Size Taille	
6 .. 19	10 .. 17,2	2	
20 .. 32	20 .. 30	3	
33,7 .. 56,4	38 .. 57	4	
60 .. 76	76	5	
83 .. 101	89	6	
108 .. 140	20 .. 30	7	

Bestellschlüssel

Order code / Code de commande

HRES 2 S 16 PP ST M BL

Baureihe / range / série _____

HRES
HRERS

Baugröße / size / taille _____

2 / 3 / 4 / 5 / 6 / 7

Ausführung / model / exécution _____

S

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage _____

PP / PA

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier _____

ST

Metrisches Gewinde / metric thread / filet métrique _____

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier _____

BL **blank / unplated / sans revêtement**

ZN **verzinkt / zinc plated / zingué**

1.4 SCHWERE REIHE mit Elastomereinsatz DIN 3015 Teil 2, Einzelteile

BT 1

1.4 HEAVY RANGE with elastomer insert DIN 3015 part 2, individual parts

1.4 SERIE LOURDE avec garniture élastomère selon DIN 3015 chap. 2, pièces individuelles

Klemmbackenpaar
Pair of clamp jaws
Paire de pièces de serrage
(KP)

Größe Size Taille	
2	
3	
4	
5	
6	
7	

Bestellschlüssel

Order code / Code de commande

HRES 4 KP PP

Baureihe / range / série

HRES

Baugröße / size / taille

2 / 3 / 4 / 5 / 6 / 7

Ausführung / model / exécution

KP

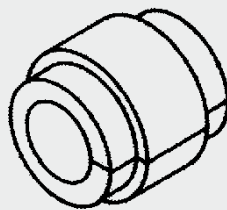
Werkstoff der Klemmbacken /

material of clamp jaws / matériau de la garniture élastomère
PP / PA

d	Innenfläche glatt Intern. surface smooth Portée lisse	d	Innenfläche gerippt Intern. surface ribbed Portée rainurée	Größe Size Taille
6 .. 19	10 .. 17,2			2/4L
20 .. 32	20 .. 30			3/6L
33,7 .. 56,4	38 .. 57			4
60 .. 76	76			5
83 .. 101	89			6
108 .. 140	108			7

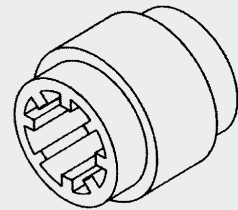
Elastomereinsatz glatt

Elastomer insert smooth
Garniture élastomère lisse
(HRES ... EE ...)



Elastomereinsatz gerippt

Elastomer insert ribbed
Garniture élastomère rainurée
(HRERS ... EE ...)



Bestellschlüssel

Order code / Code de commande

HRES 2/4L EE 16 TPE

Baureihe / range / série

HRES / HRERS

Baugröße / size / taille

2/4L / 3/6L / 4 / 5 / 6 / 7

Ausführung / model / exécution

EE

Durchmesser / O/D / diamètre

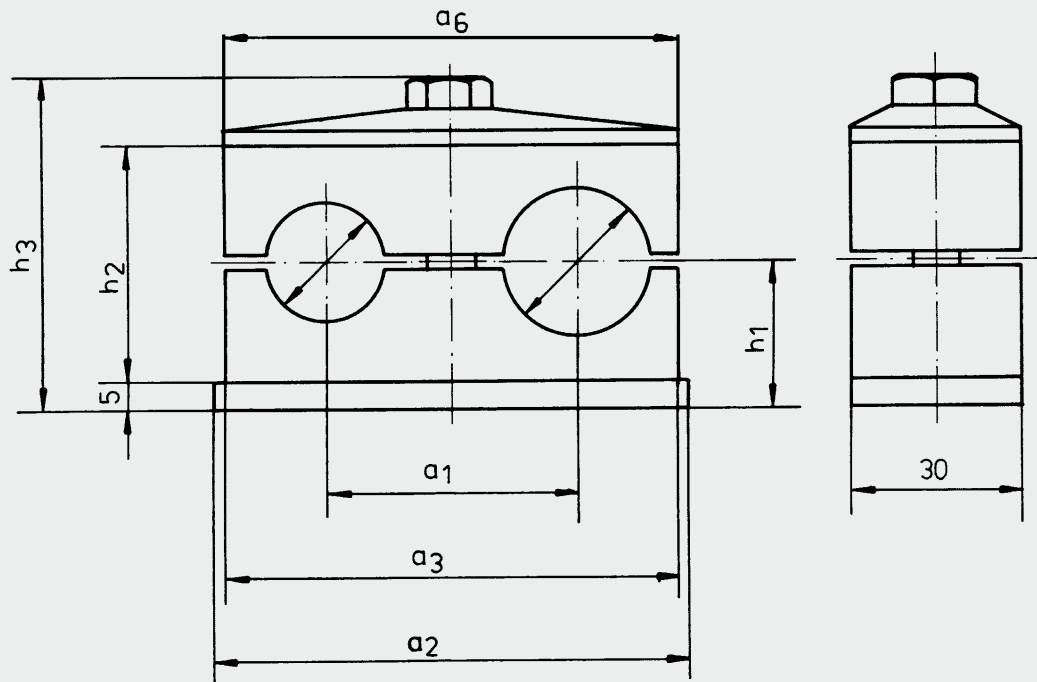
Werkstoff des Einsatzes / insert material / matériau de la garniture élastomère
TPE / NBR (Größe 5 ... 7 / Size 5 ... 7 / Taille 5 ... 7)

1.5 Zweirohrschele DIN 3015 Teil 3

1.5 Twin clamp DIN 3015 part 3

1.5 Collier double selon DIN 3015 chap. 3

BT 1



Rohr-Außen-Ø in mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Abmessungen Dimensions Dimensions							6-Kt.-Schraube ISO 4014 Hex. bolt ISO 4014 Vis H ISO 4014
		a1	a2	a3	a6	h1	h2	h3	
6 6,4 8 9,5 10 12	1	20	37	36	34	18,5	27	43	M6 x 35
12,7 13,7 14 15 16 17,1 18	2	29	55	53	51	18	26	43,5	M8 x 35
19 20 21,3 22 23 25 25,4	3	36	70	67	64	23,5	37	54,5	M8 x 45
26,9 28 30	4	45	85	82	78	26	42	59,5	M8 x 50
32 33,7 35 38 40 42	5	56	110	106	102	32	54	71,5	M8 x 60

1.5 Zweirohrschele DIN 3015 Teil 3

1.5 Twin clamp DIN 3015 part 3

1.5 Collier double selon DIN 3015 chap. 3

Abmessungen d1-d2 Dimensions d1-d2 Dimensions d1-d2	Größe Size Taille	Ausführung A Model A Exécution A	Ausführung A1 Model A1 Exécution A1	Ausführung A1TM Model A1TM Exécution A1TM
6 .. 12	1			
12,7 .. 18	2			
19 .. 25,4	3			
26,9 .. 30	4			
32 .. 42	5			

Abmessungen d1-d2 Dimensions d1-d2 Dimensions d1-d2	Größe Size Taille	Ausführung D Model D Exécution D
6 .. 12	1	
12,7 .. 18	2	
19 .. 25,4	3	
26,9 .. 30	4	
32 .. 42	5	

Bestellschlüssel

Order code / Code de commande

Baureihe / range / série

HRZ / HRGZ

Baugröße / size / taille

1 / 2 / 3 / 4 / 5

Ausführung / model / exécution

A / A1 / A1TM / D

Durchmesser / O/D / diamètre

(Einzel-Ø / indiv. Ø / Ø-particulier – siehe / see / voir BT 1.5.01)

Werkstoff der Klemmbacken/ clamp material / matériau des pièces de serrage

PP / PA

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier

ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement

ZN verzinkt / zinc plated / zingué

HRZ 2 A 16-16 PP ST M BL

1.5 Zweiroherschelle DIN 3015 Teil 3, Einzelteile

1.5 Twin clamp DIN 3015 part 3, individual parts

1.5 Collier double selon DIN 3015 chap. 3, pièces individuelles

Größe Size Taille	Deckplatte Cover plate Plaque de protection (DP)
1	
2	
3	
4	
5	

Größe Size Taille	Reihenanschweißplatte* Interconnecting weld plate Plaque de combinaison à souder (RAP)
1	
2	
3	
4	
5	

* nicht nach DIN3015
not to DIN3015
pas selon DIN3015

Bestellschlüssel

Order code / Code de commande

HRZ 3 DP ST ZN

Baureihe / range / série ——— **HRZ**

Baugröße / size / taille ——— **3**
1 / 2 / 3 / 4 / 5

Ausführung / model / exécution ——— **DP**

Werkstoff der Stahlteile / _____
material of steel parts / *matériau des pièces acier*
ST

Oberfläche der Stahlteile / _____
plating of steel parts / *revêtement des pièces acier*
ZN **verzinkt / zinc plated / zingué**

Bestellschlüssel

Order code / Code de commande

HRZ 2 RAP ST M BL

Baureihe / range / série ——— **HRZ**

Baugröße / size / taille ——— **2**
1 / 2 / 3 / 4 / 5

Ausführung / model / exécution ——— **RAP**

Werkstoff der Stahlteile / _____
material of steel parts / *matériau des pièces acier*
ST

Metrisches Gewinde / metric thread / filet métrique ——— **M**

Oberfläche der Stahlteile / _____
plating of steel parts / *revêtement des pièces acier*
BL **blank / unplated / sans revêtement**
ZN **verzinkt / zinc plated / zingué**

Größe Size Taille	Anschweißplatte Weld plate Plaque à souder (AP)
1	
2	
3	
4	
5	

Reihenanschweißplatte

Interconnecting weld plate
Plaque de combinaison à souder
(RAP)

Bestellschlüssel

Order code / Code de commande

HRZ 2 AP ST M BL

Baureihe / range / série ——— **HRZ**

Baugröße / size / taille ——— **2**
1 / 2 / 3 / 4 / 5

Ausführung / model / exécution ——— **AP**

Werkstoff der Stahlteile / _____
material of steel parts / *matériau des pièces acier*
ST

Metrisches Gewinde / metric thread / filet métrique ——— **M**

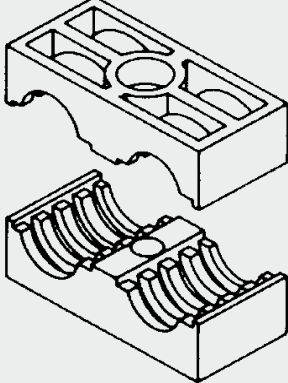
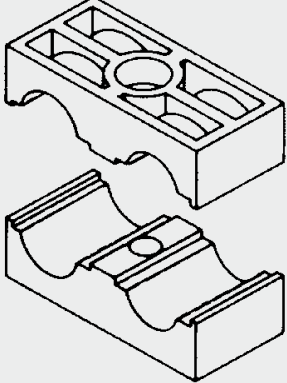
Oberfläche der Stahlteile / _____
plating of steel parts / *revêtement des pièces acier*
BL **blank / unplated / sans revêtement**
ZN **verzinkt / zinc plated / zingué**

Größe Size Taille	Schellenanzahl Number of clamps Nombre de colliers	Abmessungen Dimensions Dimensions			
		e1	e2	L	d
1	5	18	40	196	M6
2	5	28	58	288	M8
3	5	35	72	358	M8
4	5	43	90	446	M8
5	5	55	112	558	M8

1.5 Zweirohrschele DIN 3015 Teil 3, Einzelteile

1.5 Twin clamp DIN 3015 part 3, individual parts

1.5 Collier double selon DIN 3015 chap. 3, pièces individuelles

Abmessungen d1-d2 Dimensions d1-d2 Dimensions d1-d2	Größe Size Taille	Klemmbackenpaar gerippt Pair of clamp jaws, ribbed Paire de pièces de serrage, rainurée (HRZ ... KP ...)	Klemmbackenpaar glatt Pair of clamp jaws, smooth Paire de pièces de serrage, lisse (HRGZ ... KP ...)
6 .. 12	1		
12,7 .. 18	2		
19 .. 25,4	3		
26,9 .. 30	4		
32 .. 42	5		

Bestellschlüssel

Order code / Code de commande

HRZ 3 KP 23-23 PP

Baureihe / range / série _____

HRZ
HRGZ

Baugröße / size / taille _____

1 / 2 / 3 / 4 / 5

Ausführung / model / exécution _____

KP

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage _____


PP / PA


andere Werkstoffe auf Anfrage / other materials on request / autres matériaux sur demande

1.5 Zweirohrschele DIN 3015 Teil 3, Einzelteile

1.5 Twin clamp DIN 3015 part 3, individual parts

1.5 Collier double selon DIN 3015 chap. 3, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	6-kt-Schraube ISO 4014 Hex. bolt ISO 4014 Vis H ISO 4014 (6kt-schr.ISO4014)
M6 x 35	1	
M8 x 35	2	
M8 x 45	3	
M8 x 50	4	
M8 x 60	5	

Abmessungen Dimensions Dimensions	Größe Size Taille	Aufbauschraube Build-up bolt Goujon-écrou (AF...)
AF6	1	
AF8	2	
AF8	3	
AF8	4	
AF8	5	

Bestellschlüssel

Order code / Code de commande

6kt-schr. ISO4014 - M6 x 35 - 8.8 - A4B

Bauart / design / forme
6kt-schr. ISO4014

Baugröße / size / taille
ISO4014

M6 x 35
M8 x 35
M8 x 45
M8 x 50
M8 x 60

Schraubenqualität / bolt quality / qualité de vis
8.8

Oberfläche der Schraube / bolt plating / revêtement de vis
A4B **verzinkt** / zinc plated / zingué

Bestellschlüssel

Order code / Code de commande

HRZ 4 AF ST M ZN

Baureihe / range / série
HRZ

Baugröße / size / taille
1 = HRL 0+1 AF ST M ZN
2 / 3 / 4 / 5

Ausführung / model / exécution
AF

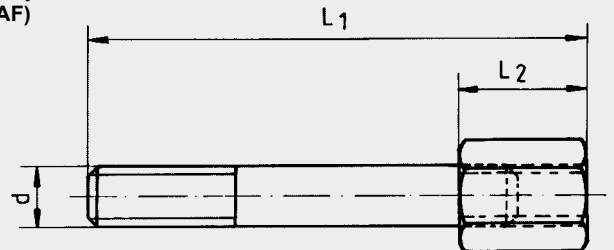
Werkstoff / material / matériau
ST

Metrisches Gewinde / metric thread / filet métrique

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier
ZN **verzinkt** / zinc plated / zingué

Aufbauschraube

Build-up bolt
Goujon-écrou
(AF)





Größe Size Taille	Abmessungen Dimensions Dimensions		
	L1	L2	d
1	34	14	M6
2	33	13	M8
3	44	15	M8
4	49	15	M8
5	62	15	M8

1.5 Zweirohrschele DIN 3015 Teil 3, Einzelteile

1.5 Twin clamp DIN 3015 part 3, individual parts

1.5 Collier double DIN 3015 chap. 3, pièces individuelles

Größe Size Taille	Sicherungsblech Locking plate Plaque intermédiaire (SIP)
1	
2-5	

Abmessungen Dimensions Dimensions	Größe Size Taille	Tragschienenmutter Bayonet nut Ecrou rail porteur (TM ...)
TVM6	1	
TVM8	2-5	

Bestellschlüssel

Order code / Code de commande

	HRZ	2-5	SIP	ST	ZN
Baureihe / range / série HRZ					
Baugröße / size / taille 1 / 2-5					
Ausführung / model / exécution SIP					
Werkstoff / material / matériau ST					
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier ZN verzinkt / zinc plated / zingué					

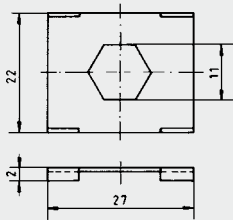
Bestellschlüssel

Order code / Code de commande

	HRL	TMV6	ST	ZN
Baureihe / range / série HRL				
Größe/Size/Taille 1: HRL TMV6 Größe/Size/Taille 2-5: HRZ TM8				
Ausführung / model / exécution TMV6 / TM8				
Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier ST				
Oberflächenbeschichtung / plating / revêtement ZN verzinkt / zinc plated / zingué				

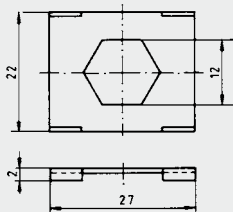
Sicherungsblech Gr. 1Z

Locking plate size 1Z
Plaque intermédiaire taille 1Z
(SIP)



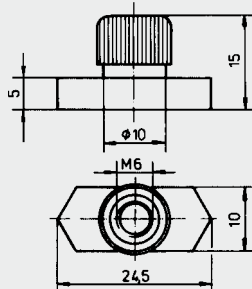
Sicherungsblech Gr. 2-5Z

Locking plate size 2-5Z
Plaque intermédiaire taille 2-5Z
(SIP)



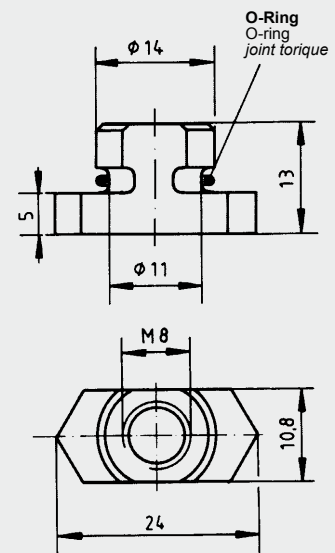
Tragschienenmutter M6 Bayonet nut M6 Ecrou pour rail porteur M6 (TMV6)

Größe 1
Size 1
Taille 1



Tragschienenmutter M8 Bayonet nut M8 Ecrou pour rail porteur M8 (TM8)

Größe 2-5
Size 2-5
Taille 2-5

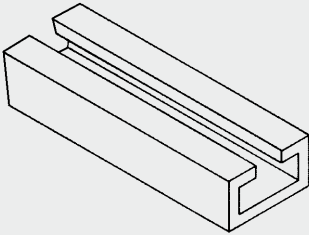


1.5 Zweiroherschelle DIN 3015 Teil 3, Einzelteile

1.5 Twin clamp DIN 3015 part 3, individual parts

1.5 Collier double DIN 3015 chap. 3, pièces individuelles

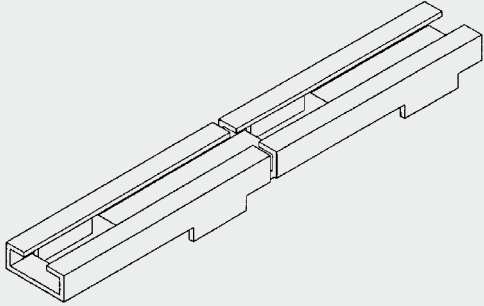
C-Tragschiene
C-rail
C-Rail porteur
(TS)



Größe
Size
Taille

28 x 11
28 x 14
28 x 30

C-Tragschiene m. Anschweißstegen
C-rail with weld struts
C-Rail porteur avec barres à souder
(TS28x11AS)



Abmessungen
Dimensions
Dimensions

28 x 11

Bestellschlüssel

Order code / Code de commande

HRL TS28x11 ST BL 1m

Baureihe / range / série

HRL

Ausführung / model / exécution

TS28 x 11

TS28 x 14

TS28 x 30

Werkstoff der Stahlteile /

material of steel parts /

matériau des pièces acier

ST / AL *

Oberfläche der Stahlteile /

plating of steel parts /

revêtement des pièces acier

BL **blank** / unplated / sans revêtement

ZN **verzinkt** / zinc plated / zingué

Baulänge / length / longueur

1 m / 2 m

* AL auf Anfrage / AL on request / AL sur demande

Bestellschlüssel

Order code / Code de commande

HRL TS28x11AS ST BL 1m

Baureihe /

range / série

HRL

Ausführung / model / exécution

TS28 x 11AS

Werkstoff der Stahlteile /

material of steel parts /

matériau des pièces acier

ST / AL *

Oberfläche der Stahlteile /

plating of steel parts /

revêtement des pièces acier

BL **blank** / unplated / sans revêtement

ZN **verzinkt** / zinc plated / zingué

Baulänge / length / longueur

1 m

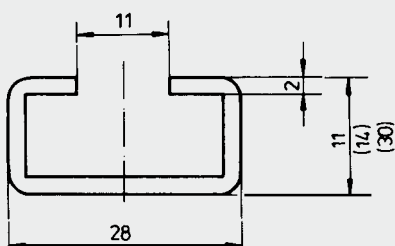
* AL auf Anfrage / AL on request / AL sur demande

C-Tragschiene

C-rail

C-Rail porteur

(TS)

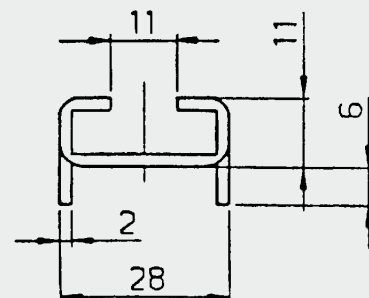


C-Tragschiene m. Anschweißstegen

C-rail with weld struts

C-Rail porteur avec barres à souder

(TS28x11AS)



1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

Technische Daten / Allgemeine Hinweise

Dem Anwender stehen zur Befestigung von Rohrleitungen umfassende Angebote an Systemen zur Verfügung. Die Befestigungsbauteile bestehen in der Regel aus Stahl-, Aluminium-, Kunststoff- und Gummitteilen. Aus diesen Bauteilen werden Kombinationen gewählt, die zur Montage der Rohrleitungen notwendig sind.

So ergeben sich z.B. für die Schellen in Blockform nach DIN 3015 die vielfältigsten Anwendungsmöglichkeiten.

Bei der Verwendung dieser Schellen stellt sich die Frage:

Wann setze ich die Leichte Baureihe, wann die Schwere Baureihe und wann die Zweirohrschelle ein?

Die nachstehenden Informationen sollen helfen, diese Entscheidung zu vereinfachen.

Allgemeine Hinweise

Für die sichere Montage ist eine stabile, den Belastungen entsprechende Unterbefestigung der Trägereinheiten, wie Grundplatten und Tragschienen notwendig.

Die erste Schelle soll unmittelbar nach der Anschlussverschraubung platziert sein. Sie hält somit die Schwingungen von der Verschraubung ab.

Rohrbögen sind unmittelbar hinter den Bögen abzufangen (Pulsationsrichtung beachten).

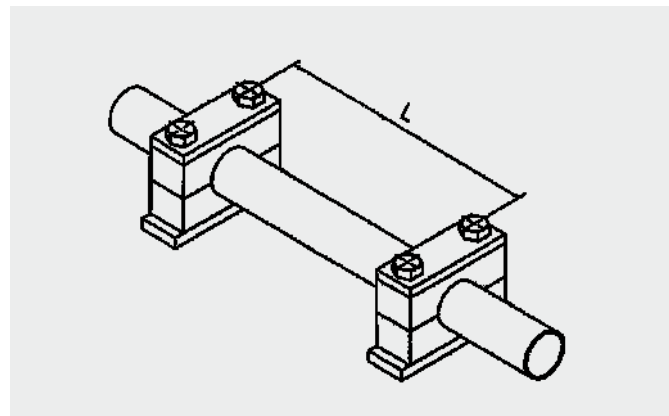
Die vorgegebenen Schraubenanzugsmomente nach DIN 3015, Teil 10 sind einzuhalten (Seite BT 1.6.04).

Die vorgegebenen Grenzen der Materialeigenschaften sind zu beachten (Seite BT 1.6.04).

Wo keine Aussage aufgrund der praktischen Erfahrung vorliegt, sind die empfohlenen Rohrstützweiten einzuhalten (siehe unten).

Werden in den Rohrleitungen Armaturen integriert, so ist eine Abstützung vor und hinter diesen Armaturen empfohlen.

Empfohlene Rohrstützweiten



Rohrstützweite L (m)	Rohrdurchmesser D	
	min (mm)	max (mm)
1,0	6,0	12,7
1,2	12,7	22,0
1,5	22,0	32,0
2,0	32,0	38,0
2,7	38,0	57,0
3,0	57,0	75,0
3,5	75,0	76,1
3,7	76,1	88,9
4,0	88,9	102,0
4,5	102,0	114,0
5,0	114,0	168,0
6,0	168,0	219,0
6,7	219,0	324,0
7,0	324,0	356,0

1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

Recommended guidelines for mounting pipelines

There is an extensive range of systems available for mounting pipelines. The mounting components are generally made of steel, aluminium, plastic and rubber. From these components combinations are selected as required. This means that block type clamps to DIN 3015, for example, have a multitude of application possibilities. The question arises concerning the use of these clamps:

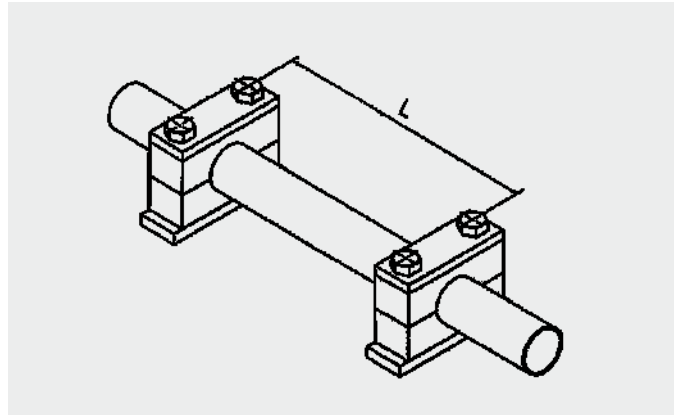
When to use the Light range, heavy range or twin clamp?

The following information is intended to simplify this decision.

Basic prerequisite

- For secure mounting, stable carrier units, such as base plates and rails are required according to specific load requirements.
- The first clamp should be situated directly after the threaded connection or coupling. This protects the threaded connection or coupling from vibrations.
- Bends in the pipe should be clamped on each side (pulsation direction must be taken into account).
- The given screw torque ratings to DIN 3015, Part 10 must be adhered to (page 1.6.05).
- Material property limitations must be observed (page 1.6.05).
- In the absence of any past experience, the recommended distance between pipe supports must be adhered to (see below).
- If valves are incorporated in the pipelines, it is recommended that support is provided in front of and behind these valves.

Recommended distance between pipe supports



Distance between pipe supports L (m)	Pipe outside diameters D (mm)	
	min	max
1.0	6.0	12.7
1.2	12.7	22.0
1.5	22.0	32.0
2.0	32.0	38.0
2.7	38.0	57.0
3.0	57.0	75.0
3.5	75.0	76.1
3.7	76.1	88.9
4.0	88.9	102.0
4.5	102.0	114.0
5.0	114.0	168.0
6.0	168.0	219.0
6.7	219.0	324.0
7.0	324.0	356.0

1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

BT 1

Consignes pour la fixation de tuyauteries

Il existe aujourd'hui pour l'utilisateur un choix très large et varié de types de fixation de tuyauteries. Les pièces de fixation sont en règle générale composées de pièces en acier, aluminium, matière plastique et matière caoutchouc. La combinaison entre ces différentes pièces permet le montage de tuyauteries. On peut ainsi obtenir pour les colliers en forme bloc suivant DIN 3015 un nombre très important de possibilités. Les questions suivantes se posent lors de l'utilisation de ces colliers:

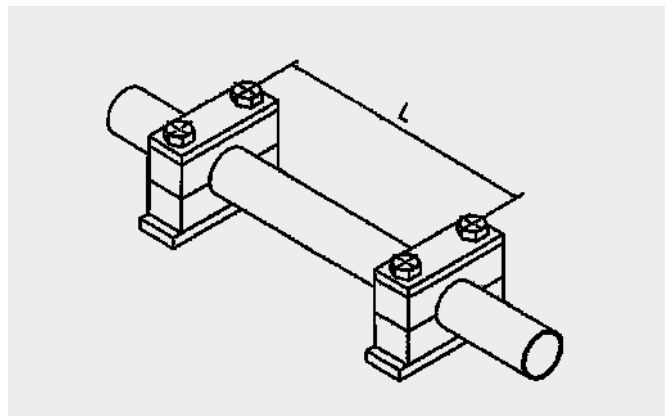
A quel moment dois-je choisir la série légère ou la série lourde ou les colliers doubles?

Les informations suivantes sont destinées à vous aider lors de votre choix.

Conditions de base

- Pour assurer un montage sûr, il est nécessaire d'utiliser une embase supportant les charges, comme la plaque de base ou le rail porteur.
- Le premier collier doit impérativement être monté directement après le raccord. Il empêche ainsi des oscillations de ce raccord.
- Sur un tube coudé, la fixation est à prévoir en sortie de courbe (sens de pulsation à vérifier).
- Le couple de serrage des vis prescrit dans la norme DIN 3015, partie 17, est à respecter (voir 1.6.06).
- Les caractéristiques limites des matériaux prescrites dans le tableau E sont à vérifier (voir 1.6.06).
- En l'absence de caractéristiques techniques, lorsque l'expérience pratique prévaut, respecter les espacements de colliers conseillés (voir ci-dessous).
- Lorsque des vannes sont intégrées dans la tuyauterie, il est conseillé de prévoir des points de fixation directement avant et après ces vannes.

Espacement recommandé



Espacement L (m)	Diamètre extérieur du tube D	
	min (mm)	max (mm)
1,0	6,0	12,7
1,2	12,7	22,0
1,5	22,0	32,0
2,0	32,0	38,0
2,7	38,0	57,0
3,0	57,0	75,0
3,5	75,0	76,1
3,7	76,1	88,9
4,0	88,9	102,0
4,5	102,0	114,0
5,0	114,0	168,0
6,0	168,0	219,0
6,7	219,0	324,0
7,0	324,0	356,0

1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

Materialeigenschaften der Schellen nach DIN 3015

Mechanische Eigenschaften		Polypropylen	Polyamid	Thermo- plastisches Elastomer (TPE)	Acrylnitril- Butadien Elastomer (NBR)
Streckspannung	DIN 53455	30 N/mm ²	55 bis 82 N/mm ²	8,3 N/mm ²	25 N/mm ²
Grenzbiegespannung	DIN 53452	54 N/mm ²	145 N/mm ²	24 N/mm ²	–
Schlagzähigkeit	DIN 53453	ohne Bruch	ohne Bruch	–	–
Kugeldruckhärte	ISO 2039	60 N/mm ²	70 N/mm ²	–	–
Shore-Härte		–	–	73 ± 5° Shore A andere Härten a.A.	73 ± 5° Shore A andere Härten a.A.
Thermische Eigenschaften					
Temperaturbeständigkeit		-30 bis +90 °C	-40 bis +120 °C	-40 bis +125 °C	-30 bis +120 °C
Wärmeausdehnungskoeffizient		1,5 x 10 ⁻⁴ /°C	7 bis 10 x 10 ⁻³ /°C	–	–
Elektrische Eigenschaften					
Spezif. Durchgangswiderstand	DIN 53482 VDE 0303	10 ¹⁵ Ohm x cm	10 ¹⁵ Ohm x cm	–	–
Kriechstromfestigkeit	DIN 53480 VDE 0303	KA 3 c	KA 3 b	–	–
Festigkeitswerte		AL-Schelle			
Zugfestigkeit		160 – 200 N/mm ²			
Druckfestigkeit		HB 600 – 750 N/mm ²			
E-Modul		68000 – 78000 N/mm ²			

Schraubenanzugs-Drehmoment (Nm) nach DIN 3015 Teil 10

Norm	Gewinde	Nenngröße	Anzugsmoment in Nm bei Klemmwerkstoff		
			PP	PA	AL
Leichte Reihe	M 6	0 bis 6	8	10	12
Schwere Reihe	M 10	1 bis 2	12	20	30
		3	15	25	35
	M 12	4	30	40	55
	M 16	5	45	55	120
	M 20	6	80	150	220
	M 24	7	110	200	250
	M 30	8	180	350	500
		9	200	370	500
		10	270	470	600
Zweirohrschellen Reihe	M 6	1	5	6	–
	M 8	2 bis 4	12	12	–
		5	8	8	–

Die angegebenen Schraubenanzugsmomente beziehen sich auf Montage mit Deckplatten und Außensechskantschrauben nach ISO 4014 / 4017.

1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

BT 1

Properties of plastic pieces to DIN 3015

Mechanical properties		Polypropylene	Polyamide	Thermo-plastic elastomer (TPE)	Acrylonitrile butadiene elastomer (NBR)
Yield stress	DIN 53455	30 N/mm ²	55 to 82 N/mm ²	8.3 N/mm ²	25 N/mm ²
Critical bending stress	DIN 53452	54 N/mm ²	145 N/mm ²	24 N/mm ²	–
Impact resistance	DIN 53453	no breakage	no breakage	–	–
Ball indentation hardness	ISO 2039	60 N/mm ²	70 N/mm ²	–	–
Shore hardness	–	–	–	73 ± 5° Shore A other hardness on request	73 ± 5° Shore A other hardness on request
Thermal properties					
Temperature resistant		-30 to +90 °C	-40 to +120 °C	-40 to +125 °C	-30 to +120 °C
Coefficient of thermal expansion		1.5 x 10 ⁻⁴ /°C	7 to 10 x 10 ⁻³ /°C	–	–
Electrical properties					
Specific current-flow resistance	DIN 53482 VDE 0303	10 ¹⁵ Ohm x cm	10 ¹⁵ Ohm x cm	–	–
Creep resistance	DIN 53480 VDE 0303	KA 3 c	KA 3 b	–	–
Strength values		Alu clamp			
Tensile strength		160 – 200 N/mm ²			
Pressure resistance		HB 600 – 750 N/mm ²			
Modulus of elasticity		68000 – 78000 N/mm ²			

Bolt Torque Rating (Nm) to DIN 3015 Part 10

Standard	Thread	Nominal size	Torque rating in Nm with clamping material		
			PP	PA	AL
Light range	M 6	0 to 6	8	10	12
Heavy range	M 10	1 to 2	12	20	30
		3	15	25	35
		4	30	40	55
	M 12	4	30	40	55
	M 16	5	45	55	120
	M 20	6	80	150	220
	M 24	7	110	200	250
		M 30	8	180	350
9			200	370	500
		10	270	470	600
Twin clamp range	M 6	1	5	6	–
		M 8	2 to 4	12	12
				5	8

The indicated screw tightening torques refer to the assembly with cover plates and hexagon bolts according to ISO 4014 / 4017.

1.6 Schellen nach DIN 3015

1.6 Clamps to DIN 3015

1.6 Colliers selon DIN 3015

Caractéristiques des pièces en plastique selon DIN 3015

Caractéristiques mécaniques		Polypropylène	Polyamide	Thermo-plastique élastomère (TPE)	Acrylonitril-Butadien élastomère (NBR)
Résistance à la traction	DIN 53455	30 N/mm ²	55 à 82 N/mm ²	8,3 N/mm ²	25 N/mm ²
Résistance à la flexion	DIN 53452	54 N/mm ²	145 N/mm ²	24 N/mm ²	–
Résistance aux chocs	DIN 53453	sans rupture	sans rupture	–	–
Dureté à la bille	ISO 2039	60 N/mm ²	70 N/mm ²	–	–
Dureté - Shore		–	–	73 ± 5° Shore A autres duretés sur demande	73 ± 5° Shore A autres duretés sur demande
Caractéristiques thermiques					
Résistance à la température		-30 to +90 °C	-40 à +120 °C	-40 à +125 °C	-30 à +120 °C
Coefficient de dilatation thermique		1,5 x 10 ⁻⁴ /°C	7 to 10 x 10 ⁻³ /°C	–	–
Caractéristiques électriques					
Résistivité spécifique	DIN 53482 VDE 0303	10 ¹⁵ Ohm x cm	10 ¹⁵ Ohm x cm	–	–
Résistivité au courant de fuite	DIN 53480 VDE 0303	KA 3 c	KA 3 b	–	–
Résistances mécaniques		Collier aluminium			
Résistance à la traction		160 – 200 N/mm ²			
Résistance à la compression		HB 600 – 750 N/mm ²			
Module d'élasticité		68000 – 78000 N/mm ²			

Couple de serrage des vis (Nm) suivant DIN 3015 partie 10

Norme	Filetage	Taille nom.	Couple de serrage en Nm suivant matériau de collier			
			PP	PA	AL	
Série légère	M 6	0 à 6	8	10	12	
Série lourde	M 10	1 à 2	12	20	30	
		3	15	25	35	
	M 12	4	30	40	55	
	M 16	5	45	55	120	
	M 20	6	80	150	220	
	M 24	7	110	200	250	
		M 30	8	180	350	500
			9	200	370	500
		10	270	470	600	
Collier série double	M 6	1	5	6	–	
		2 à 4	12	12	–	
	M 8	5	8	8	–	

Les couples de serrage des vis sont donnés pour le montage avec plaque de protection et vis hexagonale d'après ISO 4014 / 4017.

1.7 Leichte Reihe DIN 3015 Teil 1

1.7 Light range DIN 3015 part 1

1.7 SERIE LEGERE selon DIN 3015 chap. 1

BT 1

Verpackungseinheiten

Packing details

Conditionnement

L	Klemmbackenpaare Pair of clamp jaws <i>Pièces de serrage</i>		Anschweiß- und Deckplatten Weld and cover plates <i>Plaques de base et de protection</i>			Schrauben Bolts <i>Vis</i>	
	Karton (Paar) Box (pairs) <i>Carton (paires)</i>	Tüte (Paar) Bag (pairs) <i>Sachet (paires)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>	
	PP, PA	AL	AP	DP			
0	1000		250	500	50	1000	50
1	1000	500	250	500	50	1000	50
2	1000	250		250	50	1000	50
3	500	250		250	50	1000	50
4	500	200		200	25	1000	50
5	250	100		100	200	500	50
6	250	100		100	200	500	50
TMV 6				1000			50
U-Scheibe Washer <i>Rondelle</i>							50
Aufbaumutter Build-up nut <i>Ecrou pour collier superposable</i>				1000			50

L = Leichte Baureihe DIN 3015 / Light range DIN 3015 / Série légère selon DIN 3015

Abgabe nur in Verpackungseinheiten.

Only available in given pack sizes.

Livraison uniquement sous conditionnement.

1.7 SCHWERE REIHE DIN 3015 Teil 2

1.7 HEAVY RANGE DIN 3015 part 2

1.7 SERIE LOURDE selon DIN 3015 chap. 2

Verpackungseinheiten

Packing details

Conditionnement

S	Klembackenpaare Pair of clamp jaws <i>Pièces de serrage</i>		Anschweiß- und Deckplatten Weld and cover plates <i>Plaques de base et de protection</i>		Schrauben Bolts <i>Vis</i>		
	Karton (Paar) Box (pairs) <i>Carton (paires)</i>	Tüte (Paar) Bag (pairs) <i>Sachet (paires)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>	
	PP, PA	AL					
1	500	250	25	100	25	250	50
2	250	150	25	100	25	250	50
3	250	100	25	100	25	250	50
4	250 (Stück,pieces,pièces)			50		100	
5	120 (Stück,pieces,pièces)			25		25	
TM 10				250		50	
TM 12				250		50	
U-Scheibe	Washer <i>Rondelle</i>					50	
Aufbaumutter	Build-up nut <i>Ecrou pour collier superposable</i>		Gr. 1-4	250		50	
Aufbaumutter	Build-up nut <i>Ecrou pour collier superposable</i>		Gr. 5	100			
Stiftschraube	Stud <i>Gougeon</i>		Gr. 1-3	250		50	
Stiftschraube	Stud <i>Gougeon</i>		Gr. 4	250			
Stiftschraube	Stud <i>Gougeon</i>		Gr. 5	100			

S = Schwere Baureihe DIN 3015 / Heavy range DIN 3015 / Série lourde selon DIN 3015

Gr. = Größe / Size / Taille

Abgabe nur in Verpackungseinheiten.

Only available in given pack sizes.

Livraison uniquement sous conditionnement.

1.7 Zweiroherschelle DIN 3015 Teil 3

1.7 Twin clamp DIN 3015 part 3

1.7 Collier double selon DIN 3015 chap. 3

BT 1

Verpackungseinheiten

Packing details

Conditionnement

Z	Klemmbackenpaare Pair of clamp jaws <i>Pièces de serrage</i>		Anschweiß- und Deckplatten Weld and cover plates <i>Plaques de base et de protection</i>		Schrauben Bolts <i>Vis</i>		
	Karton (Paar) Box (pairs) <i>Carton (paires)</i>	Tüte (Paar) Bag (pairs) <i>Sachet (paires)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	DP	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>	Karton (Stück) Box (pieces) <i>Carton (pièces)</i>	Tüte (Stück) Bag (pieces) <i>Sachet (pièces)</i>
1	1000	50	200	250	50	500	50
2	750	50	100	200	50	500	50
3	500	50	100	200	50	500	50
4	250	25		100	25	200	25
5	250	25		100	25	200	25
TMV 6					50		
TM 8					25		

Aufbauschraube wie normale Schrauben
Build-up bolt the same as normal bolts
Vis pour collier superposable identiques aux vis standard

Z = Zweiroherschelle DIN 3015 / Twin clamp DIN 3015 / Collier double selon DIN 3015

Abgabe nur in Verpackungseinheiten.

Only available in given pack sizes.

Livraison uniquement sous conditionnement.

1.8 Gegenüberstellung "Metrisch" zu "Zoll"

1.8. Comparison metric / imperial measurements

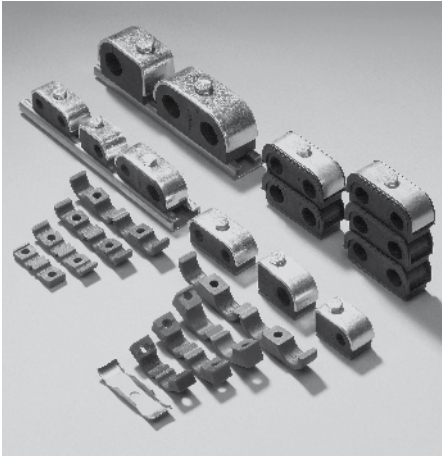
1.8 Correspondance métrique / pouce

BT 1

Rohr-Außen-Ø in mm Pipe OD mm Ø extérieur du tuyau mm	Zoll Inch pouce	Gewinderohre Nominal bore (inch) Tube fileté pouce
6	–	–
6,4	1/4	–
8	5/16	–
9,5	3/8	–
10	–	G 1/8
12	–	–
12,7	1/2	–
13,7	–	G 1/4
14	–	–
15	–	–
16	5/8	–
17,1	–	G 3/8
18	–	–
19	3/4	–
20	–	–
21,3	–	G 1/2
22	–	–
23	–	–
25	–	–
25,4	1	–
26,9	–	G 3/4
28	–	–
30	–	–
32	1 1/4	–
33,7	–	G 1
35	–	–
38	1 1/2	G 1 1/8
40	–	–
42	–	G 1 1/4
44,5	1 3/4	–
48,3	–	G 1 1/2
50,8	2	–
54	–	–
57	2 1/4	–
60,3	–	G 2
63,5	2 1/2	–
65	–	–
70	–	–
73	–	–
76,1	3	G 2 1/2

Rohr-Außen-Ø in mm Pipe OD mm Ø extérieur du tuyau mm	Zoll Inch pouce	Gewinderohre Nominal bore (inch) Tube fileté pouce
80	–	–
88,9	3 1/2	G 3
90	–	–
96	–	–
101,6	4	G 3 1/2
108	4 1/4	–
114,3	4 1/2	G 4
136	–	–
139,7	5 1/2	G 5
168	6 1/2	G 6
177,8	7	–
193,7	7 5/8	G 7
219,1	8 5/8	G 8
244,5	–	–
273	–	G 10
323,9	12 3/4	G12
355,6	–	G 14
406,4	–	G 16





HYDAC Schellen

HYDAC Clamps

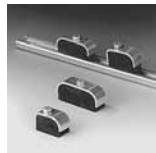
Colliers HYDAC



BT 2.1.xx Diagonalschelle

BT 2.1.xx Diagonal clamp

BT 2.1.xx Collier forme diagonale



BT 2.2.xx Buegu-Schelle

BT 2.2.xx Buegu Clamp

BT 2.2.xx Collier Buegu



BT 2.3.xx Oval-Schelle

BT 2.3.xx Oval clamp

BT 2.3.xx Collier ovale

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ANMERKUNG

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NOTE

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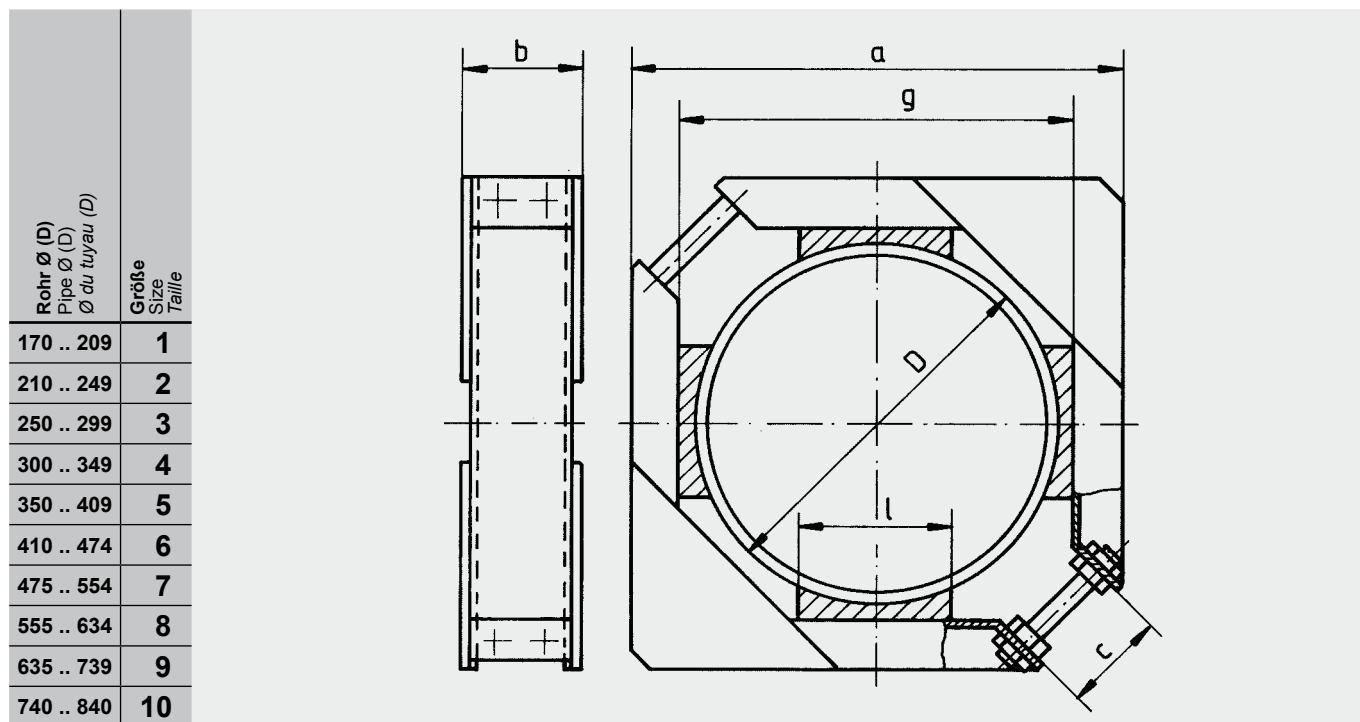
REMARQUE

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2.1 Diagonalschelle

2.1 Diagonal clamp

2.1 Collier forme diagonale



Rohr Ø (D) Pipe Ø (D) Ø du tuyau (D)	Größe Size Taille
170 .. 209	1
210 .. 249	2
250 .. 299	3
300 .. 349	4
350 .. 409	5
410 .. 474	6
475 .. 554	7
555 .. 634	8
635 .. 739	9
740 .. 840	10

Bestellschlüssel

Order code / Code de commande

HRD 5 A 370 PP ST

Baureihe / range / série
HRD

Baugröße / size / taille
1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10

Ausführung / model / exécution
A

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken /
clamp material /
matériau des pièces de serrage
PP / PA

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

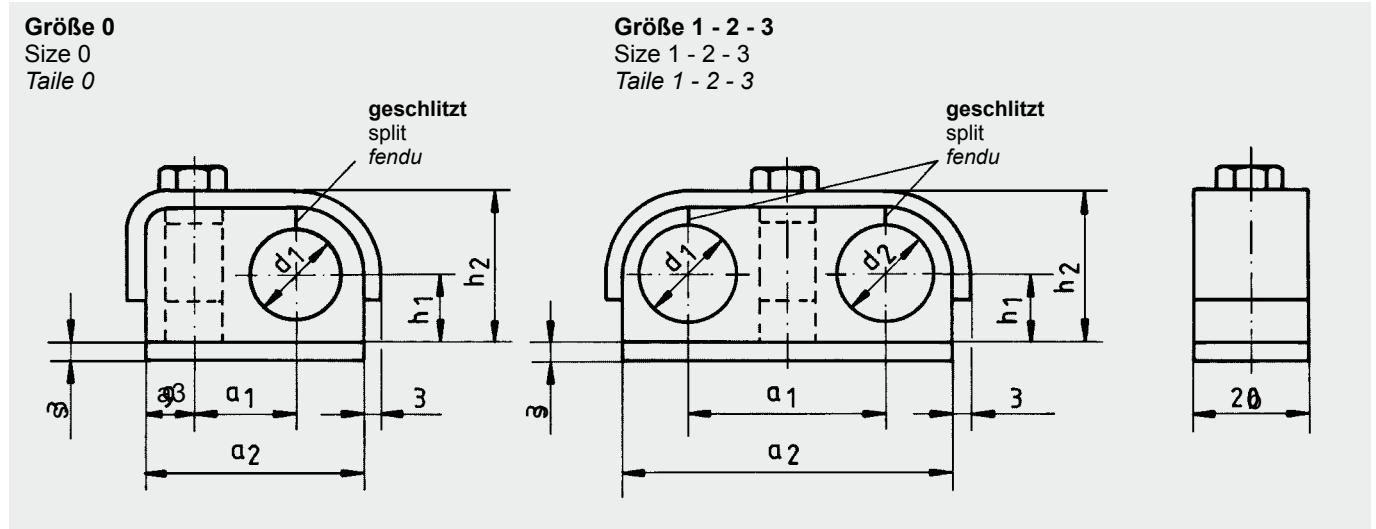
Größe / Size / Taille	Abmessungen Dimensions Dimensions					Stiftschraube Stud Goujon
	a	b	c	l	g	
1	315		50		225	M16 x 100
2	355	117	78	110	265	
3	420		82		320	M16 x 130
4	470	121	75		370	
5	540		106		430	M20 x 180
6	605	161	153	175	495	M20 x 220
7	685		165		575	M20 x 240
8	780	186	170		655	
9	880		255	250	760	M24 x 320
10	980	190	297		860	M24 x 360

2.2 Buegu-Schelle

2.2 Buegu clamp

2.2 Collier Buegu avec garniture élastomère

BT 2



Ø d1 - d2 lagervorrätig available ex stock disponible	Größe Size Taille	Abmessungen Dimensions Dimensions							ASKT für Ausführung Ext. hex. bolt for model Vis H pour exécution			Höhe der Hülse für Ausführung Length of sleeve for model Hauteur de l'entretoise pour exécution		
		a ₁	a ₂	a ₃	b	h ₁	h ₂	s	A	A1	A1TM	A	A1	A1TM
6 8 10	0A	15	34	9	20	10	23	3	M6 x 25	M6 x 30	M6 x 25	11,5	18	11,5
10 12 14 15 16 18 19 20	0B	18	39	9	20	12	27	3	M6 x 25	M6 x 35	M6 x 30	15,5	22	15,5
21,3 22 23 25 25,4 28 30 32	0C	23,5	57,5	15	30	20	43	5	M8 x 45	M8 x 50	M8 x 45	32	38	32
6 - 6 8 - 8 8 - 10 8 - 12 10 - 10 10 - 12	1	30	50	-	20	10	23	3	M6 x 25	M6 x 30	M6 x 25	11,5	18	11,5
8 - 14 10 - 16 10 - 20 12 - 12 12 - 15 12 - 16 12 - 20 15 - 15 16 - 16 18 - 18 20 - 20	2	35	59	-	20	12	27	3	M6 x 25	M6 x 35	M6 x 30	15,5	22	15,5
21,3-21,3 22 - 22 23 - 23 25 - 25 25,4-25,4 28 - 28 30 - 30 32 - 32	3	47	86	-	30	20	43	5	M8 x 45	M8 x 50	M8 x 45	32	38	32

2.2 Buegu-Schelle

2.2 Buegu clamp

2.2 Collier Buegu avec garniture élastomère

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A Model A Exécution A
6 .. 12	0A	
12 .. 20	0B	
21,3..32	0C	

Größe 0A, 0B, 0C
Size 0A, 0B, 0C
Taille 0A, 0B, 0C

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A1 Model A1 Exécution A1
6 .. 12	0A	
12 .. 20	0B	
21,3..32	0C	

Größe 0A, 0B, 0C
Size 0A, 0B, 0C
Taille 0A, 0B, 0C

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A1TM Model A1TM Exécution A1TM
6 .. 12	0A	
12 .. 20	0B	
21,3..32	0C	

Größe 0A, 0B, 0C
Size 0A, 0B, 0C
Taille 0A, 0B, 0C

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A Model A Exécution A
6 - 6 .. 12 - 12	1	
8 - 14 .. 20 - 20	2	
21,3 - 21,3 .. 32 - 32	3	

Größe 1, 2, 3
Size 1, 2, 3
Taille 1, 2, 3

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A1 Model A1 Exécution A1
6 - 6 .. 12 - 12	1	
8 - 14 .. 20 - 20	2	
21,3 - 21,3 .. 32 - 32	3	

Größe 1, 2, 3
Size 1, 2, 3
Taille 1, 2, 3

Durchmesser Diameter Diamètre	Größe Size Taille	Ausführung A1TM Model A1TM Exécution A1TM
6 - 6 .. 12 - 12	1	
8 - 14 .. 20 - 20	2	
21,3 - 21,3 .. 32 - 32	3	

Größe 1, 2, 3
Size 1, 2, 3
Taille 1, 2, 3

Bestellschlüssel

Order code / Code de commande

HRBGS 1 A1 12 - 12 TPE ST M BL

Baureihe / range / série
HRBGS

Baugröße / size / taille
0A / 0B / 0C / 1 / 2 / 3

Ausführung / model / exécution
A / A1 / A1TM

Durchmesser / O/D / diamètre

Werkstoff des Gummitteils / material of rubber body / matériau de la garniture élastomère
TPE

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier
ST

Metrisches Gewinde / metric thread / filet métrique

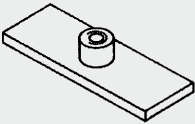
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier

BL blank / unplated / sans revêtement
ZN verzinkt / zinc plated / zingué

2.2 Buegu-Schelle, Einzelteile

2.2 Buegu clamp, individual parts

2.2 Collier Buegu avec garniture élastomère, pièces individuelles

Größe Size Taille	Anschweißplatte Weld plate <i>Plaque à souder</i> (AP)	
0A		
0B		
0C		
1		
2		
3		

Größe Size Taille	Bügel Stirrup <i>Arceau</i> (BUE)	
0A		
0B		
0C		
1		
2		
3		

Bestellschlüssel

Order code / Code de commande

HRBGS 0A AP ST M BL

Baureihe / range / série — HRBGS
Baugröße / size / taille — 0A / 0B / 0C / 1 / 2 / 3
Ausführung / model / exécution — AP
Werkstoff der Stahlteile / —
 material of steel parts /
matériau des pièces acier
 ST
Metrisches Gewinde / —
 metric thread /
filet métrique
Oberfläche der Stahlteile / —
 plating of steel parts /
revêtement des pièces acier
 BL **blank** / unplated / *sans revêtement*
 ZN **verzinkt** / zinc plated / *zingué*


Bestellschlüssel

Order code / Code de commande

HRBGS 2 BUE ST ZN

Baureihe / range / série — HRBGS
Baugröße / size / taille — 0A / 0B / 0C / 1 / 2 / 3
Ausführung / model / exécution — BUE
Werkstoff der Stahlteile / —
 material of steel parts /
matériau des pièces acier
 ST
Oberfläche der Stahlteile / —
 plating of steel parts /
revêtement des pièces acier
 ZN **verzinkt** / zinc plated / *zingué*

Größe Size Taille	Hülse Sleeve <i>Entretoise</i> (HUE)	
0A		
0B		
0C		
1		
2		
3		

Größe Size Taille	Außen-6-kt-Schraube DIN Ext. hex. screw DIN <i>Vis H DIN</i> (6kt-schr. ISO 4014 / 4017)	
0A		
0B		
0C		
1		
2		
3		

Bestellschlüssel

Order code / Code de commande

HRBGS HUE 11,5 ST ZN

Baureihe / range / série — HRBGS
Ausführung / model / exécution — HUE
Baugröße / size / taille — 11,5 / 15,5 / 18 / 22 / 32 / 38
Werkstoff der Stahlteile / —
 material of steel parts /
matériau des pièces acier
 ST
Oberfläche der Stahlteile / —
 plating of steel parts /
revêtement des pièces acier
 ZN **verzinkt** / zinc plated / *zingué*

Bestellschlüssel

Order code / Code de commande

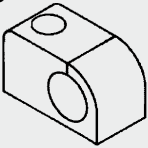
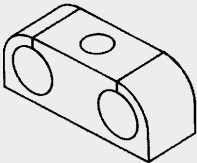
6kt-schr. ISO4014 - M6 x 30 - 8.8 - A4B

Bauart / design / série —
 6kt-schr. ISO4014
 6kt-schr. ISO4017
Baugröße / size / taille —
 ISO4014 ISO4017
 M6 x 30 M6 x 25
 M6 x 35
 M8 x 45
 M8 x 50
Schraubenqualität / bolt quality / qualité de vis —
 8.8
Oberfläche der Schraube / bolt plating / revêtement de vis —
 A4B **verzinkt** / zinc plated / *zingué*

2.2 Buegu-Schelle, Einzelteile

2.2 Buegu clamp, individual parts

2.2 Collier Buegu avec garniture élastomère, pièces individuelles

Durchmesser Diameter Diamètre	Größe Size Taille	Gummiteil Rubber section Garniture élastomère (GT)
6 .. 12	0A	
12 .. 20	0B	
21,3 .. 32	0C	
6 - 6 .. 12 - 12	1	
8 - 14 .. 20 - 20	2	
21,3 .. 32	3	

Bestellschlüssel

Order code / Code de commande

HRBGS 0A GT 12 TPE

Baureihe / range / série ———
HRBGS

Baugröße / size / taille ———
0A / 0B / 0C / 1 / 2 / 3

Gummiteil / ———
rubber section /
garniture élastomère
GT

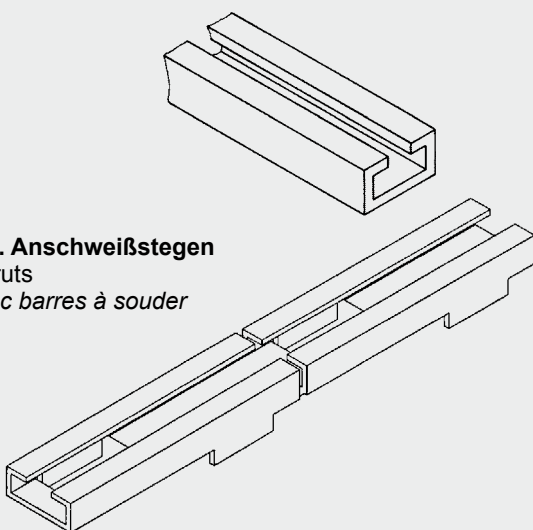
Durchmesser / ———
O/D /
diamètre


Werkstoff der Klemmbacken / ———
clamp material /
matériau des pièces de serrage
TPE

2.2 Buegu-Schelle, Einzelteile

2.2 Buegu clamp, individual parts

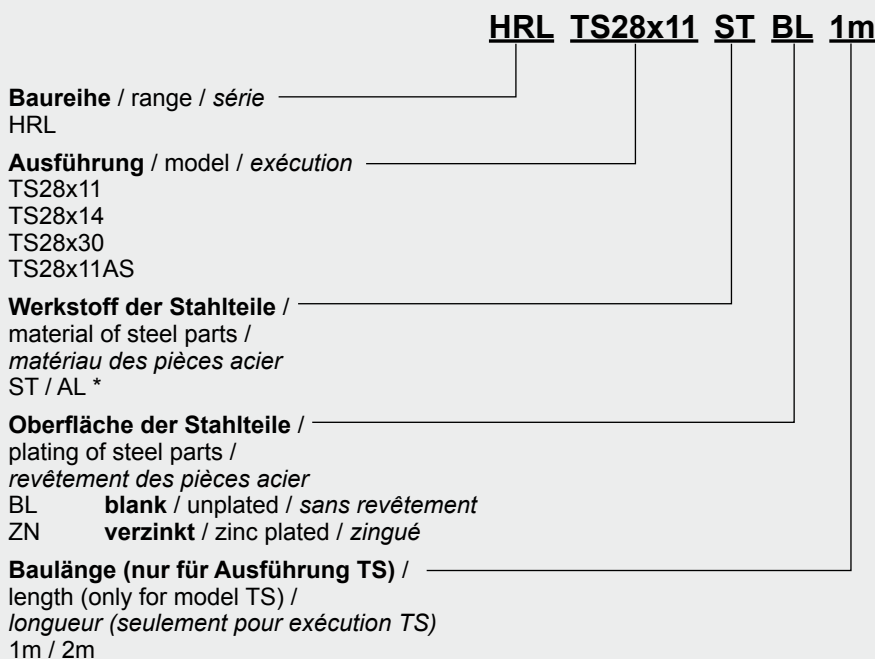
2.2 Collier Buegu avec garniture élastomère, pièces individuelles

Abmessungen Dimensions Dimensions	C-Tragschiene C-rail C-Rail porteur (TS)	
28 x 11	C-Tragschiene m. Anschweißstegen C-rail with weld struts	
28 x 14	C-Rail porteur avec barres à souder (TS28x11AS)	
28 x 30		
28 x 11AS		

Abmessungen Dimensions Dimensions	Tragschienenmutter Bayonet nut Ecrou rail porteur (TMV6)	
TMV6		

Bestellschlüssel

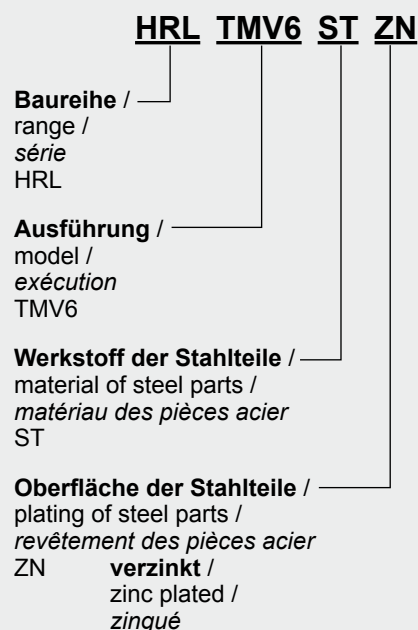
Order code / Code de commande



* AL auf Anfrage / AL on request / AL sur demande

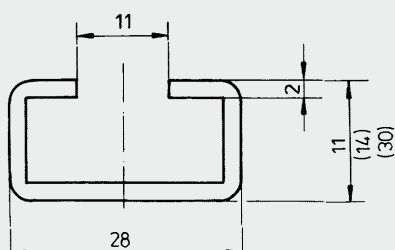
Bestellschlüssel

Order code / Code de commande



C-Tragschiene

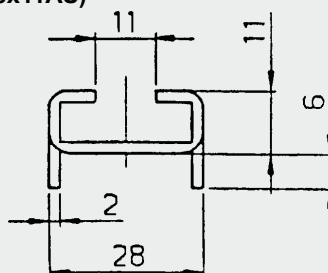
C-rail
C-Rail porteur
(TS)



Lieferbar in 1m und 2m Stücken
Available in 1m and 2m lengths
Existe en longueur de 1m et 2m

C-Tragschiene m. Anschweißstegen

C-rail with weld struts
C-Rail porteur avec barres à souder
(TS28x11AS)



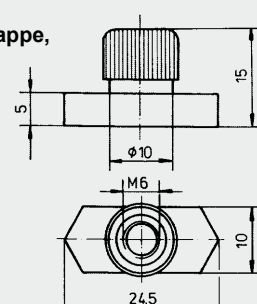
Lieferbar in 1m Stücken
Available in 1m lengths
Existe en longueur de 1m

Tragschienenmutter M6

Bayonet nut M6
Ecrou rail porteur M6
(TMV6)

Kunststoff-Kappe, gerändelt

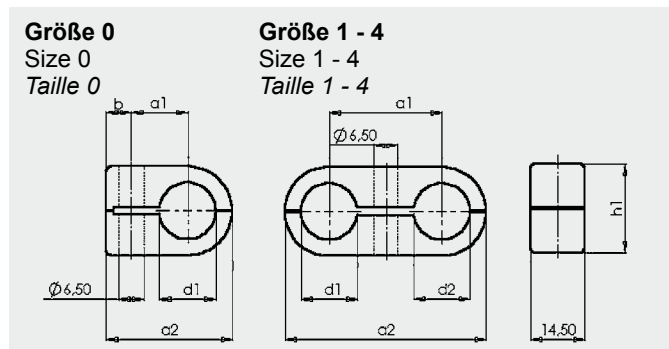
Plastic cap knurled
Capuchon plastique moleté



2.3 Oval-Schelle

2.3 Oval clamp

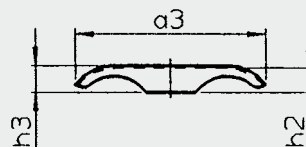
2.3 Collier ovale



Zubehör zu Größe 1 - 4

Accessories to size 1 - 4

Accessoires pour la taille 1 - 4

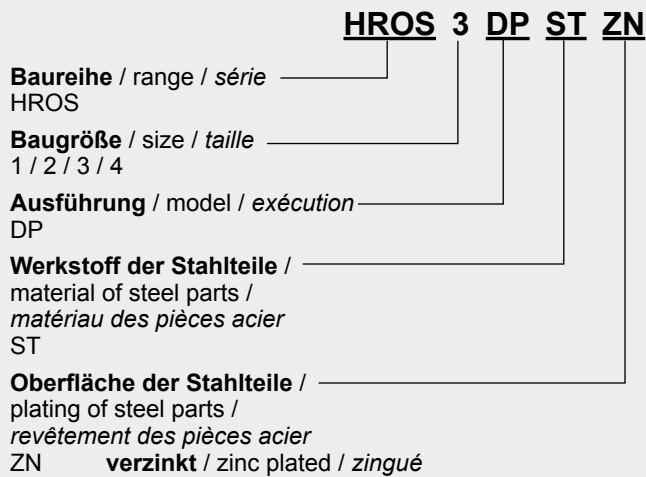


Ø d1 - d2 Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	Abmessungen Dimensions Dimensions			
		a ₁	a ₂	b	h ₁
6 6,4 8	0a	9	22,8	7	13,5
8 9,5 10 12 12,7	0b	11	27,2	7	18,5
10 12 12,7 13,5	0c	15	33,5	6,7	23,6
14 15 16 17,2 18 19	0d	19	40	5,7	30,6
6 6,4 8	1	18	32	-	13,5
8 9,5 10 12 12,7	2	22	40,5	-	18,5
10 12 12,7 13,5	3	30	53,6	-	23,6
14 15 16 17,2 18 19	4	38	68,3	-	30,6

Größe Size Taille	Werkstoff Material Matériau	Abmessungen Dimensions Dimensions		
		a ₃	h ₂	h ₃
1	STZN	29,3	4,0	4,5
2	STZN	37,2	4,0	4,5
3	STZN	49,6	7,6	8,2
4	STZN	63	7,6	8,2

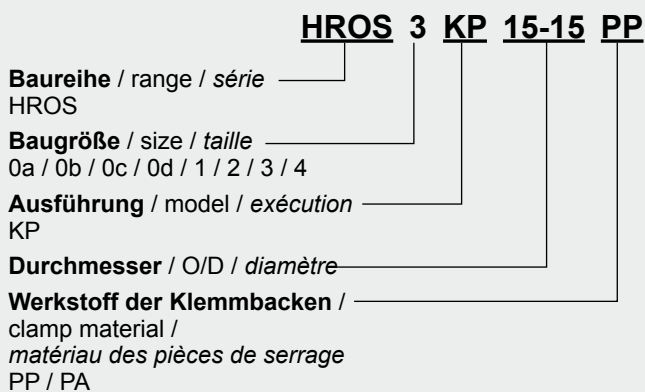
Bestellschlüssel

Order code / Code de commande

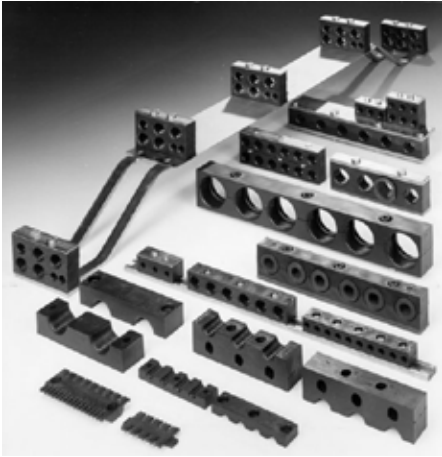


Bestellschlüssel

Order code / Code de commande







Reihenleisten

Series strips

Colliers en ligne



BT 3.1.xx Reihenleiste Leichte Reihe

BT 3.1.xx Series strip light range

BT 3.1.xx Colliers en ligne série légère



BT 3.2.xx Reihenleiste Schwere Reihe mit Elastomereinsatz

BT 3.2.xx Series strip heavy range with elastomer insert

BT 3.2.xx Colliers en ligne série lourde avec garniture élastomère

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3.1 Reihenleiste Leichte Reihe

3.1 Series strip light range

3.1 Colliers en ligne série légère

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	2 Rohre mit 2 Befestigungsschrauben 2 pipes with 2 fixing screws 2 tuyaux avec 2 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	40	13,5	60,5
2L	29	58	16,5	78,5
3L	36	72	18,5	92,5

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	3 Rohre mit 2 Befestigungsschrauben 3 pipes with 2 fixing screws 3 tuyaux avec 2 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	20	13,5	56
2L	29	29	16,5	85
3L	36	36	18,5	106

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	4 Rohre mit 2 Befestigungsschrauben 4 pipes with 2 fixing screws 4 tuyaux avec 2 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	40	13,5	76
2L	29	58	16,5	114
3L	36	72	18,5	142

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	4 Rohre mit 3 Befestigungsschrauben 4 pipes with 3 fixing screws 4 tuyaux avec 3 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	40	13,5	100,5
2L	29	58	16,5	136,5
3L	36	72	18,5	164,5

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	6 Rohre mit 3 Befestigungsschrauben 6 pipes with 3 fixing screws 6 tuyaux avec 3 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	40	13,5	116
2L	29	58	16,5	172
3L	36	72	18,5	214

Rohr-Außen Ø mm Pipe O/D mm Ø extérieur du tuyau mm	Größe Size Taille	10 Rohre mit 5 Befestigungsschrauben 10 pipes with 5 fixing screws 10 tuyaux avec 5 vis de fixation
6 .. 12	1L	
10 .. 18	2L	
15 .. 25,4	3L	

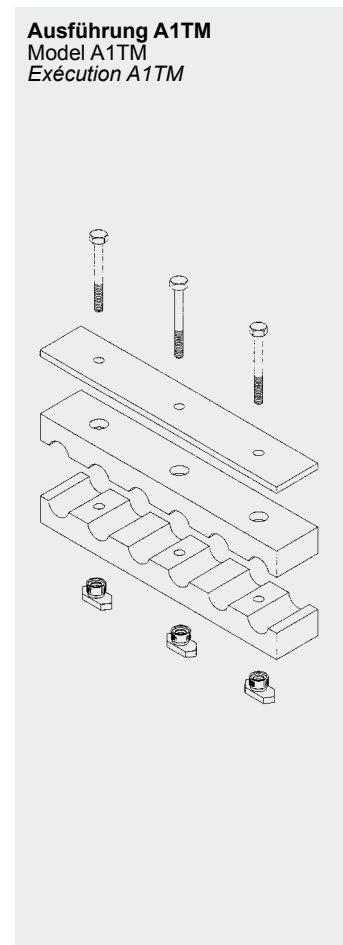
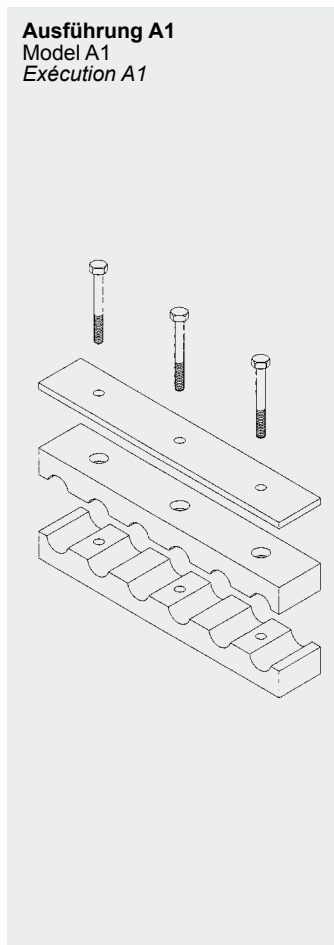
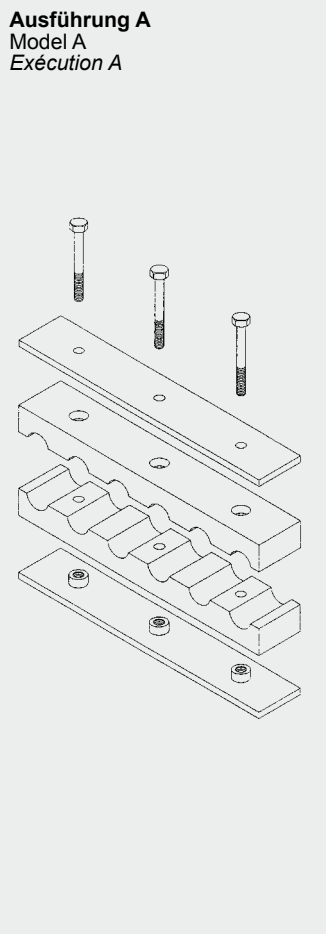
Größe Size Taille	Abmessungen Dimensions Dimensions			
	A	C	H	L
1L	20	40	13,5	196
2L	29	58	16,5	288
3L	36	72	18,5	358

3.1 Reihenleiste Leichte Reihe

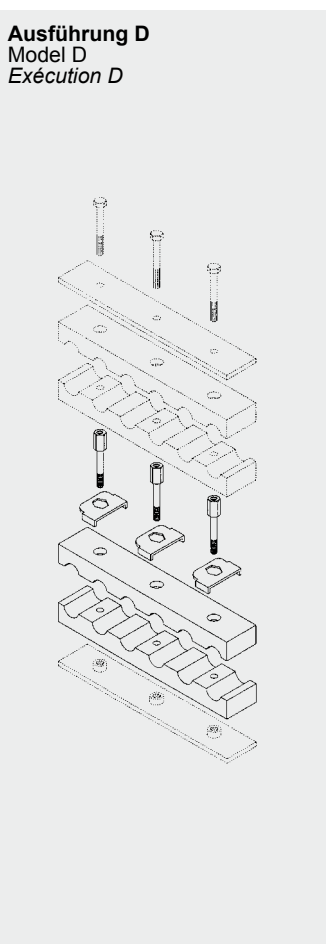
3.1 Series strip light range

3.1 Colliers en ligne série légère

Anzahl und Ø der Rohre Number and diameter of pipes quantité et Ø des tuyaux	Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille
2 x D	60,5 / 2	1L
3 x D	56 / 2	
4 x D	76 / 2	
4 x D	100,5 / 3	
6 x D	116 / 3	
10 x D	196 / 5	2L
2 x D	78,5 / 2	
3 x D	85 / 2	
4 x D	114 / 2	
4 x D	136,5 / 3	
6 x D	172 / 3	3L
10 x D	288 / 5	
2 x D	92,5 / 2	
3 x D	106 / 2	
4 x D	142 / 2	
4 x D	164,5 / 3	
6 x D	214 / 3	
10 x D	358 / 5	



Anzahl und Ø der Rohre Number and diameter of pipes quantité et Ø des tuyaux	Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille
2 x D	60,5 / 2	1L
3 x D	56 / 2	
4 x D	76 / 2	
4 x D	100,5 / 3	
6 x D	116 / 3	
10 x D	196 / 5	2L
2 x D	78,5 / 2	
3 x D	85 / 2	
4 x D	114 / 2	
4 x D	136,5 / 3	
6 x D	172 / 3	3L
10 x D	288 / 5	
2 x D	92,5 / 2	
3 x D	106 / 2	
4 x D	142 / 2	
4 x D	164,5 / 3	
6 x D	214 / 3	
10 x D	358 / 5	



Bestellschlüssel

Order code / Code de commande

HRRL 2L A 4x12 PP 114/2 ST M6 BL

Baureihe /
range /
série
HRRL

Baugröße / size / taille
1L / 2L / 3L

Ausführung / model /
exécution
A / A1 / A1TM / D

Durchmesser / O/D / diamètre

Werkstoff der Klemmbacken /
clamp material /
matériau des pièces de serrage
PP / PA

Baulänge / Anzahl der Schrauben /
Length / number of screws /
Longueur / nombre de vis de fixation

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Metrisches Gewinde / metric thread / filet métrique

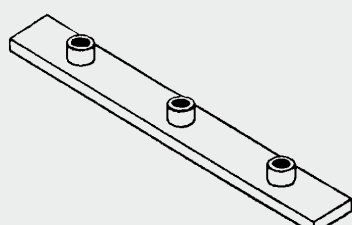
Oberfläche der Stahlteile / plating of steel parts /
revêtement des pièces acier

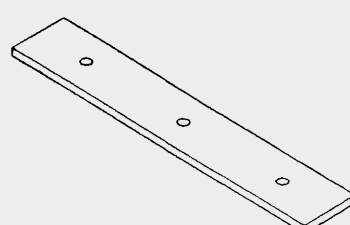
BL **blank / unplated / sans revêtement**
ZN **verzinkt / zinc plated / zingué**

3.1 Reihenleiste Leichte Reihe, Einzelteile

3.1 Series strip light range, individual parts

3.1 Colliers en ligne série légère, pièces individuelles

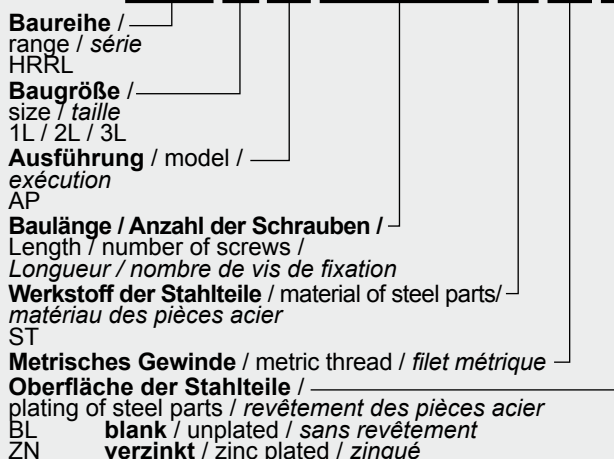
Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Anschweißplatte Weld plate Plaque à souder (AP)
60,5 / 2	1L	
56 / 2		
76 / 2		
100,5 / 3		
116 / 3		
196 / 5		
78,5 / 2	2L	
85 / 2		
114 / 2		
136,5 / 3		
172 / 3		
288 / 5		
92,5 / 2	3L	
106 / 2		
142 / 2		
164,5 / 3		
214 / 3		
358 / 5		

Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Deckplatte Cover plate Plaque de protection (DP)
60,5 / 2	1L	
56 / 2		
76 / 2		
100,5 / 3		
116 / 3		
196 / 5		
78,5 / 2	2L	
85 / 2		
114 / 2		
136,5 / 3		
172 / 3		
288 / 5		
92,5 / 2	3L	
106 / 2		
142 / 2		
164,5 / 3		
214 / 3		
358 / 5		

Bestellschlüssel

Order code / Code de commande

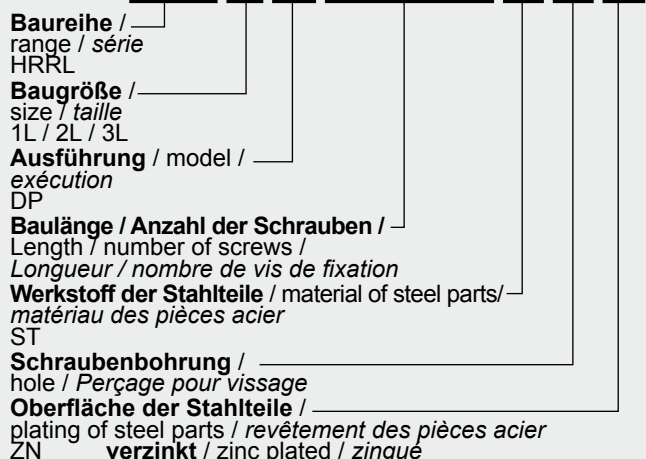
HRRL 3L AP 30x3x214/2 ST M6 BL

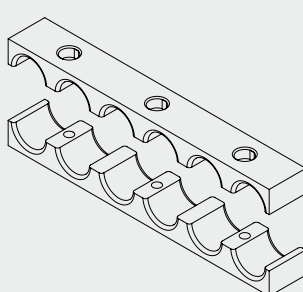


Bestellschlüssel

Order code / Code de commande

HRRL 3L DP 30x3x106/2 ST D7 ZN

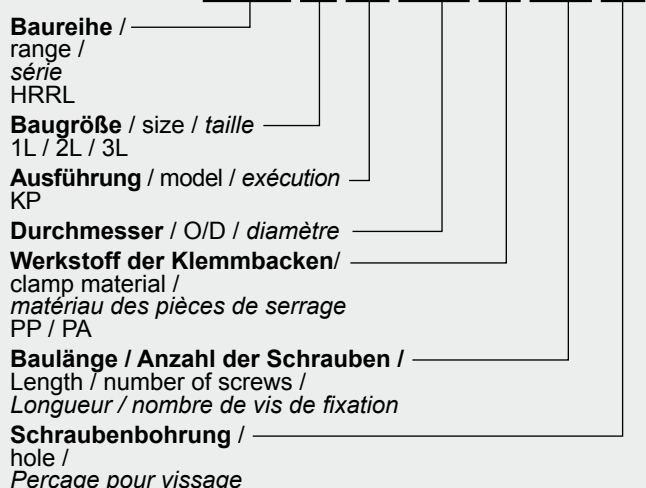


Anzahl und Ø der Rohre Number and diameter of pipes quantité et Ø des tuyaux	Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Klemmbackenpaar Pair of clamp jaws Paire de pièces de serrage (KP)
2 x D	60,5 / 2	1L	
3 x D	56 / 2		
4 x D	76 / 2		
4 x D	100,5 / 3		
6 x D	116 / 3		
10 x D	196 / 5		
2 x D	78,5 / 2	2L	
3 x D	85 / 2		
4 x D	114 / 2		
4 x D	136,5 / 3		
6 x D	172 / 3		
10 x D	288 / 5		
2 x D	92,5 / 2	3L	
3 x D	106 / 2		
4 x D	142 / 2		
4 x D	164,5 / 3		
6 x D	214 / 3		
10 x D	358 / 5		

Bestellschlüssel

Order code / Code de commande

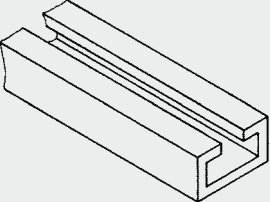
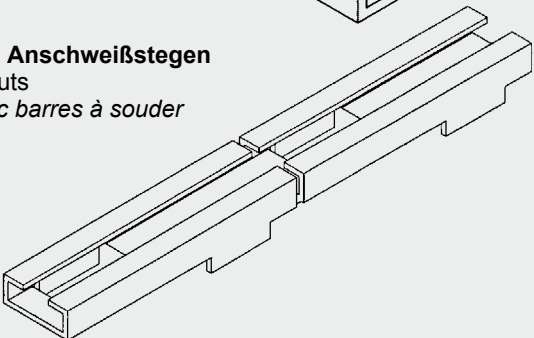
HRRL 1L KP 3x12 PP 56/2 M6




3.1 Reihenleiste Leichte Reihe, Einzelteile

3.1 Series strip light range, individual parts

3.1 Colliers en ligne série légère, pièces individuelles

Abmessungen Dimensions Dimensions	C-Tragschiene C-rail C-Rail porteur (TS)	
28 x 11	C-Tragschiene m. Anschweißstegen C-rail with weld struts C-Rail porteur avec barres à souder (TS28x11AS)	
28 x 14		
28 x 30		
28 x 11AS		

Abmessungen Dimensions Dimensions	Tragschiene Mutter Bayonet nut Ecrou rail porteur (TMV6)	
TMV6		

Bestellschlüssel

Order code / Code de commande

	HRL	TS28x11	ST	BL	1m
Baureihe / range / série	HRL				
Ausführung / model / exécution		TS28x11 TS28x14 TS28x30 TS28x11AS			
Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier			ST / AL *		
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier			BL blank / unplated / sans revêtement ZN verzinkt / zinc plated / zingué		
Baulänge (nur für Ausführung TS) / length (only for model TS) / longueur (seulement pour exécution TS)					1m / 2m

* AL auf Anfrage / AL on request / AL sur demande

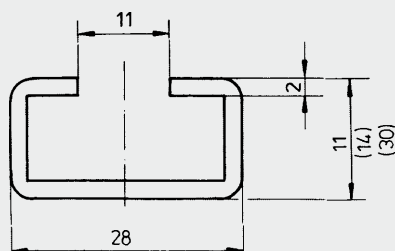
Bestellschlüssel

Order code / Code de commande

	HRL	TMV6	ST	ZN
Baureihe / range / série	HRL			
Ausführung / model / exécution		TMV6		
Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier			ST / A4	
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier			ZN verzinkt / zinc plated / zingué	

C-Tragschiene

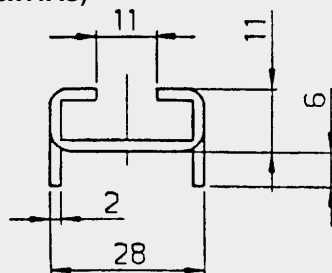
C-rail
C-Rail porteur
(TS)



Lieferbar in 1m und 2m Stücken
Available in 1m and 2m lengths
Existe en longueur de 1m et 2m

C-Tragschiene m. Anschweißstegen

C-rail with weld struts
C-Rail porteur avec barres à souder
(TS28x11AS)

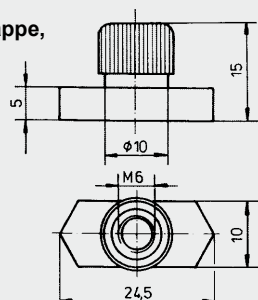


Lieferbar in 1m Stücken
Available in 1m lengths
Existe en longueur de 1m

Tragschiene Mutter M6

Bayonet nut M6
Ecrou rail porteur M6
(TMV6)

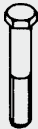
Kunststoff-Kappe, gerändelt
Plastic cap knurled
Capouchon plastique moleté



3.1 Reihenleiste Leichte Reihe, Einzelteile

3.1 Series strip light range, individual parts

3.1 Colliers en ligne série légère, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	Außen-6-kt-Schraube ISO 4014 Ext. hex. screw ISO 4014 Vis H ISO 4014 (6kt-schr. ISO 4014)
M6 x 30	1L	
M6 x 35	2L	
M6 x 40	3L	

Bestellschlüssel

Order code / Code de commande

6kt-schr. ISO4014 - M6 x 30 - 8.8 - A4B

Bauart / design / série

6kt-schr. ISO4014

Baugröße / size / taille

M6 x 30

M6 x 35

M6 x 40

Schraubenqualität / bolt quality / qualité de vis

8.8

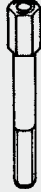
Oberfläche der Schraube / bolt plating / revêtement de vis


A4B **verzinkt / zinc plated / zingué**

3.1 Reihenleiste Leichte Reihe, Einzelteile

3.1 Series strip light range, individual parts

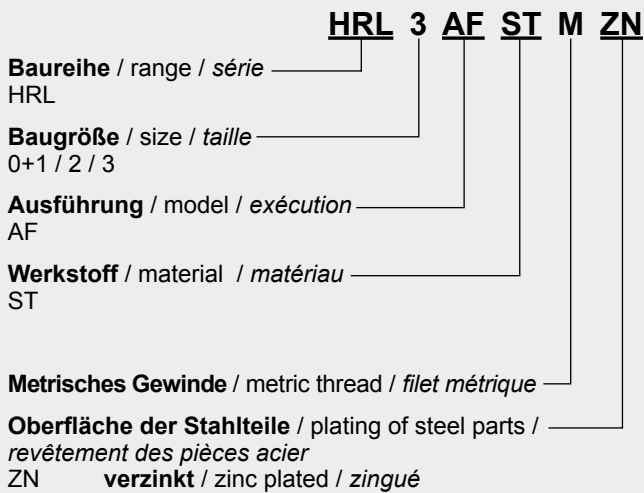
3.1 Colliers en ligne série légère, pièces individuelles

Abmessungen Dimensions Dimensions	Größe Size Taille	Aufbauschraube Build-up screw Goujon-écrou (AF...)
AF 6	0+1	
AF 6	2	
AF 6	3	

Abmessungen Dimensions Dimensions	Größe Size Taille	Sicherungsblech Locking plate Plaque intermédiaire (SIP)
SIP	0	

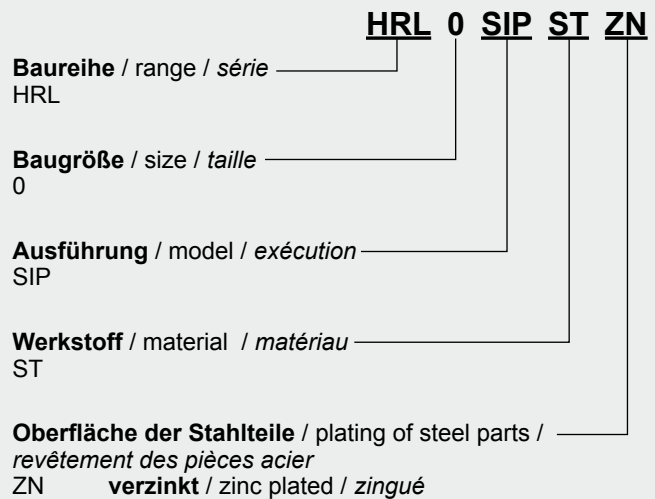
Bestellschlüssel

Order code / Code de commande



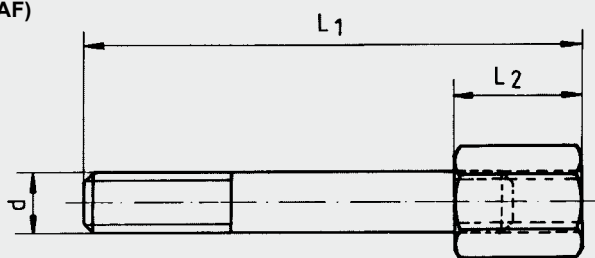
Bestellschlüssel

Order code / Code de commande



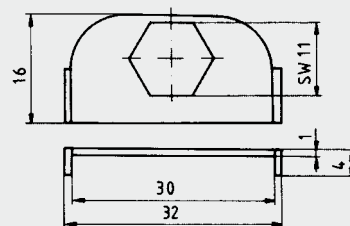
Aufbauschraube Gr. 0-3L

Build-up bolt size 0-3L
 Goujon-écrou taille 0-3L
 (AF)



Sicherungsblech Gr. 0L

Locking plate size 0L
 Plaque intermédiaire taille 0L
 (SIP)



für alle Größen

for all sizes

pour toutes les tailles

Größe Size Taille	Abmessungen Dimensions Dimensions		
	L1	L2	d
0+1	34	14	M6
2	39	14	M6
3	42	14	M6

3.2 Reihenleiste Schwere Reihe mit Elastomereinsatz

3.2 Series strip heavy range with elastomer inserts

3.2 Colliers en ligne série lourde avec garniture élastomère

BT 3

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

2 Rohre mit 1 Befestigungsschrauben
2 pipes with 1 fixing bolts
2 tuyaux avec 1 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	46	30	83	23		8
3	39	46	60	30	115	30		8
4	65	74	93	45	173	40		10

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

2 Rohre mit 2 Befestigungsschrauben
2 pipes with 2 fixing bolts
2 tuyaux avec 2 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	34	30	107	23	80	8
3	39	46	50	30	134	30	110	8
4	65	74	80	45	199	40	173	10

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

3 Rohre mit 2 Befestigungsschrauben
3 pipes with 2 fixing bolts
3 tuyaux avec 2 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	34	46	30	135	23	80
3	39	46	50	60	30	179,5	30	110
4	65	74	80	93	45	273	40	173

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

4 Rohre mit 2 Befestigungsschrauben
4 pipes with 2 fixing bolts
4 tuyaux avec 2 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	34	46	30	163	23	80
3	39	46	50	60	30	225	30	110
4	65	74	80	93	45	346	40	173

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

4 Rohre mit 3 Befestigungsschrauben
4 pipes with 3 fixing bolts
4 tuyaux avec 3 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	34	46	30	187	23	80
3	39	46	50	60	30	244	30	110
4	65	74	80	93	45	372	40	173

Rohr-Außen Ø
mm
Pipe O/D mm
Ø extérieur
du tuyau mm

Größe
Size
Taille

6 Rohre mit 3 Befestigungsschrauben
6 pipes with 3 fixing bolts
6 tuyaux avec 3 vis de fixation

6 .. 19	2
6 .. 19	3*
20 .. 32	3
33,7 .. 56,4	4

Größe / Size / Taille

Abmessungen
Dimensions
Dimensions

d1	d2	A1	A2	B	L	H	C	S
2	25,5	31	34	46	30	243	23	80
3	39	46	50	60	30	335	30	110
4	65	74	80	93	45	519	40	173

* Nur mit Reduzierstück / Only with reducing piece / Seulement avec pièce de réduction

3.2 Reihenleiste Schwere Reihe mit Elastomereinsatz

3.2 Series strip heavy range with elastomer inserts

3.2 Colliers en ligne série lourde avec garniture élastomère

Anzahl und Ø der Rohre Number and diameter of pipes quantité et Ø des tuyaux	Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Ausführung S Model S Exécution S	Ausführung S1 Model S1 Exécution S1	Ausführung S1TM Model S1TM Exécution S1TM
2 x D	83 / 1	2			
2 x D	107 / 2				
3 x D	135 / 2				
4 x D	163 / 2				
4 x D	187 / 3				
6 x D	243 / 3				
2 x D	115 / 1	3			
2 x D	134 / 2				
3 x D	179,5 / 2				
4 x D	225 / 2				
4 x D	244 / 3	4			
6 x D	335 / 3				
2 x D	199 / 2				
3 x D	346 / 2				
4 x D	372 / 3				
6 x D	519 / 3				

Bestellschlüssel

Order code / Code de commande

HRRLE 2 S 2x15 PP 107/2 ST M10 BL

Baureihe / _____
range /
série
HRRLE

Baugröße / size / taille _____
2 / 3 / 4

Ausführung / model / exécution _____
S / S1 / S1TM

Durchmesser / O/D / diamètre _____

Werkstoff der Klemmbacken / _____
clamp material /
matériau des pièces de serrage
PP / PA

Baulänge / Anzahl der Schrauben / _____
Length / number of bolts /
Longueur / nombre de vis de fixation

Werkstoff der Stahlteile / _____
material of steel parts /
matériau des pièces acier
ST

Metrisches Gewinde / metric thread / filet métrique _____

Oberfläche der Stahlteile / plating of steel parts / _____
revêtement des pièces acier

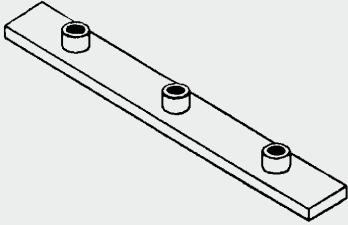
BL **blank** / unplated / sans revêtement
ZN **verzinkt** / zinc plated / zingué

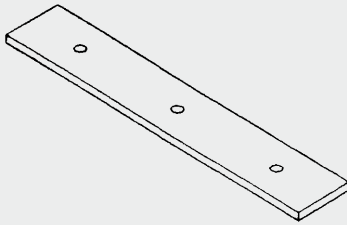
3.2 Reihenleiste Schwere Reihe mit Elastomereinsatz, Einzelteile

3.2 Series strip heavy range with elastomer inserts, individual parts

3.2 Colliers en ligne série lourde avec garniture élastomère, pièces individuelles

BT 3

Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Anschweißplatte Weld plate Plaque à souder (AP)
83 / 1	2	
107 / 2		
135 / 2		
163 / 2		
187 / 3		
243 / 3	3	
115 / 1		
134 / 2		
179,5 / 2		
225 / 2		
244 / 3	4	
335 / 3		
199 / 2		
346 / 2		
372 / 3		
519 / 3		

Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Deckplatte Cover plate Plaque de protection (DP)
83 / 1	2	
107 / 2		
135 / 2		
163 / 2		
187 / 3		
243 / 3	3	
115 / 1		
134 / 2		
179,5 / 2		
225 / 2		
244 / 3	4	
335 / 3		
199 / 2		
346 / 2		
372 / 3		
519 / 3		

Bestellschlüssel

Order code / Code de commande

HRRLE 3 AP 30x8x225/2 ST M10 BL

Baureihe / range / série
HRRLE

Baugröße / size / taille
2 / 3 / 4

Ausführung / model /
exécution: AP

Baulänge / Anzahl der Schrauben /
Length / number of bolts /
Longueur / nombre de vis de fixation

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Metrisches Gewinde / metric thread /
filet métrique

Oberfläche der Stahlteile /
plating of steel parts /
revêtement des pièces acier
BL
blank / unplated / sans revêtement
ZN
verzinkt / zinc plated / zingué

Bestellschlüssel

Order code / Code de commande

HRRLE 4 DP 45x10x519/3 ST ZN

Baureihe / range / série
HRRLE

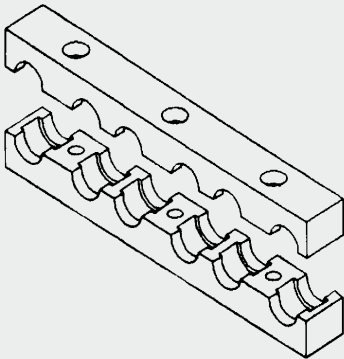
Baugröße / size / taille
2 / 3 / 4

Ausführung / model /
exécution
DP

Baulänge / Anzahl der Schrauben /
Length / number of bolts /
Longueur / nombre de vis de fixation

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2 / A4

Oberfläche der Stahlteile /
plating of steel parts /
revêtement des pièces acier
ZN
verzinkt / zinc plated / zingué

Anzahl und Ø der Rohre Number and diameter of pipes quantité et Ø des tuyaux	Länge / Anzahl der Befestigungsschrauben Length / number of fixing bolts Longueur et nombre de vis de fixation	Größe Size Taille	Klemmbackenpaar Pair of clamp jaws Paire de pièces de serrage (KP)
2 x 25,5	83 / 1	2	
2 x 25,5	107 / 2		
3 x 25,5	135 / 2		
4 x 25,5	163 / 2		
4 x 25,5	187 / 3		
6 x 25,5	243 / 3	3	
2 x 39	115 / 1		
2 x 39	134 / 2		
3 x 39	179,5 / 2		
4 x 39	225 / 2		
4 x 39	244 / 3	4	
6 x 39	335 / 3		
2 x 65	199 / 2		
4 x 65	346 / 2		
4 x 65	372 / 3		
6 x 65	519 / 3		

Bestellschlüssel

Order code / Code de commande

HRRLE 4 KP 4x65 PP 346/2

Baureihe / range /
série
HRRLE

Baugröße / size /
taille
2 / 3 / 4

Ausführung / model /
exécution
KP

Durchmesser / O/D /
diamètre

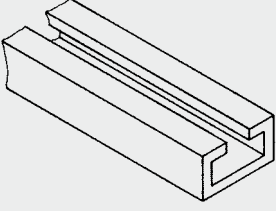
Werkstoff der Klemmbacken /
clamp material /
matériau des pièces de serrage
PP / PA

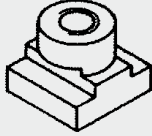
Baulänge / Anzahl der Schrauben /
Length / number of bolts /
Longueur / nombre de vis de fixation

3.2 Reihenleiste Schwere Reihe mit Elastomereinsatz, Einzelteile

3.2 Series strip heavy range with elastomer inserts, individual parts

3.2 Colliers en ligne série lourde avec garniture élastomère, pièces individuelles

Abmessungen Dimensions Dimensions	C-Tragschiene C-rail C-Rail porteur (TS)
	
40 x 22	

Abmessungen Dimensions Dimensions	Tragschienenmutter Bayonet nut Ecrou rail porteur (TM...)
	
TM10	
TM12	

Bestellschlüssel

Order code / Code de commande

HRS TS40x22 ST BL 2m

Baureihe / range / série
HRS

Ausführung / model / exécution
40 x 22

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Oberfläche der Stahlteile /
plating of steel parts /
revêtement des pièces acier
BL **blank** / unplated / sans revêtement
ZN **verzinkt** / zinc plated / zingué

Baulänge / length / longueur
1 m / 2 m

Bestellschlüssel

Order code / Code de commande

HRS TM10 ST M ZN

Baureihe / range / série
HRS

Ausführung / model / exécution
TM10 / TM12

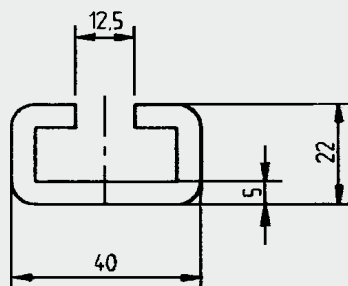
Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST

Metrisches Gewinde /
metric thread / filet métrique

Oberflächenbeschichtung /
plating / revêtement
ZN **verzinkt** / zinc plated / zingué

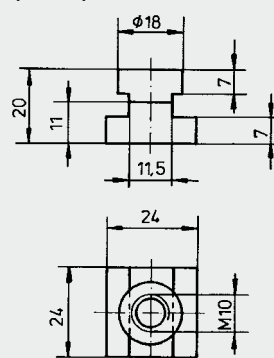
C-Tragschiene

C-rail
C-Rail porteur
(TS)



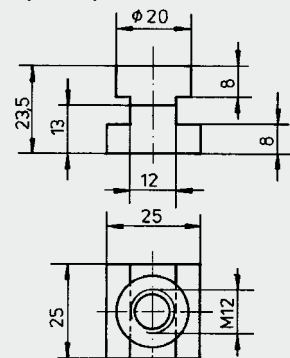
Tragschienenmutter M10

Bayonet nut M10
Ecrou pour rail porteur M10
(TM10)



Tragschienenmutter M12

Bayonet nut M12
Ecrou pour rail porteur M12
(TM12)




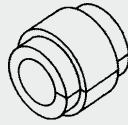
3.2 Reihenleiste Schwere Reihe mit Elastomereinsatz, Einzelteile

3.2 Series strip heavy range with elastomer inserts, individual parts

3.2 Colliers en ligne série lourde avec garniture élastomère, pièces individuelles

BT 3

Abmessungen Dimensions Dimensions	Größe Size Taille	6-kt-Schraube ISO 4014 Ext. hex. bolt ISO 4014 Vis H ISO 4014 (6kt-schr. ISO 4014)
M10 x 60	2	
M10 x 70	3	
M12 x 100	4	

Abmessungen Dimensions Dimensions	Größe Size Taille	Elastomereinsatz glatt Elastomer insert, smooth Garniture élastomère à portée lisse (EE)
6 - 19	2/4L	
20 - 32	3/6L	
33,7 - 56,4	4	

Bestellschlüssel

Order code / Code de commande

6kt-schr. ISO4014 - M10 x 70 - 8.8 - A4B

Bauart / design / forme
6kt-schr. ISO4014

Baugröße / size / taille
ISO4014
M10 x 60
M10 x 70
M12 x 100

Schraubenqualität / bolt quality / qualité de vis
8.8

Oberfläche der Schraube / bolt plating / revêtement de vis
keine Angabe (blank) / no details (unplated) / pas d'indication (sans revêtement)
A4B **verzinkt** / zinc plated / zingué

Bestellschlüssel

Order code / Code de commande

HRES 2/4L EE 16 TPE

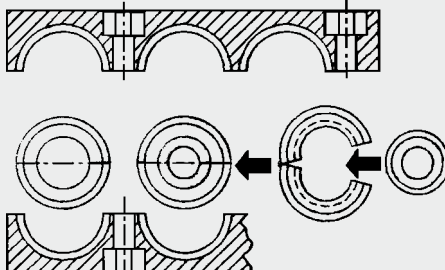
Baureihe / range / série
HRES

Baugröße / size / taille
2/4L 3/6L 4

Ausführung / model / exécution
EE

Durchmesser / O/D / diamètre
16

Werkstoff des Einsatzes / insert material / matériau de la garniture élastomère
TPE

Größe Size Taille	Reduzierstück Reducing piece Pièce de réduction (RE)
TM12	 <p>Elastomereinsatz Gr. 3S Rubber insert size 3S Garniture élastomère taille 3S</p> <p>Reduzierstück mit Elastomereinsatz Gr. 3S Reducing piece with rubber insert size 3S Pièce insert avec garniture élastomère taille 3S</p>

Bestellschlüssel

Order code / Code de commande

HRES 3/2 RE PP

Baureihe / range / série
HRES

Baugröße / size / taille
3/2

Ausführung / model / exécution
RE

Werkstoff des Einsatzes / material of reducing piece / matériau de la garniture élastomère
PP / PA



Bügelgeschellen

U-bolt clamps

Collier arceau



BT 4.1.xx Rundstahlbügelgeschellen ähnlich DIN 3570

BT 4.1.xx U-bolt clamps similar to DIN 3570

BT 4.1.xx Collier arceau semblable à DIN 3570



BT 4.2.xx Flachstahlbügelgeschellen DIN 3567

BT 4.2.xx Flat steel bolt clamp to DIN 3567

BT 4.2.xx Collier circulaire plat en acier selon DIN 3567

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E-Mail: info@hydac.com

ANMERKUNG

Die Angaben in diesem Prospekt beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle. Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung. Technische Änderungen sind vorbehalten.

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

REMARQUE

Les données de ce prospectus se réfèrent aux conditions de fonctionnement et d'utilisation décrites. Pour des conditions d'utilisation et de fonctionnement différentes, veuillez vous adresser au service technique compétent. Sous réserve de modifications techniques.

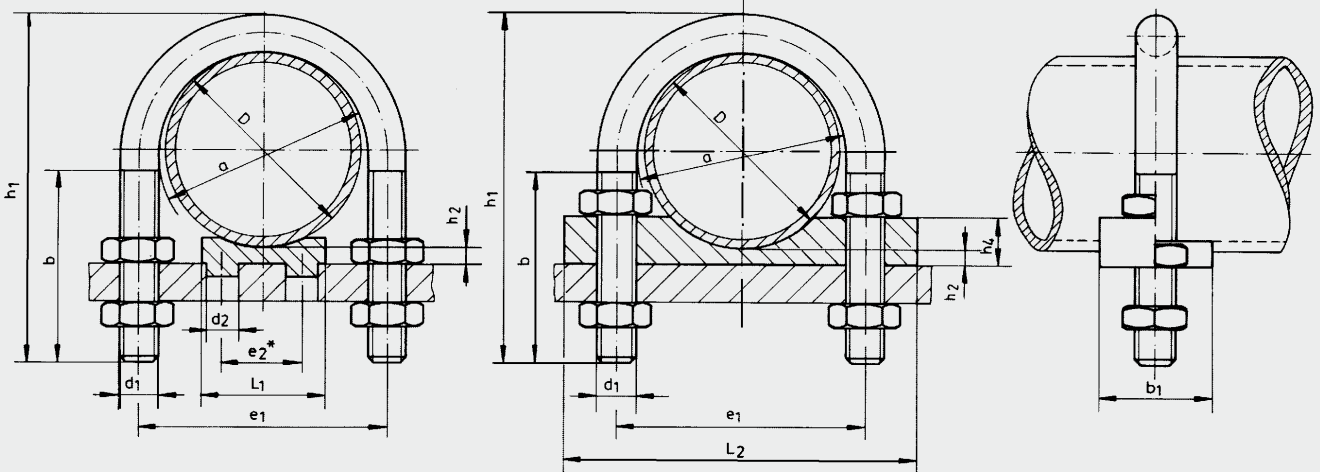
4.1 Rundstahlbügelschellen ähnlich DIN 3570

4.1 U-bolt clamps similar to DIN 3570

4.1 Colliers arceau semblable à DIN 3570

Kurze Ausführung
Short version
Exécution courte

Lange Ausführung
Long version
Exécution longue



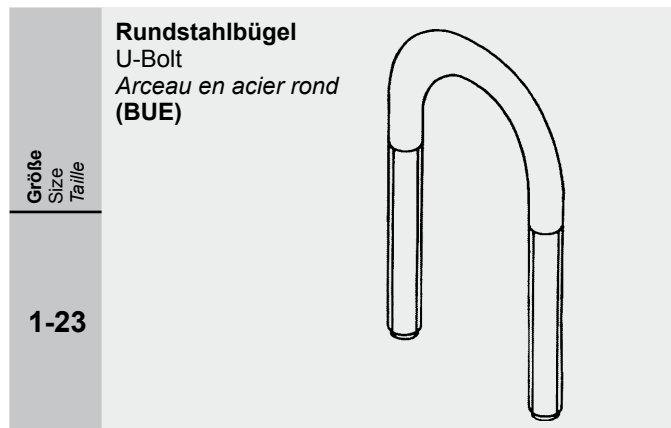
Bei Rohrunterlage D=Ø bis 42,4 ist e₂ um 90° versetzt gezeichnet.
For pipe support D=Ø dia. up to 42,4, e₂ is shown displaced by 90°.
Pour support de tuyau D=Ø jusqu'à 42,4, e₂ est représenté décalé de 90°

Rohr Ø Pipe Ø Ø tuyau	Größe Size Taille	Rundstahlbügel U-Bolt Colliers arceau en acier rond					Rohrunterlage kurze Ausführung Pipe support short version Support de tuyau exécution courte					Rohrunterlage lange Ausführung Pipe support long version Support de tuyau exécution longue					Rohr Ø Pipe Ø Ø tuyau		
		a	b	d ₁	e ₁	h ₁	d ₂	e ₂	h ₂	L ₁	b ₁	h ₂	h ₄	L ₂	b ₁				
17,1 21,3	1	23	40	M10	33	65	8	25	5	24	35	5	10	60	25	17,1 21,3			
25 26,9	2	30			40	70										75	75	30	26,9
30 33,7	3	38			48	75										80	30	33,7	
38 42,4	4	46	50	M12	56	86	10	80	38	50	15	90	35	38	42,4				
44,5 48,3	5	52			62	92									95	48,3			
57 60,3	6	64	60	M12	76	109	10	80	38	50	15	110	35	57					
76,1 88,9	7 8	82 94			94	125								135	76,1				
108 114,3	9	120	80	M16	136	171	20	80	110	80	10	20	40	108					
133 139,7	10	148			164	191								220	133				
159 168,3	11	176	100	M16	192	217	25	130	175	110	12	25	50	159					
(191) 193,7	12	202			218	249								270	193,7				
216 219,1	13	228	100	M20	248	283	30	210	250	130	15	30	60	216					
267 273	14	282			302	334								370	273				
318 323,9	15	332	150	M24	352	385	30	210	250	130	15	30	60	318					
355,6 368	16	378			402	435								480	368				
406,4 419	17	428	150	M30	452	487	30	210	250	130	20	40	70	406,4					
508 521	18	530			554	589								640	521				
558 609	19 20	570 622	150	M30	600	650	30	210	250	130	20	40	70	558					
660 711	21 22	680 730			652	700								750	609				
711 762	22 23	730 785			710	760								810	711				
					760	810								870	762				

4.1 Rundstahlbügelschellen ähnlich DIN 3570

4.1 U-bolt clamps similar to DIN 3570

4.1 Colliers arceau semblable à DIN 3570



Bestellschlüssel

Order code / Code de commande

HRRBS 10 BUE ST ZN

Baureihe / range / série

HRRBS

Baugröße / size / taille

1 -23

Ausführung / model / exécution

BUE

Werkstoff der Stahlteile /

material of steel parts /

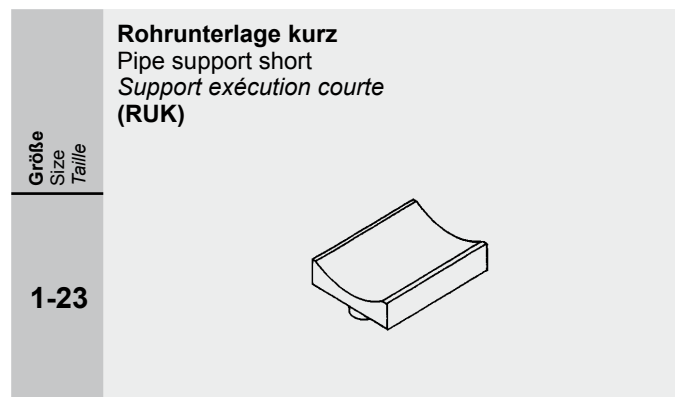
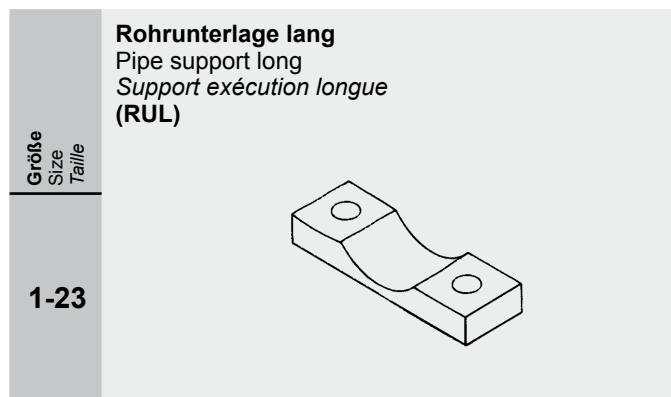
matériau des pièces acier

ST

Oberfläche der Stahlteile / plating of steel parts /

revêtement des pièces acier

ZN **verzinkt** / zinc plated / zingué



Bestellschlüssel

Order code / Code de commande

HRRBS 10 RUL 139.7 PP

Baureihe / range / série

HRRBS

Baugröße / size / taille

1 - 23

Ausführung / model / exécution

RUL / RUK

Durchmesser / O/D / diamètre

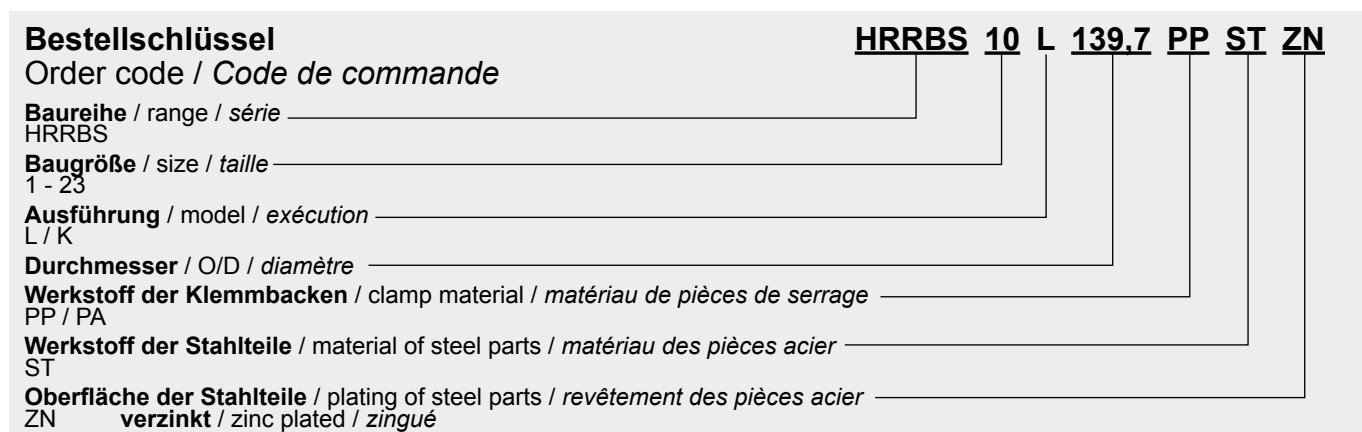
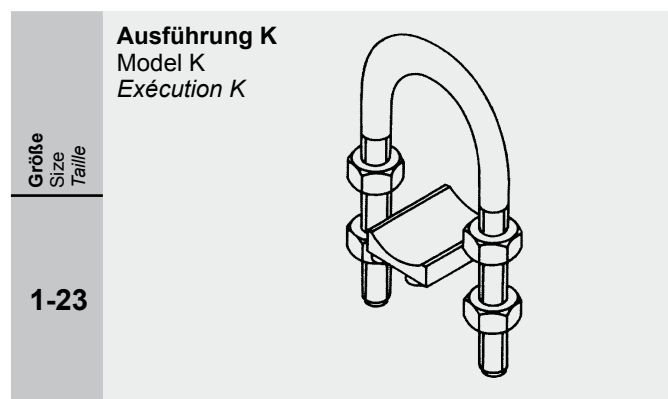
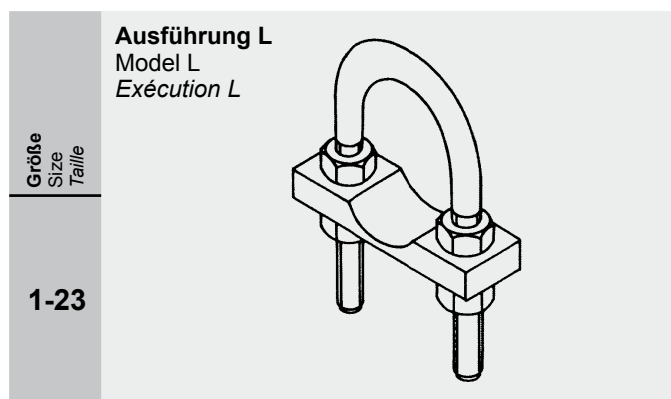
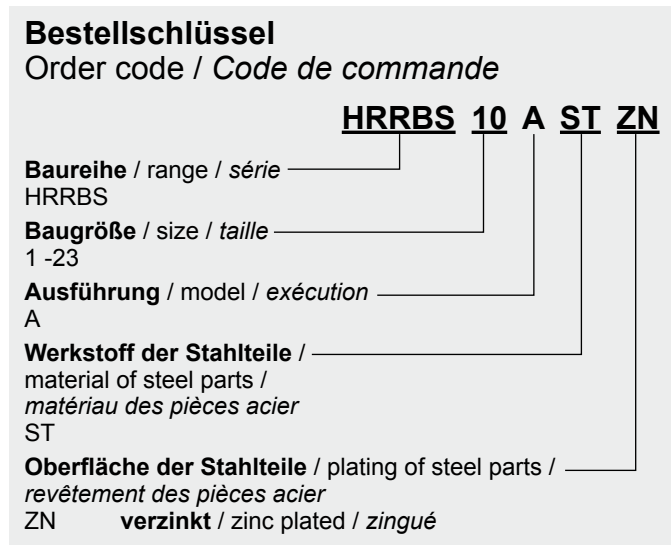
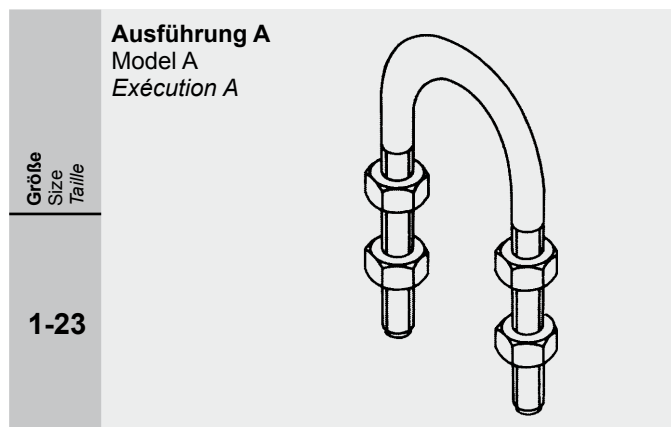
Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage

PP / PA (nur für RUK / for RUK only / seulement RUK)

4.1 Rundstahlbügelschellen ähnlich DIN 3570

4.1 U-bolt clamps similar to DIN 3570

4.1 Colliers arceau semblable à DIN 3570





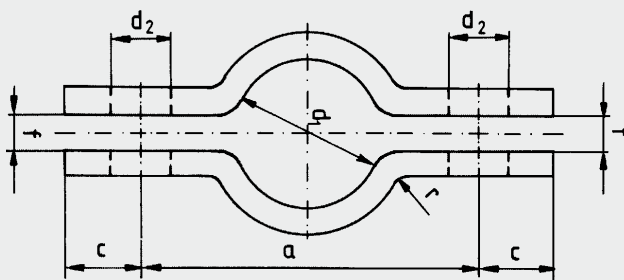
4.2 Flachstahlbügelschellen DIN 3567

4.2 Flat steel bolt clamp to DIN 3567

4.2 Colliers circulaire plat en acier selon DIN 3567

Form A
Form A
Forme A

Lagerware bis Größe 12
Available ex stock up to size 12
Disponible jusqu'à taille 12



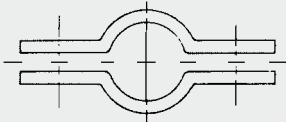
d ₁	Größe Size Taille	Anzuwenden bei Nennweite To be used for nominal width A utiliser pour les tailles dor- nées	Abmessungen Dimensions Dimensions					Flachstahl Flat steel to DIN 1017 Acier selon DIN 1017	ASKT nach ISO 4017 Ext. hex. to ISO 4017 Vis H selon ISO 4017	Gewicht kg/100 St. Weight kg/100 off Pieces Kgr/100 pièces	Form A						
			a	c	d ₂	f	r										
25	1	20		15	11,5	7	4	30 x 5	M10 x 30MU	21,73							
27	2		3/4"							66	22,75						
30	3		68							23,37							
34	4	1"	72							24,79							
38	5	32								76	26,12						
43	6		1 1/4"							82	27,87						
45	7		84							28,81							
49	8	1 1/2"	88							30,37							
57	9	50								18	14	9	6	40 x 6	M12 x 35MU	56,10	
61	10		2"													108	58,20
77	11	2 1/2"	122													66,30	
89	12	3"	136													75,30	
108	13	100		24	18	11	6	50 x 8	M16 x 45MU							159,10	
115	14		4"													178	163,40
133	15	125														196	178,50
140	16		204													183,10	
159	17	150														222	200,00
169	18		232													208,10	
191	19	(175)														254	239,40
194	20		258													242,00	
216	21	200								280	260,00						
220	22		284							264,40							
267	23	250								342	30	23	14	8	60 x 8	M20 x 50MU	385,00
273	24		348							390,60							
318	25	300		392	440,00												
324	26		398	448,80													
356	27	350		432	508,70												
368	28		444	530,00													
407	29	400		498	36	27	18	8	70 x 10	M24 x 60MU							852,20
419	30		510	875,00													
508	31	500		600													1020,00
521	32		614	1050,00													

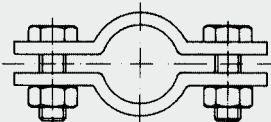
Eingeklammerte Größe möglichst vermeiden / Size in brackets should be avoided if possible / Éviter si possible les tailles entre parenthèses

4.2 Flachstahlbügelschellen DIN 3567

4.2 Flat steel bolt clamp to DIN 3567

4.2 Colliers circulaire plat en acier selon DIN 3567

Größe Size Taille	Form A	Ausführung A1 = ohne Schrauben und Muttern Model A1 = without bolts or nuts <i>Exécution A1 = sans vis ni écrou</i>
1-32		

Größe Size Taille	Form A	Ausführung A = mit Schrauben und Muttern Model A = with bolts and nuts <i>Exécution A = avec vis et écrou</i>
1-32		

Bestellschlüssel

Order code / Code de commande

HRFBS 12 A1 89 ST ZN Form A

Baureihe / range / série _____

HRFBS

Baugröße / size / taille _____

1 - 32

Ausführung / model / exécution _____

A / A1

Durchmesser / O/D / diamètre _____

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier _____

ST

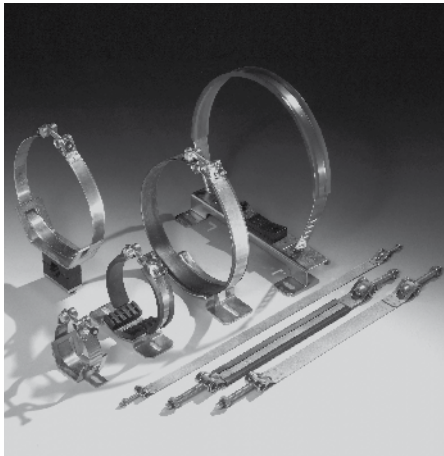
Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier _____

BL **blank** / unplated / *sans revêtement*

ZN **verzinkt** / zinc plated / *zingué*

Form / form / forme _____

Form A



Gelenkbandschellen

Swivel bolt clamps

Colliers à bande articulée



BT 5.1 Gelenkbolzenspannband

BT 5.1 Swivel bolt clamping band

BT 5.1 Bande de serrage à vis articulée



BT 5.2 Unterlage kurz, für Luftbehälter

BT 5.2 Support short, for mounting air reservoirs

BT 5.2 Support exécution courte, pour fixation réservoir à air



BT 5.3 Gelenkbolzenschelle mit Schnellverschluss

BT 5.3 Quick release swivel bolt clamp

BT 5.3 Collier à arceau à verrouillage rapide



BT 5.4 Gelenkbandkonsolenschelle

BT 5.4 Quick release swivel bolt band clamp

BT 5.4 Collier console à bande articulée



BT 5.5 Gelenkbandkonsolenschelle "MULTI"

BT 5.5 Quick release swivel bolt band clamp "MULTI"

BT 5.5 Collier à bande articulée sur support "MULTI"



BT 5.6 Gelenkband-Prismaschelle

BT 5.6 Swivel bolt prism clamp

BT 5.6 Collier prismatique à arceau



BT 5.7 Halter für Zylinder

BT 5.7 Mounting for cylinder

BT 5.7 Fixation pour vérin

Befestigungstechnik, wie insbesondere Gelenkbänder, ist Sicherheitstechnik. Deshalb sind An- und Einbau unserer Befestigungsmittel nur durch geschultes Personal vorzunehmen. Gewährleistung und Haftung übernehmen wir nur für die Mangelfreiheit unseres Liefergegenstandes als solchen. Für die Eignung der Umfeldbedingungen und für die fachgerechte Montage tragen wir keine Verantwortung.

Mounting technology, in particular swivel bolt clamps, has health & safety implications. Therefore our mounting equipment must only be fitted and installed by trained personnel. We will only guarantee and accept liability for our products as such, but not their installation or their suitability for individual ambient conditions.

La technique de fixation, tout comme les bandes articulées, relèvent de la sécurité. Pour cette raison, le montage et l'installation de notre matériel de fixation ne peuvent être effectués que par un personnel qualifié. Notre garantie et notre responsabilité couvrent uniquement l'absence de vice sur le matériel livré. Nous n'engageons pas notre responsabilité quant aux conditions et à la qualité du montage.

HYDAC Accessories GmbH

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Fax: +49 (0)6897 - 509-1009

Internet: www.hydac.com

E-Mail: info@hydac.com

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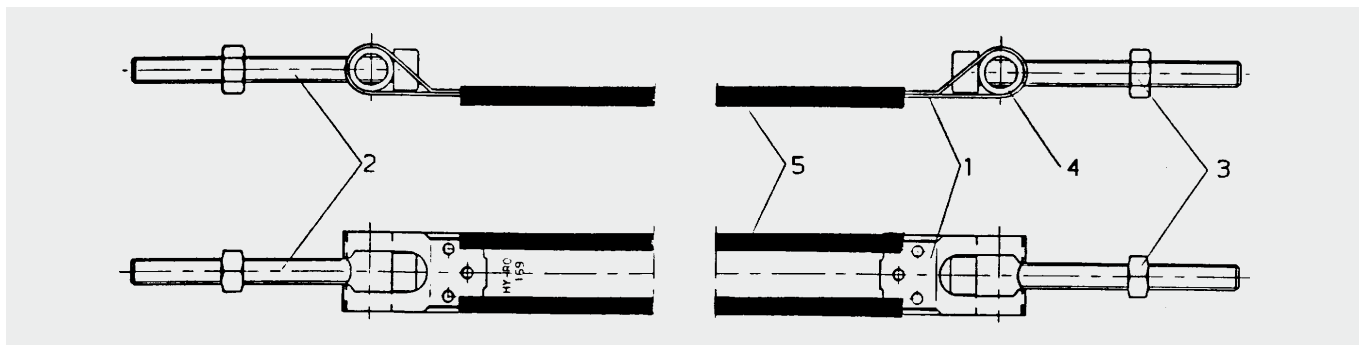
NOTE

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5.1 Gelenkbolzenspannband
 5.1 Swivel bolt clamping band
 5.1 Bande de serrage à vis articulées



Einzelteile
 Individual parts

Pièces individuelles

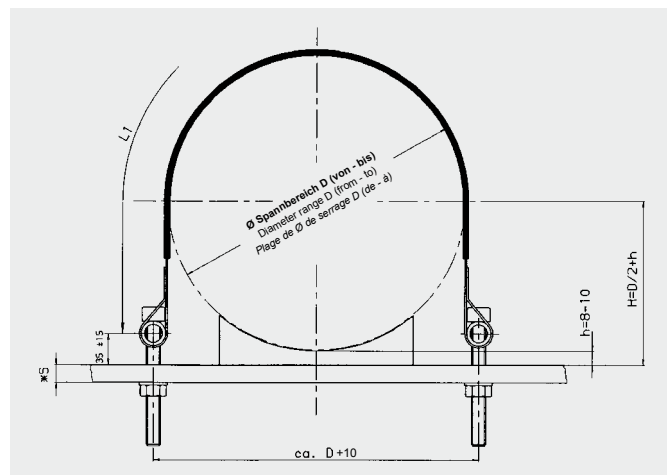
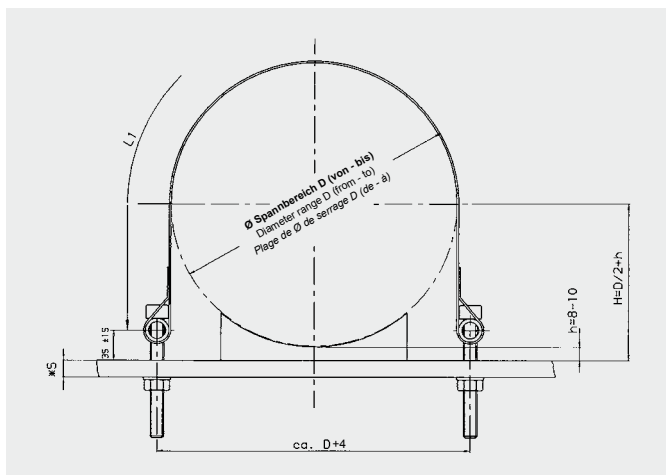
Nr. No. No.	Bezeichnung Description Désignation	Werkstoff/Oberfläche Material/Coating Matériau/Surface
1	Spannband Clamping band Bande de serrage Leichte Baureihe (GBSP) Light range (GBSP) Série légère (GBSP) Schwere Baureihe (GBSSP) Heavy range (GBSSP) Série lourde (GBSSP)	Stahl nicht rostend Stainless steel Acier inoxydable
2	Schraube Bolt Vis	Stahl verzinkt Zinc-plated steel Acier galvanisé
3	Mutter Nut Ecrou	Stahl verzinkt Zinc-plated steel Acier galvanisé
4	Gelenkhülse, Gelenkbolzen Swivel sleeve, swivel bolt Douille articulée, vis articulée	Stahl verzinkt Zinc-plated steel Acier galvanisé
5	Gummiprofil Rubber profile Garniture caoutchouc Bandbreite 25 mm Band width 25 mm Largeur de la bande 25 mm Bandbreite 30 mm Band width 30 mm Largeur de la bande 30 mm Temperatur-Beständigkeit: -20 °C bis +90 °C Temperature resistance: -20 °C to +90 °C Résistance à la température de -20 °C à +90 °C	Ethylen-Propylen-Terpolymer Ethylene propylene terpolymer Ethyène-propylène-terpolymère Ethylen-Propylen-Terpolymer Ethylene propylene terpolymer Ethyène-propylène-terpolymère

Belastungswerte

Stress factors

Facteurs de résistance

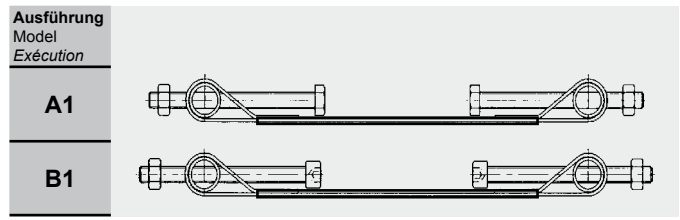
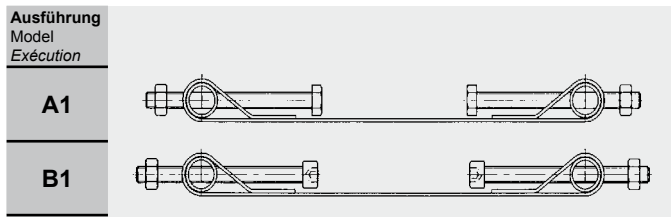
Bandgröße Band dimension Dimension de la bande	max. Zugbelastung (N) max. tensile strength (N) résistance à la traction max. (N)	Anzugsmoment Nm torque rating Nm couple de serrage Nm
25 x 1,0	4600	auf Anfrage, on request, sur demande
30 x 1,0	5500	auf Anfrage, on request, sur demande
30 x 1,5	8300	auf Anfrage, on request, sur demande



5.1 Gelenkbolzenspannband

5.1 Swivel bolt clamping band

5.1 Bande de serrage à vis articulées



Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
64	80 - 86	187
70	87 - 93	206
76	94 - 101	224
82	101 - 109	242
88	108 - 121	260
94	115 - 128	279
100	122 - 139	297
106	130 - 148	316
115	140 - 159	343
120	146 - 164	358
124	151 - 169	371
133	162 - 180	399
142	173 - 191	427
151	184 - 202	455
160	195 - 213	483
169	206 - 224	511
178	217 - 235	539
187	228 - 246	567
196	239 - 257	595
205	250 - 268	623
214	261 - 279	651
223	272 - 290	679
231	281 - 299	704
234	284 - 302	713
241	293 - 311	735
250	304 - 322	764
259	315 - 333	792
268	326 - 344	820
277	337 - 355	849
286	348 - 366	877
295	359 - 377	905
300	366 - 384	921

Leichte Baureihe
Band- und Schraubenabmessung
Light range
Band and thread dimension
Série légère
Dimension de la bande et des vis
25 x 1 mm, M8 x 80

Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
80	99 - 109	232
89	110 - 119	260
98	120 - 130	287
107	131 - 141	315
116	142 - 153	342
125	153 - 171	370
134	164 - 186	398
143	175 - 197	426
152	186 - 208	454
165	201 - 224	494
178	216 - 239	534
191	232 - 255	575
204	248 - 271	615
217	264 - 287	656
230	279 - 302	696
243	295 - 318	737
256	311 - 334	777
269	327 - 350	818
282	342 - 365	859
295	358 - 381	900
300	366 - 389	916
308	374 - 397	941
321	390 - 413	981
334	406 - 429	1022
347	422 - 445	1063
360	437 - 460	1103
373	453 - 476	1144
386	469 - 492	1185
399	485 - 508	1225
412	501 - 524	1266
425	516 - 540	1307
438	532 - 556	1348
451	548 - 571	1388
464	564 - 587	1429
477	580 - 603	1470
490	596 - 619	1511

Leichte Baureihe / Schwere Baureihe
Band- und Schraubenabmessung
Light range / Heavy range
Band and thread dimension
Série légère / Série lourde
Dimension de la bande et des vis
30 x 1 mm, M10x90 / 30 x 1,5 mm, M10x90

Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
64	77 - 83	187
70	84 - 90	206
76	91 - 98	224
82	98 - 106	242
88	105 - 118	260
94	112 - 125	279
100	119 - 136	297
106	127 - 145	316
115	137 - 156	343
120	143 - 161	358
124	148 - 166	371
133	159 - 177	399
142	170 - 188	427
151	181 - 199	455
160	192 - 210	483
169	203 - 221	511
178	214 - 232	539
187	225 - 243	567
196	236 - 254	591
205	247 - 265	623
214	258 - 276	651
223	269 - 287	679
231	278 - 296	704
234	281 - 299	713
241	290 - 308	735
250	301 - 319	764
259	312 - 330	792
268	323 - 341	820
277	334 - 352	849
286	345 - 363	877
295	356 - 374	905
300	363 - 382	921

Leichte Baureihe
Band- und Schraubenabmessung
Light range
Band and thread dimension
Série légère
Dimension de la bande et des vis
25 x 1 mm, M8 x 80

Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
80	96 - 106	232
89	107 - 116	260
98	117 - 127	287
107	128 - 138	315
116	139 - 150	342
125	150 - 168	370
134	161 - 183	398
143	172 - 194	426
152	183 - 205	454
165	198 - 221	494
178	213 - 236	534
191	229 - 252	575
204	245 - 268	615
217	261 - 284	656
230	276 - 299	696
243	292 - 315	737
256	308 - 331	777
269	324 - 347	818
282	339 - 362	859
295	355 - 378	900
300	363 - 386	916
308	371 - 394	941
321	387 - 410	981
334	403 - 426	1022
347	419 - 442	1063
360	434 - 457	1103
373	450 - 473	1144
386	466 - 489	1185
399	482 - 505	1225
412	496 - 521	1266
425	513 - 537	1307
438	529 - 553	1348
451	545 - 568	1388
464	561 - 584	1429
477	577 - 600	1470
490	593 - 616	1511

Leichte Baureihe / Schwere Baureihe
Band- und Schraubenabmessung
Light range / Heavy range
Band and thread dimension
Série légère / Série lourde
Dimension de la bande et des vis
30 x 1 mm, M10x90 / 30 x 1,5 mm, M10x90

Bestellschlüssel

Order code / Code de commande

HRGBLP 25 A1 169 ST

Baureihe /
range / série
25 x 1 / 30 x 1
30 x 1,5

HRGBLP
HRSGBLP

Bandbreite /
band width / largeur de la bande
25 / 30

Ausführung / model / exécution
A1 / B1

Typ / type / type

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2

Bestellschlüssel

Order code / Code de commande

HRSGBLPU 30 A1 373 ST

Baureihe /
range / série
25 x 1 / 30 x 1
30 x 1,5

HRGBLPU
HRSGBLPU

Bandbreite /
band width / largeur de la bande
25 / 30

Ausführung / model / exécution
A1 / B1

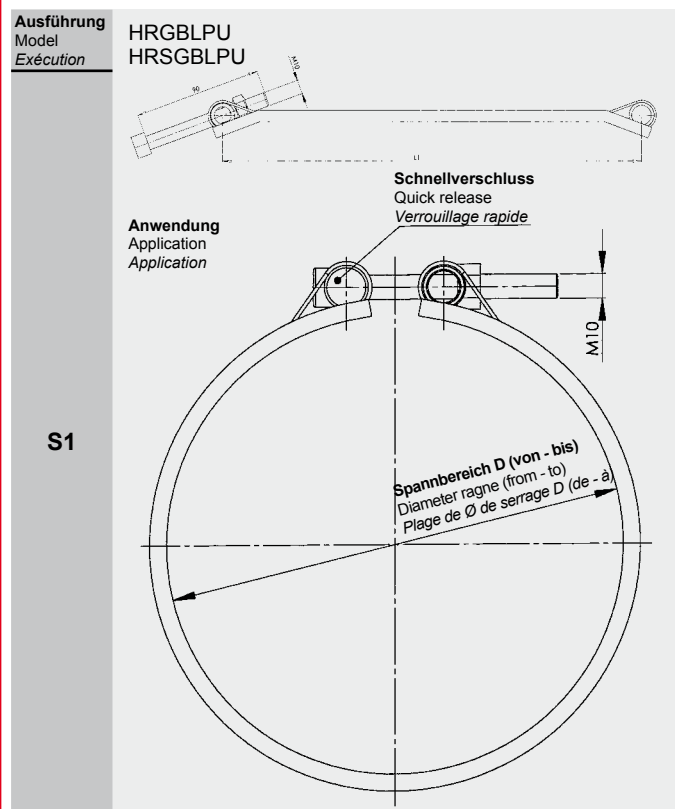
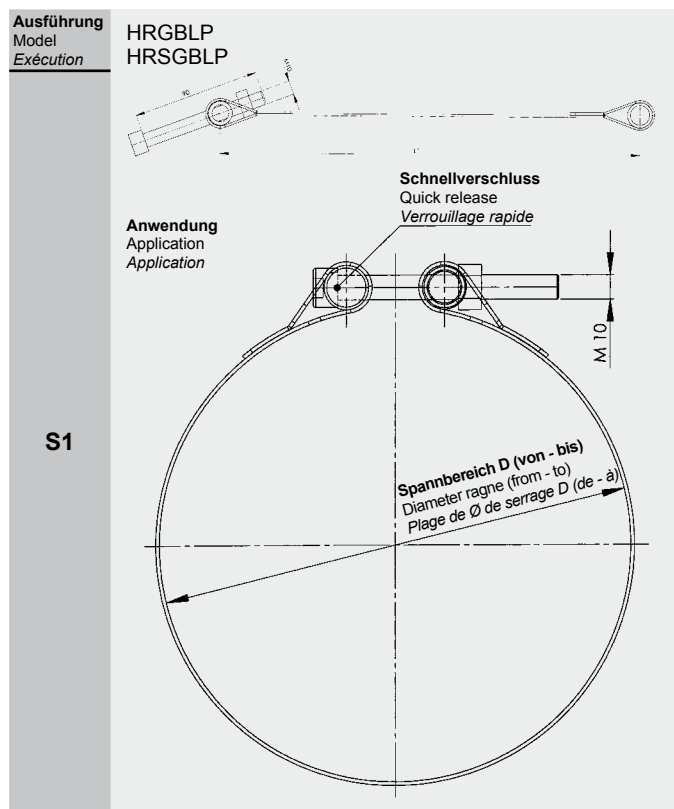
Typ / type / type

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2

5.1 Gelenkbolzenspannband

5.1 Swivel bolt clamping band

5.1 Bande de serrage à vis articulées



Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
80	77 - 82	232
89	86 - 91	260
98	95 - 100	287
107	104 - 112	315
116	113 - 121	342
125	122 - 130	370
134	131 - 139	398
143	140 - 148	426
152	149 - 157	454
165	162 - 170	494
178	175 - 183	534
191	188 - 196	575
204	201 - 209	615
217	214 - 222	656
230	227 - 235	696
243	240 - 251	737
256	253 - 264	777
269	266 - 277	818
282	279 - 290	859
295	292 - 303	900
300	297 - 308	916
308	305 - 316	941
321	318 - 329	981
334	331 - 342	1022
347	344 - 355	1063
360	357 - 368	1103
373	370 - 381	1144
386	383 - 394	1185
399	396 - 407	1225
412	409 - 420	1266
425	422 - 433	1307
438	435 - 446	1348
451	448 - 459	1388
464	461 - 472	1429
477	474 - 485	1470
490	487 - 498	1511
503	500 - 511	1552

Leichte Baureihe / Schwere Baureihe
Band- und Schraubenabmessung
Light range / Heavy range
Band and thread dimension
Série légère / Série lourde
Dimension de la bande et des vis
30 x 1 mm, M10x90 / 30 x 1,5 mm, M10x90
40 x 1,5 mm, M10x90

Typ Type Type	D (von - bis) D (from - to) D (de - à)	L1
80	71 - 76	232
89	80 - 85	260
98	89 - 94	287
107	98 - 103	315
116	107 - 115	342
125	116 - 124	370
134	125 - 133	398
143	134 - 142	426
152	143 - 151	454
165	156 - 164	494
178	169 - 177	534
191	182 - 190	575
204	195 - 203	615
217	208 - 216	656
230	221 - 229	696
243	234 - 245	737
256	247 - 258	777
269	260 - 271	818
282	273 - 284	859
295	286 - 297	900
300	291 - 302	916
308	299 - 310	941
321	312 - 323	981
334	325 - 336	1022
347	338 - 349	1063
360	351 - 362	1103
373	364 - 375	1144
386	377 - 388	1185
399	390 - 401	1225
412	403 - 414	1266
425	416 - 427	1307
438	429 - 440	1348
451	442 - 453	1388
464	455 - 466	1429
477	468 - 479	1470
490	481 - 492	1511
503	494 - 505	1552

Leichte Baureihe / Schwere Baureihe
Band- und Schraubenabmessung
Light range / Heavy range
Band and thread dimension
Série légère / Série lourde
Dimension de la bande et des vis
30 x 1 mm, M10x90 / 30 x 1,5 mm, M10x90
40 x 1,5 mm, M10x90

Bestellschlüssel

Order code / Code de commande

HRSGBLP 30 S1 373 ST

Baureihe / range / série _____

HRGBLP (30 x 1,0)
HRGBLPU (30 x 1,0)
HRSGBLP (30 x 1,5; 40 x 1,5)
HRSGBLPU (30 x 1,5; 40 x 1,5)

Bandbreite / band width / longueur de la bande _____

30
40

Ausführung / model / exécution _____

S1

Typ / type / type _____

Werkstoff der Stahlteile / material of steel parts / matériau des pièces en acier _____

ST

5.2 Unterlage kurz, für Luftbehälter

5.2 Support short, for mounting air reservoirs

5.2 Support exécution courte, pour fixation réservoir à air

Unterlage kurz (BUK) für Luftbehälter in Verbindung mit:

– HY-ROS Gelenkbolzen - Spannband (siehe Seite BT 5.1.)

Support short (BUK) for mounting of air reservoir in conjunction with:

– HY-ROS Swivel bolt clamping band (see pages BT 5.1.)

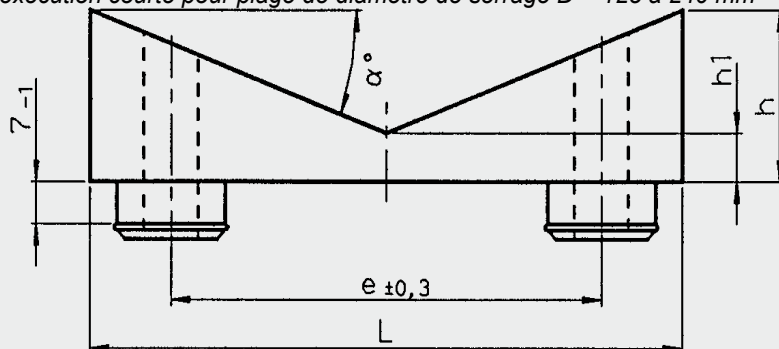
Support exécution courte (BUK) pour fixation de réservoir à air en combinaison avec:

– HY-ROS Bande de serrage à vis articulée (voir pages BT 5.1.)

Unterlage kurz für Spannbereich D = 125 bis 240 mm

Support short for diameter range D = 125 to 240 mm

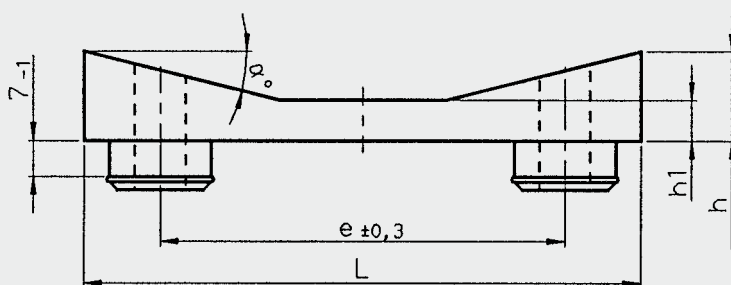
Support exécution courte pour plage de diamètre de serrage D = 125 à 240 mm



Unterlage kurz für Spannbereich D = 240 bis 500 mm

Support short for diameter range D = 240 to 500 mm

Support exécution courte pour plage de diamètre de serrage D = 240 à 500 mm



Spannbereich (von - bis) Diameter range (from - to) Plage de serrage (de - à)	Abmessungen Dimensions Dimensions					Gewicht (g/Stück) Weight (g/ea) Poids (g/pièce)		
	b	L	h	e	h1	a	PP	PA
						20°	14°	22°
125 - 240	30	110	28	80	8	20°	49	63
240 - 350			17,6			14°	32	43
350 - 420	40	200	38	80	10	22°	82	106
420 - 500			32			17,5°	65	83

Bestellschlüssel

Order code / Code de commande

HRLBB BUK 240-350 PA

Baureihe / range / série _____
HRLBB

Ausführung / model / exécution _____
BUK

Durchmesser/ O/D / diamètre _____
125 - 240, 240 - 350, 350 - 420, 420 - 500

Werkstoff / material / matériau _____
PP / PA

5.3 Gelenkbolzenschelle mit Schnellverschluss

5.3 Quick release swivel bolt clamp

5.3 Colliers à arceau à verrouillage rapide

Einfach
Basic
Simple
HRGBP

Bandbreite 25 mm
Band width 25 mm
Largeur de bande 25 mm

mit Lasche
with strap
avec lèvre
HRGB

Bandbreite 25 mm
Band width 25 mm
Largeur de bande 25 mm

mit Gummiprofil
with rubber profile
avec garniture caoutchouc
HRGBPU

Bandbreite 25 mm
Band width 25 mm
Largeur de bande 25 mm

Typ Type Type	D (von - bis) D (from - to) D (de - à)		
62	60	-	65
64	62	-	67
70	68	-	73
76	74	-	79
82	80	-	85
88	86	-	91
94	92	-	97
100	98	-	103
106	104	-	112
115	113	-	121
124	122	-	130
133	131	-	139
142	140	-	148
151	149	-	157
160	158	-	166
169	167	-	175
178	176	-	184
187	185	-	193
196	194	-	202
205	203	-	211
214	212	-	220
223	221	-	229
231	230	-	238
241	239	-	247
250	248	-	256
259	257	-	265
268	266	-	274
277	275	-	283
286	284	-	292
295	293	-	301

Typ Type Type	D (von - bis) D (from - to) D (de - à)		
62	60	-	65
64	62	-	67
70	68	-	73
76	74	-	79
82	80	-	85
88	86	-	91
94	92	-	97
100	98	-	103
108	104	-	112
117	113	-	121
126	122	-	130
135	131	-	139
144	140	-	148
153	149	-	157
162	158	-	166
171	167	-	175
180	176	-	184
189	185	-	193
198	194	-	202
207	203	-	211
216	212	-	220
225	221	-	229
234	230	-	238
243	239	-	247
252	248	-	256
261	257	-	265
270	266	-	274
279	275	-	283
288	284	-	292
297	293	-	301

Typ Type Type	D (von - bis) D (from - to) D (de - à)		
62	54	-	59
64	56	-	61
70	62	-	67
76	68	-	73
82	74	-	79
88	80	-	85
94	86	-	91
100	92	-	97
106	98	-	106
115	107	-	115
124	116	-	124
133	125	-	133
142	134	-	142
151	143	-	151
160	152	-	160
169	161	-	169
178	170	-	178
187	179	-	187
196	188	-	196
205	197	-	205
214	206	-	214
223	215	-	223
231	224	-	232
241	233	-	241
250	242	-	250
259	251	-	259
268	260	-	268
277	269	-	277
286	278	-	286
295	287	-	295

Bestellschlüssel / Order code / Code de commande
HRGBP 25 S1 203-211/205 ST

Baureihe/
range / série
HRGBP

Größe /
size / taille

Ausführung /
model / exécution

Durchmesser /
O/D / diamètre

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2

Bestellschlüssel / Order code / Code de commande
HRGB 25 S1 203-211/207 ST

Baureihe/
range / série
HRGB

Größe /
size / taille

Ausführung /
model / exécution

Durchmesser /
O/D / diamètre

Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2

Bestellschlüssel / Order code / Code de commande
HRGBPU 25 S1 74-79/82 ST

Baureihe/
range / série
HRGBPU

Größe /
size / taille

Ausführung /
model / exécution

Durchmesser /
O/D / diamètre

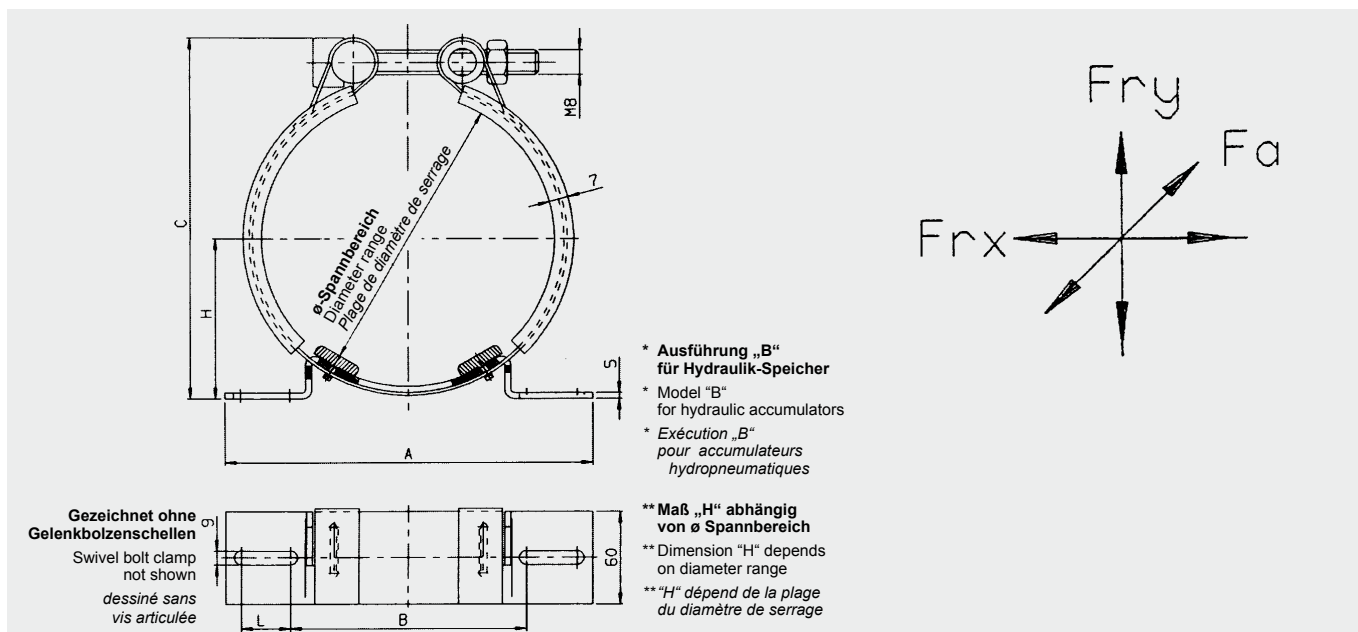
Werkstoff der Stahlteile /
material of steel parts /
matériau des pièces acier
ST / A2



5.4 Gelenkbandkonsolenschele

5.4 Quick release swivel bolt band clamp

5.4 Colliers console à bande articulée



Schellengröße mit Belastungswerten (N)

Clamp size with stress factors (N)

Taille de colliers avec facteurs de résistance (N)

Größe Size Taille	Durchmesser Diameter Diamètre	Fry (N)	Fr _x (N)	Fa (N)	Anzugsmoment in Nm Torque rating in Nm Couple de serrage en Nm
1	100 - 120	500	400	360	15 - 17
	121 - 159	550	350	350	15 - 17
2	160 - 180	1100	700	650	15 - 17
	181 - 200	1200	640	640	15 - 17
	201 - 230	1500	630	630	15 - 17

Größe Size Taille	A		B		Abmessungen und Gewicht gültig für Ausführung A und B* Dimensions and weight apply to model A and B* Dimensions et poids pour exécutions A et B*					Gewicht (KG) Weight (KG) Poids (KG)
	Spannbereich (von - bis) Diameter range (from - to) Plage de diamètre de serrage (de - à)	H** (von - bis) H** (from - to) H** (de - à)	Hydr. Speicher Hydr. accumulators Accumulateur hydropneumatique	Hydr. Speicher Hydr. accumulators Accumulateur hydropneumatique	B	L	A	C _{max}	S	
1	100-105	59 - 62			100	18	156	135	3	0,4
	106-114	62,5 - 66	108	64				138		0,41
	115-123	66,5 - 71	114	73				150		0,42
	124-132	71,5 - 76	126	77				160		0,43
	133-142	76,5 - 82,5						174		0,44
	143-151	83 - 86,5	146	83				182		0,45
2	152-159	87 - 91			152	32	236	191	4	0,46
	160-167	89 - 92	167	92,5				196		0,7
	167-175	92,5 - 96,5	175	99,5				207		0,72
	176-185	97 - 102,5	206	118				241		0,75
	186-194	103 - 108	210	123				248		0,76
	195-203	108,5 - 113,5	216	123				251		0,76
	204-213	111,5 - 115,5	219	123				252		0,77
	214-222	116 - 120	222	120/123				254		0,77
	223-230	120,5 - 123,5	229	123				259		0,78

Bestellschlüssel

Order code / Code de commande

HRGKS 1 A 124-132 ST

Baureihe / range / série

HRGKS

Baugröße / size / taille

1 / 2

Ausführung / model / exécution

A / B

Durchmesser / O/D / diamètre

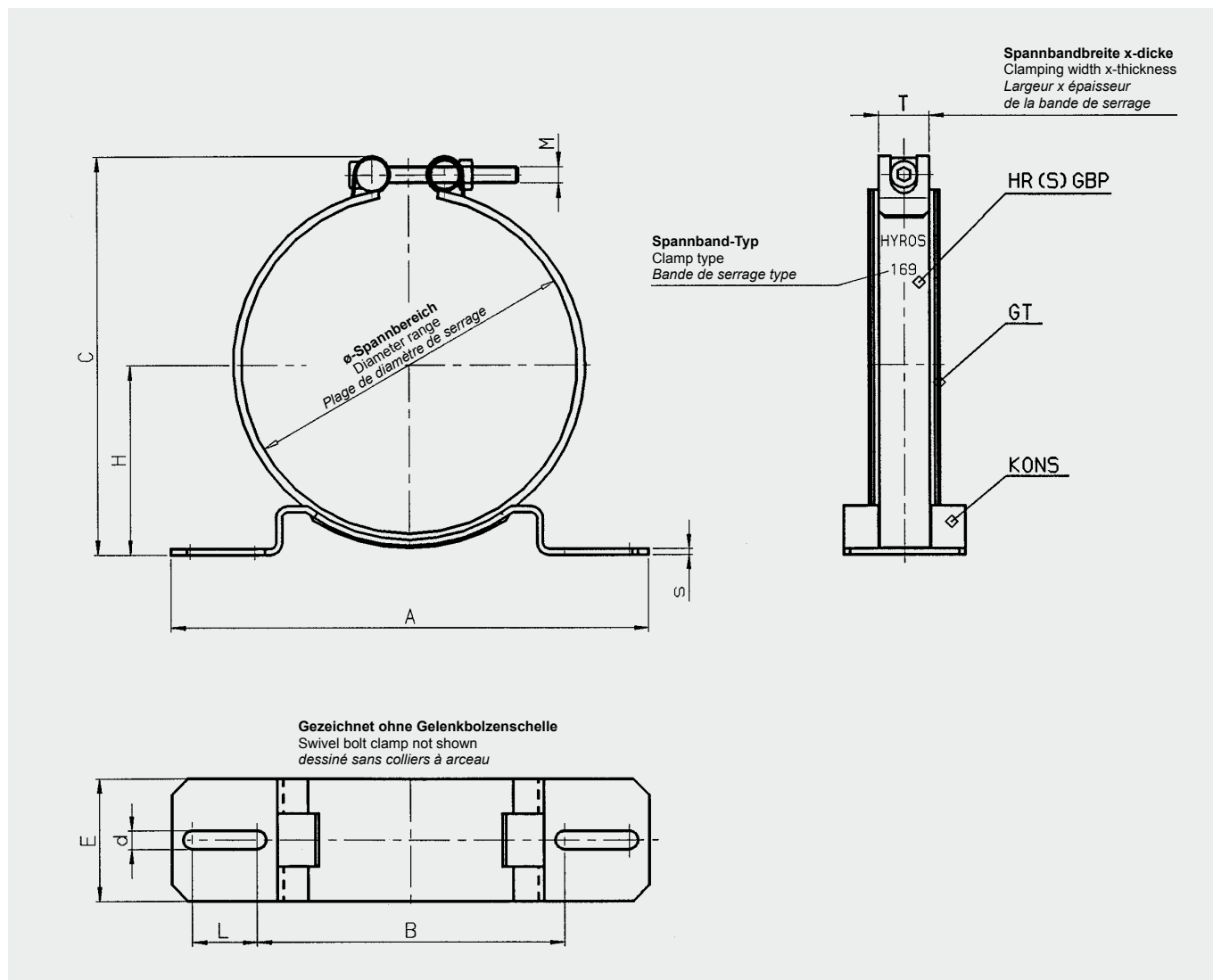
Werkstoff / material / matériau

ST ZN verzinkt / zinc plated / zinqué

5.5 Gelenkbandkonsolenschelle "MULTI"

5.5 Quick release swivel bolt band clamp "MULTI"

5.5 Colliers à bande articulée sur support "MULTI"



Werkstoff der Einzelteile

Material of individual parts

Matériaux des différents éléments

Bezeichnung Description Désignation	Werkstoff/Oberfläche Material/Coating Matériau/Revêtement	Abkürzung Abbreviation Abréviation
Konsole (KONS)	Stahl/verzinkt	ST ZN
Support (KONS)	Zinc-plated steel	ST ZN
Console (KONS)	Acier galvanisé	ST ZN
Kunststoffprofil (GT)	Polyethylen	PE
Synthetic material profile (GT)	Polyethylene	PE
Profil en matériau synthétique (GT)	Polyéthylène	PE
Gelenkbolzenschelle mit Schnellschraubverschluss (HR(S)GBP)	Stahl/nicht rostend Stahl/verzinkt	ST ZN/F1
Quick release swivel bolt clamp (HR(S)GBP)	Stainless steel Zinc-plated steel	ST ZN/F1
Colliers a arceau à verrouillage rapide (HR(S)GBP)	Acier inoxydable Acier galvanisé	ST ZN/F1

5.5 Gelenkbandkonsolenschelle "MULTI"

5.5 Quick release swivel bolt band clamp "MULTI"

5.5 Colliers à bande articulée sur support "MULTI"

Größe Size Taille	Ausführung Model Exécution	D (von - bis) D (from - to) D (de - à)	Typ Type Type	H	C max	M	T	A	s	L	B	E	d	Werkstoff Material Matériau	Gewicht in kg/Stück Weight in kg/ea Poids en kg/pièce
0	R	44 - 46	47	29,8 - 32,3	67	M6x50	20x0,8	120	3	6	85	40	9	ST	0,15
		46 - 49	50	30,8 - 32,3	69										0,15
		51 - 54	55	33,3 - 34,8	75										0,15
		55 - 58	59	35,3 - 36,8	77										0,16
		58 - 61	62	37,3 - 38,8	83										0,16
		62 - 65	65	38,0 - 39,5	85										0,20
		66 - 69	69	40,0 - 41,5	89										0,21
		70 - 73	73	42,0 - 43,5	93										0,21
		73 - 76	76	43,5 - 45,0	96										0,22
		77 - 80	80	45,5 - 47,0	100										0,22
		81 - 84	85	47,0 - 48,5	104										0,23
		85 - 88	89	49,0 - 50,5	108										0,23
		89 - 92	93	51,0 - 52,5	112										0,24
		92 - 95	96	52,5 - 54,0	115										0,24
95 - 100	100	54,5 - 56,5	120	0,24											
1	R	101 - 109	106	58,5 - 62,5	137	M8 x 80	25x1,0	158	3	18	100	50	9	ST	0,34
		110 - 118	115	63,0 - 67,0	146										0,35
		119 - 127	124	66,8 - 70,8	154										0,36
		128 - 136	133	71,3 - 75,3	163										0,37
		137 - 145	142	76,0 - 80,0	172										0,38
		146 - 154	151	80,5 - 84,5	181										0,39
		155 - 163	160	85,0 - 89,0	190										0,40
		163 - 171	169	90,1 - 94,1	200										0,57
167 - 175	173	92,1 - 96,1	204	0,58											
172 - 180	178	94,6 - 98,6	209	0,58											
181 - 189	187	98,4 - 102,4	217	0,59											
186 - 194	192	100,9 - 104,9	222	0,60											
190 - 198	196	102,9 - 106,9	226	0,60											
199 - 207	205	107,4 - 111,4	235	0,61											
208 - 216	214	111,2 - 115,2	243	0,62											
217 - 225	223	115,7 - 119,7	252	0,63											
226 - 234	231	120,2 - 124,2	261	0,64											
235 - 246	243	129,0 - 134,5	279	0,97											
248 - 259	256	135,5 - 141,0	292	0,99											
261 - 272	269	140,9 - 146,4	304	1,00											
274 - 285	282	147,4 - 152,9	317	1,02											
287 - 298	295	153,9 - 159,4	330	1,03											
300 - 311	308	159,4 - 164,9	342	1,05											
313 - 324	321	165,9 - 171,4	355	1,06											
326 - 337	334	172,4 - 177,9	368	1,08											
339 - 350	347	181,2 - 186,7	385	1,47											
352 - 363	360	187,7 - 193,2	398	1,49											
365 - 376	373	194,2 - 199,7	411	1,51											
378 - 389	386	200,7 - 206,2	424	1,52											
391 - 402	399	205,2 - 210,7	435	1,54											
404 - 415	412	211,7 - 217,2	448	1,56											
417 - 428	425	218,2 - 223,7	461	1,58											
430 - 441	438	224,7 - 230,2	474	1,60											
443 - 454	451	229,4 - 234,9	485	1,62											
456 - 467	464	235,9 - 241,4	498	1,63											
469 - 480	477	242,4 - 247,9	511	1,65											
482 - 493	490	248,9 - 254,4	524	1,67											
495 - 506	503	255,4 - 260,9	537	1,70											

Bestellschlüssel

Order code / Code de commande

HRGKSM 2 R 186-194/ 192 ST

Baureihe / range / série
HRGKSM

Baugröße / size / taille
0 / 1 / 2 / 3 / 4

Ausführung / model / exécution
R

Durchmesser/ O/D / diamètre

Typ / type / type

Werkstoff / material / matériau
ST ZN verzinkt / zinc plated / zinqué

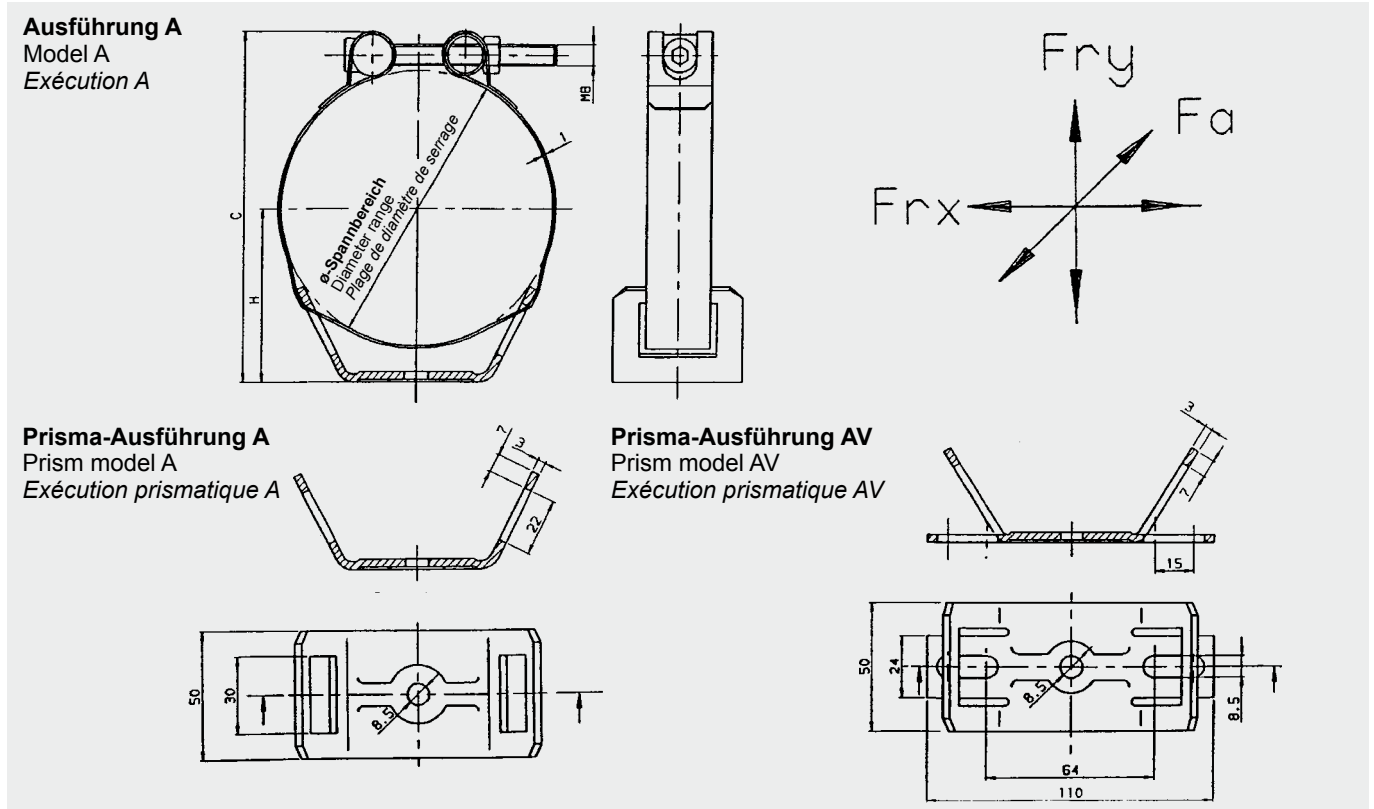
A2*
* auf Anfrage / on request / sur demande

5.6 Gelenkbandprismaschelle

5.6 Swivel bolt prism clamp

5.6 Colliers prismatique à arceau

BT 5



Schellengröße mit Belastungswerten (N)

Clamp size with stress factors (N)

Taille de colliers avec facteurs de résistance (N)

(2-fache Sicherheit gegen Verformung)

(double protection against distortion)

(double sécurité contre déformation)

Größe Size Taille	Spannbereich Diameter range Plage de diamètre	Fry (N)	Fr _x (N)	Fa (N)	Anzugsmoment in Nm Torque rating in Nm Couple de serrage en Nm
0	67 - 138	450	450	350	max. 17

Größe Size Taille	Ausführung Model Exécution	Spannbereich (von - bis) Diameter range Plage de diamètre de serrage (de - à)	Typ Type	H	C	Werkstoff Material Matériau	Gewicht A/AV in (kg) Weight A/AV in (kg) Poids A/AV en (kg)
0	A / AV	67 - 72	70	44,5 - 47	95 - 100	ST	0,253 / 0,261
		73 - 78	76	47,5 - 50	101 - 106		0,256 / 0,264
		79 - 84	82	50,5 - 53	107 - 112		0,259 / 0,267
		85 - 90	88	53,5 - 56	113 - 118		0,262 / 0,27
		91 - 96	94	56,5 - 59	119 - 124		0,266 / 0,274
		97 - 102	100	59,5 - 62	125 - 130		0,27 / 0,278
		103 - 111	106	62,5 - 66,5	131 - 139		0,274 / 0,282
		112 - 120	115	67 - 71	140 - 148		0,285 / 0,293
		121 - 129	124	71,5 - 75,5	149 - 157		0,287 / 0,295
		130 - 138	133	76 - 80	158 - 166		0,294 / 0,303

Bestellschlüssel

Order code / Code de commande

HRGPS 0 AV 91-96/94 ST

Baureihe / range / série
HRGPS

Baugröße / size / taille
0

Ausführung / model / exécution
A / AV

Durchmesser/ O/D / diamètre

Werkstoff / material / matériau
ST blank / unplated / sans revêtement
ST ZN verzinkt / zinc plated / zinqué
A2*

* auf Anfrage / on request / sur demande

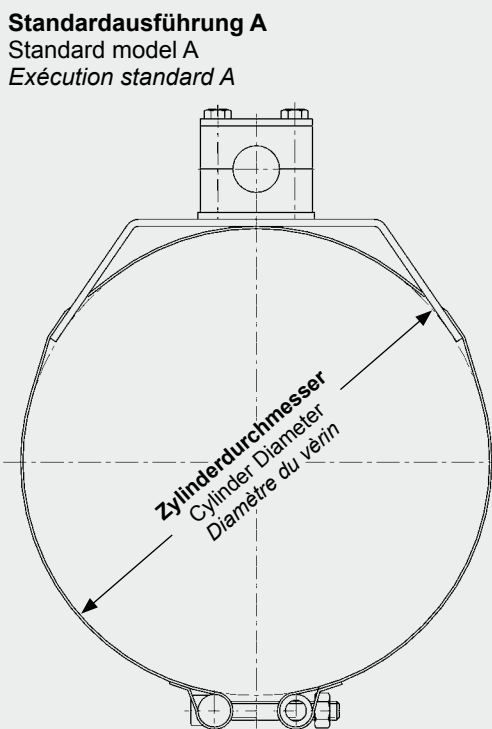


5.7 Halter für Zylinder

5.7 Clamp for cylinders

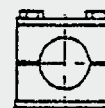
5.7 Fixation pour vérin

Größe Size Taille	Zylinderdurchmesser Cylinder diameter Diamètre du vérin
7	67 - 88
8	89 - 99
9	100 - 114
10	115 - 140
11	141 - 169
12	170 - 194
13	195 - 220
14	221 - 274
15	275 - 299

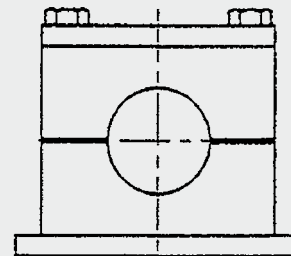


Standardausführung A
Standard model A
Exécution standard A

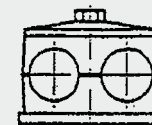
Schelle DIN3015 Teil 1
Clamp DIN3015 part 1
Colliers DIN3015 chap. 1



Schelle DIN3015 Teil 2
Clamp DIN3015 part 2
Colliers DIN3015 chap. 2



Schelle DIN3015 Teil 3
Clamp DIN3015 part 3
Colliers DIN3015 chap. 3



Andere Kombinationen auf Anfrage
Other combinations on request
Autres combinaisons sur demande

Bestellschlüssel

Order code / Code de commande

HRHZ 12 / 3S A 172 / 33.7 PP ST M ZN

Baureihe / range / série _____
HRHZ

Baugröße Zylinder / size of cylinder / taille du vérin _____

Baugröße Schelle / clamp size / taille des pièces de serrage _____

1L	1S	1Z
2L	2S	2Z
3L	3S	3Z
4L	4S	4Z
5L		5Z
6L		

Ausführung / model / exécution _____
A

Durchmesser Zylinder / O/D cylinder / diamètre extérieur du vérin _____

Durchmesser Rohr / pipe O/D / diamètre extérieur du tuyau _____

Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage _____
PP / PA

Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier _____
ST

Metrisches Gewinde / metric thread / filet métrique _____

Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier _____
ZN verzinkt / zinc plated / zingué



Sonstige Lösungen

Other solutions

Autres solutions



BT 6.1 Sensorschelle

BT 6.1 Sensor clamp

BT 6.1 Collier pour capteur



BT 6.2 Rohrdurchführung

BT 6.2 Rubber tank bush

BT 6.2 Traversée de cloison

HYDAC Accessories GmbH

Hirschbachstr. 2

66280 Sulzbach/Saar

Tel.: +49 (0)6897 - 509-1001

Fax: +49 (0)6897 - 509-1009

Internet: www.hydac.com

E-Mail: info@hydac.com

ANMERKUNG

Die Angaben in diesem Prospekt beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle. Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung. Technische Änderungen sind vorbehalten.

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

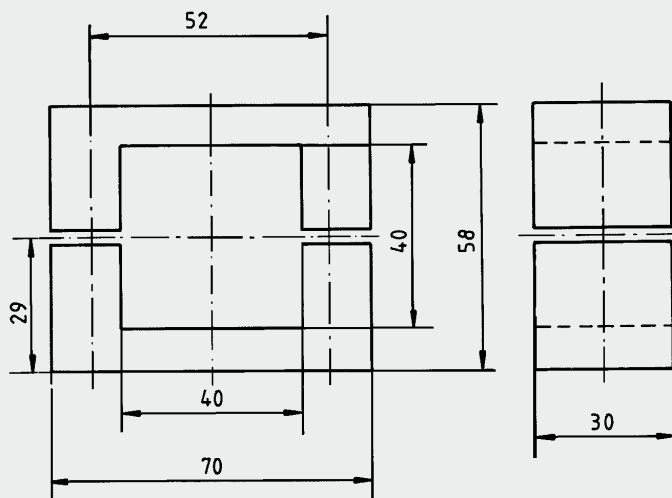
REMARQUE

Les données de ce prospectus se réfèrent aux conditions de fonctionnement et d'utilisation décrites. Pour des conditions d'utilisation et de fonctionnement différentes, veuillez vous adresser au service technique compétent. Sous réserve de modifications techniques.

6.1 Sensorschelle

6.1 Sensor clamp

6.1 Collier pour capteur



Weitere Einzelteile sind bau- und preisgleich mit der Leichten Reihe (Standard) siehe Kapitel Schellen nach DIN 3015.

Other components are identical in size and price to the light range (standard) see chapter on clamps to DIN 3015.

Les autres pièces détachées sont identiques en prix et en encombrement à celles de la série légère (standard). Voir § colliers selon DIN 3015.

Abmessungen Dimensions Dimensions	Größe Size Taille	Ausführung B Model B <i>Exécution B</i>	
40 x 40	5		

Abmessungen Dimensions Dimensions	Größe Size Taille	Klemmbackenpaar Pair of clamp jaws <i>Paire de pièces de serrage (KP)</i>	
40 x 40	5		

Bestellschlüssel
Order code / Code de commande

HRSEN 5 B 40x40 PP ST M BL

- Baureihe / range / série** HRSEN
- Baugröße / size / taille** 5
- Ausführung / model / exécution** B
- Durchmesser/ O/D / diamètre**
- Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage** PP / PA / AL
- Werkstoff der Stahlteile / material of steel parts / matériau des pièces acier** ST
- Metrisches Gewinde / metric thread / filet métrique**
- Oberfläche der Stahlteile / plating of steel parts / revêtement des pièces acier** BL

Blank / unplated / sans revêtement

Bestellschlüssel
Order code / Code de commande

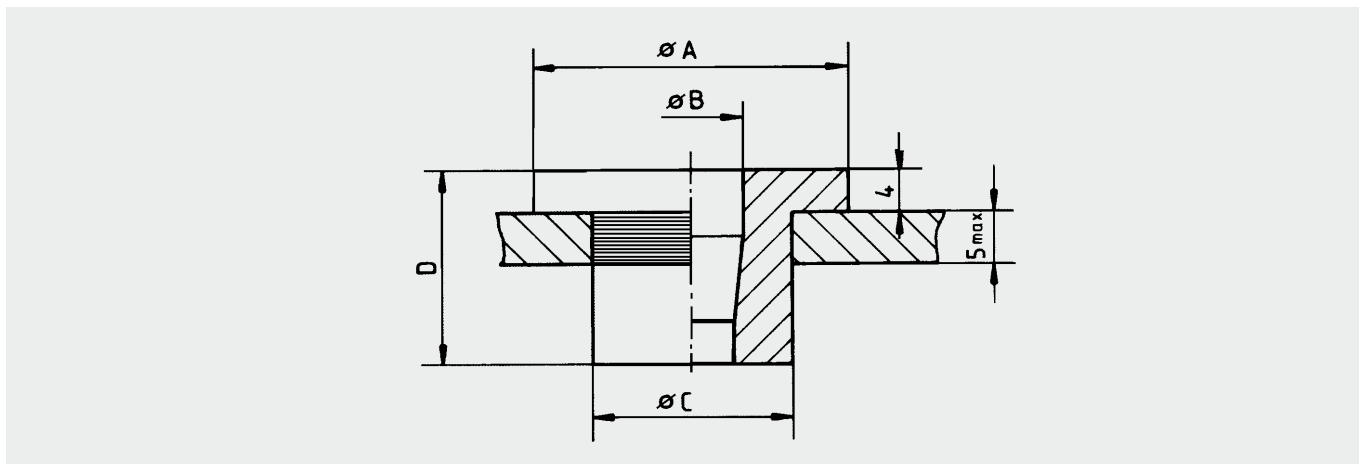
HRSEN 5 KP 40x40 PP

- Baureihe / range / série** HRSEN
- Baugröße / size / taille** 5
- Ausführung / model / exécution** KP
- Durchmesser/ O/D / diamètre**
- Werkstoff der Klemmbacken / clamp material / matériau des pièces de serrage** PP / PA / AL

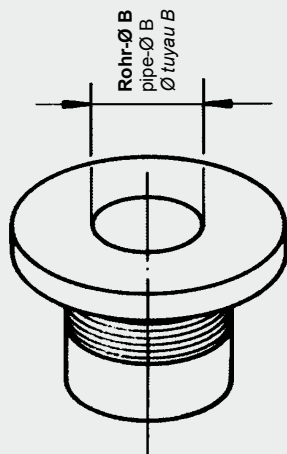
6.2 Rohrdurchführung

6.2 Rubber tank bush

6.2 Traversée de cloison



$\varnothing B$ lagervorrätig $\varnothing B$ available ex stock $\varnothing B$ disponible	$\varnothing B$ auf Anfrage $\varnothing B$ on request $\varnothing B$ sur demande	$\varnothing A$	$\varnothing C$	D	Größe Size Taille
6					
8					
	9	30	18	18	1
	9,5				
10					
12					
14					
15					
16					
17					
18		40	28	24	2
	19				
20					
21,3					
22					
25					
27					
28					
30		55	42	24	3
	31,5				
34					
35					
38					
42					
42,5		70	58	24	4
48,5					
50,5					
60,5		80	67	24	5



Bestellschlüssel

Order code / Code de commande

HRRDF 3 GT 30 TPE

Baureihe / range / série ————
HRRDF

Baugröße / size / taille ————
1 / 2 / 3 / 4 / 5

Ausführung / model / exécution ————
GT

Durchmesser / O/D / diamètre ————

Werkstoff / material / matériau ————
Größe/Size/Taille 1-3: TPE

Größe/Size/Taille 4: NBR

Größe/Size/Taille 5: CR

Supports for Hydraulic Accumulators



1. DESCRIPTION

1.1. GENERAL

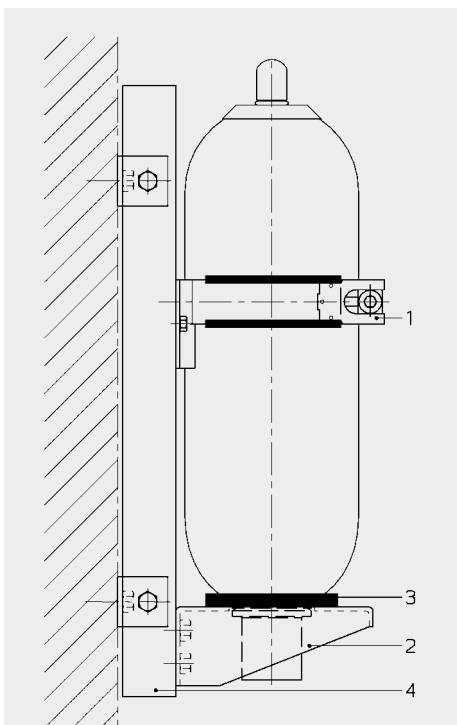
HYDAC supports are used to mount all types of hydraulic accumulator safely and simply, irrespective of the mounting position. Clamps, consoles and complete accumulator sets are available.

1.2. USE

The supports are designed for static use. For dynamic stresses, specially designed clamps are available on request.

2. SELECTION TABLES FOR SUPPORTS

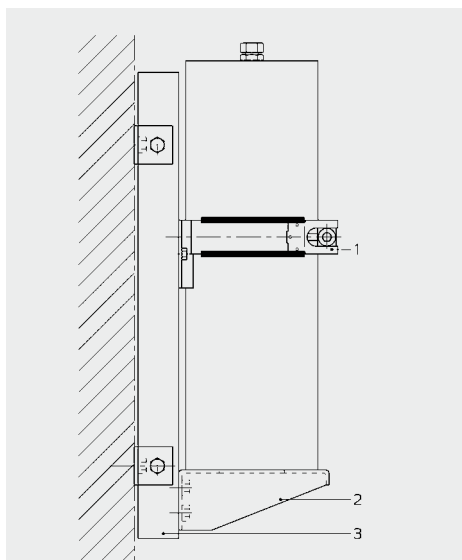
2.1. BLADDER ACCUMULATOR



- 1 Clamp
- 2 Console
- 3 Rubber support ring
- 4 Back plate

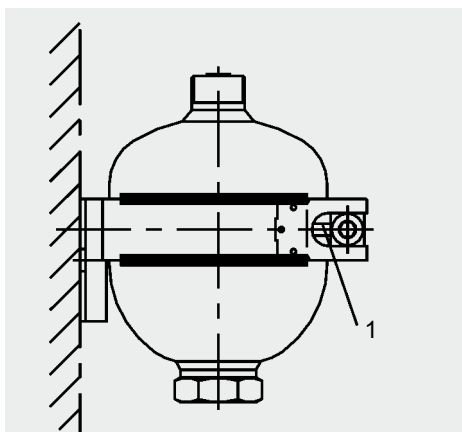
Type	Capacity [l]																							
	SB330				SB400				SB 550		SB500 / SB600		SB35		SB40		SB35H		SB35HB		SN			
	1	2.5+5	4+6	10-24	32-50	0.5	4	10-20	32-50	1	2.5-5	10-20	32-50	SB600	2.5-5	10-20	2.5-5	10-20	20	32-50	20	32-50	50	
Clamps																								
HyRac 89-92 ST						1																		
HyRac 106-114/115 H3 ST														2			2							
HyRac 110-118/124 H10 ST	1	2																						
HyRac 121-129/133 H8 ST										1	2													
HyRac 167-175/178 H5 ST		1				1																		
HyRac 202-210/214 H8 ST													1	2					1	2				
HyRac 216-224/226 H5 ST																1	2				1	2		
HyRac 223-230/231 H3 ST				1	2																			2
HyRac 225-234/234 H3 ST								1	2															
HSS 242														1	2									
Consoles																								
KBK 167 / G		1				1																		
KBK 222 / G			1	1			1	1			1	1		1	1		1	1						1
KHF 210 / G																				1	1	1	1	
Accumulator set																								
SEB	1	1	1	1	1	1	1	1	1															
SEH										1	1	1												
SEN													1	1	1									
SEM																1	1	1						
SEHF																				1	1			
SEHB																						1	1	

2.2 PISTON ACCUMULATOR



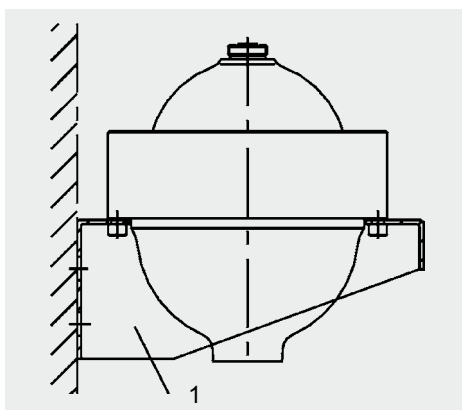
- 1 Clamp
- 2 Console
- 3 Back plate

2.3. DIAPHRAGM ACCUMULATOR (WELD TYPE)



- 1 Clamp

2.4. DIAPHRAGM ACCUMULATOR (SCREW TYPE)



- 1 Console

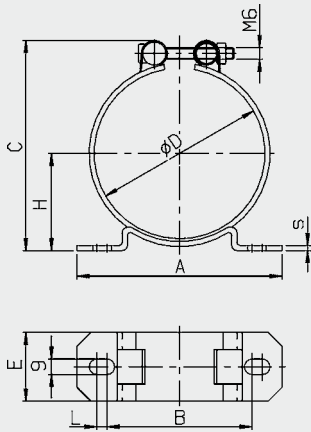
Type	Piston diameter								
	80 mm	100 mm	150 mm	180 mm		250 mm		355 mm	
	SK210	SK350	SK250	SK210	SK350	SK210	SK350	SK210	SK350
Clamps									
HyRac 96-100/100 ST	2								on request
HyRac 121-129/133 H8 ST		2							
HyRac 176-185/187 H5 ST			2						
HyRac 209-217/223 H10 ST				2					
HyRac 216-224/226 H5 ST					2				
HSS 286						2			
HSS 310							2		
Consoles									
KBK 126		1							on request
KBK 219				1	1				
KBK 310						1	1		

Accumulator type	Clamp type
SBO250-0.075E	HyRac 62- 65 ST
SBO210-0.16E	HyRac 73- 76 ST
SBO210-0.32E	HyRac 92- 95/ 96 ST
SBO210-0.5E	HyRac 100-105/106 H3 ST
SBO100-0.7E	HyRac 106-114/115 H3 ST
SBO330-0.6E	HyRac 110-118/124 H10 ST
SBO330-0.7E	
SBO210-0.75E	HyRac 121-129/133 H8 ST
SBO330-0.75E	
SBO200-1E	HyRac 133-142/144 H3 ST
SBO140-1.4E	HyRac 143-151/151 H3 ST
SBO210-1.4E	
SBO330-1.4E	HyRac 152-159/160 H3 ST
SBO100-2E	HyRac 160-167/169 H5 ST
SBO210-2E	HyRac 167-175/178 H5 ST
SBO210-2.8E	
SBO250-3.5E	
SBO330-2E	
SBO330-2.8E	
SBO330-3.5E	

Accumulator type	Console
SBO210-1.3A6	KMS 200
SBO400-1.3A6	KMS 210
SBO100-2.0A6	KMS 220
SBO250-2.0A6	
SBO210-2.8A6	KMS 250
SBO400-2.8A6	KMS 280
SBO210-4.0A6	KMS 300
SBO400-4.0A6	KMS 310

3. CLAMPS

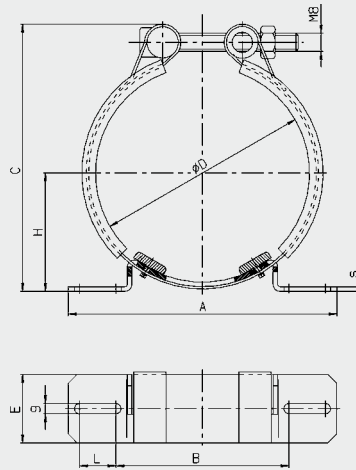
HyRac ($\text{ØD} \leq 100 \text{ mm}$)



Fastening, Foot
Clamping band
Insert

zinc-plated
stainless steel
PE

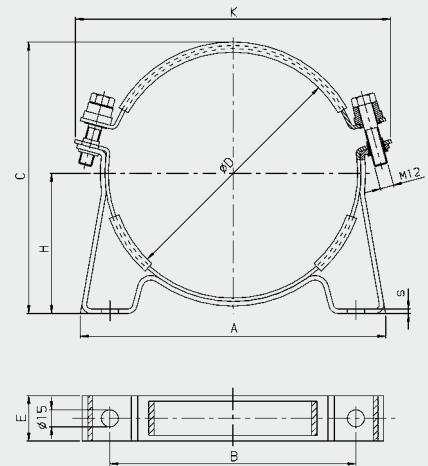
HyRac ($\text{ØD} \geq 100 \text{ mm}$)



Fastening, Foot
Clamping band
Insert

zinc-plated
stainless steel
PE, NBR

HSS



Clamp
Insert

zinc-plated
NBR

Description	Part no.	A [mm]	B [mm]	Cmax [mm]	ØD (from - to) [mm]	H (from - to) [mm]	E [mm]	L [mm]	s [mm]	K [mm]	Weight [kg]
HyRac 62- 65 ST	445037	120	85	85	62 - 65	38 - 39.5	40	6	3	-	0.20
HyRac 73- 76 ST	445038			96	73 - 76	43.5 - 45					0.22
HyRac 89- 92 ST	445039			112	89 - 92	51 - 52.5					0.24
HyRac 92- 95/ 96 ST	445040			115	92 - 95	52.5 - 54					0.24
HyRac 96-100/100 ST	445041			120	96 - 100	54.5 - 56.5					0.24
HyRac 100-105/106 H3 ST	444904	156	100	135	100 - 105	59 - 62	60	18	3	-	0.40
HyRac 106-114/115 H3 ST	444905			138	106 - 114	62.5 - 66					0.41
HyRac 110-118/124 H10 ST	445042			156	110 - 118	72.5 - 77					0.42
HyRac 121-129/133 H8 ST	444906			165	121 - 129	75.5 - 80					0.43
HyRac 133-142/144 H3 ST	444907			174	133 - 142	76.5 - 82.5					0.44
HyRac 143-151/151 H3 ST	444908			182	143 - 151	83 - 86.5					0.45
HyRac 152-159/160 H3 ST	444909			191	152 - 159	87 - 91					0.46
HyRac 160-167/169 H5 ST	444910			196	160 - 167	89 - 92					0.70
HyRac 167-175/178 H5 ST	445043	207	167 - 175	92.5 - 96.5	0.72						
HyRac 176-185/187 H5 ST	445044	241	176 - 185	97 - 102.5	0.75						
HyRac 202-210/214 H8 ST	445045	236	152	245	202 - 210	116 - 120	60	32	4	-	0.76
HyRac 209-217/223 H10 ST	445046			255	209 - 217	122.5 - 126.5					0.77
HyRac 216-224/226 H5 ST	445047			256	216 - 224	120 - 124					0.77
HyRac 223-230/231 H3 ST	445048			259	223 - 230	120.5 - 123.5					0.78
HyRac 225-234/234 H3 ST	445049			265	225 - 234	123 - 127.5					0.79
HSS 222/229	235224			268	216	245					226
HSS 242	362712	268	216	265	242	136	305	1.70			
HSS 286	237395	332	280	315	286	163	352	2.10			
HSS 310	237389	332	280	334	310	170	390	2.10			
HSS 360	355592	425	365	383	360	195	432	2.50			

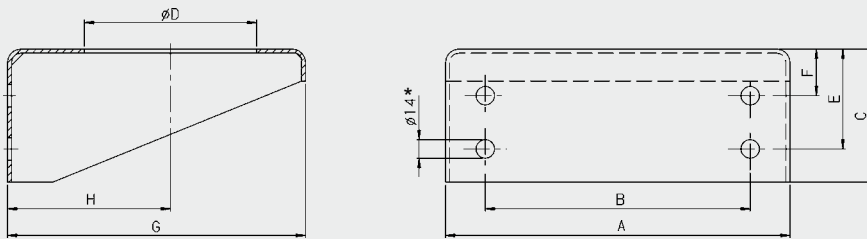
Model/order code (e.g.):

HyRac 167-175/178 H5 ST	445043
-------------------------	--------

4. CONSOLES

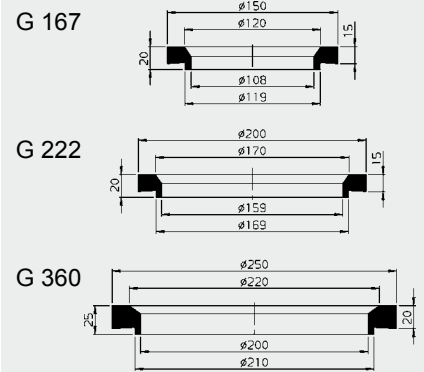
4.1. CONSOLE KBK FOR BLADDER AND PISTON ACCUMULATOR

Console KBK



* Ø22 on KBK 310 and KBK 360

Rubber support ring G



Type	Mat.	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Weight [kg]
126	STZN	290530	175	100	60	65	36	—	150	77	1.1
167		238526	260	200	100	120	75	35	225	92	2.5
219		238042	270	180		135	80	40	250	123	6.5
222		3002160	260	200	170	75	35	225	123	2.4	
310		238043	330	220	200	190	140	60	340	170	18.3
360		357959	390	270	240	211	180		390	195	20.1

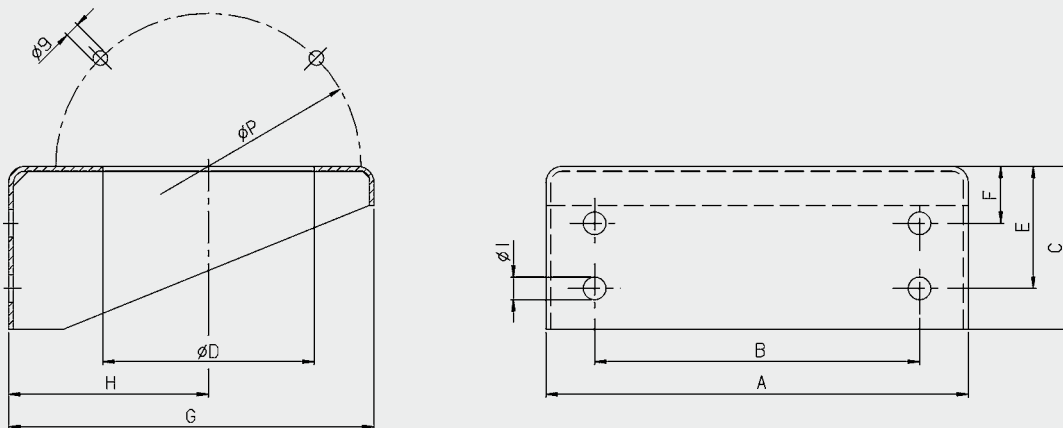
Type	Material	Part no.
—	NBR	—
167		236997
—		—
222		236996
—		—
360		355966

Model/order code (e.g.):

KBK 167 STZN 238526

G 167 NBR 236997

4.2. CONSOLE KMS FOR SCREW-TYPE DIAPHRAGM ACCUMULATOR



The screw-type diaphragm accumulator has threaded bores M8 in the lock nut for fixing to the KMS console.

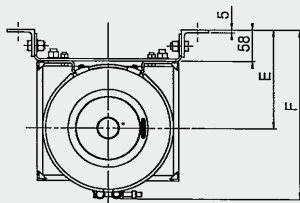
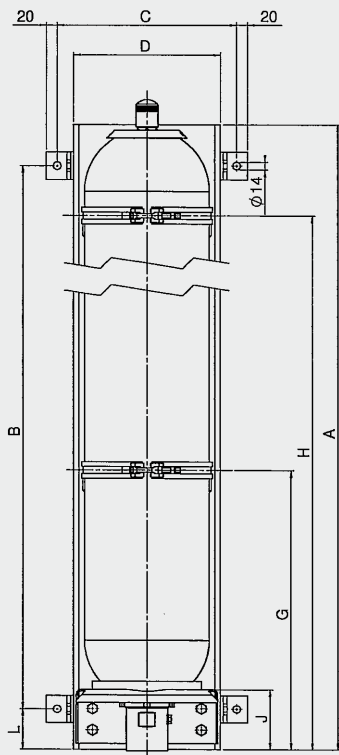
Type	Mat.	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	ØP [mm]	E [mm]	F [mm]	G [mm]	H [mm]	ØI [mm]	Weight [kg]
200	STZN	359931	270	180	100	148	160	80	40	250	123	14	6.5
210		358989	260	200		170	180	75	35	225			
220		359922			170	188	140				60	340	170
250		359924	192	204									
280		359925	330	220	200	215	230	140	60	340	170	22	18.3
300		359926				220	235						
310		359927				245	265						
320		359928				290	305						

Model/order code (e.g.):

KMS 200 STZN 359931

5. ACCUMULATOR SET FOR BLADDER ACCUMULATORS

SEB, SEH, SEM



5.1. SEB FOR SB330/400

Accum. Set	Part no.	Vol. [l]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	L [mm]	J [mm]
SEB 2.5	290787	2.5	460	310	198	138	132	214	200	400	75	–
SEB 4	238403	4	410	320	330	270	152	265	–	270	45	95
SEB 6	2115851	6	570	420	330	270				180	317	415
SEB 10	238407	10					330	270				180
SEB 20	240598	20	1340	1190			330	270	180	317	500	75
SEB 32	238409	32			500	1160						
SEB 50	240599	50			500	1160						

This accumulator set SEB is also available with a SAF and SB330 as a compact unit (ACCUSET SB330).

See catalogue section:

- ACCUSET SB
No. 3.503

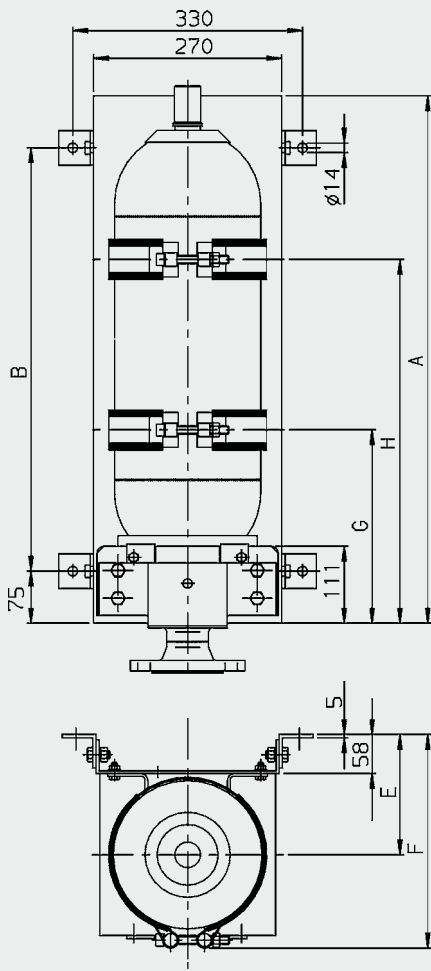
5.2. SEH FOR SB500/550/600

Accum. Set	Part no.	Vol. [l]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	L [mm]	J [mm]
SEH 2.5	2105194	2.5	460	310	198	138	133.5	223	200	400	75	111
SEH 5	2105195	5	750	600					220	650		
SEH 10	378952	10	570	420	330	270	194	323	–	330		
SEH 20	298181	20							500			
SEH 32	298182	32	1340	1190					330	270	194	323
SEH 50	298183	50			500	1160						

5.3. SEM FOR SB40

Accum. Set	Part no.	Vol. [l]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	L [mm]	J [mm]
SEM 2.5	3007402	2.5	460	310	198	138	121.5	196	200	400	75	111
SEM 5	3007423	5	750	600					220	650		
SEM 10	3007424	10	570	420	330	270	180	314	–	330		
SEM 20	3007425	20							500			
SEM 32	3007426	32	1340	1190					330	270	180	314
SEM 50	3007427	50			500	1160						

SEHB



5.4. SEHB FOR SB35HB

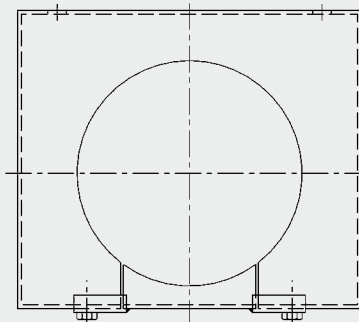
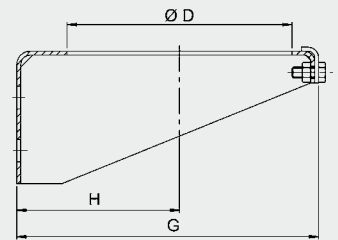
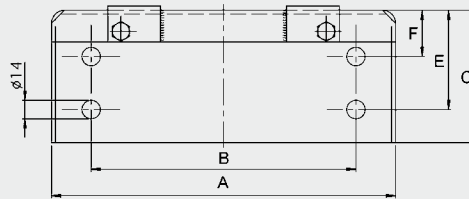
Accum. Set	Part no.	Vol. [l]	A [mm]	B [mm]	E [mm]	F [mm]	G [mm]	H [mm]	L [mm]	J [mm]
SEHB 20	3007431	20	570	420	180	314	500	1160	75	111
SEHB 32	3007432	32	1340	1190						
SEHB 50	3007433	50	1340	1190						

Console	Mat.	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Weight [kg]
KHF 210	STZN	239965	260	200	100	170	75	35	225	123	2.5

Model/order code (e.g.):

SEB 10 238407

KHF 210



The accumulator sets SEHF/SEHB are supplied with console KHF 210 / G which can be opened at the front for easier mounting of the bladder accumulator.

6. NOTE

The specifications in this brochure relate to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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Bell Housings with Rigid / Flexible Pump Mounting PTS / PT



1. DESCRIPTION

1.1. GENERAL

Bell housings are connection elements between drive motors and hydraulic pumps. Both connecting flanges are supplied ready for installation. The bell housings are made from an aluminium cast alloy.

1.2. MODELS

Bell housings in both flexible and rigid design are available in dimensions to the VDMA 24561 standard.

2. TECHNICAL SPECIFICATIONS

2.1. GENERAL

2.1.1 Mounting position
Optional.

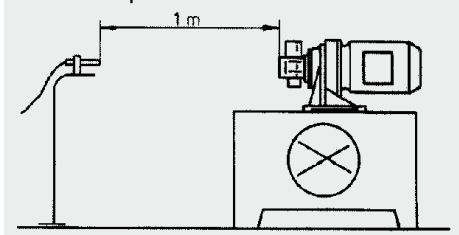
2.1.2 Operating temperature
Rigid bell housing
-20°C to +100°C

Flexible bell housing
-20°C to +60°C

2.1.3 Noise level reduction
The noise level reduction achieved depends on many factors such as pump type, operating pressure, type of fitting, design etc. It is therefore not possible to quote exact figures. In general, noise level reductions of up to 6 db(A) can be achieved.

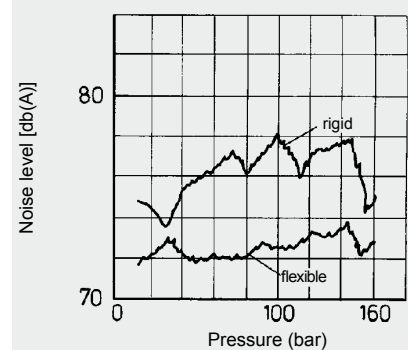
The illustration in the next column shows how the test is set up, together with a graph showing typical noise level improvements when using a flexible bell housing compared to a rigid bell housing.

Test set-up



Bell housing with foot bracket mounted on the oil tank cover plate.

Noise level diagram



2.1.4 Notes on mounting

The fixing bolts used for mounting the motor to the pump must be long enough in order to fully utilize the available thread depth on the bell housing. If the bolts used are too short, there is the risk of damaging the thread.

2.1.5 Weight loading

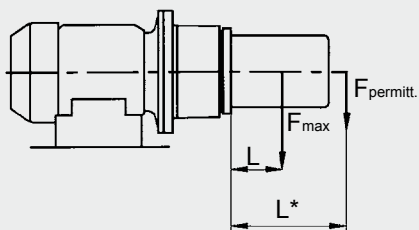
The permitted radial or axial load of the bell housing with flexible and rigid pump mounting, allowing for an operating temperature of +60 °C:

Bell housings Nominal size	Type of Damping ring	Permitted force due to gravity F_{max} [N]	Centre of gravity distance for radial load L [mm]
160	Only rigid bell housing possible		
200	E	400	200
	K	500	
250	E	600	200
	K	800	
300	E	1000	200
	K	1300	
350	E	1500	200
	K	2000	
400	E	2200	200
	K	3000	
450	E	4000	200
	K	5500	
550	E	4000	200
	K	5500	
660	E	4500	200
	K	6000	
800	Only rigid bell housing possible		

For a larger centre of gravity distance L^* the permitted force due to gravity is reduced according to the following formula:

$$F_{\text{permitt.}^*} = \frac{F_{\text{max.}} \cdot L}{L^*} \text{ [N]}$$

If the centre of gravity distance L^* of the pump is smaller than the centre of gravity distance L in the table, then the permitted force due to gravity $F_{\text{permitt.}}$ for the pump is equal to the maximum force due to gravity F_{max} in the table.



2.2. SPECIFICATIONS

2.2.1 Permitted fluids

Mineral oil to DIN 51524, other fluids on request.

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

3. MODEL CODE

PT - 250 / 5.0 / M / FL001 - E / F3

Type _____

PTS = Rigid bell housing
PT = Flexible bell housing

Nominal size for IEC standard motor (type of mounting B5, B35, V1, V15) _____

Nominal size PTS / PT	Type		Electric motor size	Output n = 1430 rpm
	Rigid	Flexible		
160	x		71	0.25 - 0.37 kW
200	x	x	80/90	0.55 - 1.5 kW
250	x	x	100/112	2.2 - 4.0 kW
300	x	x	132	5.5 - 7.5 kW
350	x	x	160/180	11 - 22 kW
400	x	x	200	30 kW
450	x	x	225	37 - 45 kW
550	x	x	250/280	55 - 90 kW
660	x	x	315	110 - 200 kW
800	x		335/400	250 - 400 kW

Model with additional bores _____

Rigid PTS	Flexible PT	Additional bores
2.0	5.0	Without additional bore (standard)
5.1	5.1	1x Leakage bore
5.3	5.3	Additional bores to Cnomo standard*

Mineral oil resistance (Special models on request) _____

Bore template code for pump connection (see our sizing program PT-WIN) _____

Type of damping ring (only required for flexible bell housings) _____

E = standard
K = damping ring for higher loads (greater rigidity)

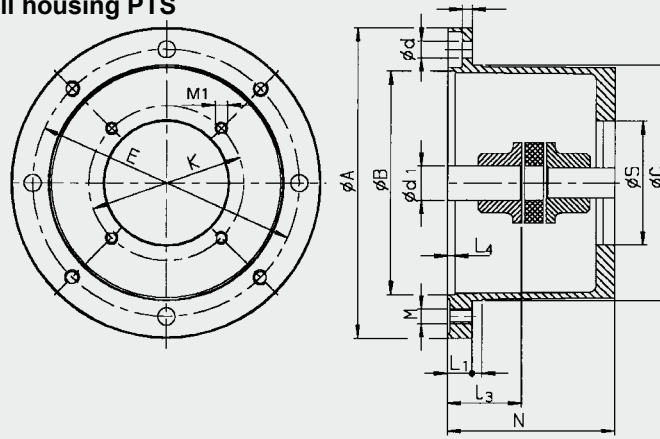
Accessories _____

... = without accessories (no details)
F3 = bell housing foot bracket

* Cnomo: 1x mounting hole with grille, 1x leakage bore

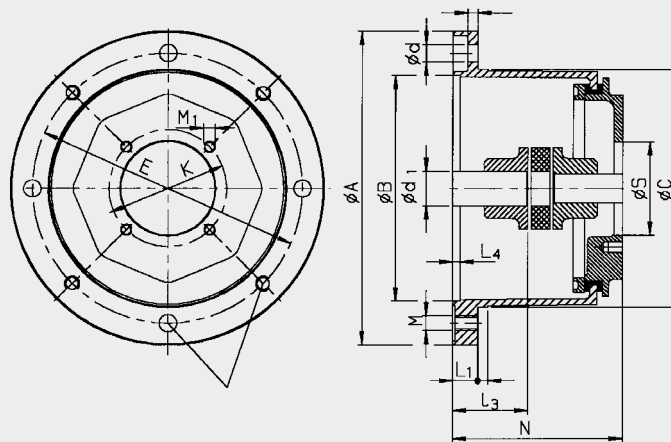
3.1. DIMENSIONS

3.1.1 Dimensions of rigid bell housing PTS



Electric motor size	KW at n=1500 1/min	Drive shaft Ød ₁ x l _s	Bell housing	Ø A	Ø B	Ø C	E	M	Ø d	L1	L4
71	0.25 - 0.37	14x30	PTS-160	160	110	110	130	M8	9	13	4
80	0.55 - 0.75	19x40									
90S-90L	1.1 - 1.5	24x50	PTS-200	200	130	145	165	M10	11	16	6
100L-112M	2.2 - 4	28x60	PTS-250	250	180	190	215	M12	14	19	6
132S-132M	5.5 - 7.5	38x80	PTS-300	300	230	234	265	M12	14	20	6
160M-160L	11 - 15	42x110									
180M-180L	18.5 - 22	48x110	PTS-350	350	250	260	300	M16	18	25	6
200 L	30	55x110	PTS-400	400	300	300	350	M16	18	25	6
225S-225M	37 - 45	60x140	PTS-450	450	350	350	400	M16	18	25	6
250M	55	65x140									
280S-280M	75 - 90	75x140	PTS-550	550	450	450	500	M16	18	26	6
315S-315L	110 - 200	80x170	PTS-660	660	550	550	600	M20	22	32	6
355L-400L	250 - 400	95x170	PTS-800	800	680	680	740	M20	23	60	10

3.1.2 Dimensions of flexible bell housing PT



Electric motor size	KW at n=1500 1/min	Drive shaft Ød ₁ x l _s	Bell housing	Ø A	Ø B	Ø C	E	M	Ø d	L1	L4
80	0.55 - 0.75	19x40	PT-200	200	130	145	165	M10	11	16	6
90S-90L	1.1 - 1.5	24x50									
100L-112M	2.2 - 4	28x60	PT-250	250	180	190	215	M12	14	20	6
132S-132M	5.5 - 7.5	38x80	PT-300	300	230	234	265	M12	14	20	6
160M-160L	11 - 15	42x110									
180M-180L	18.5 - 22	48x110	PT-350	350	250	260	300	M16	18	25	6
200 L	30	55x110	PT-400	400	300	300	350	M16	18	25	6
225S-225M	37 - 45	60x140	PT-450	450	350	350	400	M16	18	25	6
250M	55	65x140									
280S-280M	75 - 90	75x140	PT-550	550	450	450	500	M16	18	40	6
315S-315L	110 - 200	80x170	PT-660	660	550	550	600	M20	22	32	6

To identify the bore template code (dimensions N, S, K, M1), please use our sizing program PT-WIN as far as possible, or consult Head Office. You can download and use the PT-WIN program free of charge from our website www.hydac.com by clicking through Support » Download » Software » Product Division - Accessories.

Accessories:

For the range of accessories (bell housing foot brackets, bell housing mounting plate, damping rails, damping rings and couplings) please use our supplementary brochure "Bell Housing Accessories". This brochure can be downloaded from our website www.hydac.com.

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Bell Housings with Flexible Pump Mounting with Oil/Air Cooler

PTK Series

1. DESCRIPTION

1.1. GENERAL

Bell housings are connection elements between drive motors and hydraulic pumps.

Both connecting flanges are supplied ready for installation.

The bell housings are made from an aluminium cast alloy.

On the PTK (bell housing with built-in oil/air cooler) the oil is cooled efficiently by an air stream produced by a fan mounted on the motor shaft.

This combination of noise-damping bell housing and oil/air cooler considerably simplifies the construction and reduces the cost of hydraulic systems.

The high cooling capacity of the built-in cooler enables the user to reduce his tank capacity.

This reduction in oil quantity results in a reduction in operating costs and oil disposal costs.

1.2. MODELS

Bell housings with flexible pump mounting and oil/air cooler are supplied with dimensions to the VDMA 24561 standard.

2. TECHNICAL SPECIFICATIONS

2.1. GENERAL

2.1.1 Mounting position

Optional.

Once both mounting bolts have been removed, the cooler element can be turned through 180° (ports point towards the motor or to the pump).

2.1.2 Temperature ranges

During operation of the PTK, ensure that the maximum oil temperature of +100 °C is not exceeded.

Warning! If there is a temperature difference of over 50 °C between the oil inlet on the cooler element and the ambient temperature, large fluctuations in temperature (e.g. by turning on and off frequently) must be avoided. Otherwise this could result in significant reduction in lifetime or direct damage to the element through stress cracking.

Permitted ambient temperature: -20 °C to +60 °C

2.1.3 Noise level reduction

PTKs have a flexible damping ring as standard between the bell housing and pump flange.

This ensures a complete decoupling of the pump from the motor and bell housing.

The additional use of flexible damping rails reduces the noise level still further.

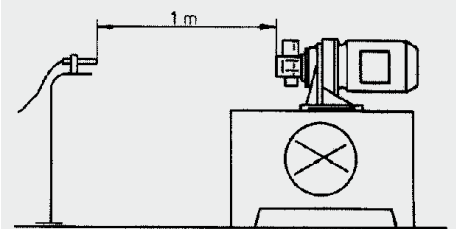
Basically, the noise level reduction achieved depends on many factors such as pump type, operating pressure, type of fitting, design etc.

It is therefore not possible to quote exact figures.

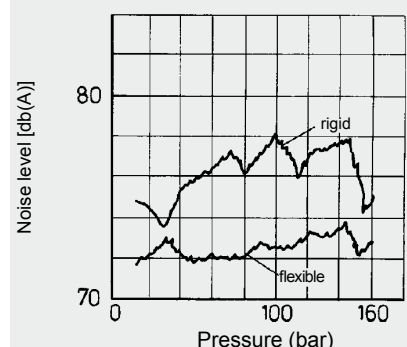
In general, noise level reductions of up to 6 dB(A) can be achieved by using the flexible pump mounting.

The illustration below shows how the test is set up, together with a graph showing typical noise level improvements when using a flexible bell housing compared with a rigid bell housing.

Test set-up



Noise level diagram



2.1.4 Notes on mounting

The fixing bolts used for mounting the motor to the pump must be long enough in order to fully utilize the available thread depth on the PTK.

If the bolts used are too short, there is the risk of damaging the thread and consequently the whole unit.

2.1.5 Weight loading

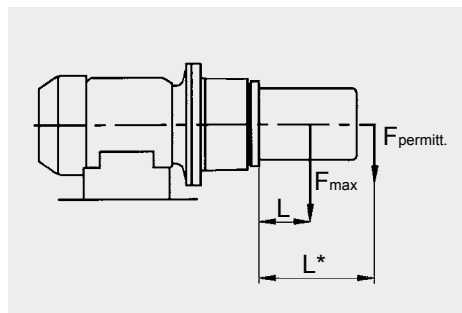
The permitted radial or axial load of the PTK with flexible pump mounting, allowing for an operating temperature of +60 °C:

PTK Nominal size	Type of damping ring	Permitted force due to gravity F_{max} [N]	Centre of gravity distance for radial load L [mm]
200/2001	E	400	200
250	E	700	200
300	E	1150	200
350/3501	E	1500	200

For a larger centre of gravity distance L^* the permitted force due to gravity is reduced according to the following formula:

$$F_{\text{permitt.}^*} = \frac{F_{\text{max.}} \cdot L}{L^*} \text{ [N]}$$

If the centre of gravity distance L^* of the pump is smaller than the centre of gravity distance L in the table, then the permitted force due to gravity $F_{\text{permitt.}}$ for the pump is equal to the maximum force due to gravity F_{max} in the table.



2.2. SPECIFICATIONS

2.2.1 Coolant

Mineral oil to DIN 51524, other fluids on request

2.2.2 Nominal rpm for drive

$n=1430$ 1/min

(Base rpm for the stated technical data)

(up to 3000 1/min possible)

2.2.3 Direction of rotation

When looking at the pump shaft

clockwise

2.2.4 Air flow rate

Nominal size	Volume
PTK-200	approx. 72 m³/h
PTK-2001	approx. 72 m³/h
PTK-250	approx. 260 m³/h
PTK-300	approx. 435 m³/h
PTK-350	approx. 780 m³/h
PTK-3501	approx. 780 m³/h

2.2.5 Power requirement for fan

Nominal size	Rotation speed	
	1430 1/min	1800 1/min
PTK-200	20 Watt	30 Watt
PTK-2001	20 Watt	30 Watt
PTK-250	30 Watt	50 Watt
PTK-300	90 Watt	130 Watt
PTK-350	140 Watt	220 Watt
PTK-3501	140 Watt	220 Watt

2.2.6 Noise levels for PTK with electric motor without pump

(measured to DIN 45635, Part 1)

Nominal size	Output of electric motor at 1430 1/min	PTK with electric motor
PTK-200	1.5 kW	52 db(A)
PTK-250	4 kW	58 db(A)
PTK-300	5.5 kW	69 db(A)
PTK-350	11 kW	70 db(A)

The noise levels with electric motor depend on the make of motor.

The noise levels are only a guide as the acoustic properties of a room and reflections have an effect on the noise level.

2.3. HYDRAULIC DATA

2.3.1 Cooler element

Material

Aluminium

Pressure resistance

– At an operating pressure of ≤ 16 bar and a temperature ≤ 50 °C, 1 million cycles (2 Hz) are achieved. For higher operating pressures and/or temperatures, the life expectancy will be shorter.

– Maximum operating pressure at static pressure resistance is 40 bar.

Mounting

When mounting or dismantling the threaded connection of the cooler inlet or outlet, the torque must be countered (protects the cooler element from distortions). Please also see the assembly instructions supplied with the product.

NOTE

The information in this brochure relates to the operating conditions and applications described.

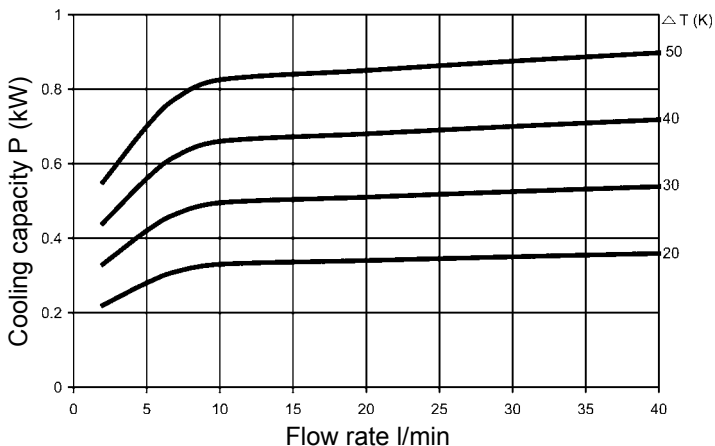
For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

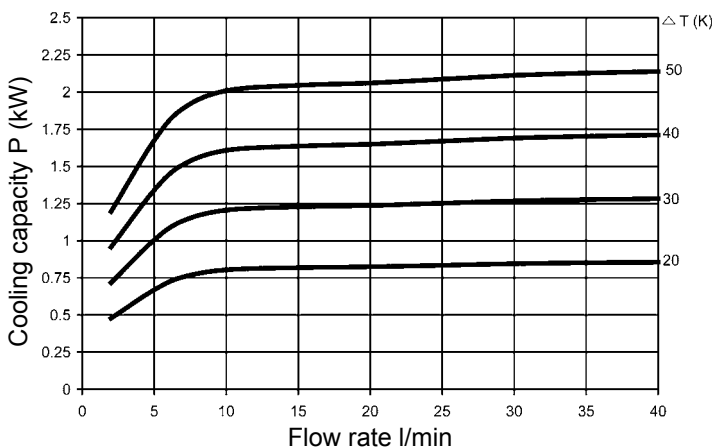
2.3.2 Cooling capacity

Cooling capacity against oil flow rate for different temperature differentials ΔT between oil inlet and air inlet. (Motor rpm 1430 1/min)

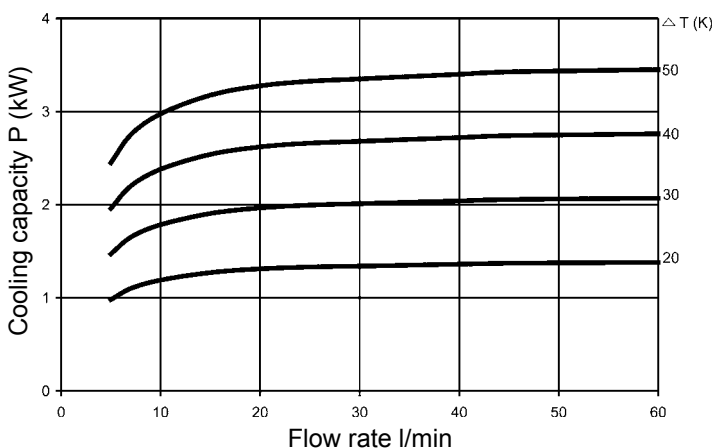
PTK-200/PTK-2001



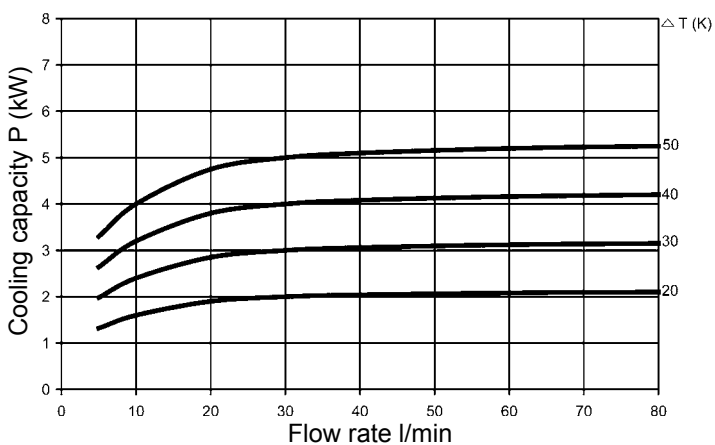
PTK-250



PTK-300



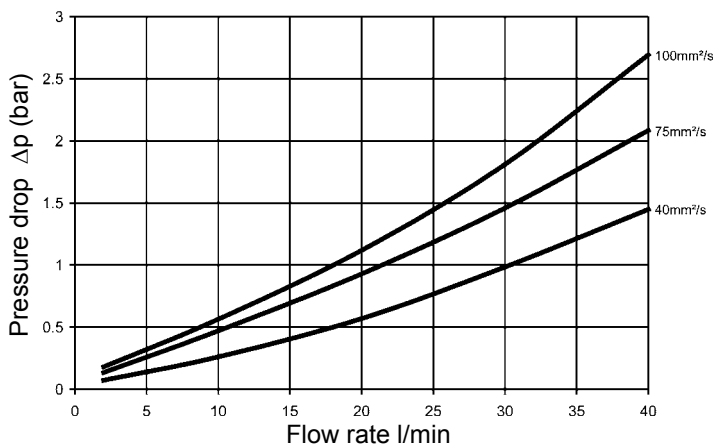
PTK-350/PTK-3501



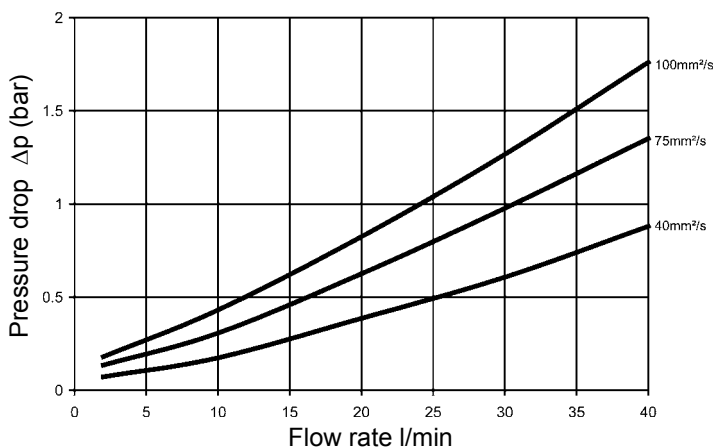
2.3.3 Pressure drop Δp in the cooler element

Flow direction is optional. The differential pressure Δp is shown against flow rate for different viscosities.

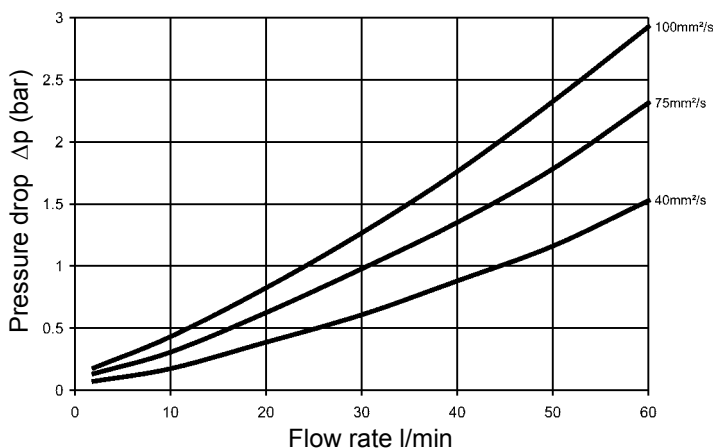
PTK-200/PTK-2001



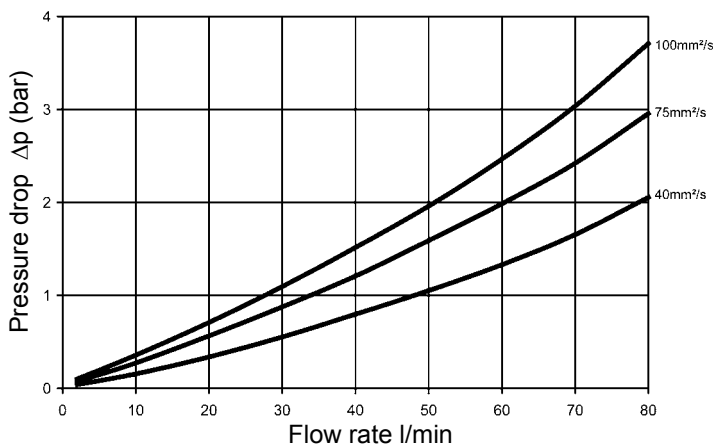
PTK-250



PTK-300



PTK-350/PTK-3501



3. MODEL CODE

PTK - 250 / 2.X / M / FL001 - E / F3

Bell housing with flexible pump mounting and built-in oil/air cooler

Nominal size for IEC standard motor (type of mounting B5, B35, V1, V15)

Nominal size PTK	Size Electric motor	Output n = 1430 rpm
2001	80	0.55 - 0.75 kW
200	90	1.1 - 1.5 kW
250	100/112	2.2 - 4.0 kW
300	132	5.5 - 7.5 kW
350	160	11.0 - 15.0 kW
3501	180	18.5 - 22.0 kW

Modification number

Mineral oil resistance (Special models on request)

Bore template code for pump connection (please use our sizing program PT-WIN)

Type of damping ring

E = standard

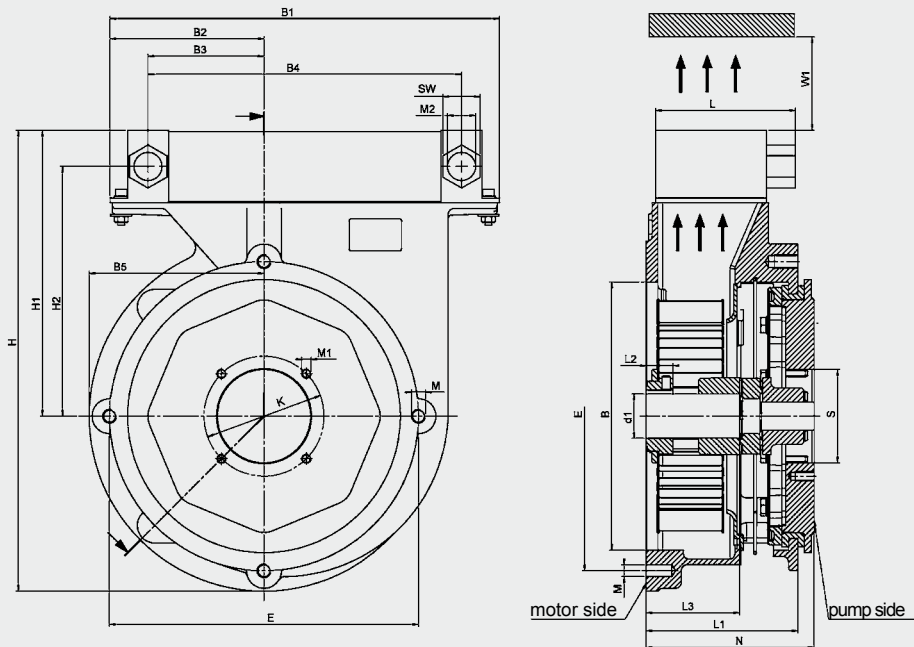
K = damping ring for higher loads (greater rigidity)

Accessories

... = without accessories (no details)

F3 = bell housing foot bracket

3.1. DIMENSIONS



Electric motor	Output at 1500 rpm	Electric Drive shaft	PTK Nominal size	PTK Foot bracket	PTK Mounting plate	H	H1	H2	B	E	M	B1	B2	B3	B4	B5	SW	M2	L	L1	L2	min. W1
80	0.55	19 x 40	PTK-2001	PTFL-200	PP200	275	174	143	130	164	M10	260	110	77.5	195	100	32	G1/2	84	80	21	120
90 S	1.1	24 x 50	PTK-200																			
90 L	1.5																					
100 L	2.2	28 x 60	PTK-250	PTFL-250	PP250	327	197	166	180	215	M12	334	156	123.5	269	130	32	G3/4	120	105	23	160
112 M	4																					
132 S	5.5	38 x 80	PTK-300	PTFL-300	PP-300	395	245	214	230	265	M12	334	132	99.5	269	150	32	G3/4	120	130	23	200
132 M	7.5																					
160 M	11	42 x 110	PTK-350																			
160 L	15			PTFL-350	-	437	262	231	250	300	M16	334	102	69.5	269	175	32	G3/4	148	170	31	240
180 M	18.5	48 x 110	PTK-3501																			
180 L	22																					

To identify the bore template code (dimensions N, S, K, M1), please use our sizing program PT-WIN as far as possible, or ask at our Head Office. You can download and use the PT-WIN program free of charge from our website www.hydac.com by clicking through Support » Download » Software » Product Division - Accessories.

Accessories:

For the range of accessories (bell housing foot brackets, bell housing mounting plate, damping rails, damping rings and couplings) please use our supplementary brochure "Bell Housing Accessories". This brochure can be downloaded from our website www.hydac.com.

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E-Mail: info@hydac.com

Bell Housings

Accessories



FLEXIBLE DRIVE COUPLINGS

Features
Model code
Dimensions



GEAR COUPLINGS

Features
Model code
Dimensions



BELL HOUSING FOOT BRACKETS

Light-duty range
Heavy-duty range



BELL HOUSING MOUNTING PLATE

Bell housing mounting plate
Seal for bell housing mounting plate



DAMPING RAILS

Damping rails for motors
Damping rails for bell housing foot brackets



DAMPING RINGS

Application
Dimensions



TANKSET

Flexible Drive Couplings



FEATURES

- Torsionally flexible and vibration damping due to elastomer toothed insert (spider) with 98° Shore A (polyurethane)
- Elastomer is only subjected to compression loading
- Axial plug-in
- Failsafe as a result of positive-fit power transmission
- Maintenance-free
- Axial, radial and angular misalignment compensation
- Available in aluminium (Al), cast iron (GG/GGG) or steel (St)
- Temperature range:
-30 °C to +90 °C for continuous operation,
-40 °C to +120 °C for short-term operation

MODEL CODE

(also order example)

Coupling 24/28 - 28 / 22.2 F ALU

Coupling size _____

Type of hub, motor-side _____

28 = 28H7 cylindrical bore with key to DIN 6885

Type of hub, pump-side _____

22.2F = 22.2 Code F (7/8") inch bore

B17...TN2A = taper bores

SAE ... = profile bores / spline shafts

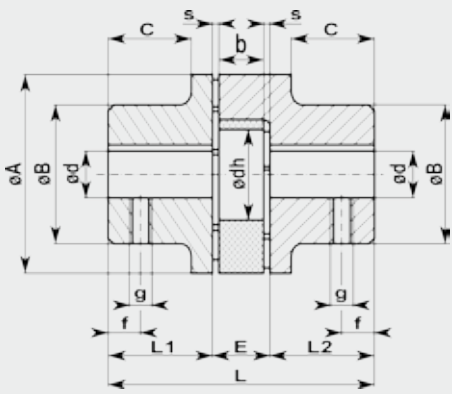
Special models _____

... = coupling in cast iron or steel (no details required)

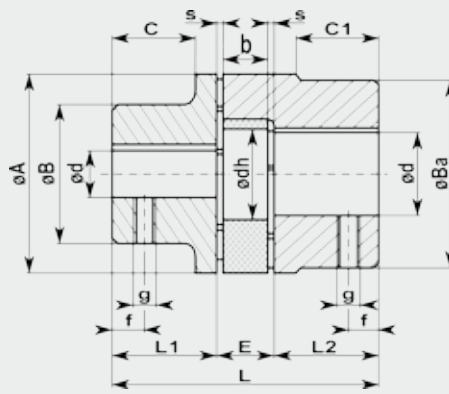
ALU = coupling in aluminium

ATEX = with ATEX approval

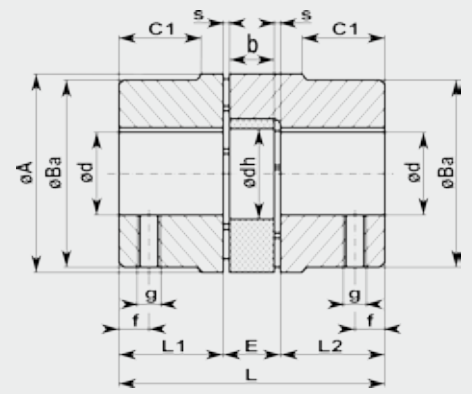
DIMENSIONS



Hub combination A/A
e.g. Coupling 28 – 28/20



Hub combination A/B
e.g. Coupling 28/38 – 28/35



Hub combination B/B
e.g. Coupling 28/38 – 38/38

Coupling hubs in aluminium

Order example: Coupling 19/24-24/14 ALU

Types	max. kW at 1000 rpm	max. kW at 1500 rpm	Bores						Dimensions [mm]													Weight [kg]				
			A hub			B hub			Pilot hole	Finished bore Ø d	Pilot hole	Finished bore Ø d	A	B	Ba	L	L1+L2	E	s	b	C		C1	dh	g	f
			Pilot hole	min	max	min	max																			
19/24	1.1	1.5	5	6	19	18	19	24	40	32	39	66	25	16	2	12	20	21	18	M5	10	0.13				
24/28	2.2	4	7	8	24	15	16	32	55	40	53	78	30	18	2	14	24	26	27	M5	10	0.26				
28/38	5.5	7.5	8	10	28	25	28	38	65	48	63	90	35	20	3	15	28	29	30	M6	15	0.46				
38/45	11	15	13	14	38	35	38	45	80	66	79	114	45	24	3	18	37	39	38	M8	15	0.9				
42/55	22	30	13	19	42	40	42	55	95	75	94	126	50	26	3	20	40	41	46	M8	20	1.39				
48/60	30	45	18	19	48	46	48	60	105	85	104	140	56	28	4	21	45	46	51	M8	20	1.86				

Coupling hubs in steel / cast iron

Order example: Coupling 24/28-20/24

Types	max. kW at 1000 rpm	max. kW at 1500 rpm	Bores						Dimensions [mm]													Weight [kg]				
			A hub			B hub			Pilot hole	Finished bore Ø d	Pilot hole	Finished bore Ø d	A	B	Ba	L	L1+L2	E	s	b	C		C1	dh	g	f
			Pilot hole	min	max	min	max																			
19/24	1.1	1.5	–	6	19	–	12	24	40	32	39	66	25	16	2	12	20	21	18	M5	10	0.35				
24/28	2.2	4	–	10	24	–	14	32	55	40	52	78	30	18	2	14	24	26	27	M5	10	1				
28/38	5.5	7.5	–	12	28	22	24	38	65	45	62	90	35	20	2.5	15	28	29	30	M6	15	1.6				
38/45	11	15	–	14	38	30	38	45	80	66	77	114	45	24	3	18	37	37	38	M8	15	2.3				
42/55	22	30	–	19	42	15	42	55	95	75	94	126	50	26	3	20	40	40	46	M8	20	3.6				
48/60	30	45	–	19	48	15	48	60	105	85	102	140	56	28	3.5	21	45	45	51	M8	20	4.8				
55/70	37	55	–	19	55	47	55	70	120	98	118	160	65	30	4	22	52	52	60	M10	20	7.4				
65/75	55	90	–	22	65	57	65	75	135	115	132	185	75	35	4.5	26	61	59	68	M10	20	10.9				
75/90	90	132	–	30	75	50	75	90	160	135	158	210	85	40	5	30	69	65	80	M10	25	17.7				
90/100	250	315	29	40	90	79	90	100	200	160	180	245	100	45	5.5	34	81	81	100	M10	25	29.5				
100/110	315	315	–	–	–	40	55	110	225	–	200	270	110	50	6	38	–	89	113	M12	30	43.5				

IMPERIAL BORES

Order code	Ød mm	Ød Inch	Groove	
			b+0.05	t2+0.2
9.5 TB	9.5	3/8	3.17	11.1
11.11 DNB	11.11	7/16	2.4	12.5
12.69 T	12.69	1/2	4.75	14.6
12.7 TA	12.7	1/2	3.17	14.3
13.45 DNC	13.45	17/32	3.17	14.9
14.29 DO	14.29	9/16	3.17	15.6
15.87 E	15.87	5/8	3.17	17.5
15.87 S	15.87	5/8	3.97	17.9
15.88 ES	15.88	5/8	4.0	17.7
15.85 DND	15.852	5/8	4.75	18.1
15.87 ED	15.87	5/8	4.75	18.1
17.47 DNH	17.465	11/16	4.75	19.6
19.02 AD	19.02	3/4	3.17	20.7
19.02 AS	19.02	3/4	4.78	21.3
19.05 A	19.05	3/4	4.78	21.3
22.2 FA	22.2	7/8	6.35	25.2
22.23 DNI	22.228	7/8	6.35	25.0
22.22 GS	22.22	7/8	4.78	24.4
22.22 G	22.22	7/8	4.75	24.7
22.22 GB	22.22	7/8	4.78	25.5
22.22 F	22.22	7/8	6.38	25.2
22.225 GD	22.225	7/8	4.76	24.7
23.8 GF	23.8	15/16	6.35	26.8
25.0 HB	25.0	63/64	6.35	28.7
25.38 BA	25.38	1	6.35	27.6
25.38 BS	25.38	1	6.37	28.3
25.4 H	25.4	1	4.78	27.8
25.4 HS	25.4	1	6.35	28.7
26.95 R	26.95	1 1/16	4.78	29.3
28.58 SA	28.575	1 1/8	6.35	31.7
28.58 SB	28.58	1 1/8	6.35	31.5
28.58 SD	28.58	1 1/8	7.93	32.1
31.7 JA	31.7	1 1/4	7.93	34.4
31.71 JC	31.71	1 1/4	7.93	35.3
31.75 JS	31.75	1 1/4	6.35	34.6
31.75 K	31.75	1 1/4	7.93	35.5
31.75 KS	31.75	1 1/4	7.93	36.6
31.76 DNK	31.755	1 1/4	7.93	35.3
34.93 MA	34.925	1 3/8	7.93	38.7
34.92 M	34.92	1 3/8	7.93	38.6
34.93 RH1	34.93	1 3/8	9.55	37.8
36.5 CB	36.5	1 7/16	9.55	40.9
38.07 CA	38.07	1 1/2	7.93	42.0
38.07 C	38.07	1 1/2	9.55	42.5
41.25 N	41.25	1 5/8	9.55	45.6
41.28 NB	41.275	1 5/8	9.55	45.8
44.42 LS	44.42	1 3/4	9.55	48.8
44.45 LA	44.45	1 3/4	11.0	48.1
44.45 L	44.45	1 3/4	11.11	49.4
47.63 LU	47.625	1 7/8	12.7	53.5
49.2 DA	49.2	1 15/16	12.7	55.0
50.77 DS	50.77	2	12.7	56.4
50.8 D	50.8	2	12.7	55.1
53.95 P	53.95	2 1/8	12.7	59.6
53.98 PA	53.975	2 1/8	12.7	60.0
57.1 U	57.1	2 1/4	12.73	62.9
60.33 UB	60.325	2 3/8	15.875	67.6
73.03 WA	73.025	2 7/8	19.05	81.7
85.73 WD	85.725	3 3/8	22.225	95.8
92.08 WF	92.075	3 5/8	22.225	101.9


PROFILE BORES

Profile spline DIN 5480	Profile DIN 5482	Profile SAE
N 20 x 1.25 x 14 x 9 G	A 17 x 14	SAE 5/8" - 16/32 - Z9
N 25 x 1.25 x 18 x 9 G	A 28 x 25	SAE 3/4" - 16/32 - Z11
N 30 x 2 x 14 x 9 G	A 30 x 27	SAE 7/8" - 16/32 - Z13
N 35 x 2 x 16 x 9 G	A 35 x 31	SAE 1" - 16/32 - Z15
N 40 x 2 x 18 x 9 G	A 40 x 36	SAE 1-1/8" - 16/32 - Z17
N 45 x 2 x 21 x 9 G	A 45 x 41	SAE 1-1/4" - 12/24 - Z14
N 50 x 2 x 24 x 9 G	A 48 x 44	SAE 1-3/8" - 16/32 - Z21
N 55 x 2 x 24 x 9 G	A 50 x 45	SAE 1-1/2" - 12/24 - Z17
N 60 x 2 x 28 x 9 G	A 58 x 53	SAE 1-1/2" - 16/32 - Z23
N 70 x 3 x 22 x 9 G	A 70 x 64	SAE 1-3/4" - 16/32 - Z27
N 80 x 3 x 25 x 9 G		SAE 1-3/4" - 8/16 - Z13
N 90 x 3 x 28 x 9 G		SAE 2" - 8/16 - Z15
		SAE 2-1/4" - 8/16 - Z17

TAPER BORES

Order code	Taper 1:8			
	Ød	b	t2	l
TN1	9.75	2.40	10.7	17.0
TN1C	11.60	3.00	12.9	16.5
TN1E	13.00	2.40	13.8	21.0
TN1D	14.00	3.00	15.5	17.5
TN1B	14.30	3.20	15.7	19.5
TN2	17.20	3.20	18.3	24.0
TN2A	17.20	4.00	18.9	24.0
TN2B	17.20	3.00	18.3	24.0
TN3	22.00	4.00	23.4	28.0
TN4	25.46	4.78	27.8	36.0
TN4B	25.46	5.00	28.2	36.0
TN4A	27.00	4.78	28.8	32.5
TN4G	28.45	6.00	29.3	38.5
TN5	33.17	6.38	35.4	44.0
TN5A	33.17	7.00	35.4	44.0

Order code	Taper 1:5			
	Ød	b	t2	l
A10	9.85	2	10.9	11.5
B17	16.85	3	18.9	18.5
C20	19.85	4	22.0	21.5
Cs22	21.95	3	23.8	21.5
D25	24.85	5	27.9	26.5
E30	29.85	6	32.5	31.5
F35	34.85	6	37.5	36.5
G40	39.85	6	45.5	41.5

 = Standard

Gear Couplings



FEATURES

- Flexible shaft connection
- Axial, radial and angular misalignment compensation
- Coupling hub in steel, coupling sleeve in polyamide
- Torque transmission without radial stress due to double cardanic construction
- Temperature range: -25°C to +80°C for continuous operation

MODEL CODE

(also order example)

Coupling B 24 24H7 / 20H7

Gear coupling _____

Coupling size _____

Type of hub, motor-side _____

24H7 = cylindrical bore with key to DIN 6885

Type of hub, pump-side _____

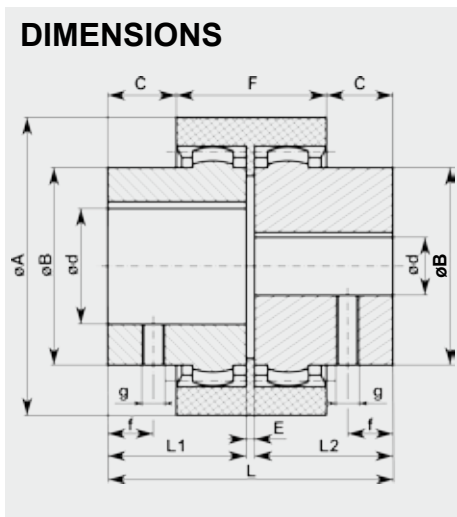
20H7 = cylindrical bore with key to DIN 6885

22.2F = 22.2 Code F (7/8") inch bore*

B17/TN2A = taper bore*

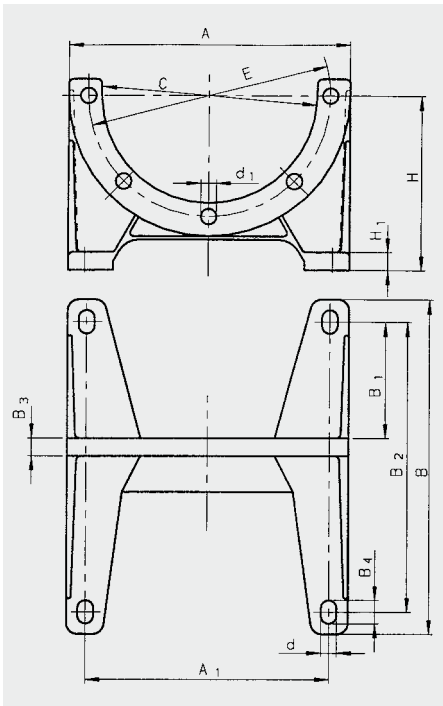
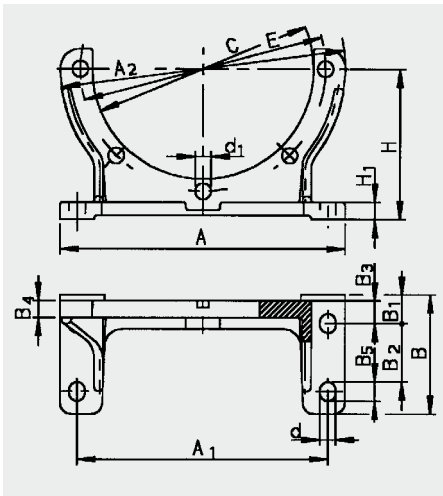
* see tables under Flexible Drive Couplings, p. 244

DIMENSIONS



Types	max. kW at 1000 rpm	max. kW at 1500 rpm	Pilot hole	Finished bores d [mm]		Dimensions [mm]										Weight [kg]
				min.	max.	A	B	L	L1 + L2	E	C	F	g	f		
B 24	1.10	1.50	—	10	24	52	36	56	26	4	7.5	41	M 5	6	0.316	
B 28	2.20	4.00	7	10	28	66	44	84	40	4	19	46	M 8	10	0.739	
B 38	5.50	7.50	12	14	38	83	58	84	40	4	18	48	M 8	10	1.22	
B 42	11.00	15.00	12	20	42	92	68	88	42	4	19	50	M 8	10	1.49	

Bell Housing Foot Brackets for PT, PTK, PTS



LIGHT-DUTY RANGE TO VDMA 24561

Size	Part no.	A	A1	A2	B	B1	B2	B3	B4	B5	H	H1	d	C	E	d1
PF-160/3	3130712	160	140	-	80	15	50	7	12	-	100	10	9	110	130	9
PF-200/3	953938	210	180	200	93	14	60	3	8	23	112	12	11	146	165	11
PF-250/3 for PT, PTS	3326868	250	220	-	110	20	60	21	19	-	132	15	14	190	215	14
PF-250/3 for PTK*	3290117	250	220	-	110	20	60	21	19	-	132	15	14	190	215	14
PF-300/3	953710	290	260	300	120	19	80	19	15	32	160	15	14	240	265	14

* additional counterbore for use with countersunk screws

HEAVY-DUTY RANGE TO VDMA 24561

Size	Part no.	A	A1	B	B1	B2	B3	B4	H	H1	d	C	E	d1
PF-350/3*	953942	350	300	305	70	265	18	22	180	18	18	265	300	18
PF-250/4	3045399	250	215	260	60	185	15	24	155	15	14	190.3	215	14
PF-300/4	3043132	300	265	270	75	225	18	24	185	18	14	234.5	265	14
PF-350/4	3045259	350	300	305	90	265	18	30	235	18	18	260	300	18
PF-400/4	3044298	400	350	350	100	300	20	30	260	20	18	302	350	18
PF-450/4	3044299	450	400	385	110	335	22	30	295	20	18	352	400	18
PF-550/4	3030682	550	500	465	140	415	25	30	350	25	18	452	500	18
PF-660/4	3044300	660	600	555	165	495	30	40	380	30	22	552	600	22

* PF-350/3 is part of the light-duty range but has dimensions according to drawing on left

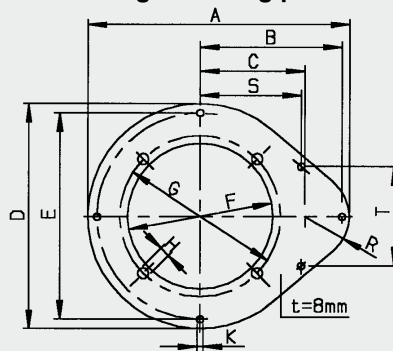


Bell Housing Mounting Plate for Bell Housings Type PT, PTK, PTS

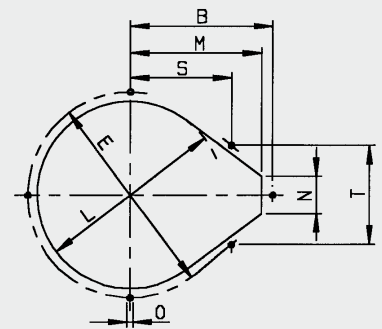
FEATURES

- Enables the complete motor-pump unit to be fitted and removed from outside the tank
- Simplifies cleaning and maintenance
- Bell housing mounting plate in aluminium, seal in NBR rubber (mineral oil resistant)

Bell housing mounting plate

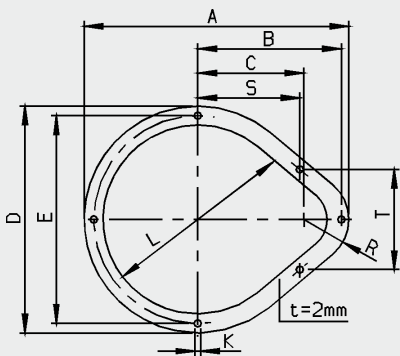


Oil tank cut-out



Size	Part no.	A	B	C	D	E	F	G	H	K	R	L	M	N	O	S	T
PP 200	273931	325	190	140	250	225	146	165	11	9.5	60	200	175	50	M8	84	168
PP 250	272058	350	190	140	300	275	194	215	14	9.5	60	250	175	50	M8	135	134
PP 300	272059	423	225	150	350	330	246	265	14	14.5	98	300	200	100	M12	160	190
PP 350	637939	475	225	160	410	380	262	300	18	14	110	350	200	136	M12	112	307.5

Seal for bell housing mounting plate



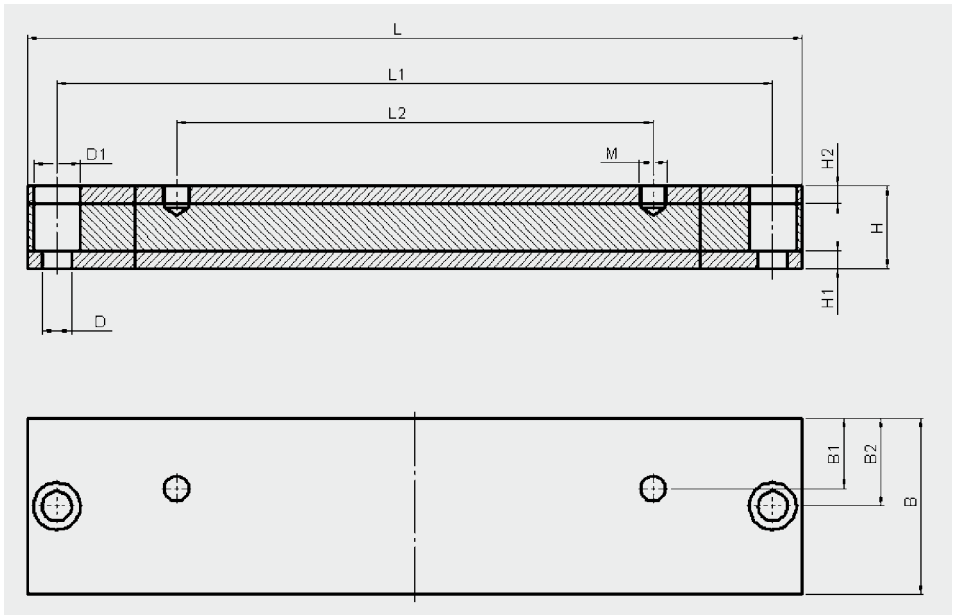
Size	Part no.	A	B	C	D	E	K	R	L	S	T
PPD 200	952788	325	190	140	250	225	10	60	200	84	168
PPD 250	952789	350	190	140	300	275	10	60	250	135	134
PPD 300	952812	420	225	150	360	330	15	90	300	160	190
PPD 350	3159093	475	225	160	410	380	20	110	350	112	307.5

Damping Rails for Electric Motors Mounting-Type IMB35



FEATURES

- Horizontal base mounting only (not overhead mounted)
- Machined ready for IMB 35 motors
- Noise reduction due to decoupling
- Resistant to mineral oil due to NBR rubber compound
- Special lengths and models are possible on request



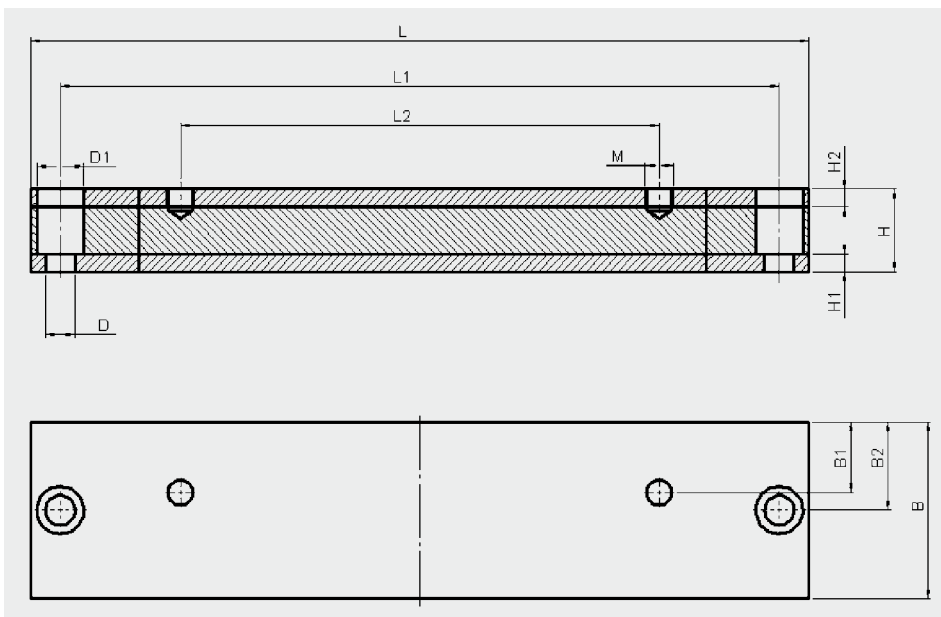
Damping rails	For type	Part no.	L	L1	L2	H	H1	H2	B	B1	B2	D	D1	M
MDS 080	80	3134999	176	146	100	40	8	12	50	22	25	14	20	M8
MDS 090S	90S	721987	196	156	100	40	8	12	50	22	25	14	20	M8
MDS 090L	90L	721988	240	205	125	40	8	12	50	24	25	14	20	M8
MDS 100L	100L	721989	240	205	140	40	8	12	50	24	25	14	20	M10
MDS 112M	112M	3065818	240	205	140	40	8	12	50	20	25	14	20	M10
MDS 132S	132S	721990	285	245	140	45	8	12	50	20	25	14	20	M10
MDS 132M	132M	721991	285	245	178	45	8	12	50	20	25	14	20	M10
MDS 160M	160M	721992	340	300	210	60	15	15	70	28	35	18	26	M12
MDS 160L	160L	3128252	416	370	254	60	15	15	70	28	35	18	26	M12
MDS 180M	180M	3234395	416	370	241	60	15	15	70	35	35	18	26	M12
MDS 180L	180L	721995	446	400	279	60	15	15	70	35	35	18	26	M12
MDS 200L	200L	724279	496	430	305	60	15	15	70	35	35	22	32	M16
MDS 225S	225S	3042916	496	430	286	60	15	15	70	35	35	22	32	M16
MDS 225M	225M	723832	496	445	311	60	15	15	70	35	35	22	32	M16
MDS 250M	250M	722801	496	445	349	60	15	15	100	50	50	25	40	M20
MDS 280S	280S	3042928	580	530	368	60	15	15	100	50	50	25	40	M20
MDS 280M	280M	3042929	580	530	419	60	15	15	100	50	50	25	40	M20
MDS 315S	315S	3026755	660	610	406	70	15	15	150	60	75	25	40	M24
MDS 315M	315M	3026452	660	610	457	70	15	15	150	60	75	25	40	M24
MDS 315L	315L	3065559	720	670	508	70	15	15	150	60	75	25	40	M24

Damping Rails for Bell Housing Foot Bracket



FEATURES

- Horizontal base mounting only (not overhead mounted)
- Machined ready for IMB 35 motors
- Noise reduction due to decoupling
- Resistant to mineral oil due to NBR rubber compound
- Special lengths and models are possible on request



Damping rails *	For type	Part no.	L	L1	L2	H	H1	H2	B	B1	B2	D	D1	M
FDS 200/3	PF200/3	721983	190	150	60	40	8	12	50	25	29	14	20	M10
FDS 250/3	PF250/3	721984	225	185	60	40	8	12	50	25	29	14	20	M12
FDS 300/3	PF300/3	721985	285	245	80	45	8	12	50	25	29	14	20	M12
FDS 350/3	PF350/3	721986	380	340	265	60	8	12	70	35	29	18	26	M16
FDS 300/4	PF300/4	3169191	350	300	225	40	8	12	50	20	25	14	20	M12
FDS 350/4	PF350/4	3169192	375	340	265	60	15	15	70	35	29	18	26	M16
FDS 400/4	PF400/4	3044302	420	385	300	60	15	15	70	35	30	18	26	M16
FDS 450/4	PF450/4	3044304	455	420	335	60	15	15	70	35	30	18	26	M16
FDS 550/4	PF550/4	3044305	535	500	415	60	15	15	70	35	30	18	26	M16
FDS 660/4	PF660/4	3044306	660	610	495	60	15	15	70	35	30	22	32	M20

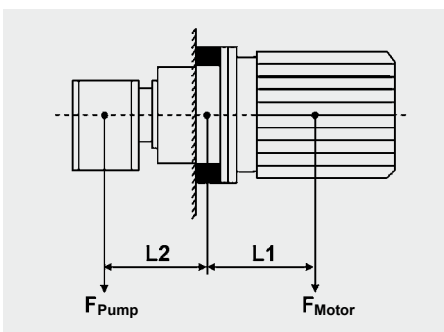
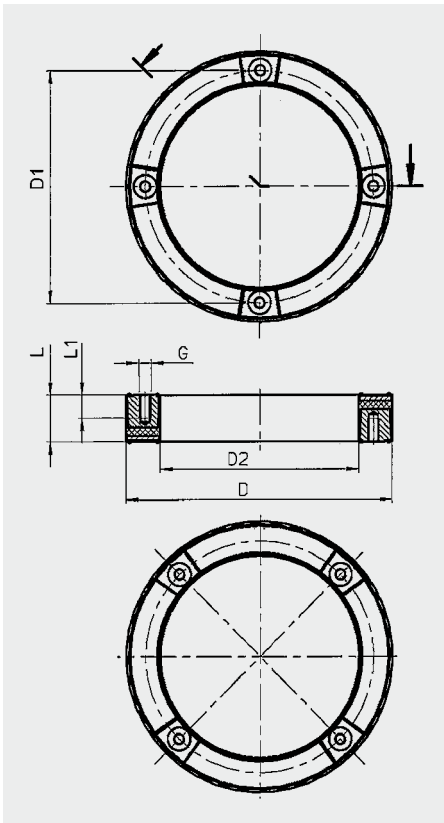
* FDS .../3 for bell housing foot brackets, light-duty range
 FDS .../4 for bell housing foot brackets, heavy-duty range

Damping Rings



APPLICATION

- For vertical and horizontal mounting
- Cost-effective noise reduction due to decoupling
- Resistant to mineral oil through the use of NBR rubber compound
- Vulcanized seal lip, no additional seal required



DIMENSIONS

Damping ring type	For IEC motor size	Part no.	Dimensions [mm]					
			D	D1	D2	G	L1	L
DFR-V1/B5 200	80, 90S / 90L	3026885	200	165	146	4xM10	18	40
DFR-V1/B5 250	100L / 112 M	3026886	250	215	191	4xM12	22	45
DFR-V1/B5 300	132S / 132 M	3026887	300	265	235	4xM12	22	50
DFR-V1/B5 350	160M / 160L / 180M / 180 L	3210971	350	300	261	4xM16	28	60
DFR-V1/B5 400	200L	3210987	400	350	301	4xM16	29	50
DFR-V1/B5 450	225S / 225M	1151180	450	400	352	8xM16	32	60
DFR-V1/B5 550	250M / 280S / 280M	1151181	550	500	452	8xM16	32	60
DFR-V1/B5 660	315S / 315M	3041666	660	600	552	8xM20	33	65

Permitted radial weight load and bending stress, allowing for an operating temperature of + 60°C:

Maximum permitted force:

$$F_{\text{pump}} + F_{\text{motor}} \leq F_{\text{permitted}}$$

Maximum permitted bending moment:

$$F_{\text{motor}} \times L1 - F_{\text{pump}} \times L2 \leq Mb_{\text{permitted}}$$

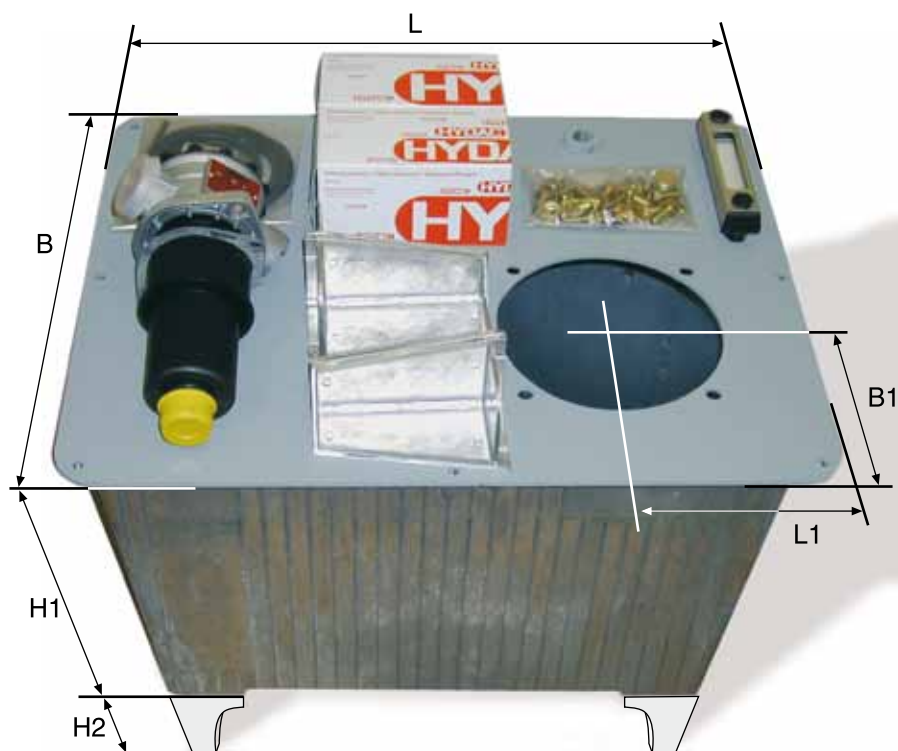
Damp. ring type	200	250	300	350	400	450	550	660
$F_{\text{perm.}} [N]$	385	755	1520	3780	5040	6800	13390	24720
$Mb_{\text{perm.}} [Nm]$	32	68	184	770	1135	1650	4530	9270

TankSet



COMPONENT PARTS:

- Tank (aluminium)
- Feet (aluminium)
- Cover seal
- Cover (steel, grey primer)
- Fluid level gauge FSA
- Return line filter RF
- Breather filter BFP
- Screw set



Type	Tank size LxBxH1/H2	Co-ordinates L1/B1	Part no.	Displ. vol. (l)	Fluid level gauge	Return line filter with filter cartr. 10µm	Breather filter
HYNG 6.5-140	260x220x170/10	85/85	3102944	6	FSA 076	RF 30	BFP3G10W3.0
HYNG 12-140	310x240x215/75	81/85	3104404	10	FSA 076	RF 30	BFP3G10W3.0
HYNG 12-160	310x240x215/75	96/96	3102945	10	FSA 076	RF 30	BFP3G10W3.0
HYNG 20-160	366x288x245/75	99/100	3102946	17	FSA 076	RFM 75	BFP3G10W3.0
HYNG 20-200	366x288x245/75	119/120	3104405	17	FSA 076	RFM 75	BFP3G10W3.0
HYNG 30-200	490x340x275/150	125/120	3104406	27	FSA 076	RFM 165	BFP3G10W3.0
HYNG 30-250	490x340x275/150	150/145	3102947	27	FSA 076	RFM 165	BFP3G10W3.0
HYNG 44-200	515x415x305x150	122/122	3104407	40	FSA 127	RFM 165	BFP3G10W3.0
HYNG 44-250	515x415x305x150	147/147	3103018	40	FSA 127	RFM 165	BFP3G10W3.0
HYNG 70-250	605x465x355/150	170/170	3103019	63	FSA 127	RFM 165	BFP3G10W3.0
HYNG 70-300	605x465x355/150	157/157	3104428	63	FSA 127	RFM 165	BFP3G10W3.0

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC Accessories GmbH

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HYDAC

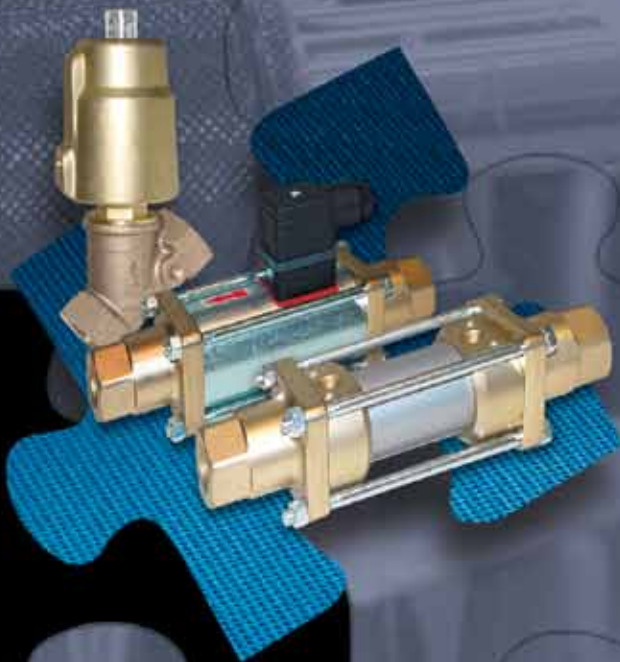
INTERNATIONAL



**Katalog CX Ventile
für Kühlschmierstoffe.**

**Catalog of CX Valves
for Cooling Lubricants.**

**Catalogue de Valves CX
pour les fluides de coupe.**



Einleitung

Für den Einsatz in Kühlschmierstoffkreisläufen bietet HYDAC ACCESSORIES ein gut sortiertes Standardprogramm gängiger Ventile – auf Abruf, ab Lager.

- Kolbensteuer-Ventile, fremdgesteuert, 0 - 25 bar, bis 440 l/min
- Coaxial-Ventile, direkt- und fremdgesteuert, 0 - 160 bar, 200 l/min

Um Schmierung, Spänetransport und Abfuhr von Prozesswärme in Kühlschmierstoffkreisläufen sicherzustellen, sind die Ventile entsprechend robust ausgelegt.

Im Niederdruckbereich garantieren HYDAC Kolbensteuer-Ventile hohe Zuverlässigkeit. Sie sind als fremdgesteuerte Sitzventile ausgeführt und werden pneumatisch gegen eine Federkraft betätigt.

Im Hochdruckbereich, wo zur Kühlung und Schmierung innengekühlter Werkzeuge Hochdrucksysteme die 0,3 mm feinen Bohrerkanäle mit über 80 bar durchspülen, sorgen die weitestgehend schmutzunempfindlichen HYDAC Coaxial-Ventile für eine störungsfreie Produktion.

Für die problemlose Block- und Systemintegration gibt es diese Ventile nicht nur als Einzelventile, sondern auch als Verkettung und als kundenspezifische Sonderlösung.

Darüber hinaus bietet HYDAC ACCESSORIES ein umfassendes Zubehörprogramm zur Komplettierung und Perfektionierung von fluidtechnischen Systemen:

- Befestigungstechnik für Rohre, Schläuche, Kabel, Behälter und Bauteile
- Kugelhähne als Standard-, Umschalt-, Mehrwege-, Flansch- und Platten-Kugelhähne
- Flüssigkeitsstandanzeigen, Flüssigkeitsstandkontrollen
- Pumpenträger, starr und elastisch
- Mess- und Schnellverschluss-Kupplungen, Verschraubungen
- Drehelastische Kupplungen und Bogenzahnkupplungen
- Tankset

Introduction

For use in cooling lubricant circuits HYDAC ACCESSORIES offers a diverse range of well-established valves available on demand and in stock.

- Piston Valves, pilot-operated 0 - 25 bar, up to 440 l/min
- Coaxial Valves, direct-operated and pilot-operated 0 - 160 bar, up to 200 l/min

To ensure lubrication, chip removal and dissipation of process heat in cooling lubricant circuits, the valves are designed to be correspondingly rugged.

In low pressure systems HYDAC piston valves guarantee a high level of reliability. They are designed as pilot-operated seat valves and are pneumatically-actuated with a spring return.

In high pressure systems where coolant at 80 bar is used to cool and lubricate internally cooled tools through 0.3 mm fine drill channels, the HYDAC Coaxial Valves are largely insensitive to contamination and ensure trouble-free production.

For easy integration in blocks and systems, these valves are available not only as individual valves, but also as stacking and customized special solutions.

In addition, HYDAC ACCESSORIES offers a comprehensive range of accessories for final installation and optimizing fluid technology systems:

- Mounting technology for pipes, hoses, cables, reservoirs and components
- Ball valves in standard, change-over, 3 and 4 way, flange and manifold designs
- Fluid level gauges
- Bell housings, rigid and flexible
- Test points and quick release couplings, connections
- Flexible drive couplings and gear couplings
- Tank set

Introduction

HYDAC ACCESSORIES propose une nouvelle gamme de valves, pour fluides de coupe, de refroidissement et lubrification.

- Valves à pilotage par piston, à pilotage externe, 0 – 25 bar, jusqu'à 440 l/min
- Valves coaxiales à pilotage direct ou externe, 0 – 160 bar, 200 l/min

Les valves ont été conçues de manière robuste pour assurer une bonne lubrification, pour le transport des copeaux et la dissipation de la chaleur dans les circuits de fluides de refroidissement.

Dans le domaine de la basse pression, les valves à piston HYDAC garantissent une fiabilité élevée. Elles sont conçues pour être actionnées pneumatiquement par un pilotage externe contre la force du ressort.

Dans le domaine de la haute pression où des systèmes effectuent à plus de 80 bar le rinçage de canaux fins de 0,3 mm pour refroidir et lubrifier des outils à refroidissement interne, les valves coaxiales HYDAC, extrêmement peu sensibles à la pollution, contribuent à une production exempte de pannes.

Pour une intégration sans problème dans des blocs et des systèmes, ces valves sont non seulement disponibles comme valves individuelles mais aussi sous forme modulaire et solution spécifique client.

HYDAC ACCESSORIES propose en outre une vaste gamme d'accessoires pour compléter et perfectionner les systèmes de la technique des fluides :

- Technique de fixation pour les tuyaux, flexibles, câbles, réservoirs et composants.
- Robinets à boisseau sphérique en exécution standard, à voies multiples, à brides et sur plaque.
- Indicateurs et contrôleurs de niveau.
- Supports de pompe rigides et élastiques
- Coupleurs, prise de pression et raccords à bagues
- Accouplements élastiques et cannelés
- Tankset



2/2-Wege Kolbensteuer-Ventile
2/2-Way Piston Valves
Vanne à piston 2/2

fremdgesteuert
pilot operated
à pilotage externe

CXK01 – 2/2, CXK02 – 2/2

256 – 258



2/2-Wege Coaxial-Ventile
2/2-Way Coaxial Valves
Vanne coaxiale 2/2

direktgesteuert
direct acting
à pilotage direct

CX02 > CX05 – 2/2

259 – 261



CX03M – 2/2, CX04M – 2/2

262 – 264



fremdgesteuert
pilot operated
à pilotage externe

CX06 – 2/2, CX07 – 2/2

265 – 267



CX06M – 2/2

268 – 270



3/2-Wege Coaxial-Ventile
3/2-Way Coaxial Valves
Valves coaxiales 3/2

direktgesteuert
direct acting
à pilotage direct

CX03 – 3/2, CX04 – 3/2

271 – 273



fremdgesteuert
pilot operated
à pilotage externe

CX06 – 3/2, CX07 – 3/2

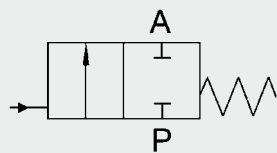
274 – 276



Schaltfunktion /
Switching function /
Schéma de fonctionnement

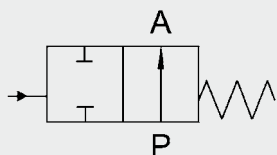
NC (Federkraft schließend)

NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)

NO (normally open)
NO (normalement ouvert)



**2/2 Wege
Kolbensteuer-
Ventile
CXK01 und CXK02
fremdgesteuert**

- **Nennweite:**
DN 15 - 50
- **Druckbereich:**
CXK01 - 2/2
PN 0 - 25 bar
mit dem Mediumstrom
schließend
CXK02 - 2/2
PN 0 - 25 bar
gegen den Mediumstrom
schließend
- **Gehäusewerkstoff:**
Rotguss, Edelstahl
- **Dichtwerkstoff:**
Rotguss:
- Sitzdichtung: PTFE
- Spindeldichtung:
PTFE, optional NBR
Edelstahl:
- Sitzdichtung: FKM,
optional PTFE
- Spindeldichtung: PTFE
- **Volumenstrom:**
0 - 440 l/min
- **Temperatur:
Medium:**
bei NBR -10 bis +80 °C
bei PTFE -40 bis +200 °C
Umgebung: max. +60 °C
- **Anschlüsse:**
G 1/2 - G 2
- **Steuermedium:**
Luft (trocken, geölt)
- **Steuerdruck:**
4 - 10 bar
- **Vorsteuerventil:**
optional 3/2-Wege Pilot-
ventil, mit M12x1 Stecker
möglich
- **Einbaulage:**
beliebig

**2/2 Way
Piston Valves
CXK01 and CXK02
pilot operated**

- **Diameter:**
DN 15 - 50
- **Pressure range:**
CXK01 - 2/2
PN 0 - 25 bar
closing with flow direction
CXK02 - 2/2
PN 0 - 25 bar
closing against
flow direction
- **Body material:**
Red bronze, stainless steel
- **Sealing:**
Red bronze:
- seat seals: PTFE
- spindle seals: PTFE,
optional NBR
Stainless steel:
- seat seals: FKM,
optional PTFE
- spindle seals: PTFE
- **Flow range:**
0 - 440 l/min
- **Temperature range:**
Fluid:
with NBR -10 up to +80 °C
with PTFE -40 up to +200 °C
ambient: max. +60 °C
- **Connection:**
G 1/2 - G 2
- **Control medium:**
Air (dry, oiled)
- **Control pressure:**
4 - 10 bar
- **Pilot valve:**
optional 3/2-way pilot valve,
possible with M12x1 plug
- **Mounting:**
in any position

**Vanne
à piston 2/2
CXK01 et CXK02
à pilotage externe**

- **Diamètre nominal :**
DN 15 - 50
- **Plage de pression :**
CXK01 - 2/2
PN 0 - 25 bar
fermant avec
le débit du fluide
CXK02 - 2/2
PN 0 - 25 bar
fermant contre
le débit du fluide
- **Matériau du corps :**
Fonte rouge,
acier inoxydable
- **Matériau des joints :**
Fonte rouge :
- Joint de siège : PTFE
- Joint de la tige : PTFE,
en option NBR
Acier inoxydable :
- Joint de siège : FKM,
en option PTFE
- Joint de la tige : PTFE
- **Débit :**
0 - 440 l/min
- **Température :**
Fluide :
NBR -10 à +80 °C
PTFE -40 à +200 °C
Environnement :
max. +60 °C
- **Raccordements :**
G 1/2 - G 2
- **Fluide de pilotage :**
Air (sec, huilé)
- **Pression de pilotage :**
4 - 10 bar
- **Valve de pilotage :**
En option :
distributeur piloté 3/2,
possible avec
connecteur M12x1
- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CXK01 – 2/2 – F / C – 3 / 15 / 025 / 012 / PP

Benennung / Designation / Désignation

Baureihe / Type / Série

CXK01

= **Mit dem Medienstrom schließend** / Closing with flow direction / *Fermant avec le débit du fluide*

CXK02

= **Gegen den Medienstrom schließend** / Closing against flow direction / *Fermant contre le débit du fluide*

Wege / Ways / Voies

2/2

= **Anzahl der Wege** / Number of ways / *Nombre de voies*

Ansteuerung / Control / Pilotage

F

= **Fremd** / External pilot / *Externe*

Schaltfunktion / Switching function / Fonction de commutation

C

= **NC - Federkraft schließend** / normally closed / *Tension du ressort fermante*

O

= **NO - Federkraft öffnend** / normally open / *Tension du ressort ouvrante*

Gehäusewerkstoff / Body material / Matériau du corps

3

= **Rotguss** / Red bronze / *Fonte rouge*

6

= **Edelstahl** / Stainless steel / *Acier inoxydable (1.4408)*

Nennweite / Diameter / Diamètre nominal

15

= DN 15

20

= DN 20

25

= DN 25

32

= DN 32

40

= DN 40

50

= DN 50

Druck / Pressure / Pression

025

= 0 ... 25 bar > CXK01

020

= 0 ... 20 bar > CXK02

Anschluss / Connection / Raccordement

012

= G 1/2 - DN 15

034

= G 3/4 - DN 20

100

= G 1 - DN 25

114

= G 1 1/4 - DN 32

112

= G 1 1/2 - DN 40

200

= G 2 - DN 20

Dichtwerkstoff / Sealing / Matériau du corps

Rotguss / Red bronze / Fonte rouge

P

= **PTFE: Sitzdichtung** / Seat seals / *Joint de siège*

P

= **PTFE: Spindeldichtung** / Spindle seals / *Joint de la tige*

Edelstahl / Stainless steel / Acier inoxydable

F

= **FKM: Sitzdichtung** / Seat seals / *Joint de siège*

P

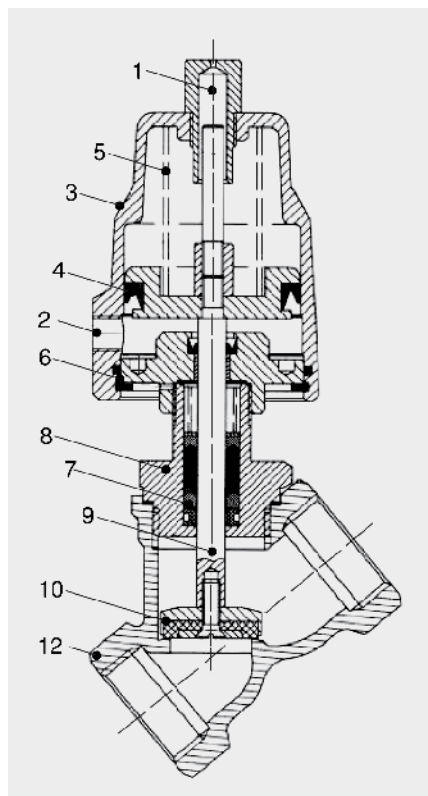
= **PTFE: Spindeldichtung** / Spindle seals / *Joint de la tige*

Baureihe Designation Série	DN DN DN	Druck Pressure Pression		Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h	Material Material Matériau
		bar – Ø 50	bar – Ø 80			
					DIN 60354	
CXK01	15	0 – 16	/	1/2	4,6	Rotguss Red bronze <i>Fonte rouge</i>
	20	0 – 16	0 – 16	3/4	9,4	
	25	0 – 16	0 – 16	1	17,4	
	32	0 – 10	0 – 16	1 1/4	21,5	
	40	0 – 8	0 – 16	1 1/2	26,4	
	50	0 – 4	0 – 16	2	47,5	
CXK01	15	0 – 25	/	1/2	4,6	Edelstahl Stainless steel <i>Acier inoxydable</i>
	20	0 – 20	/	3/4	9,4	
	25	0 – 16	0 – 25	1	17,4	
	32	0 – 9	0 – 25	1 1/4	21,5	
	40	0 – 7	0 – 20	1 1/2	26,4	
	50	0 – 4	0 – 12	2	47,5	
CXK02	15	0 – 16	/	1/2	4,6	Rotguss Red bronze <i>Fonte rouge</i>
	20	0 – 16	/	3/4	9,4	
	25	0 – 10	0 – 16	1	17,4	
	32	0 – 7	0 – 12	1 1/4	21,5	
	40	0 – 6	0 – 8	1 1/2	26,4	
	50	0 – 4	0 – 5	2	47,5	
CXK02	15	0 – 16	/	1/2	4,6	Edelstahl Stainless steel <i>Acier inoxydable</i>
	20	0 – 20	0 – 25	3/4	9,4	
	25	0 – 10	0 – 16	1	17,4	
	32	0 – 7	0 – 10	1 1/4	21,5	
	40	0 – 6	0 – 8	1 1/2	26,4	
	50	0 – 3	0 – 5	2	47,5	

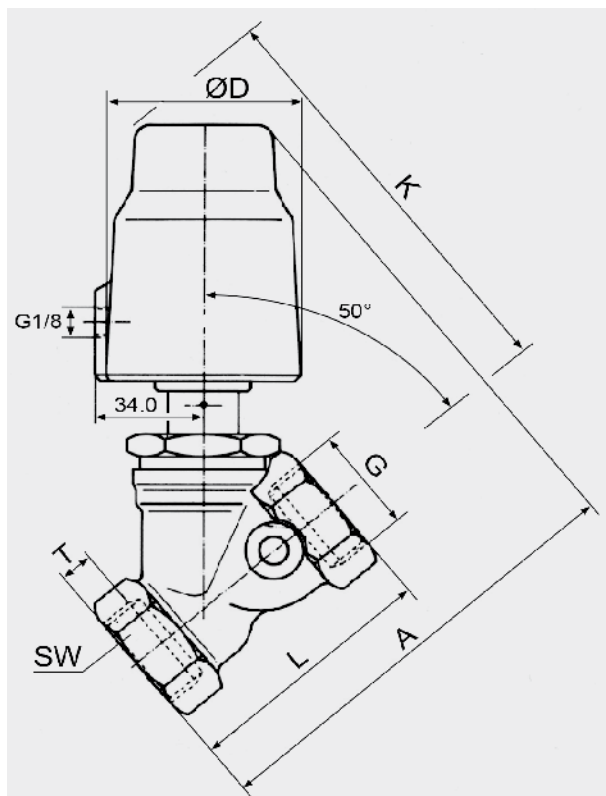
Antrieb Ø 80 als Option / Actuator Ø 80 as option / Actionneur Ø 80 en option

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.

Schnittzeichnung /
Sectional drawing /
Plan en coupe



Maßzeichnung /
Dimension drawing /
Plan coté



Stückliste / Parts list / *Nomenclature*

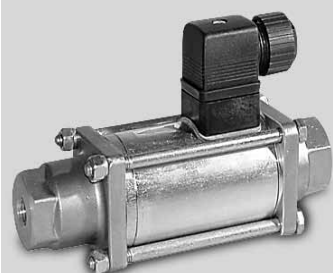
- 1 – **Klarsichthaube** / Position indicator / *Calotte transparente*
- 2 – **Steuerluftanschluss** / Control air connection / *Raccordement air pilotage*
- 3 – **Antrieb** / Actuator / *Actionneur*
- 4 – **Kolbendichtung** / Piston seal / *Joint du piston*
- 5 – **Feder** / Spring / *Ressort*
- 6 – **Dichtung** / Seal / *Joint*
- 7 – **Abstreifer** / Wiper seal / *Défecteur*
- 8 – **Nippel** / Seal housing / *Raccord fileté*
- 9 – **Spindel** / Spindle / *Axe*
- 10 – **Pendelteller** / Seat / *Siège*
- 11 – **Dichtung** / Seal / *Joint*
- 12 – **Ventilgehäuse** / Valve housing / *Corps de la valve*

Maßtabelle / Dimension table / *Tableau dimensionnel*

	Antrieb Ø 50 mm Actuator Ø 50 mm Actionneur Ø 50 mm						Antrieb Ø 80 mm Actuator Ø 80 mm Actionneur Ø 80 mm		
G	1/2	3/4	1	1 1/4	1 1/2	2	1 1/4	1 1/2	2
A ₍₁₎	135	140	145	150	155	160	195	205	215
A ₍₂₎	140	145	150	155	160	175	200	210	230
D	62	62	62	62	62	62	94	94	94
K ₍₁₎	132	130	135	140	148	155	186	192	200
K ₍₂₎	140	140	145	148	155	162	190	195	205
L ₍₁₎	57	68	80	97	107	124	97	107	124
L ₍₂₎	65	75	90	110	120	150	110	120	150
SW ₍₁₎	27	33	41	50	56	68	50	56	68
SW ₍₂₎	27	32	42	50	55	70	50	55	70
T ₍₁₎	8	9	10,5	12,5	14,5	16,5	12,5	14,5	16,5
T ₍₂₎	12	13	15	17	19	21	17	19	21
kg ₍₁₎	1,2	1,3	1,5	1,8	2,4	3,5	3	3,4	4,5
kg ₍₂₎	1,3	1,4	1,6	2,2	2,5	3,5	3,2	3,4	4,6

Index₍₁₎ = **Standardausführung in Rotguss** / Standard version in red bronze / *Exécution standard en fonte rouge*

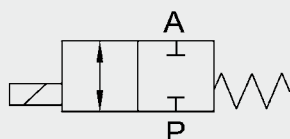
Index₍₂₎ = **Standardausführung in Edelstahl** / Standard version in stainless steel / *Exécution standard en acier inoxydable*



Schaltfunktion /
Switching function /
Schéma de fonctionnement

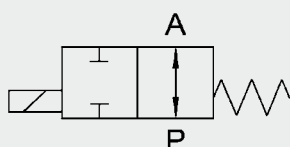
NC (Federkraft schließend)

NC (normally closed)
NC (*normalement fermé*)



NO (Federkraft öffnend)

NO (normally open)
NO (*normalement ouvert*)



2/2 Wege Coaxial-Ventile CX02 bis CX05 direktgesteuert

- **Nennweite:**
DN 10 – 25
- **Druckbereich:**
CX02 – 2/2 PN 0 – 20 bar
CX03 – 2/2 PN 0 – 40 bar
CX04 – 2/2 PN 0 – 64 bar
CX05 – 2/2 PN 0 – 100 bar
- **Gegendruckticht:**
bis 12 bar
- **Gehäusewerkstoff:**
Muffenausführung:
Messing, 1.4305, 1.4571
Flanschausführung:
Stahl verzinkt
- **Dichtwerkstoff:**
statisch: FKM
dynamisch: PTFE
- **Volumenstrom:**
0 - 150 l/min
- **Temperatur:**
Medium: -20 bis +130 °C
Umgebung: -30 bis +60 °C
- **Anschlüsse:**
G 1/4 – G 1 1/2
- **Elektrischer Anschluss:**
Gerätesteckdose nach
DIN EN 175301-803
(M12x1 optional)
- **Anschlussspannung:**
24 V DC,
Sonderspannung als
Option erhältlich
- **Einschaltdauer:**
100 % ED
- **Schutzart:**
IP 65

2/2 Way Coaxial Valves CX02 to CX05 direct acting

- **Diameter:**
DN 10 – 25
- **Pressure range:**
CX02 – 2/2 PN 0 – 20 bar
CX03 – 2/2 PN 0 – 40 bar
CX04 – 2/2 PN 0 – 64 bar
CX05 – 2/2 PN 0 – 100 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
threaded version:
brass, AISI 304, AISI 316
flange version:
galvanized steel
- **Sealing:**
static: FKM
dynamic: PTFE
- **Flow range:**
0 - 150 l/min
- **Temperature:**
fluid: -20 up to +130 °C
ambient: -30 up to +60 °C
- **Connection:**
G 1/4 – G 1 1/2
- **Electrical connection:**
to DIN EN 175301-803
(M12x1 optional)
- **Nominal voltage:**
24 V DC,
special voltages
available as option
- **Duty cycle:**
100 %
- **Protection class:**
IP 65

Vanne coaxiale 2/2 CX02 à CX05 à pilotage direct

- **Diamètre nominal :**
DN 10 – 25
- **Plage de pression :**
CX02 – 2/2 PN 0 – 20 bar
CX03 – 2/2 PN 0 – 40 bar
CX04 – 2/2 PN 0 – 64 bar
CX05 – 2/2 PN 0 – 100 bar
- **Contre pression
admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
forme manchon :
laiton, AISI 304, AISI 316
bride : acier zingué
- **Matériau des joints :**
statique : FKM
dynamique : PTFE
- **Débit :**
0 - 150 l/min
- **Température :**
fluide : -20 à +130 °C
ambiante : -30 à +60 °C
- **Raccordement :**
G 1/4 – G 1 1/2
- **Raccordement électrique :**
connecteur selon
DIN EN 175301-803
(M12x1 en option)
- **Tension nominale :**
24 V DC,
Autre tensions en option
- **Facteur de marche :**
100 % ED
- **Indice de protection :**
IP 65

Typenschlüssel / Type code / Code de commande

CX02 - 2/2 - D / C - 2 / 10 / 020 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série

- CX02
- CX03
- CX04
- CX05

Wege / Ways / Voies

2/2 = Anzahl der Wege / Number of ways / Nombre de voies

Ansteuerung / Control / Pilotage

D = Direkt / Direct / Direct

Schaltfunktion / Switching function / Fonction de commutation

- C = NC - stromlos geschlossen / normally closed / normalement fermé**
- O = NO - stromlos offen / normally open / normalement ouvert**

Gehäusewerkstoff / Body material / Matériau du corps

- 1 - als Option / as option / en option = Stahl verzinkt / Galvanized steel / Acier zingué**
- 2 = Messing / Brass / Laiton**
- 4 - als Option / as option / en option = 1.4305**
- 5 - als Option / as option / en option = 1.4571**

Nennweite / Diameter / Diamètre nominal

- 10 = DN 10**
- 15 = DN 15**
- 20 = DN 20**
- 25 = DN 25**

Druck / Pressure / Pression

- 020 = CX02 > 0 - 20 bar**
- 040 = CX03 > 0 - 40 bar**
- 064 = CX04 > 0 - 64 bar**
- 100 = CX05 > 0 - 100 bar**

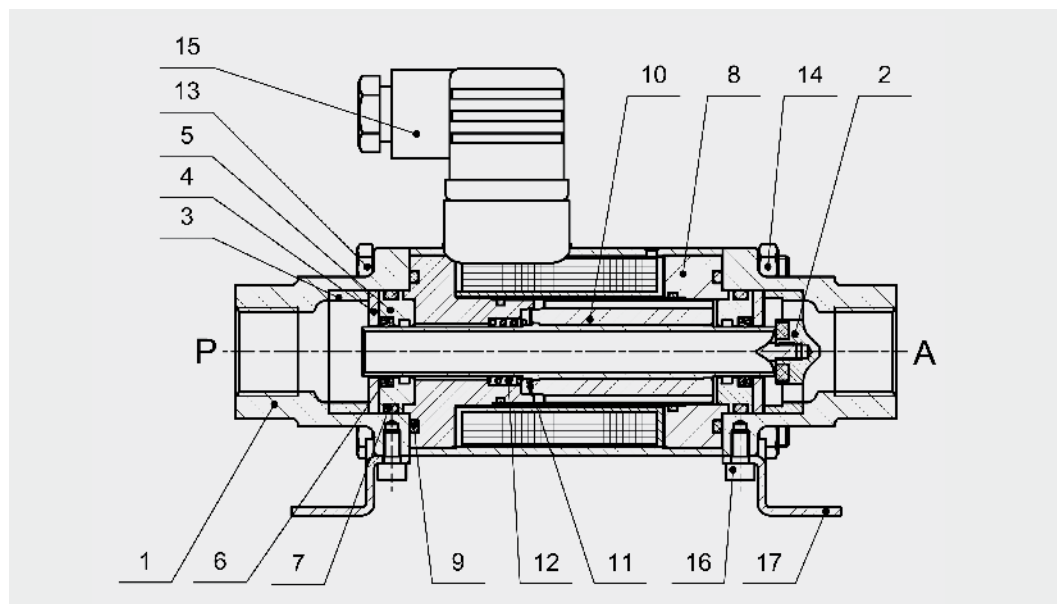
Anschluss / Connection / Raccordement

- 014 = G 1/4 - DN 10**
- 038 = G 3/8 - DN 10 DN 15**
- 012 = G 1/2 - DN 10 DN 15 DN 20**
- 034 = G 3/4 - DN 15 DN 20 DN 25**
- 100 = G 1 - DN 20 DN 25**
- 114 = G 1 1/4 - DN 25**
- 112 = G 1 1/2 - DN 25**

Baureihe Type Série	DN DN DN	Druck Pressure Pression	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h	Leistungsaufnahme W Wattage W Puissance absorbée W		Gewicht Weight Masse
					24 V	230 V 50 Hz	
	mm	bar		DIN 60354			kg
CX02	10	0 - 20	1/4, 3/8, 1/2	2,5	25	29	1,70
	15	0 - 20	3/8, 1/2, 3/4	4,5	30	32	3,55
	20	0 - 20	1/2, 3/4, 1	6,8	34	42	5,35
	25	0 - 20	3/4, 1, 1 1/4, 1 1/2	11,5	51	60	7,10
CX03	10	0 - 40	1/4, 3/8, 1/2	2,5	35	41	1,65
	15	0 - 40	3/8, 1/2, 3/4	4,5	40	45	3,55
	20	0 - 40	1/2, 3/4, 1	6,8	45	53	5,35
	25	0 - 40	3/4, 1, 1 1/4, 1 1/2	11,5	60	68	7,10
CX04	10	0 - 64	1/4, 3/8, 1/2	2,5	44	53	1,65
	15	0 - 64	3/8, 1/2, 3/4	4,5	50	55	3,55
	20	0 - 64	1/2, 3/4, 1	6,8	53	59	5,35
	25	0 - 64	3/4, 1, 1 1/4, 1 1/2	11,5	77	85	7,10
CX05	10	0 - 100	1/4, 3/8, 1/2	2,5	44	53	1,30
	15	0 - 100	3/8, 1/2, 3/4	4,5	50	55	3,40
	20	0 - 100	1/2, 3/4, 1	6,8	53	59	4,90
	25	0 - 100	3/4, 1, 1 1/4, 1 1/2	11,5	77	85	6,30

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.

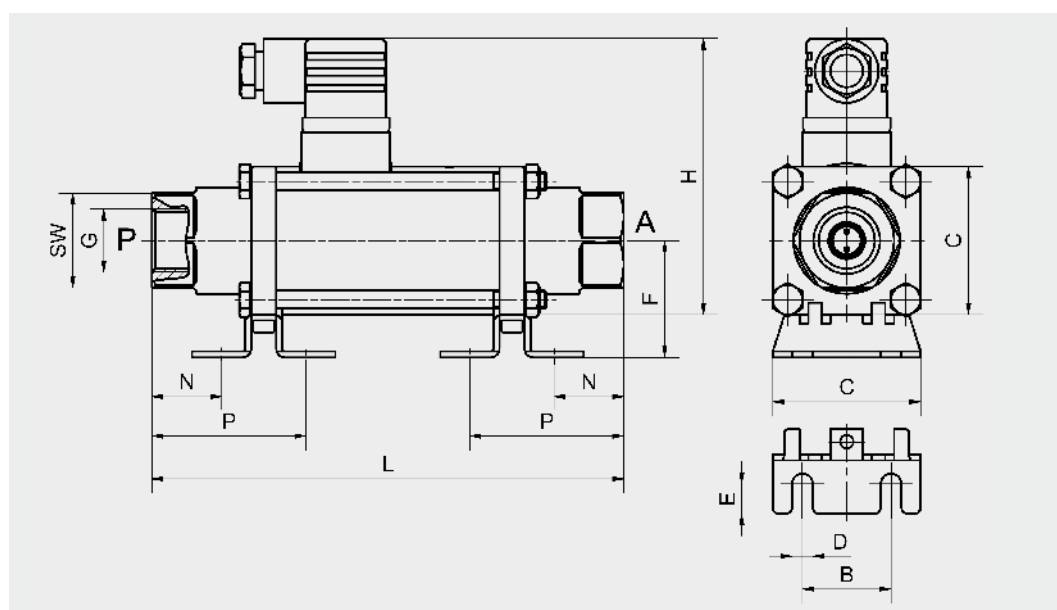
Schnittzeichnung / Sectional drawing / Plan en coupe



Stückliste / Parts list / Nomenclature

- 1 – **Anschlussstück** / Adapter / *Pièce de raccordement*
- 2 – **Ventilsitz komplett** / Valve seat assembly / *Clapet*
- 3 – **Distanzstück** / Spacer / *Entretoise*
- 4 – **Deckel** / Cap / *Couvercle*
- 5 – **Führungsscheibe** / Guiding disk / *Bague de guidage*
- 6 – **Dynamische Abdichtung** / Dynamic sealing / *Étanchéité dynamique*
- 7 – **O-Ring** / O-ring / *Joint torique*
- 8 – **Magnet** / Solenoid / *Solénoïde*
- 9 – **O-Ring** / O-ring / *Joint torique*
- 10 – **Anker komplett** / Armature assembly / *Noyeau*
- 11 – **Antiremanenzscheibe** / Demagnetizing disc / *Glace*
- 12 – **Druckfeder** / Spring / *Ressort*
- 13 – **Sechskantschraube** / Hexagon screw / *Vis six pans*
- 14 – **Sechskantmutter** / Hexagon nut / *Écrou six pans*
- 15 – **Gerätesteckdose** / Connector / *Connecteur*
- 16 – **Schraube** / Screw / *Visse*
- 17 – **Befestigungswinkel** / Mounting bracket / *Équerre de fixation*

Maßzeichnung / Dimension drawing / Plan côté



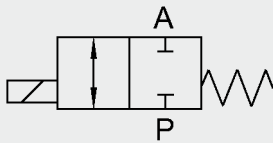
Maßtabelle / Dimension table / Tableau dimensionnel

DN	L	H	G	SW	C	F	N	O	P	E	D	B
10	159,5	93,5	1/4, 3/8, 1/2	32	50	39,5	23,5	42,5	42,5	8,9	6,2	30
15	184	113,5	3/8, 1/2, 3/4	41	70	52,5	22,5	49,5	49,5	13,5	7	45
20	215	123,5	1/2, 3/4, 1	46	80	57	33,4	60	60	15,3	6,5	50
25	246	133,5	3/4, 1, 1 1/4, 1 1/2	55	90	71	34	73	73	16	8,5	60

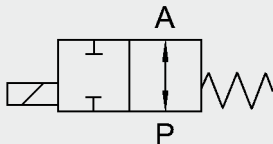


Schaltfunktion /
Switching function /
Schéma de fonctionnement

NC (Federkraft schließend)
NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)
NO (normally open)
NO (normalement ouvert)



2/2 Wege Coaxial-Ventile CX03M und CX04M direktgesteuert

- **Nennweite:**
DN 10 - 15
- **Druckbereich:**
CX03M – 2/2 PN 0 – 40 bar
CX04M – 2/2 PN 0 – 64 bar
- **Gegendruekdicht:**
bis 12 bar
- **Gehäusewerkstoff:**
Einzelventil: Messing
Block: Aluminium
- **Dichtwerkstoff:**
statisch: FKM
dynamisch: PTFE
- **Volumenstrom:**
0 - 80 l/min
- **Temperatur:**
Medium: -20 bis +130 °C
Umgebung: -30 bis +60 °C

- **Anschlüsse:**
Ventil: G1/4 – G3/4
Block: G1 – G 1 1/4

- **Elektrischer Anschluss:**
Gerätesteckdose nach
DIN EN 175301-803
(M12x1 optional)

- **Anschlussspannung:**
24V DC,
Sonderspannung als
Option erhältlich

- **Einschaltdauer:**
100% ED

- **Schutzart:**
IP 65

- **Einbaulage:**
beliebig

2/2 Way Coaxial Valves CX03M and CX04M direct acting

- **Diameter:**
DN 10 – 15
- **Pressure range:**
CX03M – 2/2 PN 0 – 40 bar
CX04M – 2/2 PN 0 – 64 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
single valve: brass
block: aluminium
- **Sealing:**
static: FKM
dynamic: PTFE
- **Flow range:**
0 - 80 l/min
- **Temperature:**
fluid: -20 up to +130 °C
ambient: -30 up to + 60 °C

- **Connection:**
valve: G1/4 – G3/4
block: G1 – G 1 1/4

- **Electrical connection:**
to DIN EN 175301-803
(M12x1 optional)

- **Nominal voltage:**
24 V DC,
special voltages available
as option

- **Duty cycle:**
100%

- **Protection class:**
IP 65

- **Mounting:**
in any position

Valves coaxiales 2/2 CX03M et CX04M à pilotage direct

- **Diamètre nominal :**
DN 10 – 15
- **Plage de pression :**
CX03M – 2/2 PN 0 – 40 bar
CX04M – 2/2 PN 0 – 64 bar
- **Contre pression
admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
valve : laiton
bloc : aluminium
- **Matériau des joints :**
statique : FKM
ambient : PTFE
- **Plage de débit :**
0 - 80 l/min
- **Température :**
fluide : -20 à +130 °C
ambiante : -30 à +60 °C

- **Raccordement :**
valve : G1/4 – G3/4
bloc : G1 – G 1 1/4

- **Raccordement électrique :**
connecteur selon
DIN EN 175301-803
(M12x1 en option)

- **Tension de raccordement :**
24 V DC,
Autres tension
en option

- **Facteur de marche :**
100% ED

- **Indice de protection :**
IP 65

- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CX03M - 2/2 - D / C - 2 / 10 / 040 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série

CX03M
CX04M

Wege / Ways / Voies

2/2 = Anzahl der Wege / number of ways / nombre de voies

Ansteuerung / Control / Pilotage

D = Direkt / Direct / Direct

Schaltfunktion / Switching function / Fonction de commutation

C = NC - stromlos geschlossen / normally closed / normalement fermé

O = NO - stromlos offen / normally open / normalement ouvert

Gehäusewerkstoff / Body material / Matériau du corps

2 = Messing / Brass / Laiton

Nennweite / Diameter / Diamètre nominal

10 = DN 10

15 = DN 15

Druck / Pressure / Pression

040 = CX03M > 0 – 40 bar

064 = CX04M > 0 – 64 bar

Anschluss / Connection / Raccordement

014 = G 1/4 - DN 10

038 = G 3/8 - DN 10 DN 15

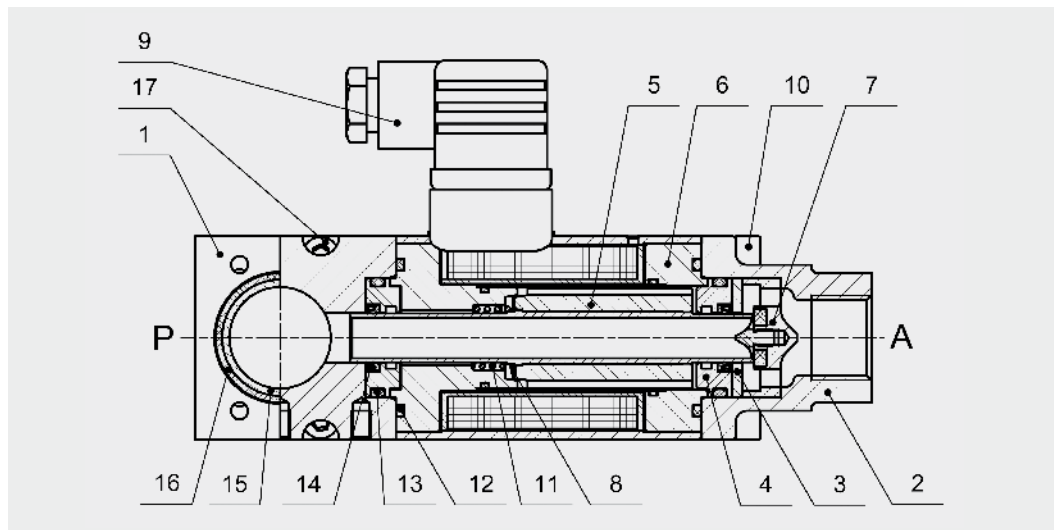
012 = G 1/2 - DN 10 DN 15

034 = G 3/4 - DN 15

Baureihe Type Série	DN DN DN	Druck Pressure Pression	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h	Leistungsaufnahme W Wattage W Puissance absorbée W		Gewicht Weight Masse
					24 V	230 V 50 Hz	
CX03M	10	0 – 40	1/4, 3/8, 1/2	2,5	35	41	1,65
	15	0 – 40	3/8, 1/2, 3/4	5	40	45	3,55
CX04M	10	0 – 64	1/4, 3/8, 1/2	2,5	35	41	1,65
	15	0 – 64	3/8, 1/2, 3/4	4,5	40	45	3,55

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.

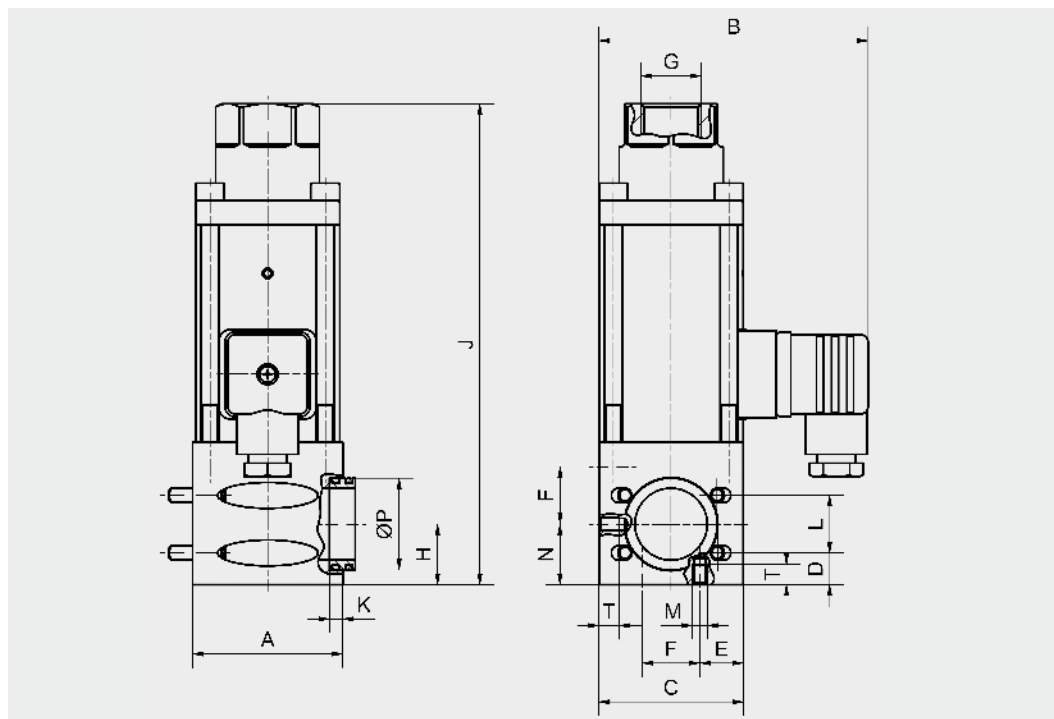
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.



Stückliste / Parts list / Nomenclature

- 1 – **Blockmodul** / Block module / *Block module*
- 2 – **Anschlussstück** / Adapter / *Pièce de raccordement*
- 3 – **Deckel** / Cap / *Couvercle*
- 4 – **Führungsscheibe** / Guiding disk / *Bague de guidage*
- 5 – **Anker komplett** / Armature assembly / *Noyeau*
- 6 – **Magnet** / Solenoid / *Solénoïde*
- 7 – **Ventilsitz komplett** / Valve seat assembly / *Clapet*
- 8 – **Antiremanenzscheibe** / Demagnetizing disc / *Glace*
- 9 – **Gerätesteckdose** / Connector / *Connecteur*
- 10 – **Schraube** / Screw / *Visse*
- 11 – **Druckfeder** / Spring / *Ressort*
- 12 – **O-Ring** / O-ring / *Joint torique*
- 13 – **O-Ring** / O-ring / *Joint torique*
- 14 – **Dichtung** / Seal / *Joint*
- 15 – **Distanzstück** / Spacer / *Entretoise*
- 16 – **O-Ring** / O-ring / *Joint torique*
- 17 – **Schraube** / Screw / *Visse*

Maßzeichnung / Dimension drawing / Plan côté



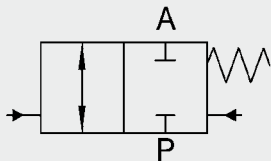
Maßtabelle / Dimension table / Tableau dimensionnel

DN	H	B	G	A	C	D	E	F	J	K	L	M	N	ØP	T
10	167	93,5	1/4, 3/8, 1/2	52	50	11	15	20	21	4,5	20	5	21	31,9	6,5
15	197,5	113,5	3/8, 1/2, 3/4	72	70	10,5	21	28	26	5	30	6	26	37,9	8

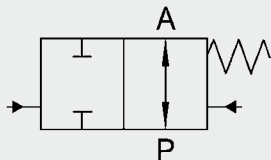


Schaltfunktion /
Switching function /
Schéma de fonctionnement

NC (Federkraft schließend)
NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)
NO (normally open)
NO (normalement ouvert)



2/2 Wege Coaxial-Ventile CX06 und CX07 fremdgesteuert

- **Nennweite:**
DN 10 - 25
- **Druckbereich:**
CX06 – 2/2 PN 0 – 64 bar
CX07 – 2/2 PN 0 – 160 bar
- **Gegendruckdicht:**
bis 12 bar
- **Gehäusewerkstoff:**
Muffenausführung:
Messing, 1.4305, 1.4571
Flanschausführung:
Stahl verzinkt
- **Dichtwerkstoff:**
statisch und dynamisch: FKM
Sitzdichtung: PTFE
- **Volumenstrom:**
0 - 200 l/min
- **Temperatur:**
Medium: -20 bis +100 °C
Umgebung: -30 bis +60 °C
- **Anschlüsse:**
G1/4 – G1 1/4
- **Steuermedium:**
Luft
- **Steuerdruck:**
3 – 8 bar
- **Vorsteuerventil:**
Optional 5/2-Wege
Pilotventil
- **Einbaulage:**
beliebig

2/2 Way Coaxial Valves CX06 and CX07 pilot operated

- **Diameter:**
DN 10 – 25
- **Pressure range:**
CX06 – 2/2 PN 0 – 64 bar
CX07 – 2/2 PN 0 – 160 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
threaded version:
brass, AISI 304, AISI 316
flange version:
galvanized steel
- **Seals:**
static and dynamic: FKM
seat seal: PTFE
- **Flow range:**
0 - 200 l/min
- **Temperature:**
fluid: -20 up to +100 °C
ambient: -30 up to +60 °C
- **Connection:**
G1/4 – G1 1/4
- **Control medium:**
air
- **Control pressure:**
3 – 8 bar
- **Pilot valve:**
optional 5/2-way pilot valve
- **Mounting:**
in any position

Valves coaxiales 2/2 CX06 et CX07 à pilotage externe

- **Diamètre :**
DN 10 – 25
- **Plage de pression:**
CX06 – 2/2 PN 0 – 64 bar
CX07 – 2/2 PN 0 – 160 bar
- **Contre-pression admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
exécution taraudée :
laiton, AISI 1.4305, 1.4571
exécution à bride :
acier zingué
- **Joints :**
statique et dynamique : FKM
joint du clapet : PTFE
- **Débit :**
0 - 200 l/min
- **Température:**
fluide : -20 à +100 °C
ambiante : -30 à +60 °C
- **Raccordement :**
G1/4 – G1 1/4
- **Fluide de pilotage :**
air
- **Pression de pilotage :**
3 – 8 bar
- **Valve de pilotage :**
en option distributeur 5/2
- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CX06 - 2/2 - F / C - 2 / 10 / 064 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série

CX06
CX07

Wege / Ways / Voies

2/2 = **Anzahl der Wege / Number of ways / Nombre de voies**

Ansteuerung / Control / Pilotage

F = **Fremd / External pilot / Externe**

Schaltfunktion / Switching function / Fonction de commutation

C = **NC - Federkraft schließend / normally closed / Tension du ressort fermante**
O = **NO - Federkraft öffnend / normally open / Tension du ressort ouvrante**

Gehäusewerkstoff / Body material / Matériau du corps

1 - als Option / as option / en option = **Stahl verzinkt / Galvanized steel / Acier zingué**
2 = **Messing / Brass / Laiton**
4 - als Option / as option / en option = **1.4305**
5 - als Option / as option / en option = **1.4571**

Nennweite / Diameter / Diamètre nominal

10 = **DN 10**
15 = **DN 15**
20 = **DN 20**
25 = **DN 25**

Druck / Pressure / Pression

064 = **CX06 > 0 - 64 bar**
160 = **CX07 > 0 - 160 bar**

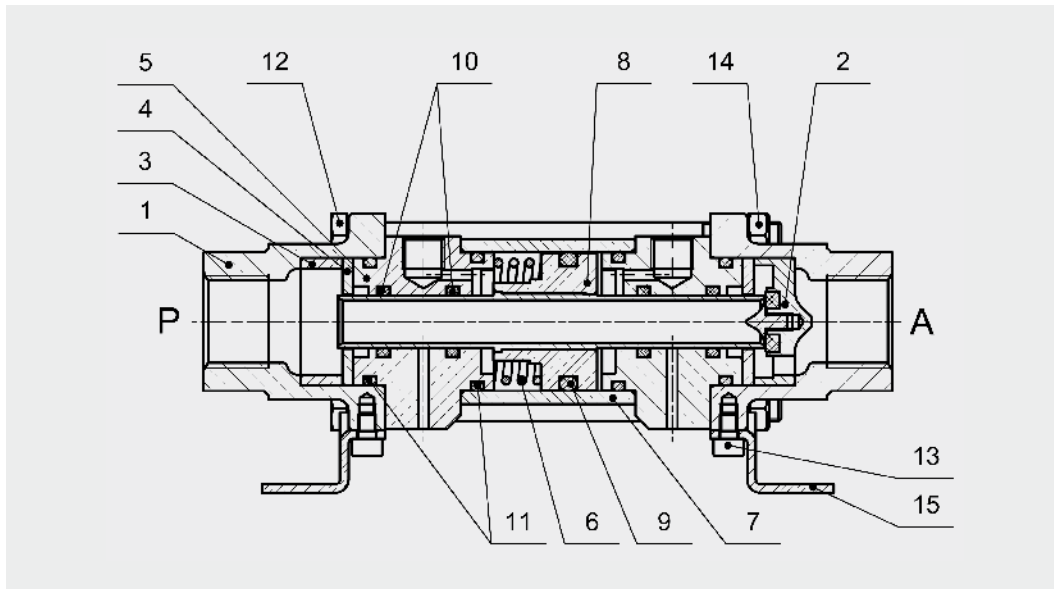
Anschluss / Connection / Raccordement

014 = **G 1/4 - DN 10**
038 = **G 3/8 - DN 10 DN 15**
012 = **G 1/2 - DN 10 DN 15 DN 20**
034 = **G 3/4 - DN 15 DN 20 DN 25**
100 = **G 1 - DN 20 DN 25**
114 = **G 1 1/4 - DN 25**

Baureihe Type Série	DN DN DN mm	Druck Pressure Presssion bar	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h DIN 60354	Gewicht Weight Masse kg
CX06	10	0 - 64	1/4, 3/8, 1/2	2,5	1,60
	15	0 - 64	3/8, 1/2, 3/4	4,5	2,80
	20	0 - 64	1/2, 3/4, 1	6,8	4,00
	25	0 - 64	3/4, 1, 1 1/4	11,5	5,30
CX07	10	0 - 160	1/4, 3/8, 1/2	3,1	1,20
	15	0 - 160	3/8, 1/2, 3/4	5,5	2,90
	20	0 - 160	1/2, 3/4, 1	8,7	3,80
	25	0 - 160	3/4, 1, 1 1/4	12,3	4,80

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.

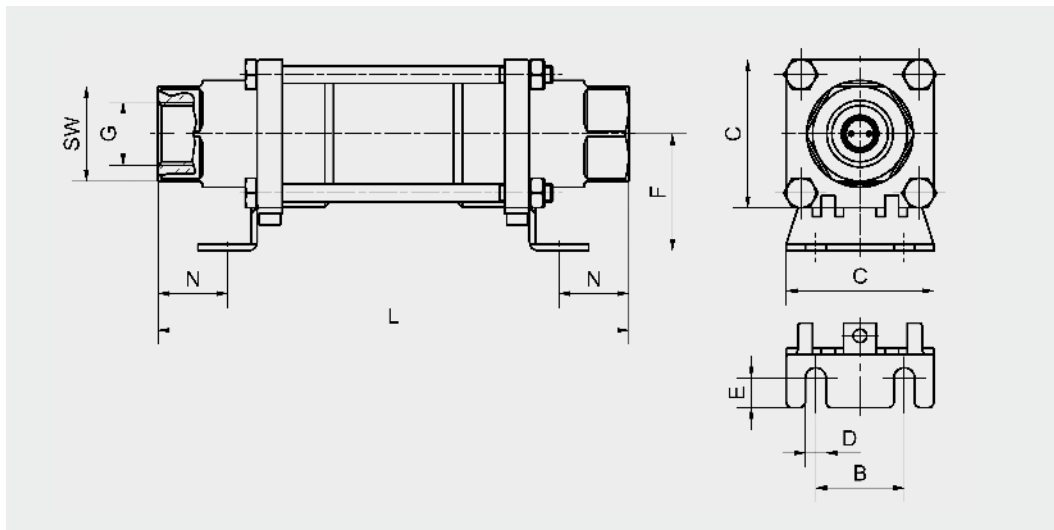
Schnittzeichnung / Sectional drawing / Plan en coupe



Stückliste / Parts list / Nomenclature

- 1 – **Anschlussstück** / Adapter / *Pièce de raccordement*
- 2 – **Ventilsitz komplett** / Valve seat assembly / *Clapet*
- 3 – **Distanzstück** / Spacer / *Entretoise*
- 4 – **Deckel** / Cap / *Couvercle*
- 5 – **Betätigungsscheibe** / Actuator assembly / *Plaque de commande*
- 6 – **Druckfeder** / Spring / *Ressort*
- 7 – **Zylinder** / Cylinder / *Cylindre*
- 8 – **Kolben** / Piston / *Piston*
- 9 – **O-Ring** / O-ring / *Joint torique*
- 10 – **O-Ring** / O-ring / *Joint torique*
- 11 – **O-Ring** / O-ring / *Joint torique*
- 12 – **Schraube** / Screw / *Visse*
- 13 – **Schraube (Option)** / Screw (option) / *Visse (option)*
- 14 – **Sechskantmutter** / Hexagon nut / *Écrou six pans*
- 15 – **Befestigungswinkel (Option)** / Mounting bracket (option) / *Équerre de fixation (option)*

Maßzeichnung / Dimension drawing / Plan côté



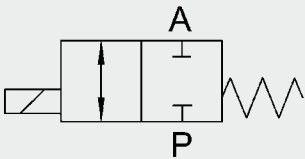
Maßtabelle / Dimension table / Tableau dimensionnel

DN	L	H	G	SW	C	F	M	N	O	P	E	D	B
10	159,5	127	1/4, 3/8, 1/2	32	50	40,5	22	22	42,5	42	8,9	6,2	30
15	185	146	3/8, 1/2, 3/4	41	70	52,3	22	22	49,5	49,5	13,5	7	45
20	216	156	1/2, 3/4, 1	46	80	57	33,5	33,5	60	60	15,3	6,5	50
25	246	168	3/4, 1, 1 1/4	55	90	71,3	34	34	73	73	16	8,5	60

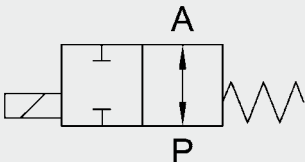


Schaltfunktion /
Switching function /
Schéma de fonctionnement

NC (Federkraft schließend)
NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)
NO (normally open)
NO (normalement ouvert)



2/2 Wege Coaxial-Ventile CX06M fremdgesteuert

- **Nennweite:**
DN 10 – 15
- **Druckbereich:**
CX06 – 2/2 PN 0 – 64 bar
- **Gegendruckdicht:**
bis 12 bar
- **Gehäusewerkstoff:**
Einzelventil: Messing
Block: Aluminium
- **Dichtwerkstoff:**
statisch: FKM
dynamisch: PTFE
- **Volumenstrom:**
0 – 80 l/min
- **Temperatur:**
Medium: -20 bis +130 °C
Umgebung: -30 bis +60 °C
- **Anschlüsse:**
Ventil: G1/4 – G3/4
Block: G1 – G1 1/4
- **Steuermedium:**
Luft
- **Steuerdruck:**
3 – 8 bar
- **Vorsteuerventil:**
Optional 5/2-Wege
Pilotventil
- **Einbaulage:**
beliebig

2/2 Way Coaxial Valves CX06M pilot operated

- **Diameter:**
DN 10 – 15
- **Pressure range:**
CX06 – 2/2 PN 0 – 64 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
single valve: brass
block: aluminium
- **Sealing:**
static: FKM
dynamic: PTFE
- **Flow range:**
0 – 80 l/min
- **Temperature:**
fluid: -20 up to +130 °C
ambient: -30 up to +60 °C
- **Connection:**
valve: G1/4 – G3/4
block: G1 – G1 1/4
- **Control medium:**
air
- **Control pressure:**
3 – 8 bar
- **Pilot valve:**
optional 5/2-way pilot valve
- **Mounting:**
in any position

Valves coaxiales 2/2 CX06M à pilotage externe

- **Diamètre :**
DN 10 – 15
- **Plage de pression :**
CX06 – 2/2 PN 0 – 64 bar
- **Contre-pression admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
valve : laiton
bloc : aluminium
- **Joints :**
statique : FKM
dynamique : PTFE
- **Plage de débit :**
0 – 80 l/min
- **Température :**
fluide : -20 à +130 °C
ambiante : -30 à +60 °C
- **Raccordements :**
valve : G1/4 – G3/4
bloc : G1 – G1 1/4
- **Fluide de pilotage :**
air
- **Pression de pilotage :**
3 – 8 bar
- **Valve de pilotage :**
en option distributeur 5/2
- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CX06M - 2/2 - F / C - 2 / 10 / 064 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série
CX06M

Wege / Ways / Voies
2/2 = **Anzahl der Wege / Number of ways / Nombre de voies**

Ansteuerung / Control / Pilotage
F = **Fremd / External pilot / Externe**

Schaltfunktion / Switching function / Fonction de commutation
C = **NC - Federkraft schließend / normally closed / Tension du ressort fermante**
O = **NO - Federkraft öffnend / normally open / Tension du ressort ouvrante**

Gehäusewerkstoff / Body material / Matériau du corps
2 = **Messing / Brass / Laiton**

Nennweite / Diameter / Diamètre nominal
10 = DN 10
15 = DN 15

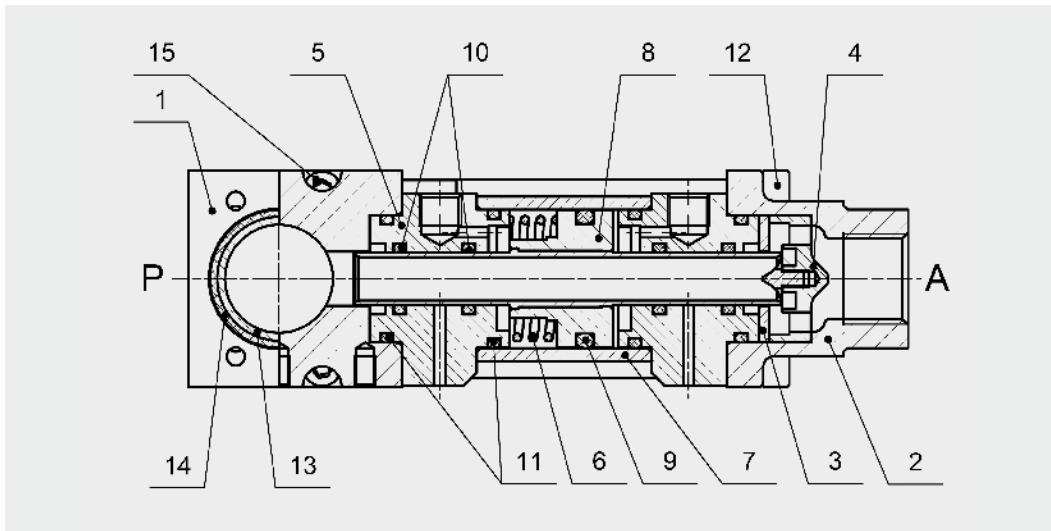
Druck / Pressure / Pression
064 = CX06M > 0 – 64 bar

Anschluss / Connection / Raccordement
014 = G 1/4 - DN 10
038 = G 3/8 - DN 10 DN 15
012 = G 1/2 - DN 10 DN 15
034 = G 3/4 - DN 15

Baureihe Type Série	DN DN DN mm	Druck Pressure Presssion bar	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h DIN 60354	Gewicht Weight Masse kg
CX06M	10	0 – 64	1/4, 3/8, 1/2	2,7	1,50
	15	0 – 64	3/8, 1/2, 3/4	4,9	3,20

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.

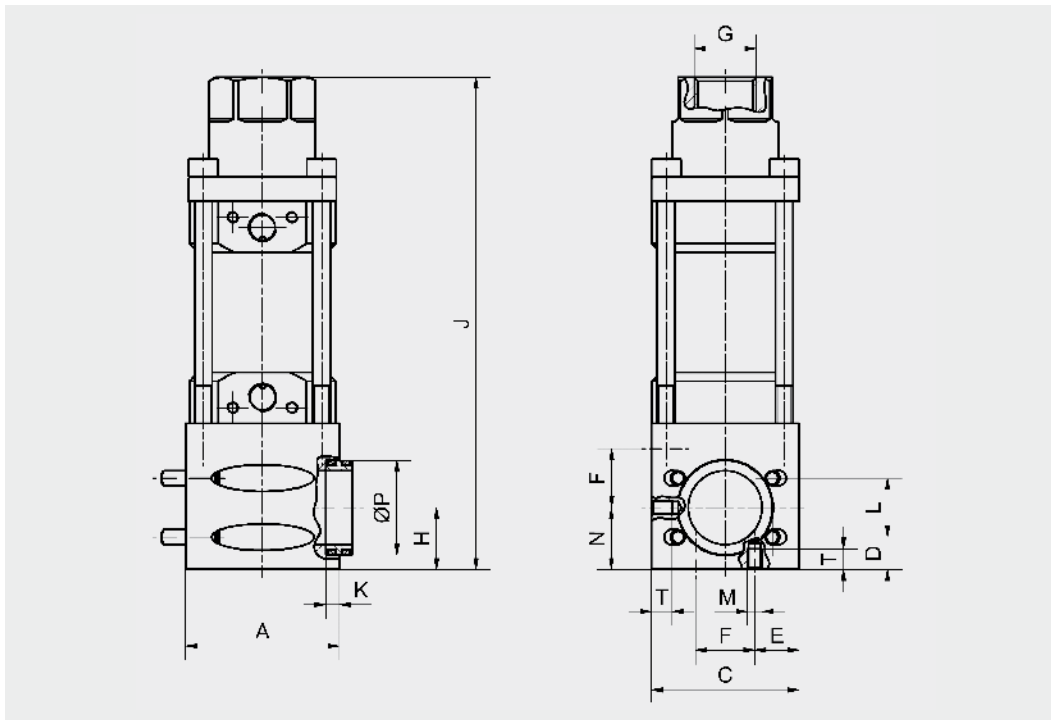
Schnittzeichnung / Sectional drawing / Plan en coupe



Stückliste / Parts list / Nomenclature

- 1 – **Blockmodul** / Block module / *Block module*
- 2 – **Anschlussstück** / Adapter / *Pièce de raccordement*
- 3 – **Deckel** / Cap / *Couvercle*
- 4 – **Ventilsitz komplett** / Valve seat assembly / *Clapet*
- 5 – **Betätigungsscheibe** / Actuator assembly / *Plaque de commande*
- 6 – **Druckfeder** / Spring / *Ressort*
- 7 – **Zylinder** / Cylinder / *Cylindre*
- 8 – **Kolben** / Piston / *Piston*
- 9 – **O-Ring** / O-ring / *Joint torique*
- 10 – **O-Ring** / O-ring / *Joint torique*
- 11 – **O-Ring** / O-ring / *Joint torique*
- 12 – **Schraube** / Screw / *Visse*
- 13 – **Distanzstück** / Spacer / *Entretoise*
- 14 – **O-Ring** / O-ring / *Joint torique*
- 15 – **Schraube** / Screw / *Visse*

Maßzeichnung / Dimension drawing / Plan côté



Maßtabelle / Dimension table / Tableau dimensionnel

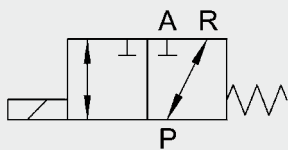
DN	H	B	G	A	C	D	E	F	J	K	L	M	N	ØP	T
10	167	93,5	1/4, 3/8, 1/2	52	50	11	15	20	21	4,5	20	5	21	31,9	6,5
15	197,5	113,5	3/8, 1/2, 3/4	72	70	10,5	21	28	26	5	30	6	26	37,9	8



Schaltfunktion /
Switching function /
Schéma de fonctionnement

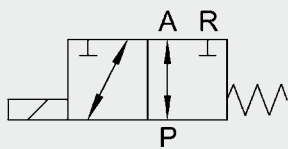
NC (Federkraft schließend)

NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)

NO (normally open)
NO (normalement ouvert)



**3/2 Wege
Coaxial-Ventile
CX03 und CX04
direktgesteuert**

- **Nennweite:**
DN 10 - 25
- **Druckbereich:**
CX03 – 3/2 PN 0 – 40 bar
CX04 – 3/2 PN 0 – 64 bar
- **Gegendruckdicht:**
bis 12 bar
- **Gehäusewerkstoff:**
Muffenausführung:
Messing, 1.4305, 1.4571
Flanschausführung:
Stahl verzinkt
- **Dichtwerkstoff:**
statisch: FKM
dynamisch: PTFE
- **Volumenstrom:**
0 – 190 l/min
- **Temperatur:**
Medium: -20 bis +130 °C
Umgebung: -30 bis +60 °C
- **Anschlüsse:**
G1/4 – G1 1/2
- **Elektrischer Anschluss:**
Gerätesteckdose nach
DIN EN 175301-803
(M12x1 optional)
- **Anschlussspannung:**
24V DC,
Sonderspannung als
Option erhältlich
- **Einschaltdauer:**
100 % ED
- **Schutzart:**
IP 65
- **Einbaulage:**
beliebig

**3/2 Way
Coaxial Valves
CX03 and CX04
direct acting**

- **Diameter:**
DN 10 – 25
- **Pressure range:**
CX03 – 3/2 PN 0 – 40 bar
CX04 – 3/2 PN 0 – 64 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
threaded version:
brass, AISI 304, AISI 316
flange version:
galvanized steel
- **Sealing:**
static: FKM
dynamic: PTFE
- **Flow range:**
0 – 190 l/min
- **Temperature:**
fluid: -20 up to +130 °C
ambient: -30 up to +60 °C
- **Connection:**
G1/4 – G1 1/2
- **Electrical connection:**
to DIN EN 175301-803
(M12x1 optional)
- **Nominal voltage:**
24 V DC,
special voltages
available as option
- **Duty cycle:**
100 %
- **Protection class:**
IP 65
- **Mounting:**
in any position

**Valves
coaxiales 3/2
CX03 et CX04
à pilotage direct**

- **Diamètre :**
DN 10 – 25
- **Plage de pression :**
CX03 – 3/2 PN 0 – 40 bar
CX04 – 3/2 PN 0 – 64 bar
- **Contre-pression
admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
exécution taraudée :
laiton , 1.4305, 1.4571
exécution à bride :
acier zingué
- **Matériau des joints :**
statique : FKM
dynamique : PTFE
- **Plage de débit :**
0 – 190 l/min
- **Température :**
fluide : -20 à +130 °C
ambiante : -30 à +60 °C
- **Raccordement :**
G1/4 – G1 1/2
- **Raccordement électrique :**
connecteur
DIN EN 175301-803
(M12x1 en option)
- **Tension nominale :**
24 V DC,
Autres tensions sur
demande en option
- **Facteur de marche :**
100 % ED
- **Indice de protection :**
IP 65
- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CX03 - 3/2 - D / C - 2 / 10 / 040 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série

CX03
CX04

Wege / Ways / Voies

3/2 = Anzahl der Wege / Number of ways / Nombre de voies

Ansteuerung / Control / Pilotage

D = Direkt / Direct / Direct

Schaltfunktion / Switching function / Fonction de commutation

C = NC stromlos geschlossen / normally closed / normalement fermé
O = NO stromlos offen / normally open / normalement ouvert

Gehäusewerkstoff / Body material / Matériau du corps

1 - als Option / as option / en option = Stahl verzinkt / Galvanized steel / Acier zingué

2 = Messing / Brass / Laiton

4 - als Option / as option / en option = 1.4305

5 - als Option / as option / en option = 1.4571

Nennweite / Diameter / Diamètre nominal

10 = DN 10

15 = DN 15

20 = DN 20

25 = DN 25

Druck / Pressure / Pression

040 = CX03 > 0 - 40 bar

064 = CX04 > 0 - 64 bar

Anschluss / Connection / Raccordement

014 = G 1/4 - DN 10

038 = G 3/8 - DN 10 DN 15

012 = G 1/2 - DN 10 DN 15 DN 20

034 = G 3/4 - DN 15 DN 20 DN 25

100 = G 1 - DN 20 DN 25

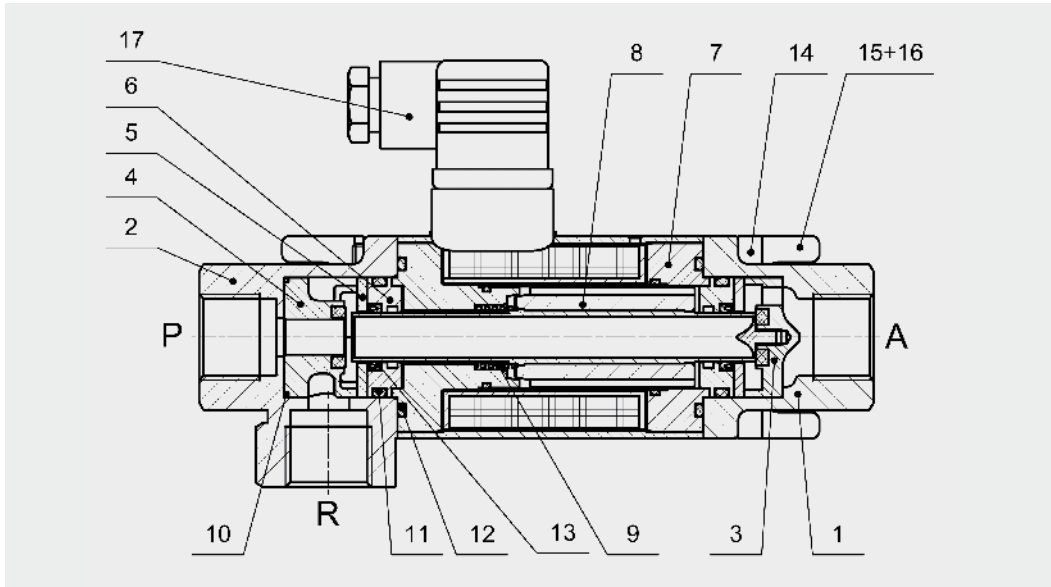
114 = G 1 1/4 - DN 25

112 = G 1 1/2 - DN 25

Baureihe Type Série	DN DN DN	Druck Pressure Pression	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h	Leistungsaufnahme W Wattage W Puissance absorbée W		Gewicht Weight Masse
					24 V	230 V 50 Hz	
	mm	bar		DIN 60354			kg
CX03	10	0 - 40	1/4, 3/8, 1/2	2,5	35	41	1,70
	15	0 - 40	3/8, 1/2, 3/4	4,5	40	45	4,10
	20	0 - 40	3/4, 1	6,8	45	53	5,40
	25	0 - 40	1, 1 1/4, 1 1/2	11,5	60	68	7,00
CX04	10	0 - 64	1/4, 3/8, 1/2	2,5	44	53	1,90
	15	0 - 64	3/8, 1/2, 3/4	4,5	50	55	4,00
	20	0 - 64	3/4, 1	6,8	53	59	6,00
	25	0 - 64	1, 1 1/4, 1 1/2	11,5	77	85	7,50

Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.

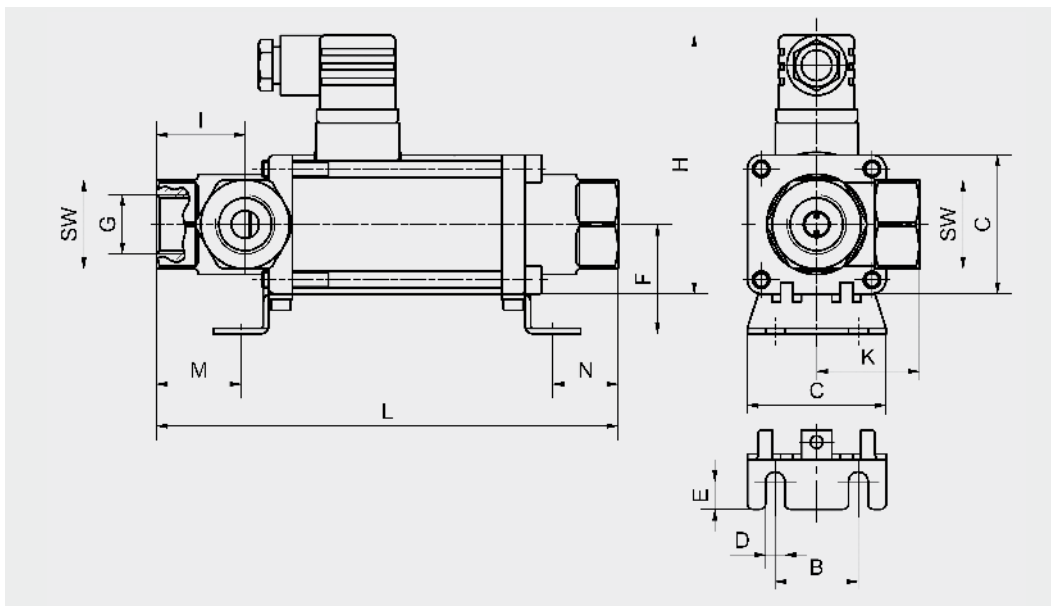
Schnittzeichnung / Sectional drawing / Plan en coupe



Stückliste / Parts list / Nomenclature

- 1 – **Anschlussstück / Adapter / Pièce de raccordement**
- 2 – **Anschlussstück 3/2-Wege / Adapter 3/2-way / Pièce de raccordement 3/2**
- 3 – **Ventilsitz komplett / Valve seat assembly / Clapet**
- 4 – **Ventilsitz 3/2-Wege komplett / Valve seat 3/2-way assembly / Clapet 3/2**
- 5 – **Deckel / Cap / Couvercle**
- 6 – **Führungsscheibe / Guiding disk / Bague de guidage**
- 7 – **Magnet komplett / Solenoid assembly / Solénoïde**
- 8 – **Anker komplett / Armature assembly / Noyau**
- 9 – **Druckfeder / Spring / Ressort**
- 10 – **O-Ring / O-ring / Joint torique**
- 11 – **O-Ring / O-ring / Joint torique**
- 12 – **O-Ring / O-ring / Joint torique**
- 13 – **Dynamische Abdichtung / Dynamic sealing / Étanchéité dynamique**
- 14 – **Schraube / Screw / Visse**
- 15 – **Schraube / Screw / Visse**
- 16 – **Befestigungswinkel / Mounting bracket / Équerre de fixation**
- 17 – **Gerätesteckdose / Connector / Connecteur**

Maßzeichnung / Dimension drawing / Plan côté



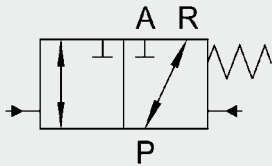
Maßtabelle / Dimension table / Tableau dimensionnel

DN	L	H	G	SW	C	F	M	N	E	D	I	K	B
10	166,5	93,5	1/4, 3/8, 1/2	32	50	40,5	30,5	23,5	10	7	32	37	30
15	200	113,5	3/8, 1/2, 3/4	41	70	52,3	38,5	22,5	10,5	7	38,5	60	45
20	228	123,5	3/4, 1	46	80	57	46,5	33,5	15,2	7	45,5	72	50
25	252	133,5	1, 1 1/4, 1 1/2	55	90	71	55,5	34	16	8,5	48	80	60

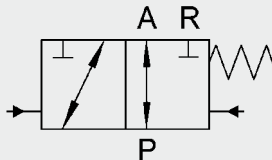


Schaltfunktion /
Switching function /
Schéma de fonctionnement

NC (Federkraft schließend)
NC (normally closed)
NC (normalement fermé)



NO (Federkraft öffnend)
NO (normally open)
NO (normalement ouvert)



3/2 Wege Coaxial-Ventile CX06 und CX07 fremdgesteuert

- **Nennweite:**
DN 10 – 25
- **Druckbereich:**
CX06 – 3/2 PN 0 – 64 bar
CX07 – 3/2 PN 0 – 160 bar
- **Gegendruckdicht:**
bis 12 bar
- **Gehäusewerkstoff:**
Muffenausführung:
Messing, 1.4305, 1.4571
Flanschausführung:
Stahl verzinkt
- **Dichtwerkstoff:**
statisch und dynamisch: FKM
Sitzdichtung: PTFE
- **Volumenstrom:**
0 – 190 l/min
- **Temperatur:**
Medium: -20 bis +100 °C
Umgebung: -30 bis +60 °C
- **Anschlüsse:**
G1/4 – G1 1/2
- **Steuermedium:**
Luft
- **Steuerdruck:**
3 – 8 bar
- **Vorsteuerventil:**
Optional 5/2-Wege
Pilotventil
- **Einbaulage:**
beliebig

3/2 Way Coaxial Valves CX06 and CX07 pilot operated

- **Diameter:**
DN 10 – 25
- **Pressure range:**
CX06 – 3/2 PN 0 – 64 bar
CX07 – 3/2 PN 0 – 160 bar
- **Backpressure sealing:**
leakproof up to 12 bar
- **Body material:**
threaded version:
brass, AISI 304, AISI 316
flange version:
galvanized steel
- **Seals:**
static and dynamic: FKM
seat seal: PTFE
- **Flow range:**
0 – 190 l/min
- **Temperature:**
fluid: -20 up to +100 °C
ambient: -30 up to +60 °C
- **Connection:**
G1/4 – G1 1/2
- **Control medium:**
air
- **Control pressure:**
3 – 8 bar
- **Pilot valve:**
optional 5/2-way pilot valve
- **Mounting:**
in any position

Valves coaxiales 3/2 CX06 et CX07 à pilotage externe

- **Diamètre :**
DN 10 – 25
- **Plage de pression :**
CX06 – 3/2 PN 0 – 64 bar
CX07 – 3/2 PN 0 – 160 bar
- **Contre-pression admissible :**
jusqu'à 12 bar
- **Matériau du corps :**
exécution taraudée :
laiton, 1.4305, 1.4571
exécution à bride :
acier zingué
- **Joints :**
statiques et dynamiques : FKM
joint du clapet : PTFE
- **Plage de débit :**
0 – 190 l/min
- **Température :**
fluide : -20 à +100 °C
ambiante : -30 à +60 °C
- **Raccordement :**
G1/4 – G1 1/2
- **Fluide de pilotage :**
air
- **Pression de pilotage :**
3 – 8 bar
- **Valve de pilotage :**
en option distributeur 5/2
- **Sens de montage :**
indifférent

Typenschlüssel / Type code / Code de commande

CX06 - 3/2 - F / C - 2 / 10 / 064 / 014

Benennung / Designation / Désignation

Baureihe / Type / Série

CX06
CX07

Wege / Ways / Voies

3/2 = **Anzahl der Wege / Number of ways / Nombre de voies**

Ansteuerung / Control / Pilotage

F = **Fremd / External / Externe**

Schaltfunktion / Switching function / Fonction de commutation

C = **NC - Federkraft schließend / normally closed / Tension du ressort fermante**

O = **NO - Federkraft öffnend / normally open / Tension du ressort ouvrante**

Gehäusewerkstoff / Body material / Matériau du corps

1 - als Option / as option / en option = **Stahl verzinkt / Galvanized steel / Acier zingué**

2 = **Messing / Brass / Laiton**

4 - als Option / as option / en option = 1.4305

5 - als Option / as option / en option = 1.4571

Nennweite / Diameter / Diamètre nominal

10 = DN 10

15 = DN 15

20 = DN 20

25 = DN 25

Druck / Pressure / Pression

064 = CX06 > 0 - 64 bar

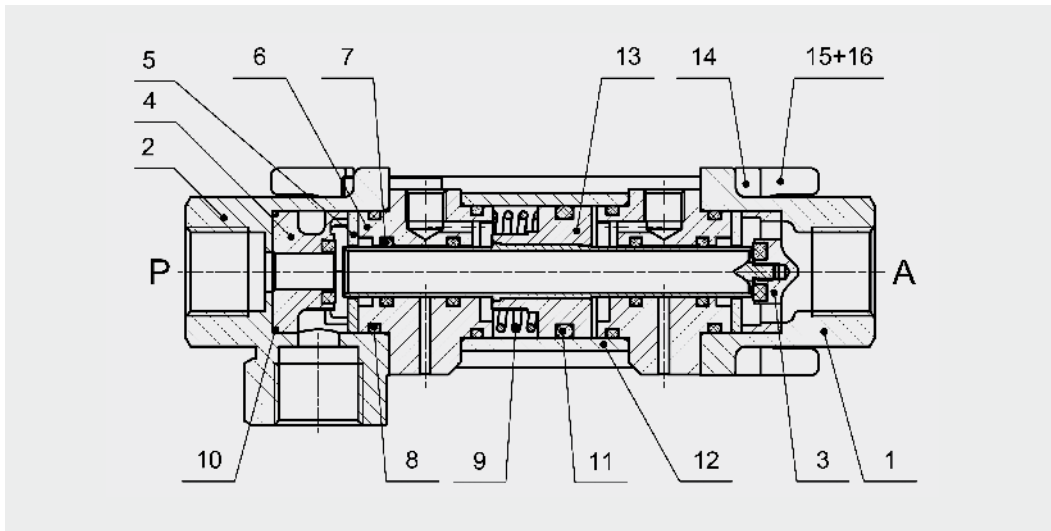
160 = CX07 > 0 - 160 bar

Anschluss / Connection / Raccordement

014	= G 1/4 - DN 10				
038	= G 3/8 - DN 10	DN 15			
012	= G 1/2 - DN 10	DN 15			
034	= G 3/4 -	DN 15	DN 20		
100	= G 1 -		DN 20	DN 25	
114	= G 1 1/4 -			DN 25	
112	= G 1 1/2 -			DN 25	

Baureihe Type Série	DN DN DN	Druck Pressure Pression	Anschluss Connection Raccordement	Kv-Wert m³/h Kv-Value m³/h Valeur Kv m³/h	Gewicht Weight Masse
	mm	bar		DIN 60354	kg
CX06	10	0 - 64	1/4, 3/8, 1/2	2,5	1,80
	15	0 - 64	3/8, 1/2, 3/4	4,5	3,20
	20	0 - 64	3/4, 1	6,8	4,60
	25	0 - 64	1, 1 1/4, 1 1/2	11,5	6,50
CX07	10	0 - 160	1/4, 3/8, 1/2	2,3	1,60
	15	0 - 160	3/8, 1/2, 3/4	4,5	3,40
	20	0 - 160	3/4, 1	7,6	4,40
	25	0 - 160	1, 1 1/4, 1 1/2	11	5,80

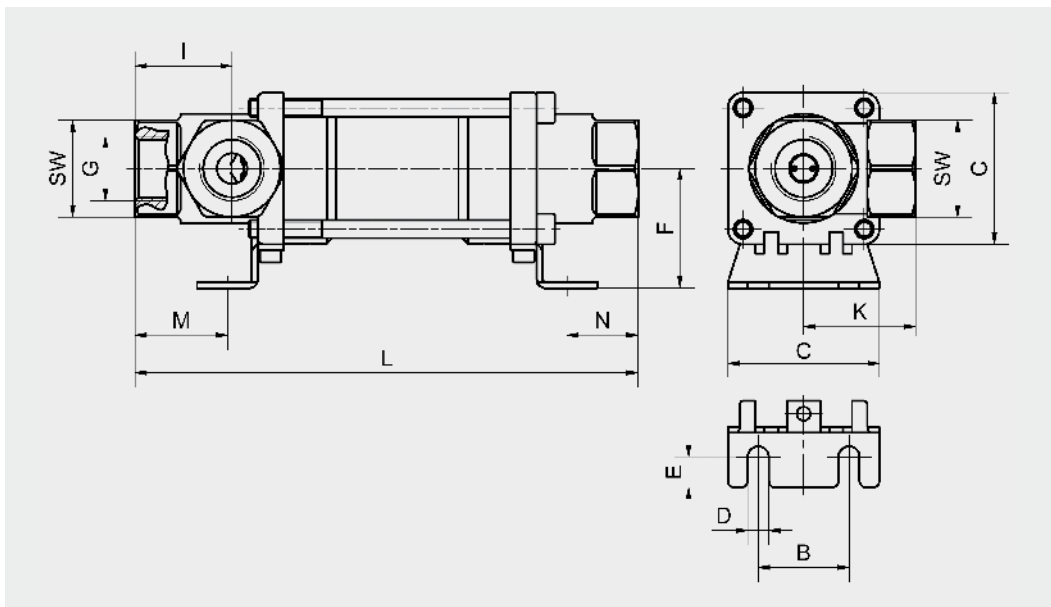
Weitere Optionen und Zubehör auf Anfrage. / More options and accessories on request. / Options et accessoires supplémentaires sur demande.
Technische Änderungen vorbehalten. / Subject to technical modifications. / Sous réserve de modifications techniques.



Stückliste / Parts list / Nomenclature

- 1 – Anschlussstück / Adapter / Pièce de raccordement
- 2 – Anschlussstück 3/2-Wege / Adapter 3/2-way / Pièce de raccordement 3/2
- 3 – Ventilsitz komplett / Valve seat assembly / Clapet
- 4 – Ventilsitz 3/2-Wege komplett / Valve seat 3/2-way assembly / Clapet 3/2
- 5 – Deckel / Cap / Couvercle
- 6 – Betätigungsscheibe / Actuator assembly / Plaque de commande
- 7 – O-Ring / O-ring / Joint torique
- 8 – O-Ring / O-ring / Joint torique
- 9 – Druckfeder / Spring / Ressort
- 10 – O-Ring / O-ring / Joint torique
- 11 – O-Ring / O-ring / Joint torique
- 12 – Zylinder / Cylinder / Cylindre
- 13 – Kolben / Piston / Piston
- 14 – Schraube / Screw / Visse
- 15 – Schraube / Screw / Visse
- 16 – Befestigungswinkel / Mounting bracket / Équerre de fixation

Maßzeichnung / Dimension drawing / Plan côté



Maßtabelle / Dimension table / Tableau dimensionnel

DN	L	H	G	SW	C	F	M	N	E	D	I	K	B
10	166,5	127	1/4, 3/8, 1/2	32	50	39,5	30,5	23,5	10	7	32	37	30
15	200	146	3/8, 1/2, 3/4	41	70	52,5	38,5	22,5	10,5	7	38,5	60	45
20	228	156	3/4, 1	46	80	57	46,4	33,4	15,2	7	45,5	72	50
25	249	168	1, 1 1/4, 1 1/2	55	90	71	40	34	16	8,5	48	80	60

ANMERKUNG

Die Angaben in diesem Prospekt beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle.

Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung.

Technische Änderungen sind vorbehalten.

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

REMARQUE

Les données de ce prospectus se réfèrent aux conditions de fonctionnement et d'utilisation décrites.

Pour des conditions d'utilisation et de fonctionnement différentes, veuillez vous adresser au service technique compétent.

Sous réserve de modifications techniques.

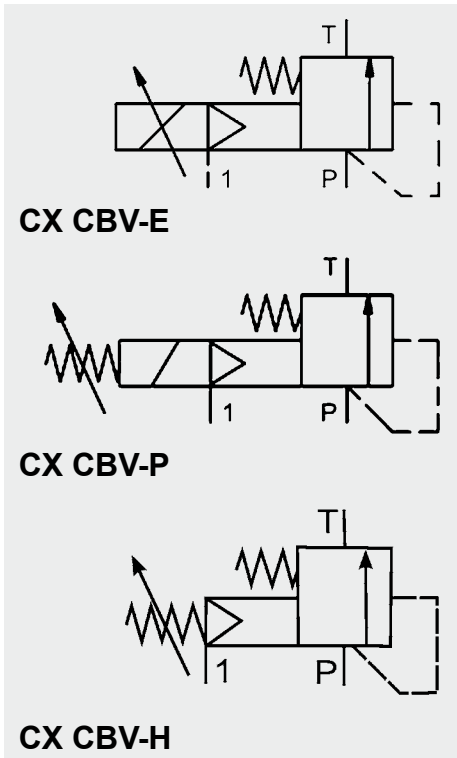
HYDAC Accessories GmbH
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 Fax: +49 (0)6897 - 509-1009
 Internet: www.hydac.com
 E-Mail: info@hydac.com



2/2-Way Pressure Relief Valve CX CBV

Model code
(also order example)

CX CBV 15 120 G1 F E 24V



Designation

CX CBV = Pressure relief valve

Nominal size

15 = DN 15

Pressure range

5 - 120 bar

Connection

G1 = female threaded connection G1"

Seal

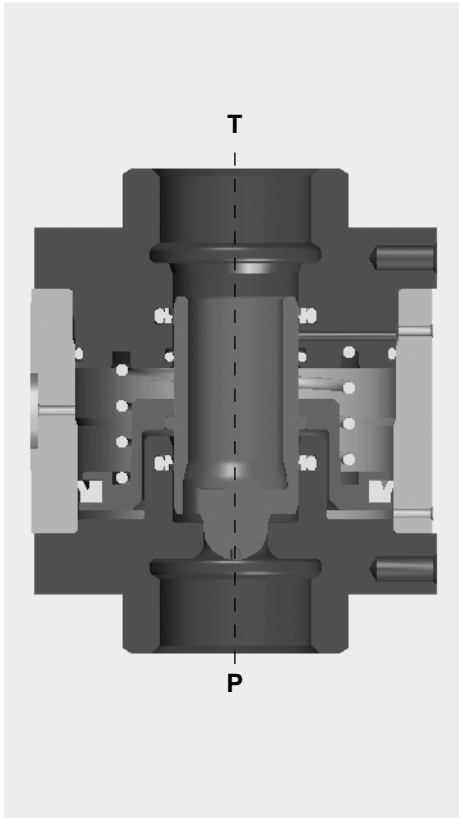
F = FKM (Viton)

Control

- E = Electrical proportional control of pilot pressure reducing valve
- P = Manually adjustable control via solenoid valve to limit system pressure
- H = Manually adjustable control of pilot pressure reducing valve

Supply voltage

24 V = 24V DC (not for CX CBV - H)



Construction

Essentially this valve consists of a valve body with integrated valve seat, and a hardened and ground closing cone. The pre-set force is produced by a spring and a pressurized piston. On the coaxial type, the inlet and outlet are in line.

Function

The compressed air with the spring produces a force on the closing cone, pressing it into the valve seat, which opposes the hydraulic pressure on the 'P' port. If this is less than the pre-set force, the valve remains closed. If the hydraulic pressure exceeds the pre-set force, the cone will lift away from the seat and the fluid flows from the 'P' port to the tank port 'T'. This limits pressure at the 'P' port. Hydraulic energy dissipated in this way is converted into heat energy.

Technical specifications

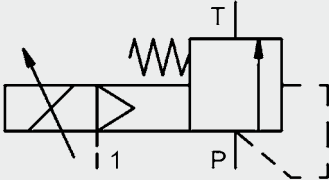
Control	E: Electrical proportional control of pilot pressure reducing valve P: Manually adjustable control via solenoid valve which limits system pressure H: Manually adjustable control of pilot pressure reducing valve
Media	contaminated fluids
Nominal bore	DN 15
Pressure range	5 – 120 bar
Flow rate	6 m ³ /h
Housing material	Steel, zinc-plated
Material of seals	FKM
Temperature of medium	0 °C to +60 °C
Ambient temperature	+10 °C to +50 °C
Connections	Female threaded connection G1"
Electrical connection	E: male connection M12 x 1 P: female connection DIN EN 175301-803
Supply voltage	E: 24 V DC (max. residual ripple 10 %) P: 24 V DC, 230 V AC, special voltages
Voltage tolerance	E / P: ± 10 % to VDE 0580
Power consumption	E: 2.5 Watt P: 7 Watt
Duty	E / P: 100 %
IP class	E / P: IP 65 when fitted with connector
Mounting position	E: M12 connection preferably uppermost H / P: control plate preferably uppermost
Control air	40 µ filtered, max. 8 bar

Further options and accessories available on request.

CX CBV-E

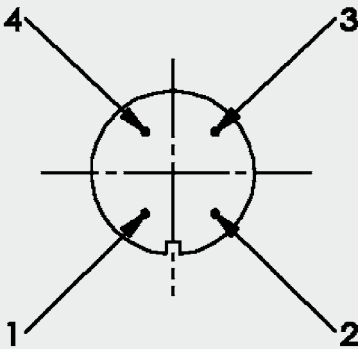


Switching function



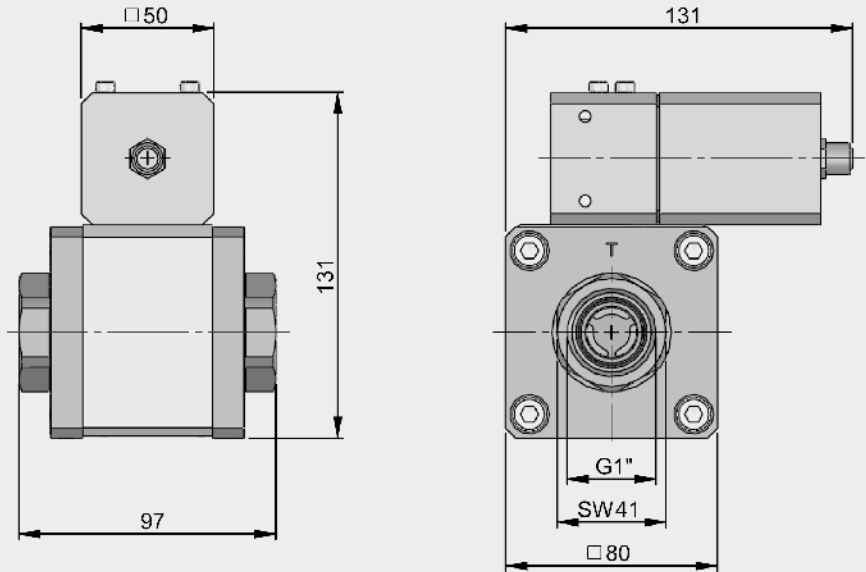
Electrical connection

(M21x1)

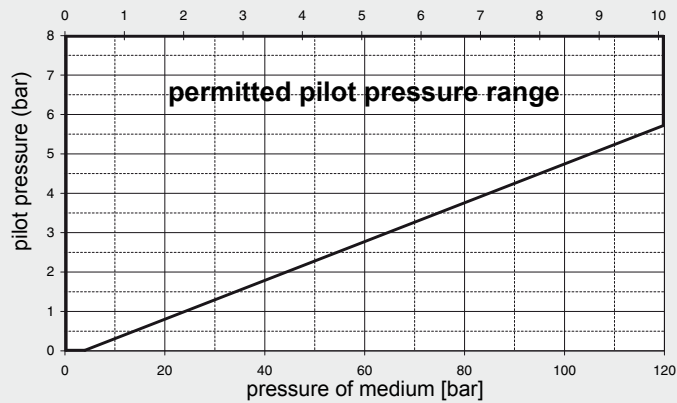


1	Supply
2	Set value (-)
3	GND (-)
4	Set value (+) 0-10V

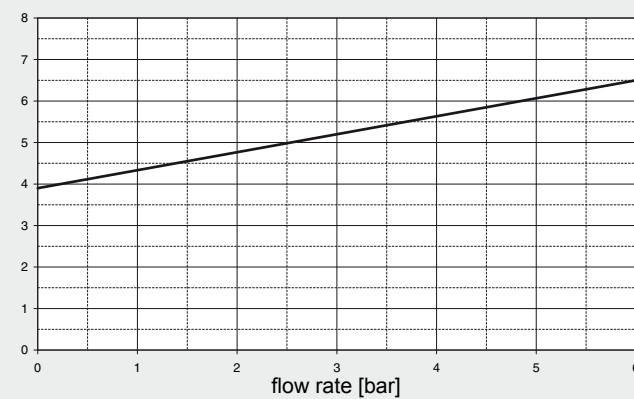
Dimensions



Control pressure graphs

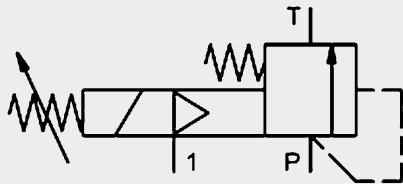


Pressure reduction



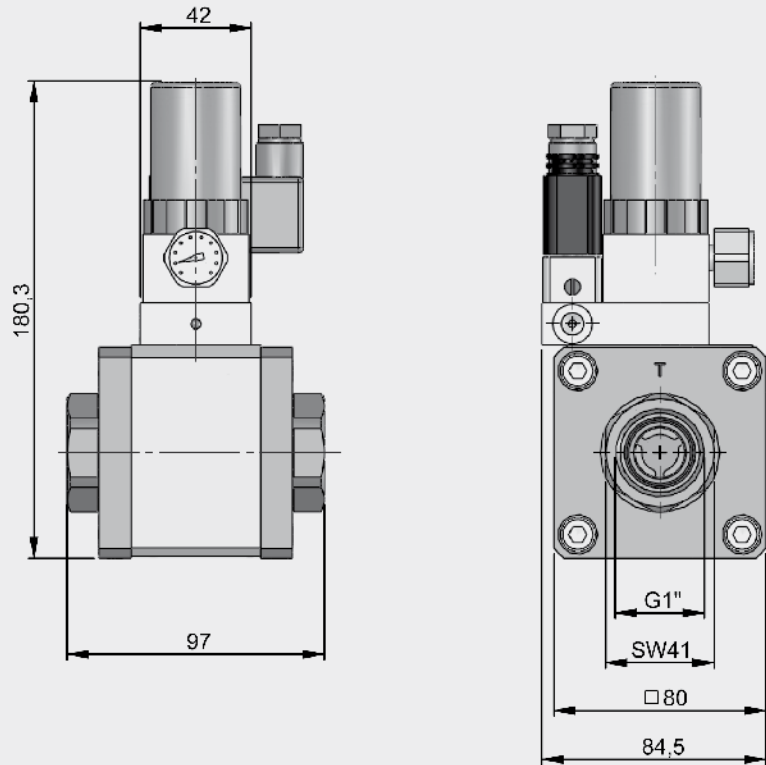
Noise level approx. 70dBA
(measured at a residual pressure of 6.5 bar and a flow rate of 6m³/h)

CX CBV-P

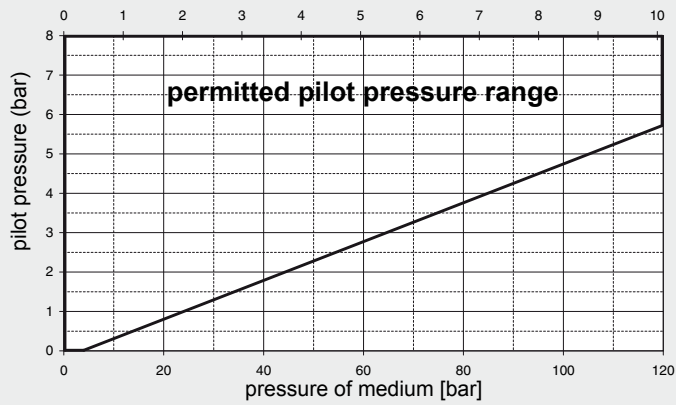


Switching function

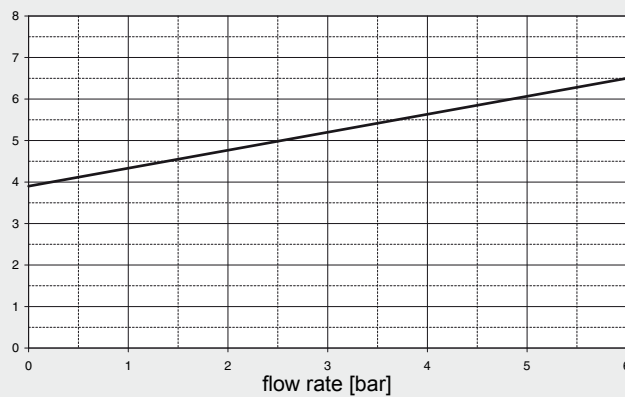
Dimensions



Control pressure graphs

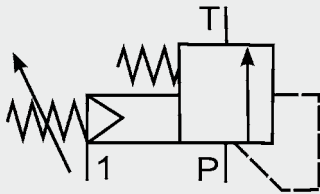


Pressure reduction



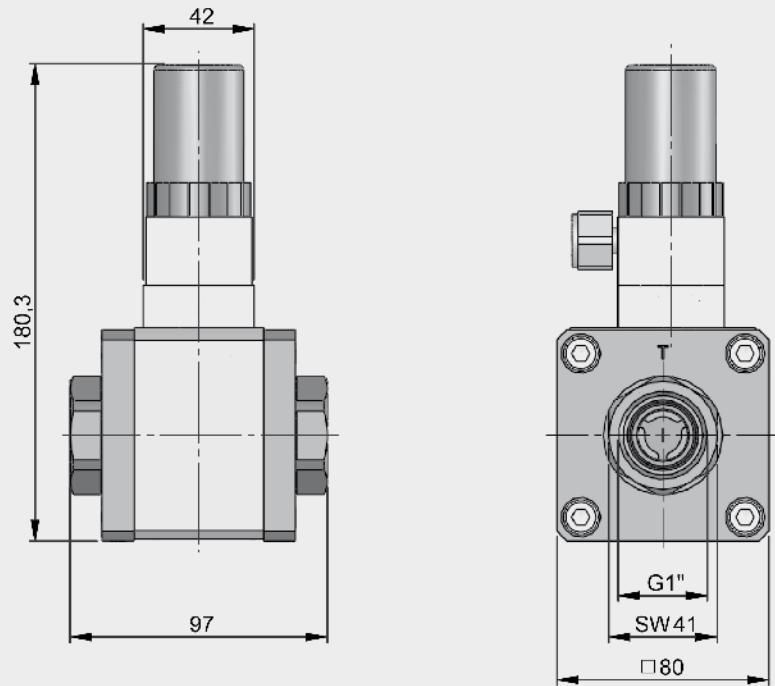
Noise level approx. 70dBA
(measured at a residual pressure of 6.5 bar and a flow rate of 6m³/h)

CX CBV-H

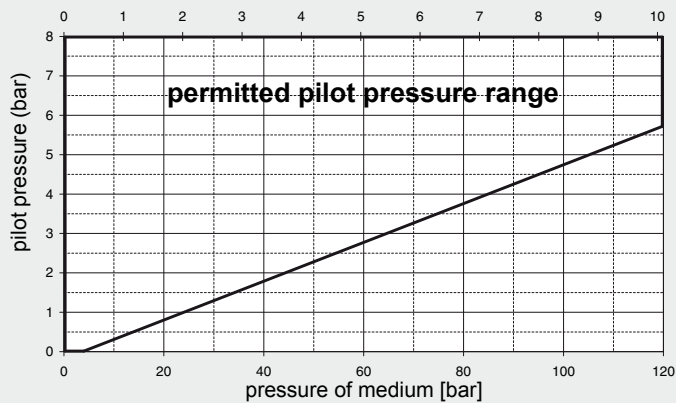


Switching function

Dimensions



Control pressure graphs



Noise level approx. 70dBA
(measured at a residual pressure of 6.5 bar and a flow rate of 6m³/h)

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

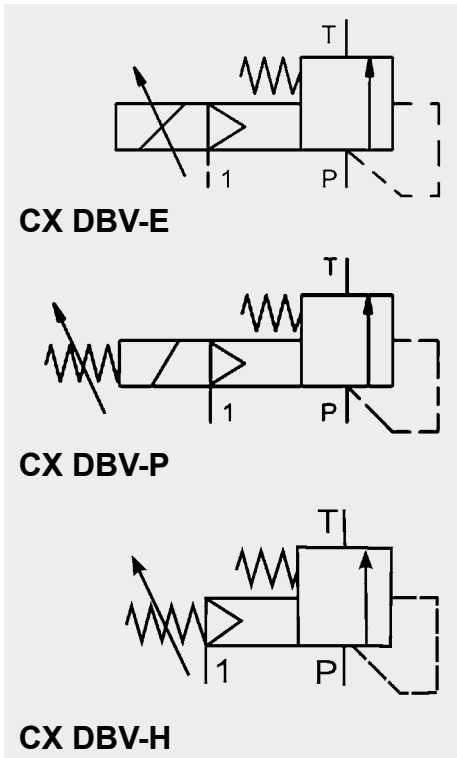
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Internet: www.hydac.com
E-Mail: info@hydac.com

2/2-Way Pressure Relief Valve CX DBV (Right-Angle Design)



Model code
(also order example)

CX DBV 12 120 G1 F P 24V



Designation

CX DBV = Pressure relief valve

Nominal bore

10 = DN 10
12 = DN 12
15 = DN 15
20 = DN 20

Pressure ranges

12 - 160 bar
10 - 120 bar
5 - 64 bar
3 - 40 bar

Connection

G1 = female threaded connection G1"

Seal

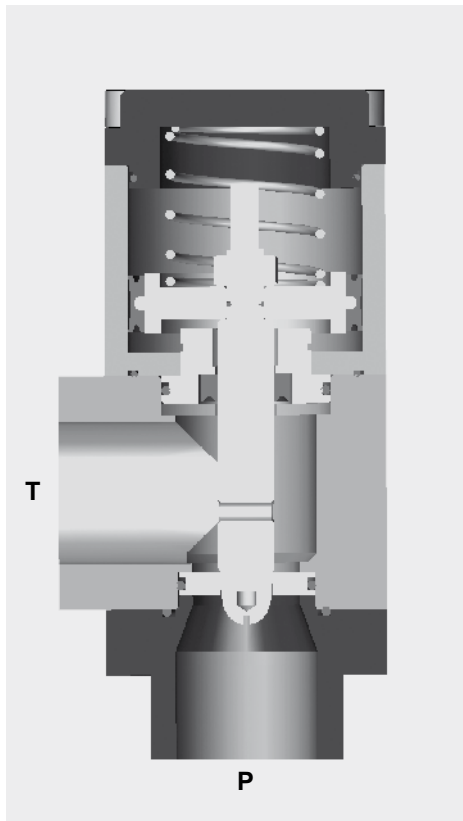
F = FKM (Viton)

Control

E = Electrical proportional control of pilot pressure reducing valve
P = Manually adjustable control via solenoid valve to limit system pressure
H = Manually adjustable control of pilot pressure reducing valve

Supply voltage

24 V = 24V DC (not for CX DBV - H)



Construction

Essentially this valve consists of a valve body with integrated valve seat, and a hardened and ground closing cone. The pre-set force is produced by a spring and a pressurized piston.

Function

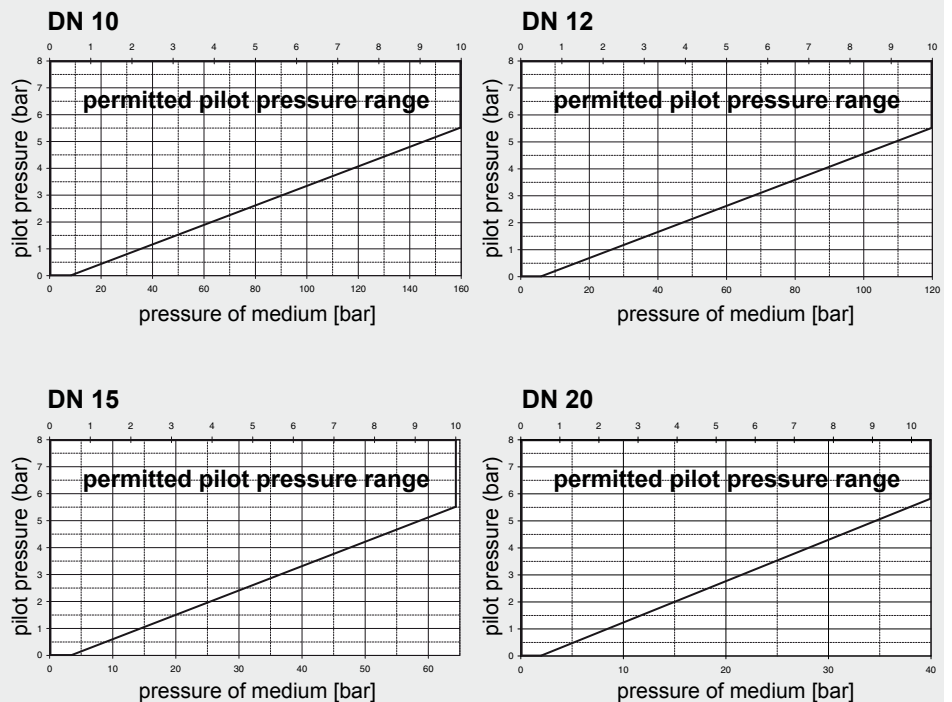
The compressed air with the spring produces a force on the closing cone, pressing it into the valve seat, which opposes the hydraulic pressure on the 'P' port. If this is less than the pre-set force, the valve remains closed. If the hydraulic pressure exceeds the pre-set force, the cone will lift away from the seat and the fluid flows from the 'P' port to the tank port 'T'. This limits pressure at the 'P' port. Hydraulic energy dissipated in this way is converted into heat energy.

Technical specifications

Control	E: Electrical proportional control of pilot pressure reducing valve P: Manually adjustable control via solenoid valve which limits system pressure H: Manually adjustable control of pilot pressure reducing valve
Media	contaminated fluids
Nominal bore	DN 10 / DN 12 / DN 15 / DN 20
Pressure range	3 – 160 bar (see Table)
Flow rate	See table
Housing material	V2A
Material of seals	FKM
Temperature of medium	0 °C to +60 °C
Ambient temperature	+10 °C to +50 °C
Connections	Female threaded connection G1"
Electrical connection	E: male connection M12 x 1 P: female connection DIN EN 175301-803
Supply voltage	E: 24 V DC (max. residual ripple 10 %) P: 24 V DC, 230 V AC, special voltages
Voltage tolerance	E / P: ± 10 % to VDE 0580
Power consumption	E: 2.5 Watt P: 7 Watt
Duty	E / P: 100 %
IP class	E / P: IP 65 when fitted with connector
Mounting position	E: M12 connection preferably uppermost H / P: pressure gauge preferably uppermost
Control air	40 µ filtered, max. 8 bar

Further options and accessories available on request.

Control pressure graphs

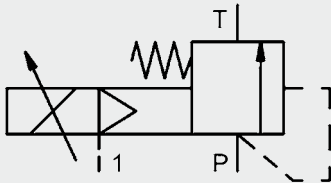


Noise level approx. 70dB
(measured at a residual pressure of 6.5 bar and a flow rate of 6m³/h)

CX DBV-E

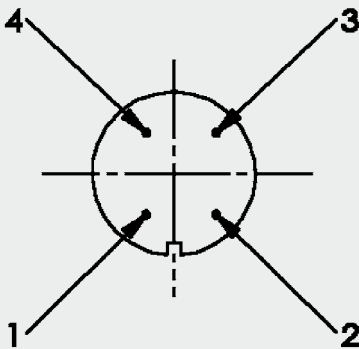


Switching function



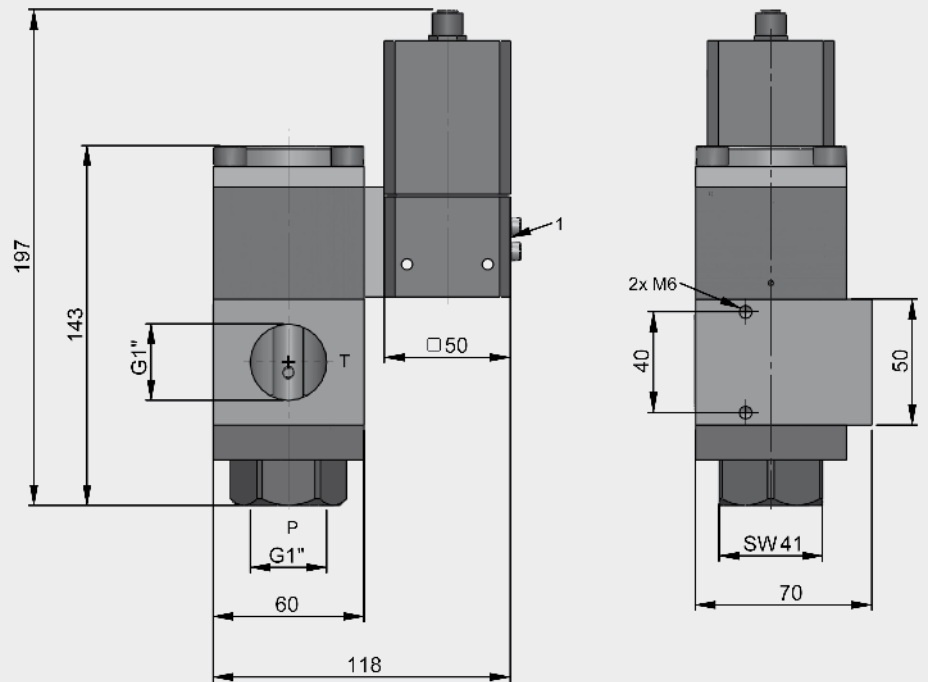
Electrical connection

(M12x1)



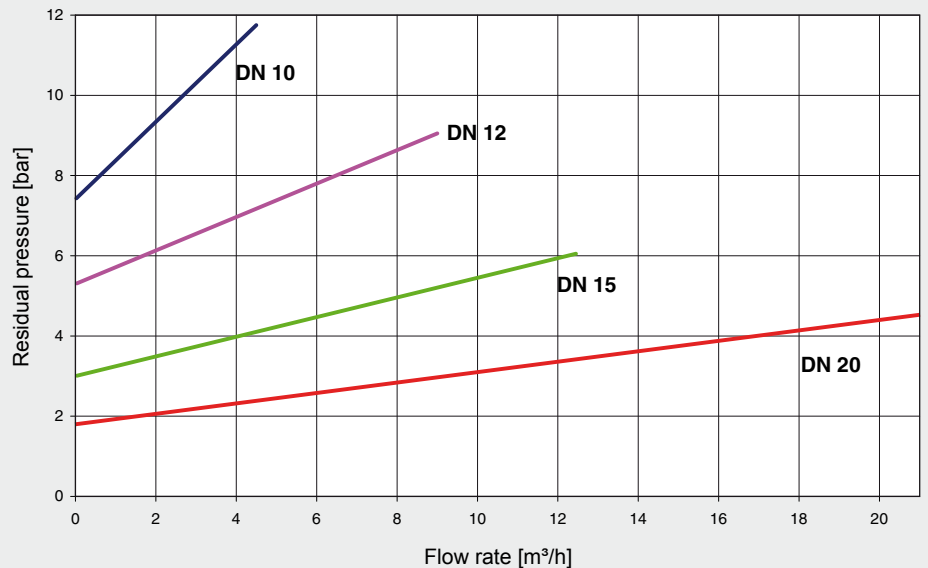
1	Supply
2	Set value (-)
3	GND (-)
4	Set value (+) 0-10V

Dimensions



DN [mm]	Pressure control range [bar]	Port	Cv value [m³/h]
10	12 – 160	G 1"	3.0
12	10 – 120	G 1"	6.0
15	5 – 64	G 1"	8.3
20	3 – 40	G 1"	14.1

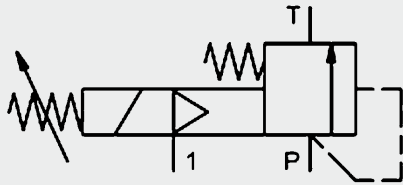
Pressure reduction



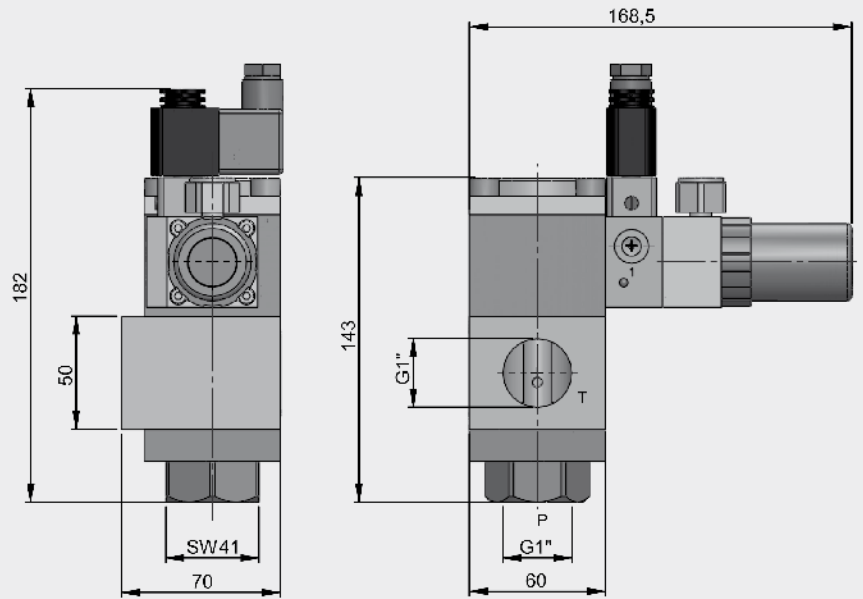
CX DBV-P



Switching function

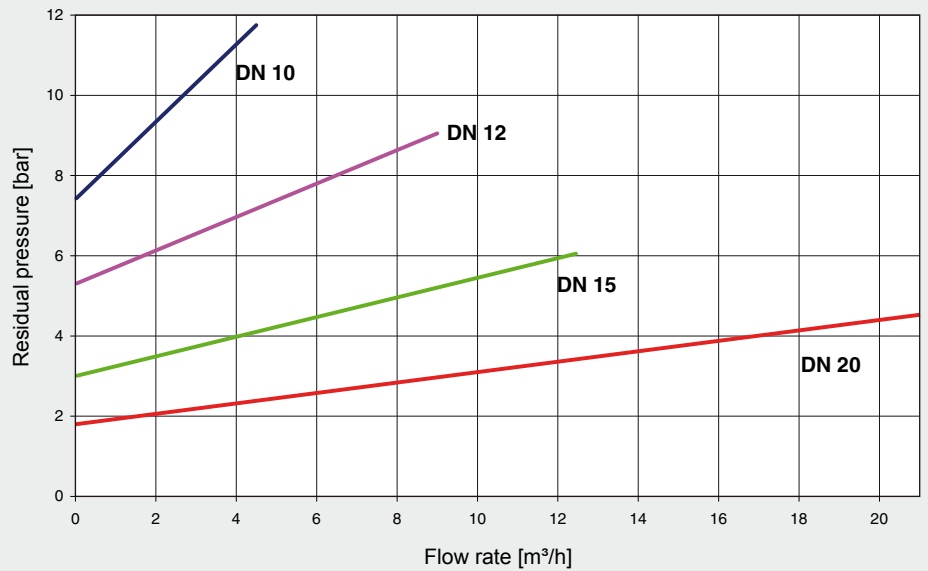


Dimensions



DN [mm]	Pressure control range [bar]	Port	Cv value [m ³ /h]
10	12 – 160	G 1"	3.0
12	10 – 120	G 1"	6.0
15	5 – 64	G 1"	8.3
20	3 – 40	G 1"	14.1

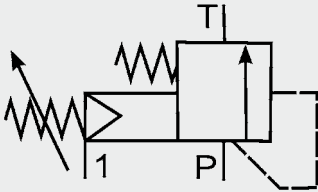
Pressure reduction



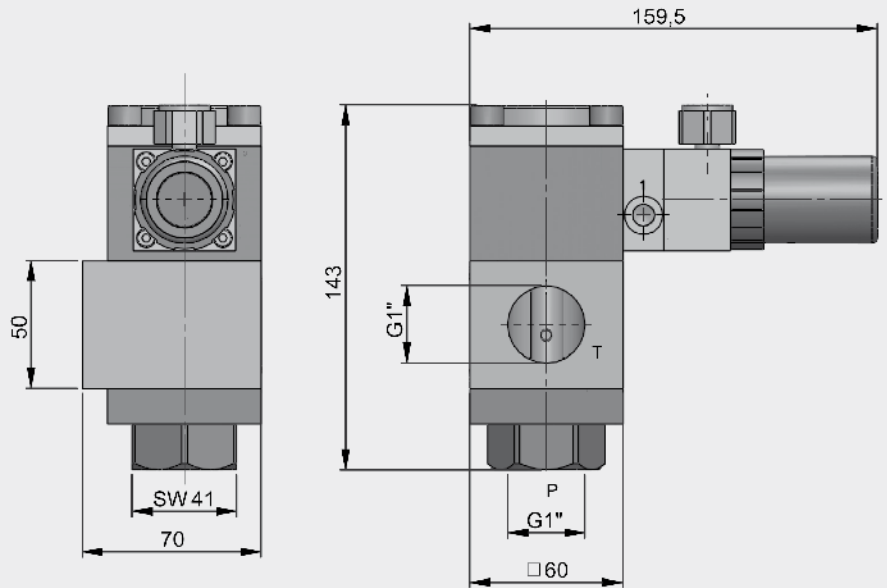
CX DBV-H



Switching function



Dimensions



DN [mm]	Pressure control range [bar]	Port	Cv value [m ³ /h]
10	12 – 160	G 1"	3.0
12	10 – 120	G 1"	6.0
15	5 – 64	G 1"	8.3
20	3 – 40	G 1"	14.1

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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The HYDAC logo is located in the top left corner, featuring the brand name in white capital letters inside a red rounded rectangle.

HYDAC

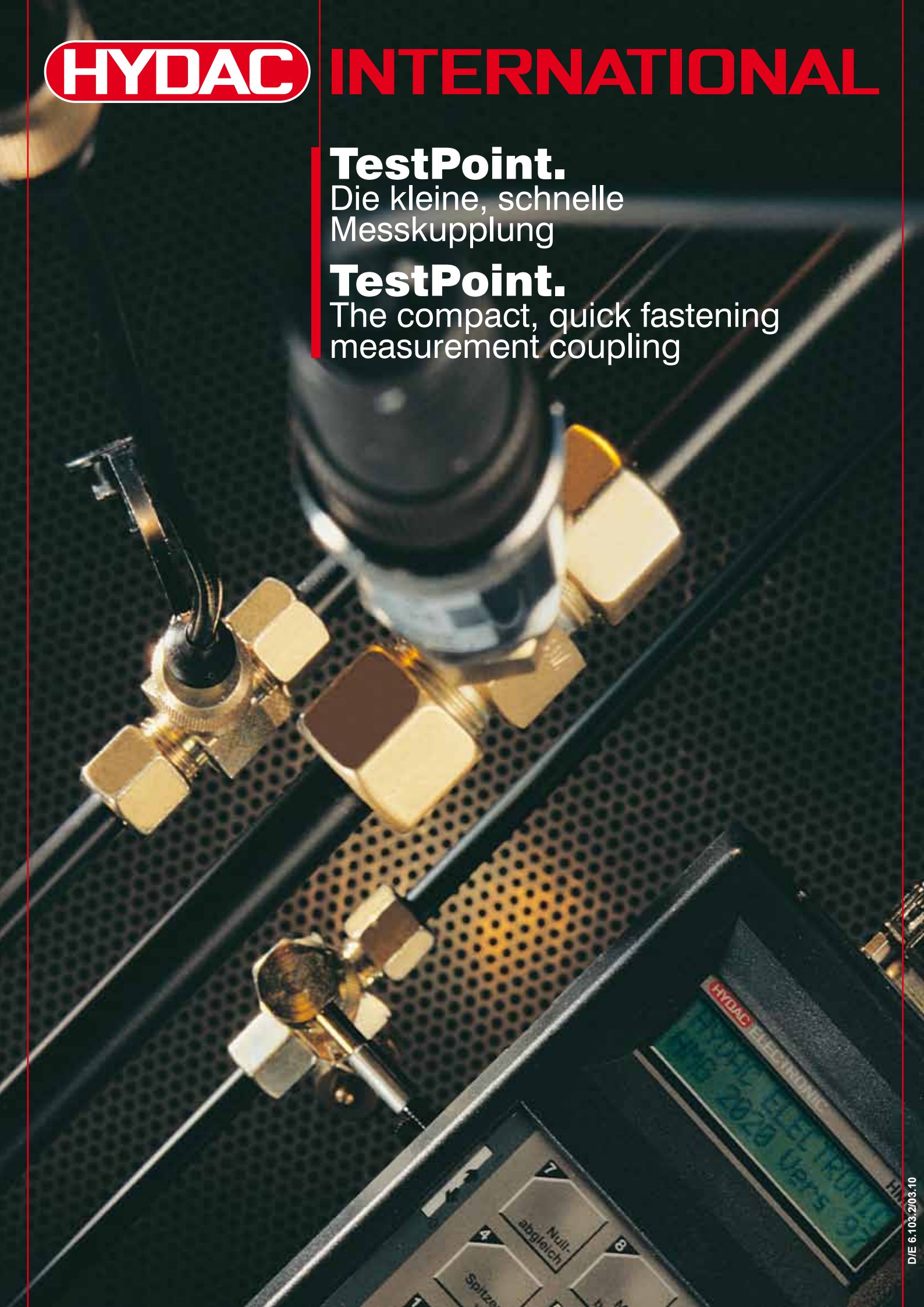
INTERNATIONAL

TestPoint.

Die kleine, schnelle
Messkupplung

TestPoint.

The compact, quick fastening
measurement coupling



TestPoint verbindet...

Unter TestPoint als Messpunkt versteht man eine Messkupplung kleinster Nennweite mit Rückschlagventil. Die Öffnungsarmatur für die Messkupplung befindet sich z.B. als Kopfstück an Schläuchen oder als Adapter an Drucksensoren. Beim Anschrauben an die Messkupplung öffnet sich das Rückschlagventil und es entsteht eine direkte Verbindung zum Medium.

Die wesentlichen Vorteile sind:

- Kuppeln und Entkuppeln ohne Anlagenstillstand.
- Druck- und Drucksitzenmessungen mit Drucksensoren.
- Systementlüftungen und Probenentnahmen.

Die Verantwortung gegenüber unseren Kunden beschleunigte die Entscheidung, eine leckagefreie Messkupplung zu entwickeln und den bisherigen Stand der Technik, d.h. Abdichtung durch Kugelrückschlagventil, zu verlassen.

Eine saubere Handhabung für den Anwender unter Einbeziehung der Umweltschonung führte zur neuen, patentierten, leckagefreien Messkupplung mit Tellersitzabdichtung.

Unter dem Begriff „Neue Dichttechnik“ wurde diese erfolgreich in den Markt eingeführt.

Gestützt auf diese konsequente Weiterentwicklung konnten folgende Zulassungen erreicht werden:

- Kupplungszulassung der Bundesanstalt für Materialprüfung (BAM) in Feuerlöschern für das Medium Halon.
- Wehrtechnische Zulassung der Kupplung in Stickstoffspeichern.
- DVGW-Registrierungen für differenzierte Messkupplungen durch den Deutschen Verein des Gas- und Wasserfaches e.V. für wiederkehrende Messungen in Gasdruckregelanlagen.

TestPoint connects...

TestPoints are test couplings with a very small nominal bore and a check valve. The opening valve for the test coupling is located on hose ends or as adaptors on pressure sensors. When connecting the test coupling, the check valve opens and gives direct contact to the fluid.

The most important features of the TestPoint are:

- Coupling and uncoupling without system shut down
- Pressure and pressure peaks can be measured using pressure sensors.
- Systems can be vented and samples taken.

Dedication to our customers has been the catalyst to developing a leak-free test point and to moving away from conventional technology, i.e. sealing by means of ball check valves.

The need for clean handling for the user whilst also protecting the environment resulted in a new, patented, leak-free test point using plate seat technology.

Since the successful launch of the "new sealing technology", the advanced design has achieved the following approvals as a result of further product development:

- Approval by the German Federal Institute for Material Testing (Bundesanstalt für Materialprüfung) for use with halon in fire extinguishers.
- Military standard approval for use with nitrogen accumulators.
- Approval of the gas coupling by the German Gas & Water Association (DVGW). The gas coupling is used for repeat testing in gas pressure regulation plants.



Handmessgerät HMG ...
Portable measuring unit HMG ...



Druckmessumformer
Electronic pressure transducer



Adapter
adaptor



Wegweiser durch das TestPoint Programm / Guide to the TestPoint Product Range



TestPoint Schraubkupplung

- mit Metallkappe
- oder Kunststoffkappe

TestPoint screw coupling

- with metal cap
- or plastic cap

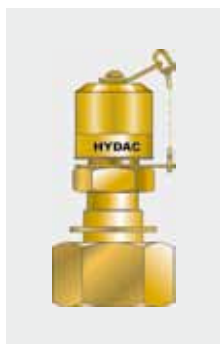


Messstutzen Standpipe Adaptor



T-Verschraubung

T-piece, screw-type



DKO-Messstutzen

DKO adaptor



Messstutzen 37°-Bördelverschraubung SAE J 514

Standpipe adaptor 37° edged cone



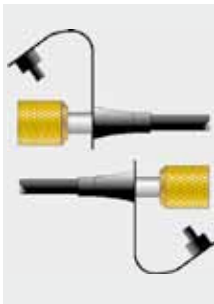
Gewindestutzen Reducer



Anschweißstutzen

Weld adaptor

Schläuche / Hoses



Messschläuche DN 2

Microbore hose DN 2



Adapter zur Verbindung von Messschläuchen

Connecting adaptor for hoses



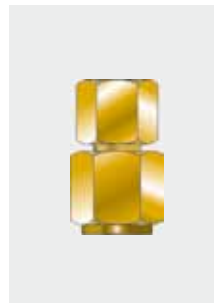
Adapter zum Anschluss auf verschiedene Schraubreihen 1620-1615-1215

TestPoint adaptor for connecting different thread series 1620-1615-1215



Messschottkupplung

Bulkhead coupling with TestPoint screw coupling



Manometerdirektanschluss

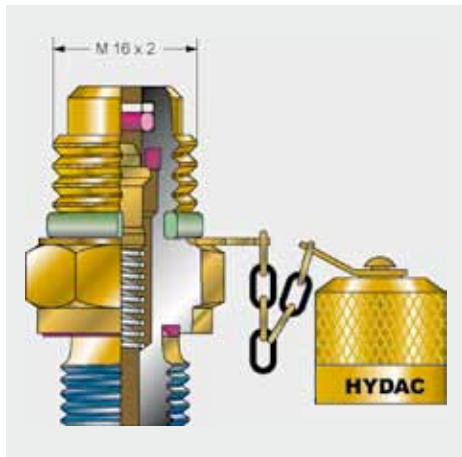
Direct gauge connection



Manometeranschluss für Schottwand

Pressure gauge connection for bulkhead pipe fitting

Technische Daten TestPoint 1620



Max. Betriebsdruck 63 MPa

Medieneinsatz für Hydraulik- und sonstige Öle auf Mineralölbasis

Werkstoff

**Kupplungskörper und Metallkappe
Stahl 1.0718**

Hinweis:

Alle in diesem Katalog aufgeführten Produkte sind aus Automatenstahl 1.0718, wenn nicht anders angegeben

Dichtungen

Interne Primär- und Sekundärdichtung sowie Einschraubdichtung aus Perbunan. Option in Viton

Einschraubgewinde

Verschiedene Gewindeanschlüsse stehen zur Auswahl.

Option: Vibrationssicherung

Zusätzlicher O-Ring aus Perbunan gegen Lösen der Metallkappe.

Temperatureinsatzbereiche

Einsatz mit Metallkappe (Standard)

Dichtungen in Perbunan:

-25 °C bis + 100 °C, kurzzeitig bis +120 °C

Dichtungen in Viton (Option):

-20 °C bis +200 °C

Einsatz mit Kunststoffkappe (Option)

für beide Dichtungsmaterialien:

-20 °C bis +100 °C

Technical data TestPoint 1620

Max. operating pressure 63 MPa (9000 psi)

Fluids

Suitable for hydraulic and other mineral based oils

Material

Coupling body and metal cap in steel 1.0718

Note:

Unless stated otherwise, all products shown in this catalogue are made from free-cutting steel 1.0718

Seals

Internal primary and secondary seals and seals for screw thread in NBR. Option: Viton.

Screw-thread

Different kinds of thread are available

Option: Safety devices against vibration

Additional NBR O-ring to prevent the metal cap from loosening.

Temperature ranges

When used with metal cap (standard)

Seals in NBR.

-25 °C to +100 °C (-13 °F to +212 °F)

short-term to +120 °C (+248 °F)

Seals in Viton (option):

-20 °C to +200 °C (-4 °F to +392 °F)

When used with plastic cap (option)

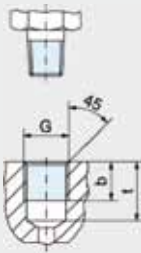
for both sealing materials:

-20 °C to +100 °C (-4 °F to +212 °F)

Einschraublöcher und Abdichtungsarten

Hole dimensions and sealing details

Form C

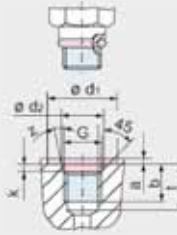


G	b	t
ISO 7 / I-R1/8	5,5	9,5
ISO 7 / I-R1/4	8,5	13,5

Einschraubloch nach DIN 3852 Teil 1 und Teil 2. Form Z (Abdichtung durch geeignete Dichtmittel)

Hole dimensions according to DIN 3852 part 1 and part 2, form Z (sealing by means of suitable sealant)

Form E



SAE J 514 (UNF)

G	d ₁	d ₂	b	k	t	a	z°
7/16-20 UNF	21	12,4	11,5	2,4	14	1,6	12
9/16-18 UNF	25	15,6	12,7	2,5	15,5	1,6	12

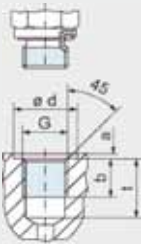
ISO 6149-1

M 10 x 1	19	11,1	10	1,6	11,5	1	12
M 12 x 1,5	19	13,8	11,5	2,4	14	1,5	15
M 14 x 1,5	21	15,8	11,5	2,4	14	1,5	15
M 16 x 1,5	24	17,8	13	2,4	15,5	1,5	15

Einschraubloch nach SAE J 514 (UNF) oder nach ISO 6149-1 Abdichtung durch O-Ring

Hole dimensions according to SAE J 514 (UNF) or according to ISO 6149-1 (sealing by O-ring)

Form F

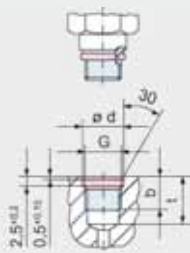


G	d	a	b	t
ISO 228-G 1/8	15	1	8	13
ISO 228-G 1/4	20	1,5	12	18,5
M 12 x 1,5	18	1,5	12	18,5
M 14 x 1,5	20	1,5	12	18,5

Einschraubloch bis auf ød nach DIN 3852 Teil 1 und Teil 2. Form X (Abdichtung durch Gi-Ring)

Hole dimensions (apart from Ø d) according to DIN 3852 part 1 and part 2, form X (square section seal)

Form G



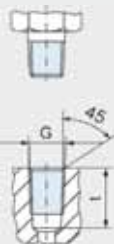
G	d	b	t
M 10 x 1	11,5	9	13
M 8 x 1	9,5	9	13

Einschraubloch nach HYDROTECHNIK Werknorm N 901-01- 14 (Abdichtung durch O-Ring)

Stufenbohrwerkzeug auf Anfrage
Drill bit on request

Hole dimensions according to HYDROTECHNIK factory standard N 901-01-14 (sealing by O-ring)

Form H



G	t		
1/8 NPTF	12		
1/4 NPTF	17,5		

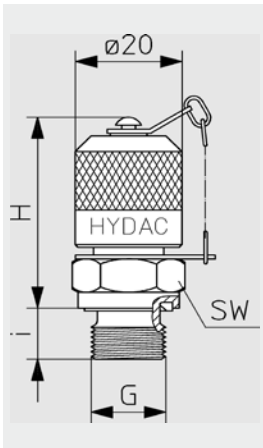
Einschraubloch nach ANSI/ASME B 1.20.1-1983 (Selbstdichtendes Gewinde)

Hole dimensions according to ANSI/ASME B 1.20.1-1983 (self sealing thread)

TestPoint 1620 Schraubkupplung TestPoint 1620 Series

Standardausführung: Schraubkappe in Metall

Standard design: Screw-on metal cap



Gewinde Thread	Abdichtungsart Sealing details	p_{max}	Anzugsdreh- moment Torque [Nm]	H [mm]	i [mm]	SW [mm]	Bestell-Nummer mit Metall-Kappe Part number with metal cap
M 8 x 1 *	O-Ring/Form G	25 MPa (3600 psi)	6	41	8,5	17	06003731
M 10 x 1			15	37,5	8,5	17	00629237
M 12 x 1,5			30	36	10	17	00632615
M 14 x 1,5	Gi-Ring/Form F square section seal	63 MPa (9000 psi)	40	36	10	19	00632248
M 16 x 1,5			60	36	10	22	06003732
ISO 228-G 1/8	Gi-Ring/Form F square section seal	40 MPa (5800 psi)	18	38	8	17	00689901
ISO 228-G 1/4			40	36	10	19	00680107
ISO 228-G 3/8			60	36	10	22	06003733
1/8 NPTF	Selbstdichtendes Gewinde/Form H self sealing thread/form H	40 MPa (5800 psi)	–	33	9,5	17	06003734
1/4 NPTF			–	33	16,5	17	00639645
7/16-20 UNF	O-Ring/Form E	63 MPa (9000 psi)	20	37	9	17	06003735
9/16-18 UNF			35	36	10	19	06003737
ISO 7/I-R 1/8	Geeignete Dicht- mittel/Form C Sealing by suitable sealant	40 MPa (5800 psi)	–	33	13	17	06003738
ISO 7/I-R 1/4			63 MPa (9000 psi)	–	33	13	17
M 10 x 1	O-Ring/Form E nach / to ISO 6149-2	63 MPa (9000 psi)	12	38	9,5	17	06003740
M 12 x 1,5			30	35,5	11	17	06003741
M 14 x 1,5			45	35,5	11	19	06003742
M 16 x 1,5			55	35,5	12,5	22	06003743

* M 8 x 1 - bitte nicht für Neukonstruktionen verwenden

Schraubkupplungen mit EPDM-Dichtung für Bremsflüssigkeit bzw. für andere Medien auf Anfrage.

Technische Änderungen vorbehalten

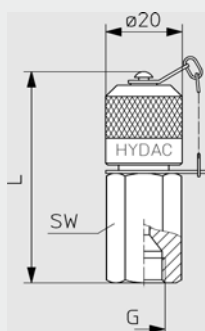
* M 8 x 1 - for spares only, please do not use for new designs

Screw couplings with EPDM seal for brake fluid and other fluids on request.

We reserve the right to make technical modifications.

Messstutzen 37°-Bördelverschraubung SAE J514

Standpipe adaptor 37° edged cone



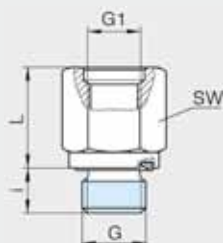
Gewinde Thread	G	p max	Rohr ø Pipe ø in mm	Rohr ø Pipe ø in Zoll in inches	L in mm	SW in mm	Bestell-Nummer Part Number
7/16-20 UNF		60 MPa (8700 psi)	6	1/4"	55	17	06003792
1/2 -20 UNF		42 MPa (6000 psi)	8	5/16"	56,5	17	06003793
9/16-18 UNF		31,5 MPa (4500 psi)	10	3/8"	57,5	19	06003794
3/4- 16 UNF			12	1/2"	60,5	22	06003795

Weitere Anschlussgewinde auf Anfrage

Further threads on request

Gewindestutzen

Reducer



Außengewinde Ext. thread	G	Abdichtungsart Type of seal	p max	L in mm	i in mm	SW in mm	Bestell-Nummer Part Number
M 12 x 1,5		Form F	63 MPa (9000 psi)	19	10	17	06003797
M 16 x 1,5				19	10	22	06003798
ISO 228-G 1/8			40 MPa (9000 psi)	19	8	17	06003799
ISO 228-G 1/2				10	14	27	06003800
ISO 228-G 3/4			63 MPa (9000 psi)	13	12	32	06003765
1/2 NPTF		Form H		10	18	24	06003766

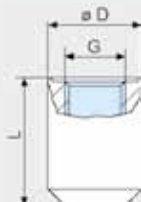
Anschlussgewinde G1:

M10 x 1; Form G, nach HYDROTECHNIK-Werknorm N901-01-14

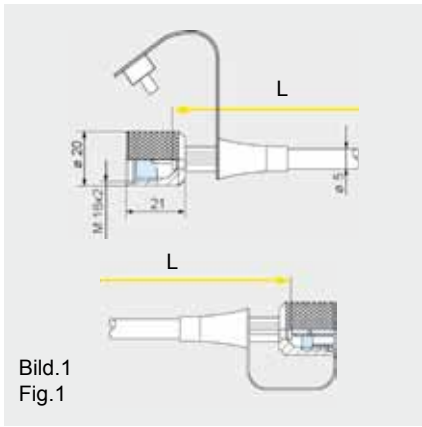
Thread in reducer G1: M 10 x 1, form G, acc. to
HYDROTECHNIK company standard N 901-01-14

Anschweißstutzen

Weld adaptor



Gewinde Thread	G	Einschraubloch Hole	p max in mm	L in mm	ø D	Bestell-Nummer Part Number
M 14 x 1,5		Form F	63 MPa (9000 psi)	30	22	06003796
ISO 228-G 1/4						0683922



Techn. Daten:
Technical Data:

Biegeradius:

Bending radius:

min. 20 mm
(unter -20 °C: 30 mm
under -4 °F: 30 mm)

Druckausnutzungsgrad:

Pressure utilization factor:

0 °C	122 %
30 °C	110 %
50 °C	100 %
80 °C	86 %
100 °C	77 %
120 °C	68 %

Schlauchaufbau:

Hose construction:

Schlauchseele und Oberdecke

Hose core and hose cover

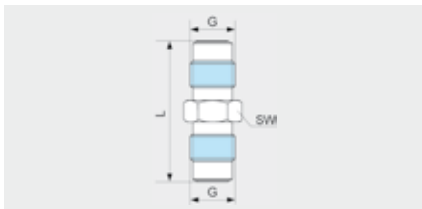
Polyamid

Druckträger:

Inner reinforcement:

Polyesterfaser

Polyester fibre



Messschläuche DN 2
Micro bore flexible hoses

L in mm	p max	Bestell-Nummer Part Number	Bild/ fig. 1	p max	Bestell-Nummer Part Number	Bild/ fig. 1
200	40 MPa 5800 psi	00680606	Bild/ fig. 1	63 MPa 9000 psi	06003723	Bild/ fig. 1
300		06003715			06003724	
400		00680607			00632633	
500		06003716			06003725	
630		06003717			06003726	
800		06003718			00682857	
1000		00687886			00632634	
1250		06003719			06003727	
1500		00637338			00682858	
2000		00685962			00682859	
2500		00688088			00682860	
3200		06003720			06003728	
4000		06003721			06003729	
5000		06003722			06003730	

Schraubanschluss, Hydrotechnik "AC".

Andere Schraubanschlusskombinationen auf Anfrage.

TestPoint Connection, Hydrotechnik "AC".

Other combinations on request.

Adapter zur Verbindung von Messschläuchen

Adaptor for connection of hoses

Gewinde Thread	G	L in mm	SW in mm	p max	Bestell-Nummer Part Number
M 16 x 2		42	17	63 MPa (9000 psi)	00687889

Anm.: Ohne Rückschlagventil

Note: without check valve

Adapter zum Anschluss auf unterschiedliche

Schraubreihen: 1620-1615-1215

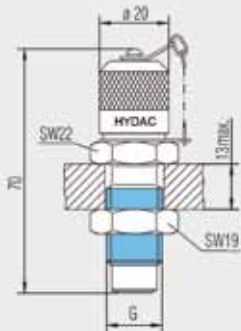
Adaptor for connecting different thread series:

1620-1615-1215

Gewinde Thread	G ₁	Gewinde Thread	G ₂	L in mm	SW in mm	Bestell-Nummer Part Number
Hemmgew. 12 retaining thread		M 16 x 2		25,2	17	—
M 16 x 2		Hemmgew. 12 retaining thread		32		00629635
M 16 x 1,5		M 16 x 2		31,4		—
M 16 x 2		M 16 x 1,5		31,4		00629636

Messschott-Kupplung Bulkhead coupling

Gewinde Thread G	p max (9000 psi)	Anschluss Connection	Bestell-Nummer Part Number
M 16 x 2	63 MPa (9000 psi)	beidseitig Serie 1620 / both ends for series 1620	06003767

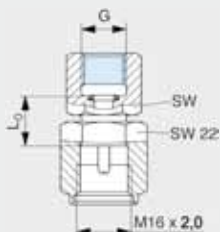


Für lötlöse Rohrverschraubung nach
DIN 2353, Gegenseite TestPoint-1620-
Anschluss (M 16 x 2)

For solderfree screw-in pipe connection
acc. to DIN 2353, opposite end:
TestPoint 1620 connection (M16 x 2)

Manometerdirektanschluss Direct gauge connection

Innengewinde Internal thread G	p max	L ₀ in mm	SW in mm	Bestell-Nummer Part Number
ISO 228-G 1/4	63 MPa (9000 psi)	14,5	19	06003824
ISO 228-G 1/2		17	27	06003825
1/4 NPT		–	19	06003769



Manometeranschluss für Schottwand Pressure gauge connection for bulkhead pipe fitting

Innengewinde Internal thread G₁	Außengewinde External thread G₂	L ₀ in mm (ca.)	SW in mm	Bestell-Nummer Part Number
ISO 228-G 1/4	1620 / M 16 x 2	38	19	06003822
ISO 228-G 1/2		42,5	27	06003823
1/4 NPT		–	19	06003768

* Anmerkung: Ohne Rückschlagventil
Note: Without check valve

ANMERKUNG

Die Angaben in diesem Prospekt
beziehen sich auf die beschriebenen
Betriebsbedingungen und Einsatzfälle.
Bei abweichenden Einsatzfällen und/
oder Betriebsbedingungen wenden
Sie sich bitte an die entsprechende
Fachabteilung.
Technische Änderungen sind
vorbehalten.

NOTE

The information in this brochure relates to
the operating conditions and applications
described.
For applications or operating conditions
not described, please contact the relevant
technical department.
Subject to technical modifications.

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HYDAC

INTERNATIONAL

**Schnellverschluss-
Kupplungen**

Quick release couplings

Coupleurs rapides



Aufbau der Artikel-Nr. / Structure of the part no. / Désignation des articles

Beispiel einer Artikelnummer:

Example of a part no.:

Exemple d'une désignation:

HP 10 - 1 - IGF 08

Type und DN
Type and DN
Type et DN

Komponente der Kupplung
Component of coupling
Composant du coupleur

Anschlussart und -größe
Type and size of connection
Type et dimensions du raccordement

Type	Komponente	Anschlussart
HP Steck-Kupplung nach ISO 7241-1, Serie A, Push-Pull-Ausführung	0 Staubkappe	AGF Außengewinde BSP nach DIN 3852
ZP Steck-Kupplung nach ISO 7241-1, Serie A, Push-Pull-Ausführung, Schiebehülse aus Zinkdruckguss	1 Kupplungsmuffe mit Ventil	AMF Außengewinde metrisch nach DIN 3852
AP Steck-Kupplung nach ISO 7241-1, Serie A, Push-Pull-Ausführung, als Abreißkupplung	2 Kupplungsstecker mit Ventil	IGF Innengewinde BSP nach DIN 3852
UP Steck-Kupplung nach ISO 7241-1, Serie A, Push-Pull-Ausführung, unter Druck kuppelbar	5 Kupplungsmuffe mit festem Staubschutz	IMF Innengewinde metrisch nach DIN 3852
UE Einbaukupplung	6 Kupplungsstecker ohne Ventil	INF Innengewinde NPTF
HF Steck-Kupplung, flachdichtend, nach ISO/DIS 16028	7 Kupplungsmuffe ohne Ventil	IUF Innengewinde UNF
FF Steck-Kupplung, flachdichtend, nach ISO/DIS 16028	8 komplette Kupplung	L Anschluss für lötlöse Rohrverschraubung nach DIN 2353, leichte Reihe
BP Bremsleitungs-Kupplung nach ISO 5676	9 Staubstecker	S Anschluss für lötlöse Rohrverschraubung nach DIN 2353, schwere Reihe
HS Schraub-Kupplung		N Anschluss für lötlöse Rohrverschraubung nach DIN 2353, leichte Reihe, Schottwand
HA Schraub-Kupplung für hohe Drücke		T Anschluss für lötlöse Rohrverschraubung nach DIN 2353, schwere Reihe, Schottwand
RS Rohrleitungs-Kupplung		AFS Anschlussflansch 6000 psi
KN Steck-Kupplung in Kunststoff-Ausführung		SL Schlauchanschluss

Type	Component	Type of connection
HP Quick-action coupling to ISO 7241-1, Series A, Push-Pull type	0 Dust cap	AGF Male thread BSP to DIN 3852
ZP Quick-action coupling to ISO 7241-1, Series A, Push-Pull type, sleeve in die-cast zinc	1 Female body with valve	AMF Male thread metric to DIN 3852
AP Quick-action coupling to ISO 7241-1, Series A, Push-Pull type, breakaway-coupling	2 Male plug with valve	IGF Female thread BSP to DIN 3852
UP Quick-action coupling to ISO 7241-1, Series A, Push-Pull type, to couple under pressure	5 Female body with fixed dust protection	IMF Female thread metric to DIN 3852
UE Rigid-mounted coupling	6 Male plug without valve	INF Female thread NPTF
HF Flat face coupling to ISO/DIS 16028	7 Female body without valve	IUF Female thread UNF
FF Flat face coupling to ISO/DIS 16028	8 Complete coupling	L 24 ° cone / DIN 2353 light series
BP Coupling for braking system to ISO 5676	9 Dust plug	S 24 ° cone / DIN 2353 heavy series
HS Screw-type coupling		N 24 ° cone / DIN 2353 light series, bulkhead
HA Screw-type coupling for high pressures		T 24 ° cone / DIN 2353 heavy series, bulkhead
RS Pipeline coupling		AFS Flange 6000 psi
KN Quick release coupling, plastic construction		SL Hose connection

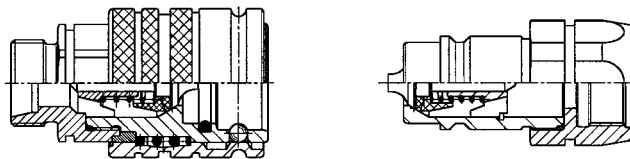
Type	Composant	Type of connection
HP Coupleur selon ISO 7241-1, Série A, Exécution Push-Pull	0 Capuchon de protection	AGF Filetage mâle BSP selon DIN 3852
ZP Coupleur selon ISO 7241-1, Série A, Exécution Push-Pull, bague coulissante moulée sous pression de zinc	1 Embout femelle avec clapet	AMF Filetage mâle métrique selon DIN 3852
AP Coupleur enfichable selon ISO 7241-1, Série A, Exécution Push-Pull, comme coupleur de rupture	2 Embout mâle avec clapet	IGF Filetage femelle BSP selon DIN 3852
UP Coupleur enfichable selon ISO 7241-1, Série A, Exécution Push-Pull, avec possibilité de coupler sous pression	5 Embout femelle avec protection poussière fixe	IMF Filetage femelle métrique selon DIN 3852
UE Coupleur rigide	6 Embout mâle sans clapet	INF Filetage femelle NPTF
HF Coupleur à face plane, selon ISO/DIS 16028	7 Embout femelle sans clapet	IUF Filetage femelle UNF
FF Coupleur à face plane, selon ISO/DIS 16028	8 Coupleur complet	L Raccordement pour tuyauterie série légère selon DIN 2353
BP Coupleur de freinage selon ISO 5676	9 Bouchon de protection	S Raccordement pour tuyauterie série lourde selon DIN 2353
HS Coupleur à visser		N Raccordement pour tuyauterie série légère selon DIN 2353, passe-cloison
HA Coupleur à visser haute pression		T Raccordement pour tuyauterie selon DIN 2353, série lourde selon DIN 2353, passe-cloison
KN Coupleur en matière plastique		AFS Bride de raccordement 6000 psi
RS Coupleur pour tuyauterie		SL Raccordement par flexible

Katalog-Übersicht / Section selector / Sommaire

Steck-Kupplungen Serien HP Push-Pull-Ausführung

Quick Release Couplings Series HP
Push-Pull type

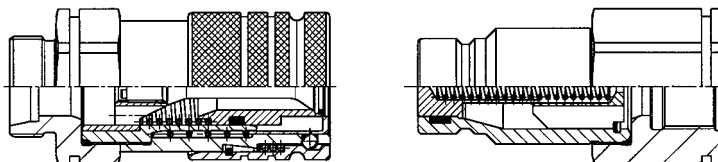
*Coupleurs Série HP
Exécution Push-Pull*



Steck-Kupplungen Serie FF flachdichtende Ausführung

Quick Release Couplings Series FF
Flat Face construction

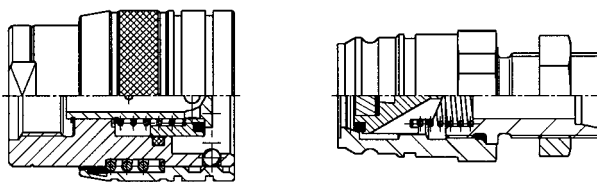
*Coupleurs Série FF
Exécution à face plane*



Verschlusskupplungen Serie BP für hydraulische Bremsanlagen

Quick Release Couplings Series BP
for hydraulic braking systems

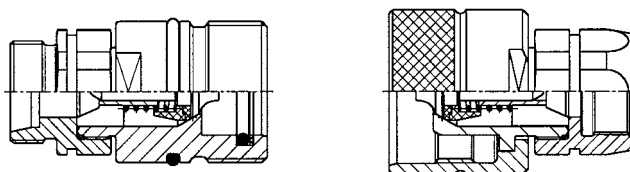
*Coupleurs rapides Série BP
pour systèmes de freinage hydrauliques*



Schraub-Kupplungen Serie HS

Screw-type Couplings Series HS

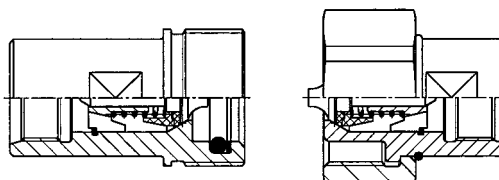
Coupleurs à visser Série HS



Schraub-Kupplungen Serie HA für hohe Drücke

Screw-type Couplings Series HA
for high pressures

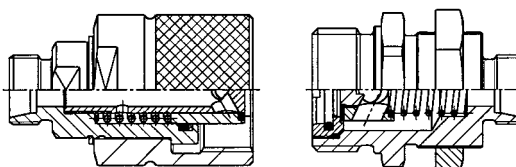
*Coupleurs à visser Série HA
pour pressions élevées*



Rohrleitungskupplungen Serie RS leckölarml

Quick Release Coupling Series RS
Flat Face construction, low-leakage

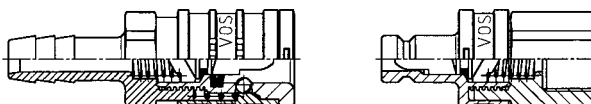
*Coupleurs pour tuyauterie
Série RS*



Verschlusskupplungen Serie KN Kunststoffausführung

Quick Release Couplings Series KN
Plastic construction

*Coupleurs rapides Série KN
Exécution matière plastique*



Informationen

Information

Informations

Einleitung

HYDAC-Kupplungen bewähren sich seit vielen Jahren in der Praxis beim Einsatz in der Hydraulik. Die hohe Qualität der Kupplungen ist das Ergebnis ständiger Produktpflege, bei der auch die Erfahrungen der Anwender berücksichtigt werden. Der hohe Fertigungsstandard, kombiniert mit dem Qualitätsmanagement nach EN ISO 9001, sichert die Qualität unserer Produkte.

Die technischen Daten der einzelnen Kupplungen entnehmen Sie bitte den folgenden Seiten des Kataloges. Für die Kupplungen der Serien HP, HS, FF, HA, BP und RS gelten folgende Merkmale:

Gehäusewerkstoff:

Stahl entspr. EN 10277, verzinkt/gelb chromatiert

Dichtungen:

NBR/PTFE

Betriebstemperatur:

- 30 °C bis + 100 °C

Mitgeltende Normen:

EN ISO 8330:2000, ISO 5675, ISO 5676, ISO 7241, ISO/DIS 16028

Für andere Werkstoffkombinationen erbitten wir Ihre Anfrage.

Die in unserem Katalog genannten Betriebsdrücke beziehen sich auf die Festigkeit der Gehäusebauteile. Genormte Anschlussformen können andere Nenndrücke aufweisen, diese sind nicht zwangsläufig auf den Kupplungstyp anzuwenden. Spezielle Vereinbarungen können getroffen werden.

Eine allgemeine Aussage zur Verträglichkeit unserer Kupplungen mit Bio-Ölen ist nicht möglich. Jedoch kann davon ausgegangen werden, dass dieselben Verträglichkeiten wie beim Gummischlauch gegeben sind. Eine definitive Aussage für den Einzelfall ist erst nach Prüfung möglich.

Außer den Standardkupplungen sind auch Sonderausführungen lieferbar. Einen Ausschnitt davon stellen wir Ihnen in diesem Katalog ebenfalls vor. Wenn Sie besondere Problemfälle lösen müssen, so sprechen Sie uns bitte an.

Im Zuge der Produktpflege behalten wir uns technische Änderungen vor.

Introduction

HYDAC couplings have proven their value for many years in practical use in hydraulic systems. The excellent quality of the couplings is the result of continual product improvement in which the experiences of users have also been taken into consideration. Our high production standards, combined with our quality management system certified in accordance with EN ISO 9001, assures the quality of our products.

For the technical specifications of the individual couplings please refer to the following pages of the catalogue. The couplings of the series HP, HS, FF, HA, BP and RS have the following common characteristics:

Housing material:

Steel according to EN 10277, zinc-plated/yellow chromatiized

Seals:

NBR/PTFE

Operating temperature:

- 30 °C to + 100 °C

Normative references:

EN ISO 8330:2000, ISO 5675, ISO 5676, ISO 7241, ISO/DIS 16028

For other combinations of materials, please contact our Technical Dept.

The operating pressures specified in our catalogue relate to the strength of the housing components. Standardized connector shapes may have other rated pressures, which cannot automatically be applied to the particular coupling type. Special arrangements are possible.

It is not possible to make a general statement on the compatibility of our couplings with biodegradable oils. However, it may be assumed that the compatibility is similar to that of rubber hoses. A definite statement in individual cases can only be made after performing tests.

Aside from standard couplings, special designs are also available. A few examples of special design couplings are presented in this catalogue. Should you require solutions for special problem cases, please contact us.

Subject to change for the purpose of product improvements.

Introduction

Les coupleurs HYDAC sont connus depuis de très nombreuses années dans le domaine de l'hydraulique mobile. La qualité des coupleurs est le fruit d'une constante amélioration du produit et pour laquelle on a tenu compte de l'expérience de l'utilisateur combinée avec une réalisation moderne. Le standard de fabrication élevé combiné avec un management de qualité selon EN ISO 9001 garantit la qualité de nos produits.

Vous trouverez dans les pages suivantes du catalogue les données techniques des différents coupleurs. Pour les séries HP, HS, FF, HA, BP et RS les caractéristiques suivantes sont valables:

Matériau du corps:

Acier suivant norme EN 10277 zingué/bichromaté jaune

Joints:

NBR/PTFE

Température de service:

- 30 °C à + 100 °C

Références:

EN ISO 8330:2000, ISO 5675, ISO 5676, ISO 7241, ISO/DIS 16028

Autres combinaisons de matériaux sur demande.

Les pressions de service indiquées dans notre catalogue sont liées à la tenue des matériaux du corps. Différents types de raccordement peuvent influencer sur les pressions d'utilisation des coupleurs. Certaines caractéristiques peuvent être modifiées.

Il n'est pas possible d'affirmer que tous nos coupleurs sont compatibles avec les huiles biologiques. Il est néanmoins possible de confirmer les mêmes compatibilités que celles du flexible hydraulique. Seuls les essais pourront nous confirmer exactement.

Outre les coupleurs standard il est également possible de livrer des exécutions spéciales. Nous vous en présentons un extrait également dans ce catalogue. Si vous avez un problème à résoudre dans ce domaine veuillez nous consulter.

Nous nous réservons le droit de procéder à des modifications techniques.

Serie HP Charakteristika

Die doppelt wirkende Schiebehülse ist in der Verriegelungsstellung durch eine vorgespannte Feder fixiert. Sie kann zum Kuppeln oder Entkuppeln in beide Richtungen axial verschoben werden. Die beiden Hälften der Steckkupplung werden durch Rastkugeln miteinander verriegelt.

Die Schiebehülse kann mit Sprengringen in eine Schottwand eingebaut werden. Somit erhält die Muffe die Funktion einer Abreißkupplung. Falls ein Stecker von einer so montierten Muffe abgerissen wird, wird das System automatisch entkuppelt und die Ventile schließen sich, so dass eine Beschädigung der Schlauchleitung und ein eventueller Ölverlust vermieden werden.

HYDAC bietet eine breite Produktpalette für den Landmaschinenbereich sowie für die Fahrzeug- und Baumaschinenhydraulik. Durch die modulare Bauweise steht eine große Auswahl von Anschlüssen, die den internationalen Normen entsprechen, zur Verfügung.

Series HP Characteristics

The double-acting sliding sleeve is fixed in the locked position by means of a prestressed spring. For the purpose of coupling and uncoupling, it can slide in both axial directions. The two halves of the quick release coupling are locked together securely by means of precision snap-in balls.

The sliding sleeve can be installed in a bulkhead with retaining rings. In this way, the female body fulfils the function of a break-away coupling. Should a male plug be torn away from a body installed in this way, the system is decoupled and the valves close automatically, thus preventing damage to the hose and possible loss of oil.

HYDAC offers a wide range of products for agricultural machinery as well as for hydraulic systems of vehicles and construction equipment. Owing to the modular design, a large variety of connections conforming to international standards is available.

Série HP Caractéristiques

La bague coulissante à double effet est maintenue dans sa position de verrouillage par un ressort précontraint. Il peut être déplacé, axialement, dans les deux sens pour l'accouplement et le désaccouplement. Le verrouillage des deux demi-coupleurs est effectué par des billes d'arrêt.

La bague coulissante peut être fixée par un circlips dans un passage de cloison. Par ce fait la douille extérieure prend la fonction de coupleur de rupture. Au cas où l'embout mâle d'une douille extérieure montée de la sorte devait se détacher, le système est automatiquement désaccouplé et les clapets se ferment pour éviter une détérioration du flexible et une éventuelle perte d'huile.

HYDAC propose une large gamme de produits pour les machines agricoles et l'hydraulique des véhicules et des engins de TP. De par la construction modulaire un grand choix de raccords selon les normes internationales est proposé.

Durchflusskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccordements non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie HP Type HP 04

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type HP 04

Working Pressure:

P_{max} 25 MPa (250 bar)

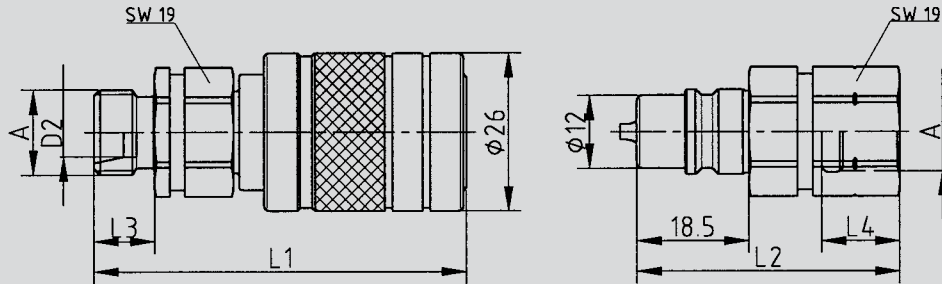
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HP Type HP 04

Pression de service:

P_{max} 25 MPa (250 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube					Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 1/4"		64	44		13	HP04-1-IGF04	6010078	146	HP04-2-IGF04	6010082	52
NPTF 1/4-18		64	44		13	HP04-1-INF04	6010079	146	HP04-2-INF04	6010083	52
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M14x1,5	8L	62	42	10		HP04-1-L0814	6010080	134	HP04-2-L0814	6010084	40
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M14x1,5	8L	77	57	25		HP04-1-N0814	6010081	154	HP04-2-N0814	6010085	62

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 08

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 10.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type HP 08

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 10.

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

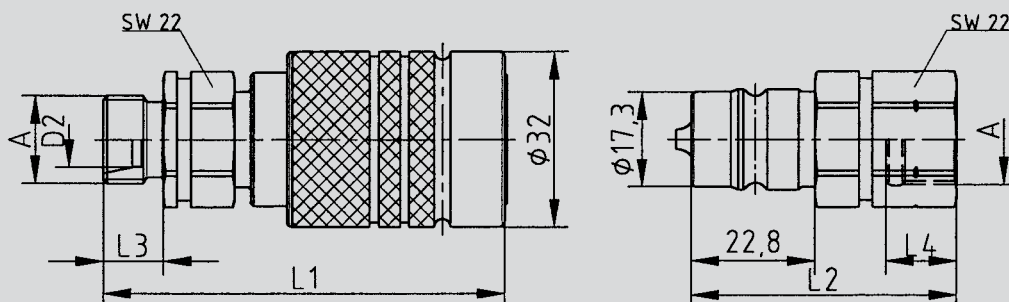
Série HP Type HP 08

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 10.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Rohr Tube		Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle			
Anschluss A Port A Raccord A	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids
Außengewinde DIN 3852 / Male thread DIN 3852 / Filetage mâle DIN 3852									
G 3/8"		77	51	12		HP08-1-AGF06 6010102	220	HP08-2-AGF06 6010114	78
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852									
G 1/4"		76	49		13	HP08-1-IGF04 6010103	195	HP08-2-IGF04 6010115	88
G 3/8"		76	49		13	HP08-1-IGF06 6010104	188	HP08-2-IGF06 6010116	80
M16x1,5		76	49		13	HP08-1-IMF16 6010105	188	HP08-2-IMF16 6010117	81
NPTF 3/8-18		76	49		13	HP08-1-INF06 6010106	188	HP08-2-INF06 6010118	81
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861									
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861									
M14x1,5	8L	73	46	10		HP08-1-L0814 6010107	210	HP08-2-L0814 6010119	42
M16x1,5	10L	74	47	11		HP08-1-L1016 6010108	210	HP08-2-L1016 6010120	65
M16x1,5	8S	75	48	12		HP08-1-S0816 6010109	212	HP08-2-S0816 6010121	71
M18x1,5	10S	75	48	12		HP08-1-S1018 6010110	214	HP08-2-S1018 6010122	72
M20x1,5	12S	75	48	12		HP08-1-S1220 6010111	216	HP08-2-S1220 6010123	74
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand									
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison									
M14x1,5	8L	88	61	25		HP08-1-N0814 6010112	228	HP08-2-N0814 6010124	84
M16x1,5	10L	89	62	26		HP08-1-N1016 6010113	234	HP08-2-N1016 6010126	80

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 08A

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type HP 08A

Working Pressure:

P_{max} 25 MPa (250 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

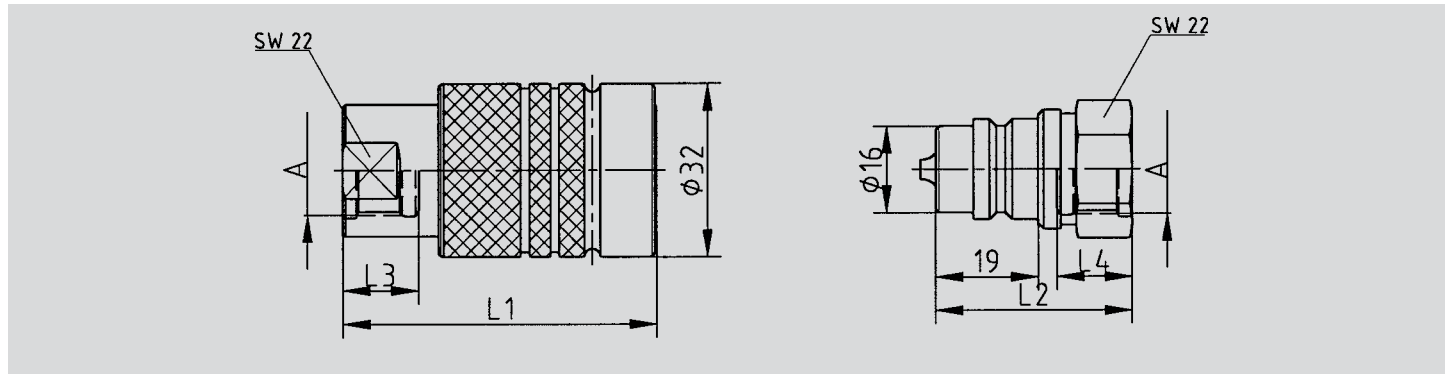
Série HP Type HP 08A

Pression de service:

P_{max} 25 MPa (250 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.

HP

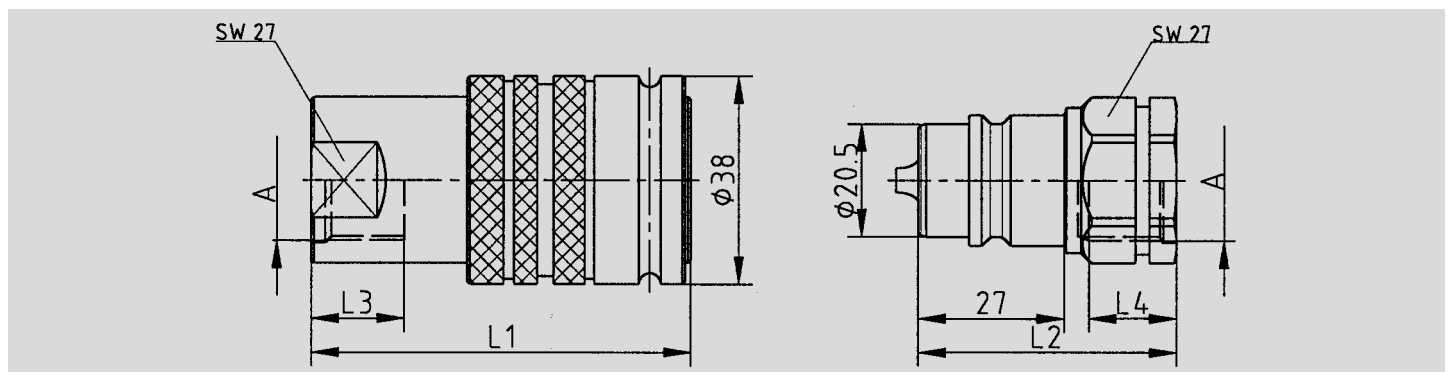


Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde / Female thread / Filetage femelle											
G 3/8"		58	37		13	HP08A1-IGF06	6010127	188	HP08A2-IGF06	6010128	51

Serie HP Type HP 10

Series HP Type HP 10

Série HP Type HP 10



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 1/2"		70	48		17	HP10-1-IGF08	6010129	280	HP10-2-IGF08	6010132	92
M22x1,5		70	48		17	HP10-1-IMF22	6010130	284	HP10-2-IMF22	6010133	88
NPTF 1/2-14		70	48		15	HP10-1-INF08	6010131	280	HP10-2-INF08	6010134	92
UNF 3/4-16		77	48		14	HP10-1-IUF08	6010182	278	HP10-2-IUF08	6010135	88

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 10

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 12,5, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type HP 10

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 12.5, and ISO 5675.

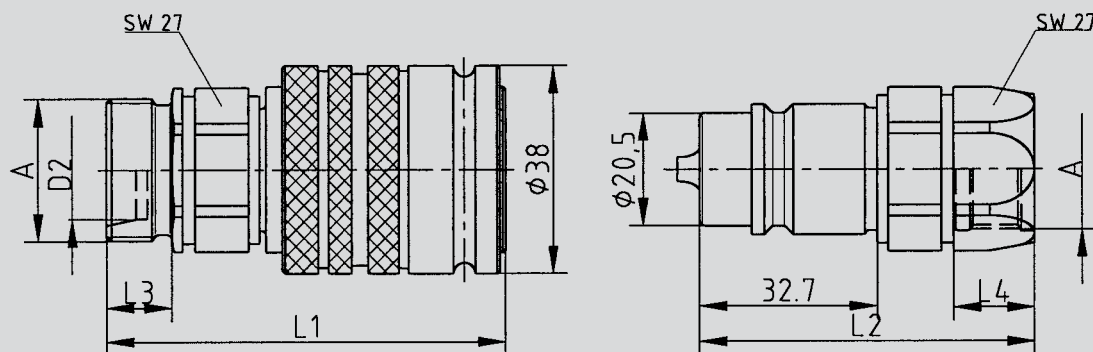
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HP Type HP 10

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 12,5, et ISO 5675. Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Außengewinde DIN 3852 / Male thread DIN 3852 / Filetage mâle DIN 3852											
G 3/8"		71	61	12		HP10-1-AGF06	6010136	290	HP10-2-AGF06	6010159	128
G 1/2"		71	61	12		HP10-1-AGF08	6010137	296	HP10-2-AGF08	6010160	132
M22x1,5		71	61	12		HP10-1-AMF22	6010138	300	HP10-2-AMF22	6010161	138
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/8"		68	60		15	HP10-1-IGF06	6010139	330	HP10-2-IGF06	6010162	162
M18x1,5		68	60		15	HP10-1-IMF18	6010140	318	HP10-2-IMF18	6010163	156
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M14x1,5	8L	65	57	10		HP10-1-L0814	6010141	284	HP10-2-L0814	6010164	116
M16x1,5	10L	66	58	11		HP10-1-L1016	6010142	280	HP10-2-L1016	6010165	118
M18x1,5	12L	66	59	11		HP10-1-L1218	6010143	280	HP10-2-L1218	6010166	118
M22x1,5	15L	67	59	12		HP10-1-L1522	6010144	288	HP10-2-L1522	6010167	126
M26x1,5	18L	67	59	12		HP10-1-L1826	6010145	286	HP10-2-L1826	6010168	128
M18x1,5	10S	67	59	12		HP10-1-S1018	6010146	288	HP10-2-S1018	6010169	124
M20x1,5	12S	67	59	12		HP10-1-S1220	6010147	290	HP10-2-S1220	6010170	126
M22x1,5	14S	69	61	14		HP10-1-S1422	6010148	296	HP10-2-S1422	6010171	132
M24x1,5	16S	69	61	14		HP10-1-S1624	6010149	298	HP10-2-S1624	6010172	134
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M14x1,5	8L	81	73	26		HP10-1-N0814	6010150	305	HP10-2-N0814	6010173	138
M16x1,5	10L	81	73	26		HP10-1-N1016	6010151	311	HP10-2-N1016	6010174	144
M18x1,5	12L	81	73	30		HP10-1-N1218	6010152	314	HP10-2-N1218	6010175	152
M22x1,5	15L	82	74	27		HP10-1-N1522	6010153	330	HP10-2-N1522	6010176	168
M26x1,5	18L	82	74	27		HP10-1-N1826	6010154	364	HP10-2-N1826	6010177	202
M18x1,5	10S	82	74	27		HP10-1-T1018	6010155	320	HP10-2-T1018	6010178	156
M20x1,5	12S	82	74	27		HP10-1-T1220	6010156	328	HP10-2-T1220	6010179	164
M22x1,5	14S	84	76	29		HP10-1-T1422	6010157	342	HP10-2-T1422	6010180	180
M24x1,5	16S	84	76	29		HP10-1-T1624	6010158	356	HP10-2-T1624	6010181	192

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type ZP 10

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 12,5, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type ZP 10

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 12.5, and ISO 5675.

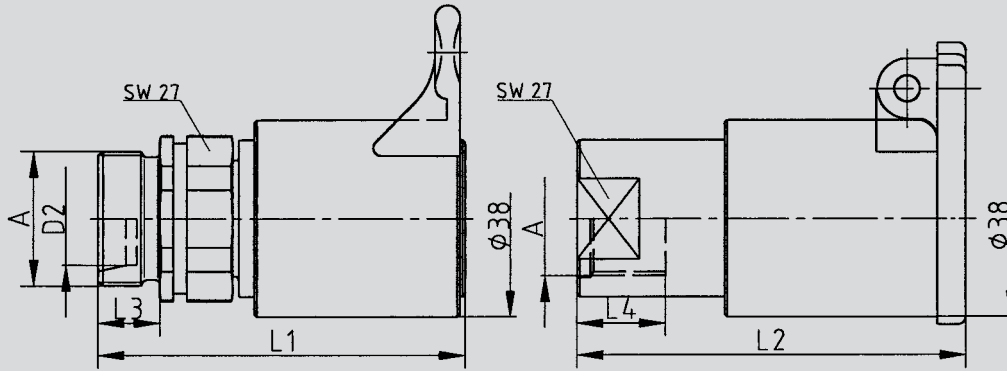
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HP Type ZP 10

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 12,5, et ISO 5675. Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle				
	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852										
G 1/2"		70	76		15	ZP10-1-IGF08	6010261	314		
M22x1,5		70	76		15	ZP10-1-IMF22	6010262	310	ZP10-5-IMF22C1	6010268
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861										
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861										
M18x1,5	12L	70	76	11		ZP10-1-L1218	6010263	301		
M22x1,5	15L	71	77	12		ZP10-1-L1522	6010264	309		
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand										
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison										
M18x1,5	12L	85	91	30		ZP10-1-N1218	6010265	335	ZP10-5-N1218C1	6010271
M22x1,5	15L	86	92	27		ZP10-1-N1522	6010266	351	ZP10-5-N1522C1	6010272

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 10

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 12,5, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HP Type HP 10

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 12.5, and ISO 5675.

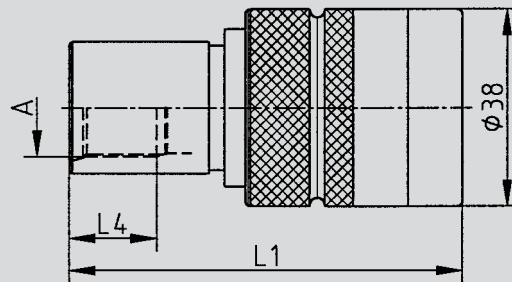
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HP Type HP 10

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 12,5 et ISO 5675. Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.

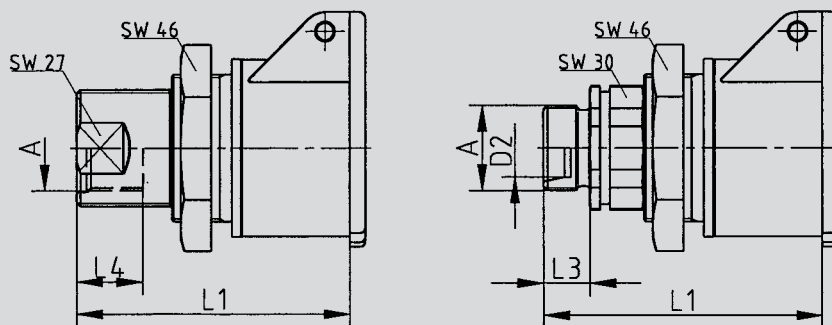


Rohr Tube						Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle	
Anschluss A Port A Raccord A	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde / Female thread / Filetage femelle										
UNF 3/4-16		77			14	HP10-1-IUF08	6010182	278		

Serie HP Type AP 10

Series HP Type AP 10

Série HP Type AP 10



Rohr Tube						Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle	
Anschluss A Port A Raccord A	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde / Female thread / Filetage femelle										
M22x1,5		75			17	AP10-5-I2230A1	6010183	381		
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison										
M22x1,5	15L	77		12		AP10-5-L1522A1	6010184	390		

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 10

Series HP Type HP 10

Série HP Type HP 10

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 12,5, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 12.5, and ISO 5675.

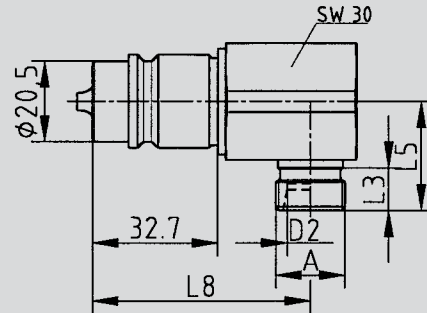
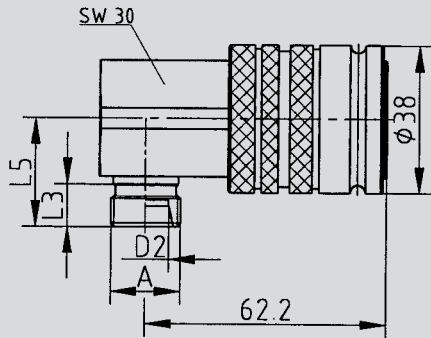
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

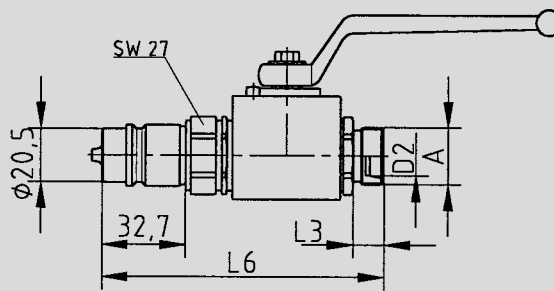
P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 12,5, et ISO 5675.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube		Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle			
	Ø D2	L3	L5	Artikelnummer Part No. Désignation		Gew. Weight Poids	Artikelnummer Part No. Désignation		Gew. Weight Poids	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861										
Male stud with type W bore (24°) to DIN 3861 / <i>Manchon fileté cône 24°, selon DIN 3861</i>										
M14x1,5	8L	10	32	HP10-1-W0814	6011489	284	HP10-2-W0814	6011591	116	
M16x1,5	10L	11	33	HP10-1-W1016	6011490	280	HP10-2-W1016	6011601	118	
M18x1,5	12L	11	33	HP10-1-W1218	6010185	280	HP10-2-W1218	6010187	118	
M22x1,5	15L	12	34	HP10-1-W1522	6010186	288	HP10-2-W1522	6010188	126	



Anschluss A Port A Raccord A	Rohr Tube	Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle				
		L6	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852									
G 3/8"		113		15			HP10-2-BKIGF06	6010189	630
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861									
Male stud with type W bore (24°) to DIN 3861 / <i>Manchon fileté cône 24°, selon DIN 3861</i>									
M16x1,5	10L		114	11			HP10-2-BKL1016	6010190	590
M18x1,5	12L		114	11			HP10-2-BKL1218	6010191	592

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type UP 10

Series HP Type UP 10

Série HP Type UP 10

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 12,5, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 12.5, and ISO 5675.

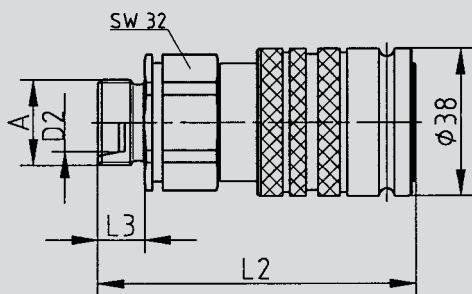
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 12,5, et ISO 5675.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.

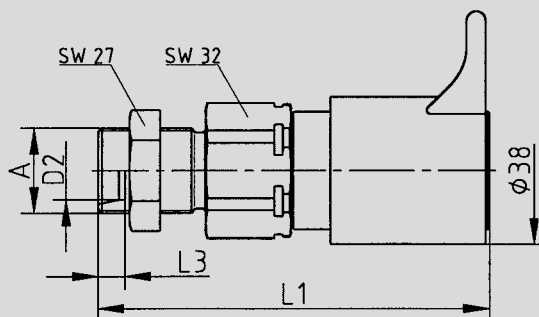


Die Kupplungsmuffen des Typs UP 10 können mit einem druckbeaufschlagten Stecker gekuppelt werden.

The female bodies of the type UP 10 can be coupled with a male plug under pressure.

Les embouts femelle des coupleurs du type UP 10 peuvent être couplés avec un embout mâle sous pression.

Anschluss A Port A Raccord A	Rohr Tube Ø D2					Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle	
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde / Female thread / Filetage femelle										
G 1/2"					15	UP10-1-IGF08	6010255	415		
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861 Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861										
M14x1,5	8L			10		UP10-1-L0814	6010256	375		
M18x1,5	12L			11		UP10-1-L1218	6010257	377		
M22x1,5	15L			12		UP10-1-L1522	6010258	385		
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison										
M22x1,5	15L			27		UP10-1-N1522	6010259	425		



Anschluss A Port A Raccord A	Rohr Tube Ø D2					Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle	
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison										
M22x1,5				27		UZ10-1-N1522	6010260	425		

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie UE

Charakteristika

Einbaukupplungen

Die Einbaukupplung ist konzipiert worden als Kupplungsmuffe für den Festeinbau direkt in ein Steuerventil oder an eine starre Rohrleitung. Sie wird bevorzugt in der Heckhydraulik von Ackerschleppern eingesetzt, wo sie wegen ihrer einfachen Bedienbarkeit geschätzt wird. Die Relativbewegung des Kuppelmechanismus erfolgt in einem Gehäuse, so dass die Kupplung mit einer Hand bedient werden kann. Die Einbaukupplung erfüllt die Anforderungen einer Abreißkupplung.

Die Einbaukupplungen entsprechen den Normen ISO 7241-1, Serie A, und ISO 5675.

Größe 20 - Type UE 12

Diese Größe ist kuppelbar bis zu 40 bar Druck auf der Muffenseite.

Series UE

Characteristics

Rigid-mounted couplings

Rigid-mounted couplings have been designed as coupling bodies for fixed installation directly in a control valve or a rigid pipeline. Their standard application is in the rear deck hydraulic systems of agricultural tractors. The relative movement of the coupling mechanism takes place in a housing, so that the coupling can be operated with one hand. The integrated coupling meets the requirements of a breakaway coupling.

Rigid-mounted couplings conform to the standards ISO 7241-1, Series A, and ISO 5675.

Size 20 - Type UE 12

This size can be coupled or uncoupled at pressures of up to 40 bar on the female half.

Série UE

Caractéristiques

Coupleurs rigides

Les coupleurs rigides sont conçus comme adaptateurs femelles pour une installation fixe directement sur la valve de pilotage ou sur une tuyauterie rigide. Ils sont installés en premier lieu dans l'hydraulique arrière des tracteurs agricoles en raison de leur manipulation aisée. Le mouvement relatif du mécanisme d'accouplement est effectué dans un seul corps, ce qui permet l'accouplement avec une main. Les coupleurs rigides répondent aux exigences des coupleurs de rupture.

Les coupleurs rigides correspondent aux normes ISO 7241-1, série A et ISO 5675.

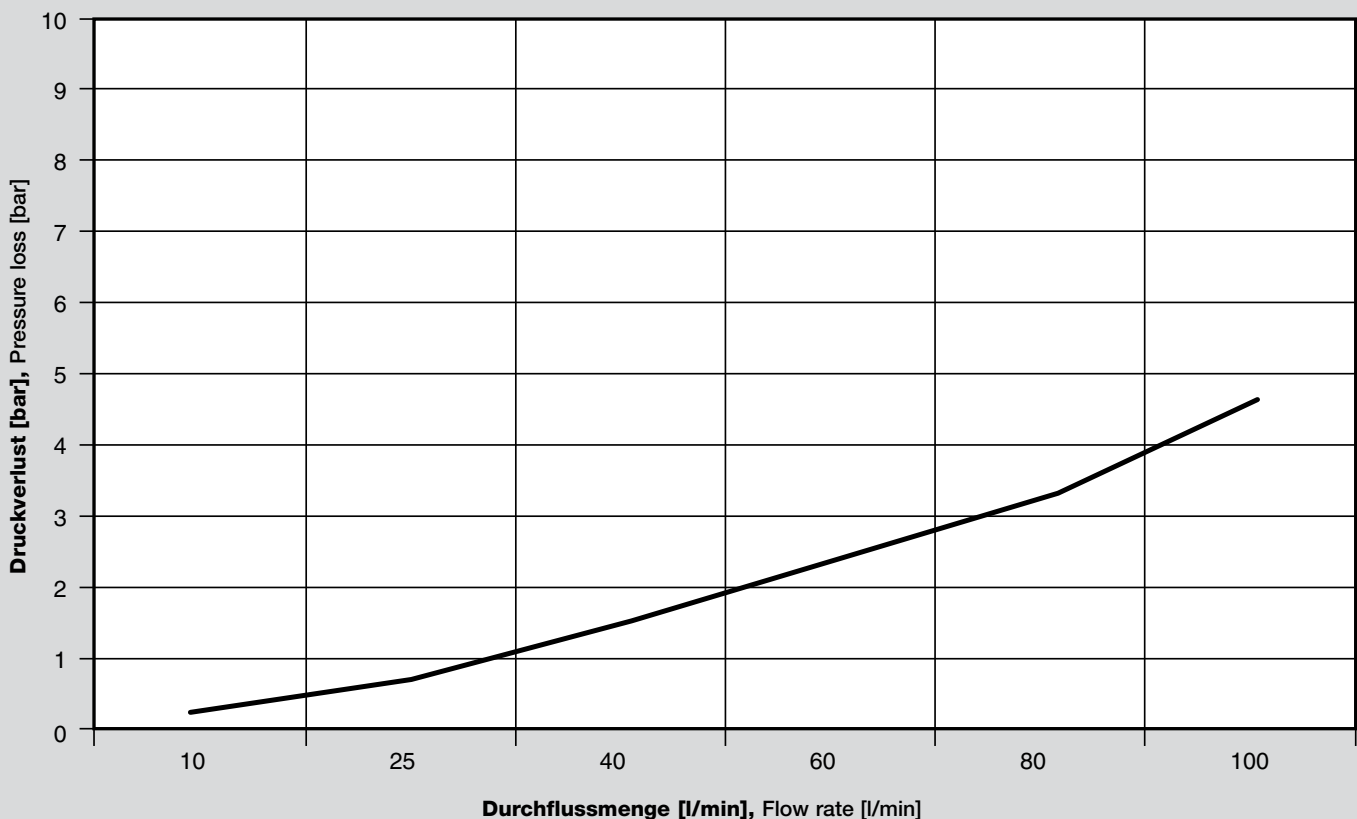
Size 20 - Type UE 12

Les coupleurs de cette taille peuvent encore être couplés si la pression du côté de l'embout femelle est égale ou inférieure à 40 bar.

Durchflusskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccordements non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie UE

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series UE

Working Pressure:

P_{max} 25 MPa (250 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série UE

Pression de service:

P_{max} 25 MPa (250 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.

Size 20 - Type UE 12

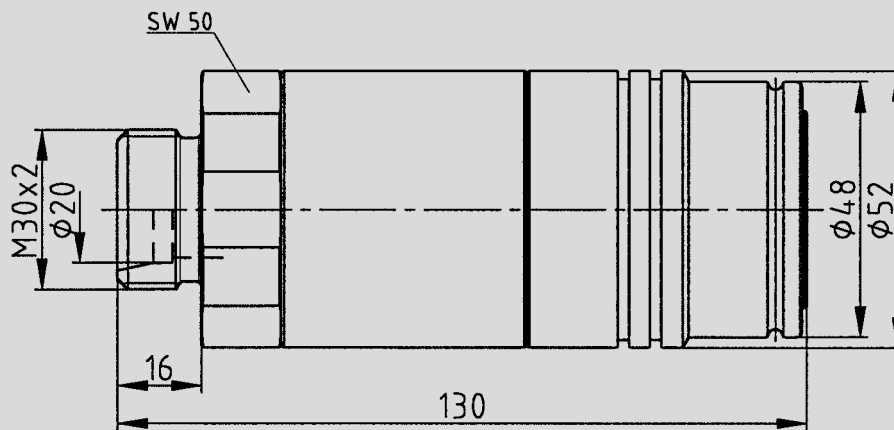
unter Druck kuppelbar
bis zu 40 bar muffenseitig

Size 20 - Type UE 12

can be connected at pressures of up to 40 bar on the female body.

Size 20 - Type UE 12

Possibilité de coupler côté femelle jusqu'à 40 bar.



Für weitere Informationen sprechen Sie bitte mit dem Verkaufsberater.

For further information contact your HYDAC sales engineer.

Pour des informations complémentaires veuillez nous consulter.

Serie HP Type HP 12

Series HP Type HP 12

Série HP Type HP 12

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 20, sowie ISO 5675.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 20, and ISO 5675.

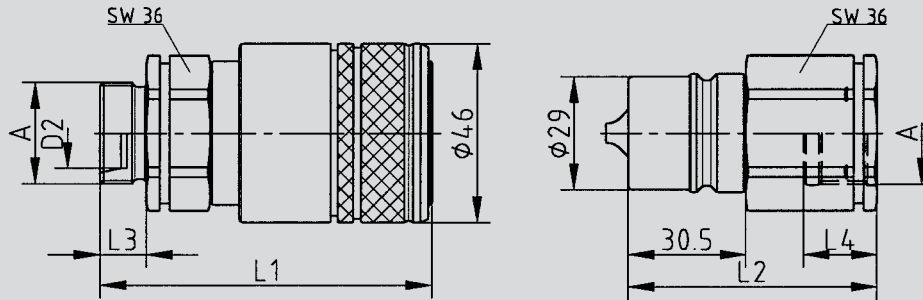
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 20, et ISO 5675.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/4"		92	65		19	HP12-1-IGF12	6010192	605	HP12-2-IGF12	6010208	315
M22x1,5		92	65		19	HP12-1-IMF22	6010193	628	HP12-2-IMF22	6010209	313
NPTF 3/4-14		92	65		19	HP12-1-INF12	6010194	628	HP12-2-INF12	6010210	313
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M18x1,5	12L	85	58	11		HP12-1-L1218	6010195	544	HP12-2-L1218	6010211	227
M22x1,5	15L	86	59	12		HP12-1-L1522	6010197	546	HP12-2-L1522	6010212	232
M26x1,5	18L	86	59	12		HP12-1-L1826	6010198	555	HP12-2-L1826	6010213	238
M30x2	22L	88	61	14		HP12-1-L2230	6010199	569	HP12-2-L2230	6010214	248
M24x1,5	16S	88	61	14		HP12-1-S1624	6010200	560	HP12-2-S1624	6010215	242
M30x2	20S	90	63	16		HP12-1-S2030	6010201	572	HP12-2-S2030	6010216	252
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M18x1,5	12L	100	73	26		HP12-1-N1218	6010202	574	HP12-2-N1218	6010217	276
M22x1,5	15L	101	74	27		HP12-1-N1522	6010203	590	HP12-2-N1522	6010218	274
M26x1,5	18L	101	74	27		HP12-1-N1826	6010204	627	HP12-2-N1826	6010219	310
M30x2	22L	110	83	36		HP12-1-N2230	6010205	675	HP12-2-N2230	6010220	355
M24x1,5	16S	103	76	29		HP12-1-T1624	6010206	614	HP12-2-T1624	6010221	298
M30x2	20S	110	83	36		HP12-1-T2030	6010207	685	HP12-2-T2030	6010222	362

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HP Type HP 20

Series HP Type HP 20

Série HP Type HP 20

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO 7241-1, Serie A, Größe 25.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO 7241-1, series A, Size 25.

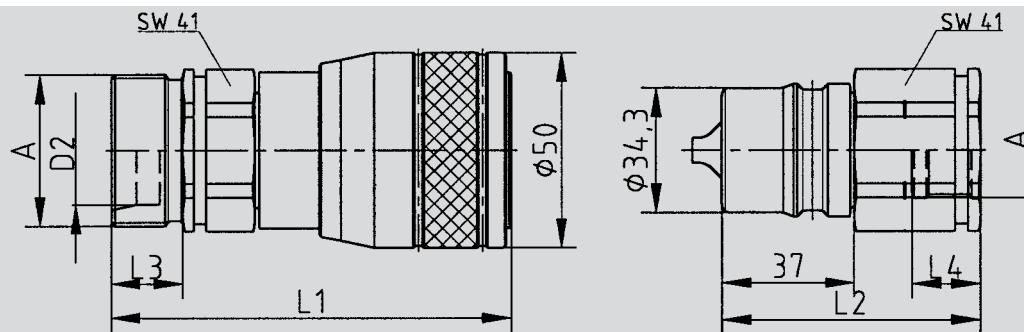
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO 7241-1 série A, size 25.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/4"		104	72		19	HP20-1-IGF12	6010223	876	HP20-2-IGF12	6010088	409
G 1"		104	72		19	HP20-1-IGF16	6010224	834	HP20-2-IGF16	6010089	363
NPTF1-11 1/2		104	72		19	HP20-1-INF16	6010225	834	HP20-2-INF16	6010241	363
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M26x1,5	18L	103	69	12		HP20-1-L1826	6010226	813	HP20-2-L1826	6010242	338
M30x2	22L	105	71	14		HP20-1-L2230	6010227	817	HP20-2-L2230	6010243	344
M36x2	28L	105	71	14		HP20-1-L2836	6010228	819	HP20-2-L2836	6010244	350
M30x2	20S	107	73	16		HP20-1-S2030	6010229	828	HP20-2-S2030	6010245	361
M36x2	25S	109	75	18		HP20-1-S2536	6010230	850	HP20-2-S2536	6010246	380
M42x2	30S	111	77	20		HP20-1-S3042	6010231	820	HP20-2-S3042	6010248	440
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M26x1,5	18L	123	89	32		HP20-1-N1826	6010232	800	HP20-2-N1826	6010249	428
M30x2	22L	125	91	34		HP20-1-N2230	6010233	809	HP20-2-N2230	6010250	440
M36x2	28L	125	91	34		HP20-1-N2836	6010234	854	HP20-2-N2836	6010251	481
M30x2	20S	129	95	38		HP20-1-T2030	6010235	835	HP20-2-T2030	6010252	474
M36x2	25S	129	95	38		HP20-1-T2536	6010236	890	HP20-2-T2536	6010253	524
M42x2	30S	131	97	40		HP20-1-T3042	6010237	1119	HP20-2-T3042	6010254	634

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Zubehör / Accessories / Accessoires

Aufclipsbarer Staubschutz

Dieser Staubschutz kann nachträglich auf Muffen der Serie HP montiert werden. Der Deckel kann optional mit einer Bohrung für einen Markierungsclip ausgerüstet werden. Für den Typ HP10 sind die Farben blau, gelb, rot, grün, schwarz lieferbar, für die Typen HP08 und HP12 nur schwarz.

Clip-on dust cover

This dust guard can be fitted to the female body after installation. The cap can be provided with an optional drill hole for an identification clip. Size HP10 is available in blue, yellow, red, green and black. Sizes HP08 and HP12 only in black.

Capuchon de protection encliquetable

Ce capuchon de protection peut être monté ultérieurement sur la douille extérieure de la série HP. Le couvercle peut être équipé en option d'un perçage pour un clip de marquage. Pour le type HP 10 il est possible de livrer le capuchon dans les teintes bleu, jaune, rouge, vert, noir et pour les types HP08 et HP12 uniquement du noir.

Markierungsclips

Die Markierungsclips dienen zur Kennzeichnung der Kupplungsmuffen.

Identification clips

The identification clips are used for identification purposes.

Clips de marquage

Les clips de marquage servent à identifier les embouts femelles.



Abreißhalter mit Vierlochflansch

Dieser Abreißhalter dient zur starren Befestigung der Kupplungsmuffe vom Typ HP10 am Fahrzeug. Die Muffe wird durch eine Feder im Halter arretiert.

Safety Clamp with 4-hole flange

This safety clamp enables the HP10 female body to be rigidly secured on the vehicle. The body is held in the clamp by a spring.

Bride de maintien à 4 trous

Cette bride permet la fixation rigide de l'embout femelle de type HP10 sur le véhicule. La douille extérieure est bloquée dans la bride à l'aide d'un ressort de maintien.

Steckerhalter

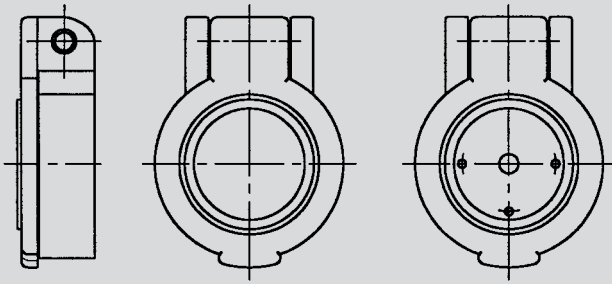
Der Steckerhalter dient zur Aufnahme des entkuppelten Steckers am Anbaugerät. Er wird somit vor Verschmutzung oder Beschädigung geschützt. Der Steckerhalter ist aus rotem Kunststoff und mit einem selbstschließenden Staubschutz ausgerüstet.

Anchor bracket for male plug

The anchor bracket allows the male plug to be parked when disconnected. This protects the male plug from damage and dirt. The anchor bracket is made of red plastic and fitted with a spring-loaded cap.

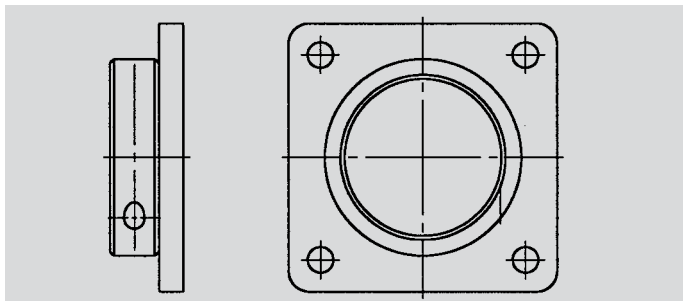
Support embout mâle

Le support de l'embout mâle permet le rangement de l'embout mâle désaccouplé. De ce fait, il est protégé contre la pollution et les détériorations. Le support embout mâle est en plastique rouge, il est équipé d'un capuchon de protection à fermeture automatique.

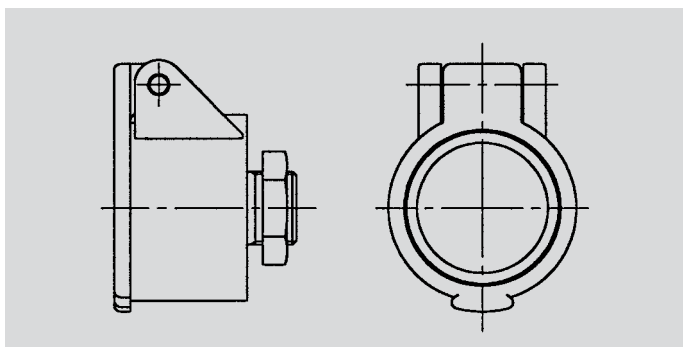


für Type	Artikelnummer / Part No. / Désignation	
	ohne Bohrung without hole/sans perçage	mit Bohrung without hole/avec perçage
HP08 + HF08		SZ08-6-SW001C1
HP10 + FF12	SZ10-6-SW001A1	SZ10-6-SW002C1
HP12 + FF16		SZ12-6-SW002C1

Mark.	Farbe Colour / teinte	Artikelnummer Part No. / Désignation
1	rot / red / rouge	SZ00-5-RT100
2	rot / red / rouge	SZ00-5-RT200
3	grün / green / vert	SZ00-5-GN300
4	grün / green / vert	SZ00-5-GN400
5	gelb / yellow / jaune	SZ00-5-GE500
6	gelb / yellow / jaune	SZ00-5-GE600
7	blau / blue / bleu	SZ00-5-BL700
8	blau / blue / bleu	SZ00-5-BL800
II	weiß / white / blanc	SZ00-5-WS005
III	weiß / white / blanc	SZ00-5-WS009
Rüchl./Return	schwarz / black / noir	SZ00-5-SW004
Neutr./no marking	schwarz / black / noir	SZ00-5-SW001



Artikelnummer / Part No. / Désignation
SZ10-1-V0015 / 6015768



Artikelnummer / Part No. / Désignation
SZ10-1-RT001A0 / 6012828

Serie FF Charakteristika

Die Schiebehülse ist in der Verriegelungsstellung durch eine vorgespannte Feder fixiert. Zum Kuppeln oder Entkuppeln wird sie axial verschoben. Die sichere mechanische Verriegelung der beiden Kupplungshälften wird durch Präzisionskugeln gewährleistet. Außennuten in der Schiebehülse ermöglichen einen Schottwandeinbau der Kupplungsmuffe. Dadurch wird eine Einhandbedienung ermöglicht.

Die Konstruktion der Flachventile stellt sicher, dass beim Kuppeln und Entkuppeln nur ein minimaler Ölverlust bzw. Lufteinschluss auftritt. Durch den feststehenden Ventilstößel der Muffe ist eine hohe Rückstromsicherheit gegeben.

Darüber hinaus sind die Ventile so ausgelegt, dass sie leicht zu reinigen sind und Eindringen von Schmutz verhindert wird. Ein kleiner Rücksprung des Muffenventils erleichtert die Zentrierung des Steckers beim Einkuppeln.

Haupteinsatzgebiete dieser Kupplungen sind Arbeitsmaschinen im umweltempfindlichen Bereich und Hydraulikwerkzeuge. Durch die modulare Bauweise steht eine große Auswahl von Anschlüssen, die den internationalen Normen entsprechen, zur Verfügung.

Series FF Characteristics

The sliding sleeve is fixed in the locked position by means of a pre-stressed spring. When coupling or uncoupling, slide the sleeve in an axial direction. The two halves of the coupling are locked together securely by means of precision snap-in balls. Exterior grooves in the sliding sleeve permit installation of the coupling female body in bulkheads, thus allowing one handed operation.

The design of the flat face valves guarantees a minimum loss of oil or intake of air during coupling or uncoupling. The fixed valve plunger of the body provides a high level of reflux safety.

Beyond that, the valves are designed for easy cleaning and to prevent the penetration of contamination. A small recess of the body valve facilitates centering of the male plug during coupling.

The main field of application for these couplings is machinery in environment-sensitive areas and hydraulic tools. Owing to the modular design, a large variety of connections conforming to international standards is available.

Série FF Caractéristiques

La bague coulissante est maintenue dans sa position de verrouillage par un ressort précontraint. Il doit être déplacé axialement pour accoupler et désaccoupler. Les billes de haute précision assurent un verrouillage mécanique efficace de deux demi coupleurs. Des rainures externes sur la bague coulissante permettent la fixation de la douille extérieure dans un passe cloison. Ceci permet la manipulation avec une main.

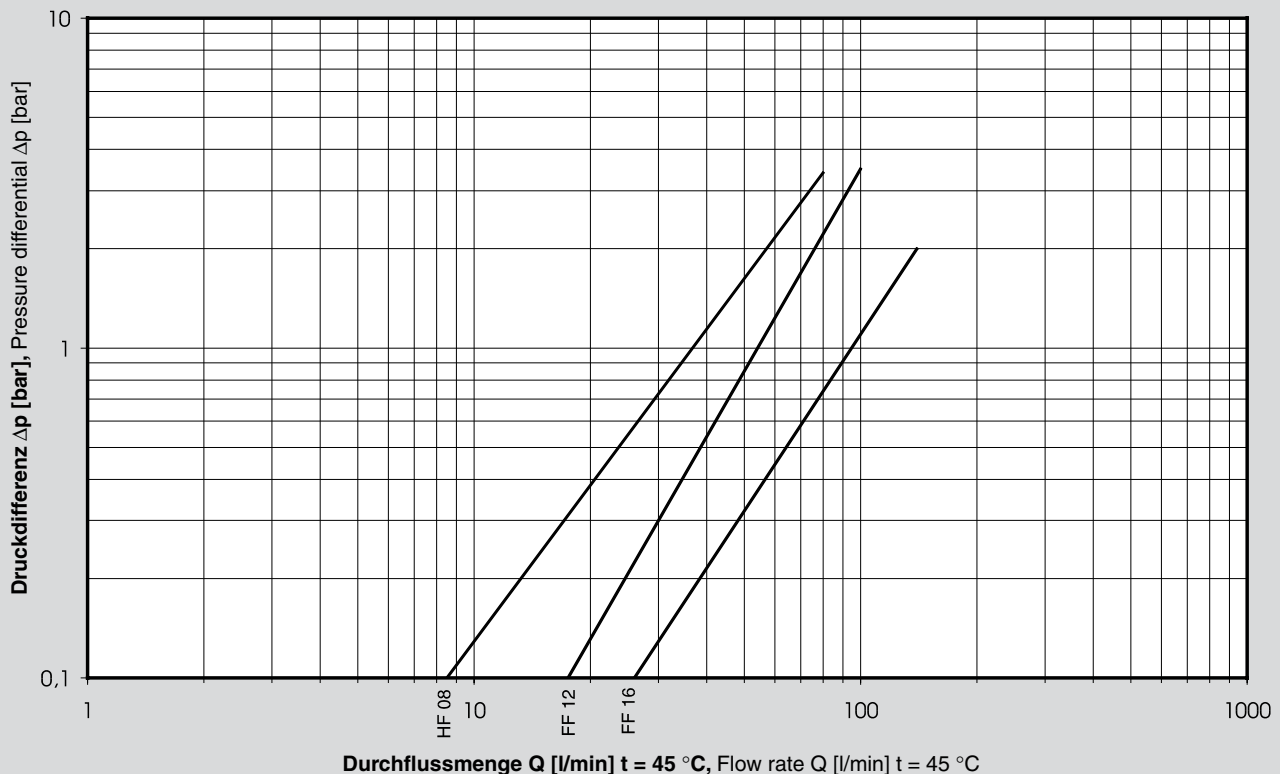
La conception des clapets à face plane garantit lors de l'accouplement et du désaccouplement une perte d'huile et une entrée d'air minimales. La conception par clapet fixe du manchon femelle permet une grande sécurité anti-retour. Les faces sont conçues de façon à être nettoyés aisément et à empêcher la pénétration d'agent extérieurs. Un léger retrait du clapet du manchon femelle facilite le centrage de l'embout mâle lors de l'accouplement.

Ces coupleurs sont principalement utilisés dans la machine-outil, les outillages hydrauliques et pour tous les problèmes de pollution. De par la construction modulaire un grand choix de raccords selon les normes est proposé.

Durchflussskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccords non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie HF Type HF 08

Series HF Type HF 08

Série HF Type HF 08

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO/DIS 16028, Größe 10.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO/DIS 16028, Size 10.

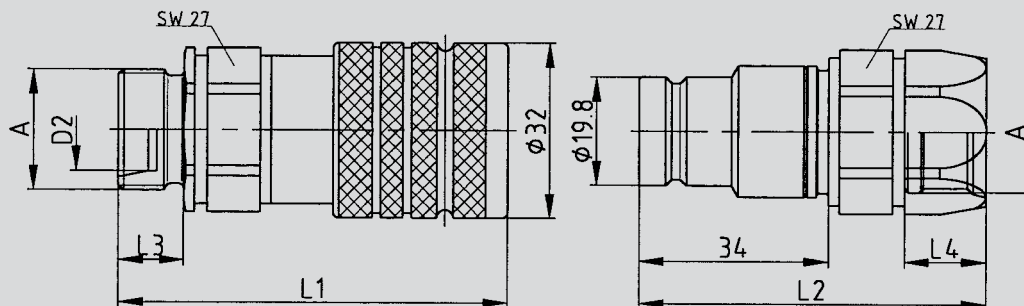
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO/DIS 16028, size 10.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle			
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids
Außengewinde / Male thread / Filetage mâle									
G 3/8"		73	64	12		HF08-1-AGF06 6010487	239	HF08-2-AGF06 6010504	126
G 1/2"		74	65	12		HF08-1-AGF08 6010488	243	HF08-2-AGF08 6010505	130
M22x1,5		74	65	12		HF08-1-AMF22 6010489	249	HF08-2-AMF22 6010506	136
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852									
G 3/8"		72	63		15	HF08-1-IGF06 6010490	239	HF08-2-IGF06 6010507	160
G 1/2"		72	63		15	HF08-1-IGF08 6010491	257	HF08-2-IGF08 6010508	144
M18x1,5		72	63		15	HF08-1-IMF18 6010492	267	HF08-2-IMF18 6010509	154
M22x1,5		72	63		15	HF08-1-IMF22 6010493	253	HF08-2-IMF22 6010510	140
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861 Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861									
M18x1,5	12L	70	61	11		HF08-1-L1218 6010494	231	HF08-2-L1218 6010511	116
M22x1,5	15L	71	62	12		HF08-1-L1522 6010495	237	HF08-2-L1522 6010512	124
M20x1,5	12S	71	62	12		HF08-1-S1220 6010496	239	HF08-2-S1220 6010513	124
M22x1,5	14S	73	64	14		HF08-1-S1422 6010497	245	HF08-2-S1422 6010514	132
M24x1,5	16S	73	64	14		HF08-1-S1624 6010498	245	HF08-2-S1624 6010515	132
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison									
M18x1,5	12L	89	80	30		HF08-1-N1218 6010499	265	HF08-2-N1218 6010516	150
M22x1,5	15L	86	77	27		HF08-1-N1522 6010500	279	HF08-2-N1522 6010517	166
M20x1,5	12S	86	77	27		HF08-1-T1220 6010501	277	HF08-2-T1220 6010518	162
M22x1,5	14S	88	79	29		HF08-1-T1422 6010502	293	HF08-2-T1422 6010519	178
M24x1,5	16S	88	79	29		HF08-1-T1624 6010503	296	HF08-2-T1624 6010520	181

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie FF Type FF 12

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO/DIS 16028, Größe 12,5.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series FF Type FF 12

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO/DIS 16028, Size 12.5.

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

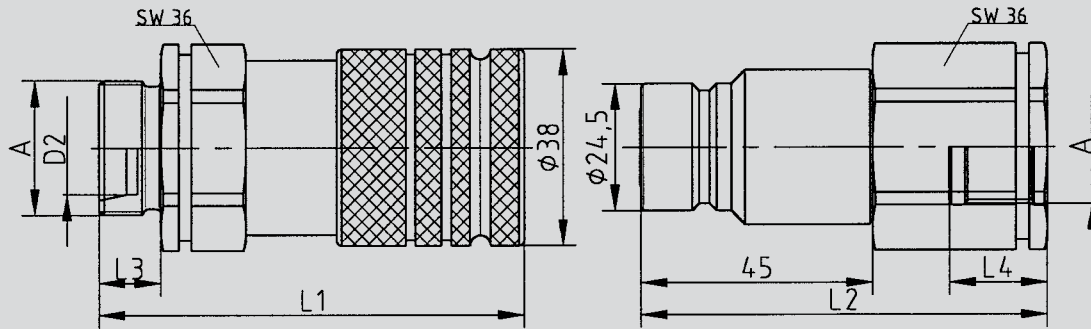
Série FF Type FF 12

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO/DIS 16028, size 12,5.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 1/2"		88	79		19	FF12-1-IGF08	6010521	504	FF12-2-IGF08	6010535	333
G 3/4"		88	79		19	FF12-1-IGF12	6010522	474	FF12-2-IGF12	6010536	306
M22x1,5		88	79		19	FF12-1-IMF22	6010523	501	FF12-2-IMF22	6010537	332
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M18x1,5	12L	82	73	11		FF12-1-L1218	6010524	416	FF12-2-L1218	6010538	244
M22x1,5	15L	83	74	12		FF12-1-L1522	6010525	421	FF12-2-L1522	6010539	247
M26x1,5	18L	83	74	12		FF12-1-L1826	6010526	428	FF12-2-L1826	6010540	255
M24x1,5	16S	85	76	14		FF12-1-S1624	6010527	432	FF12-2-S1624	6010541	258
M30x2	20S	87	78	16		FF12-1-S2030	6010528	444	FF12-2-S2030	6010542	272
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M18x1,5	12L	96	88	26		FF12-1-N1218	6010530	440	FF12-2-N1218	6010543	272
M22x1,5	15L	97	89	27		FF12-1-N1522	6010531	464	FF12-2-N1522	6010544	294
M26x1,5	18L	97	89	27		FF12-1-N1826	6010532	500	FF12-2-N1826	6010545	325
M24x1,5	16S	99	91	29		FF12-1-T1624	6010533	492	FF12-2-T1624	6010546	302
M30x2	20S	106	98	36		FF12-1-T2030	6010534	551	FF12-2-T2030	6010547	380

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie FF Type FF 16

Betriebsdruck:

P_{max} 25 MPa (250 bar)

Maße entsprechen ISO/DIS 16028, Größe 19.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series FF Type FF 16

Working Pressure:

P_{max} 25 MPa (250 bar)

Dimensions according to ISO/DIS 16028, Size 19.

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

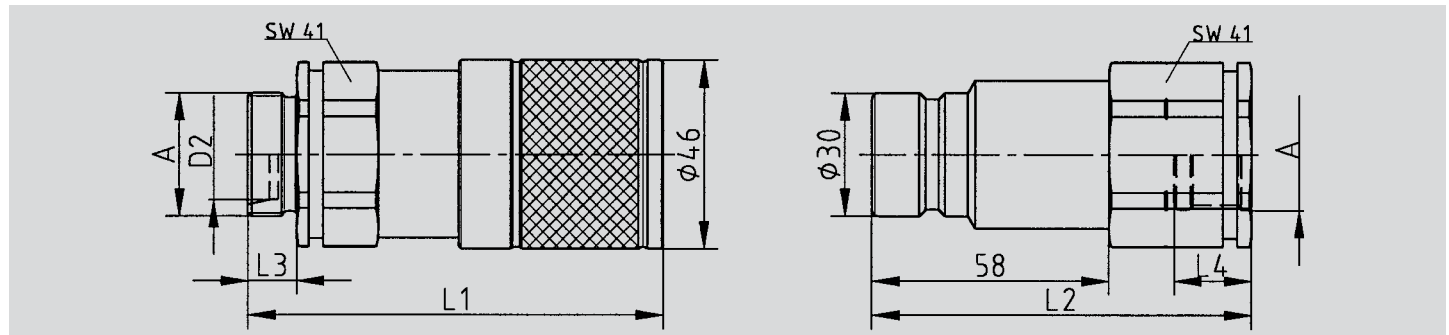
Série FF Type FF 16

Pression de service:

P_{max} 25 MPa (250 bar)

Les dimensions correspondent à ISO/DIS 16028, size 19.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/4"		106	94		19	FF16-1-IGF12	6010548	830	FF16-2-IGF12	6010562	475
G 1"		106	94		19	FF16-1-IGF16	6010549	790	FF16-2-IGF16	6010563	435
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M26x1,5	18L	102	90	12		FF16-1-L1826	6010550	760	FF16-2-L1826	6010564	405
M30x2	22L	104	92	14		FF16-1-L2230	6010551	775	FF16-2-L2230	6010565	420
M36x2	28L	104	92	14		FF16-1-L2836	6010552	800	FF16-2-L2836	6010566	445
M30x2	20S	106	94	16		FF16-1-S2030	6010553	780	FF16-2-S2030	6010567	425
M36x2	25S	108	96	18		FF16-1-S2536	6010554	795	FF16-2-S2536	6010568	445
M42x2	30S	110	98	20		FF16-1-S3042	6010555	870	FF16-2-S3042	6010569	510
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M26x1,5	18L	122	110	34		FF16-1-N1826	6010556	810	FF16-2-N1826	6010570	455
M30x2	22L	124	112	34		FF16-1-N2230	6010557	820	FF16-2-N2230	6010571	465
M36x2	28L	124	112	34		FF16-1-N2836	6010558	860	FF16-2-N2836	6010572	505
M30x2	20S	126	114	38		FF16-1-T2030	6010559	855	FF16-2-T2030	6010573	500
M36x2	25S	128	116	38		FF16-1-T2536	6010560	900	FF16-2-T2536	6010574	535
M42x2	30S	130	118	40		FF16-1-T3042	6010561	990	FF16-2-T3042	6010575	625

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie BP Charakteristika

Die Bremsleitungskupplung der Serie BP ist entwickelt worden für den Einsatz in hydraulischen Bremsanlagen, wie sie in Frankreich vorgeschrieben sind.

Die Verriegelung der beiden Kupplungshälften geschieht durch Präzisionskugeln. Die Konstruktion der Flachventile gewährleistet absolute Dichtheit, minimalen Ölverlust sowie die Vermeidung von Lufteinschlüssen beim Kupplungsvorgang.

Die Konstruktion der Kupplung entspricht NFU 16006 und ISO 5676.

Series BP Characteristics

The brake line coupling of the BP series has been developed for use in hydraulic brake systems, as mandatory in France.

Locking of the two halves of the coupling is achieved by means of precision snap-in balls. The design of the flat face valves guarantees an absolutely tight seal, as well as minimal loss of oil and prevention of air intake during coupling or uncoupling.

The design of the coupling meets the requirements of NFU 16006 and ISO 5676.

Série BP Caractéristiques

Les coupleurs pour conduite de frein de la série BP ont été conçus pour être installés sur des installations hydrauliques de freinage comme elles sont prescrites en France.

La fermeture des deux moitiés de coupleurs s'effectue par des billes de précision. La conception des clapets plats garantit une étanchéité absolue, une fuite d'huile minimale tout en évitant des infiltrations d'air pendant le processus d'accouplement.

La construction du coupleur répond aux normes NFU 16006 et ISO 5676.

Durchflusskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccords non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie BP Type BP 10

Betriebsdruck:

P_{max} 15 MPa (150 bar)

Maße entsprechen ISO 5676.

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series BP Type BP 10

Working Pressure:

P_{max} 15 MPa (150 bar)

Dimensions according to ISO 5676.

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

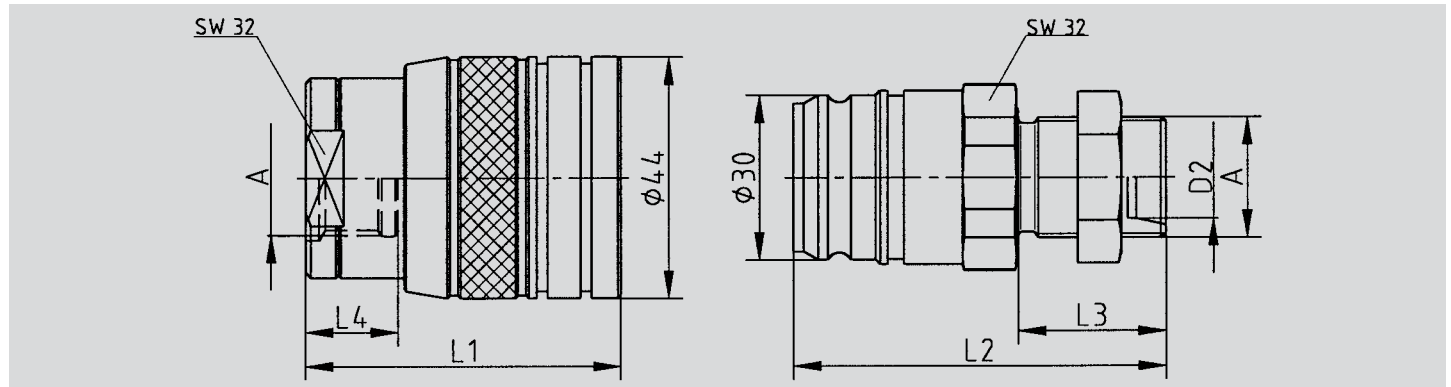
Série BP Type BP 10

Pression de service:

P_{max} 15 MPa (150 bar)

Les dimensions correspondent à ISO 5676.

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 1/2"		56			15	BP10-1-IGF08	6010580	385			
M18x1,5		56			15	BP10-1-IMF18	6010581	400			
M22x1,5		56			15	BP10-1-IMF22	6010583	385			
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M18x1,5	12L		68	27					BP10-2-N1218	6010585	199
M22x1,5	15L		68	27					BP10-2-N1522	6010586	219

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HS Charakteristika

Schraubkupplungen der Serie HS werden durch einfaches Zusammenschrauben von Muffe und Stecker bis zum Anschlag gekuppelt. Aufgrund der konstruktiven Auslegung werden die beiden Ventile in dieser Stellung „auf Block“ geöffnet. Dadurch und wegen ihrer robusten Bauweise sind sie besonders für die schweren Einsatzbedingungen im Baumaschinenbereich geeignet. Die Betriebsdrücke dieser Serie sind höher als die der Serie HP. Schraubkupplungen der Serie HS sind bis zu max. 50 bar auf beiden Seiten unter Druck kuppelbar. Das selbstsichernde Verbindungsgewinde verhindert ein Lösen der Verschraubung durch Vibrationen. Die Schraubhülse des Steckers muss bei richtiger Verriegelung den schwarzen Bremsring der Muffe verdecken. Die ausgewogene Produktpalette bietet ein breites Spektrum von Kupplungen für die Baumaschinen- und Fahrzeughydraulik sowie für den Landmaschinenbereich. Durch die modulare Bauweise steht eine große Auswahl von Anschlüssen, die den internationalen Normen entsprechen, zur Verfügung.

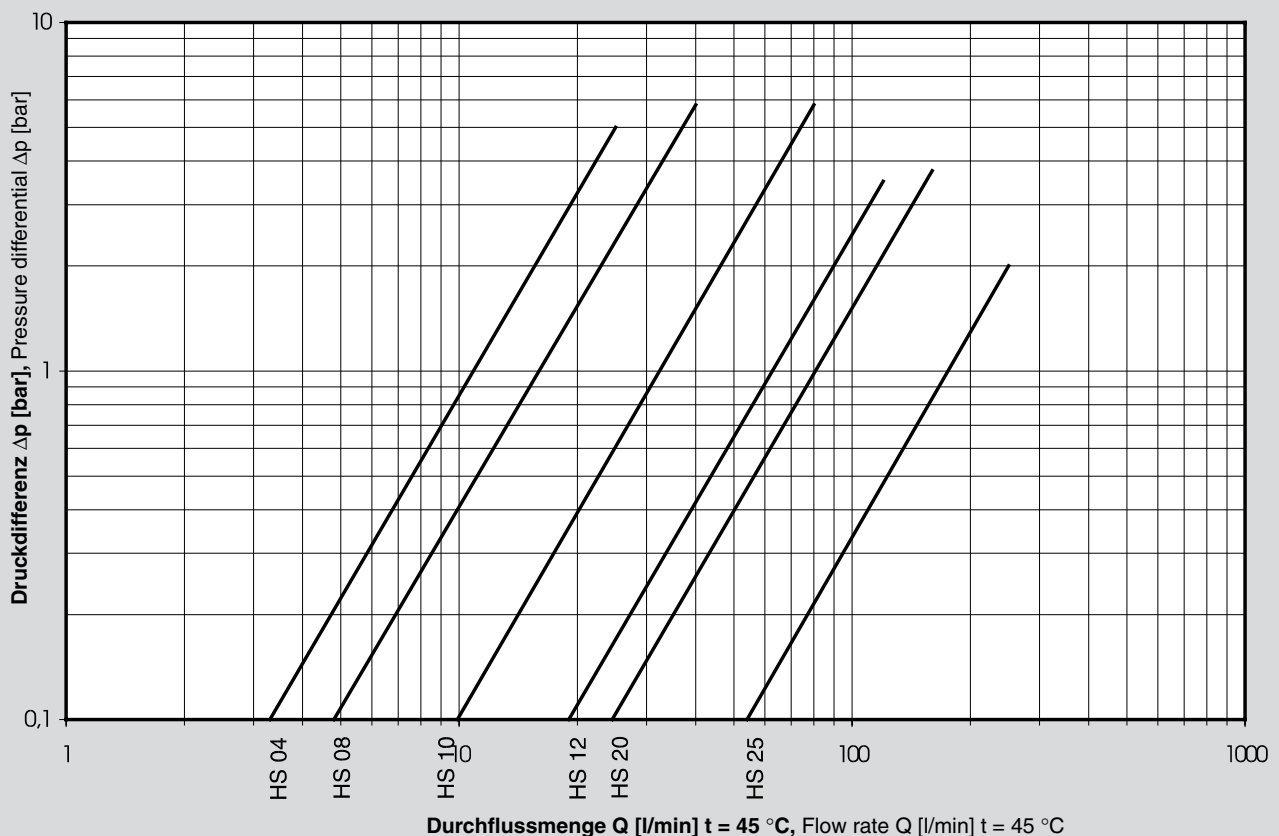
Series HS Characteristics

Screw-type couplings of the HS series are connected by simply screwing the body and plug halves together as far as possible. The coupling is designed to open both valves simultaneously in this position. For this reason, and due to their rugged design, they are particularly well suited for heavy-duty service conditions in construction machinery. The range of operating pressures of this series is higher than that of the HP series. Screw-type couplings of the HS series can be coupled on both sides under pressures of up to 50 bar. The self-locking connection thread prevents any disengagement of the screw connection caused by vibrations. The screw sleeve of the plug, when correctly locked, must cover the black brake ring of the body. Our balanced range of products offers a wide spectrum of couplings for hydraulic systems for construction equipment and vehicles as well as for agricultural machinery. Owing to the modular design, a large variety of connections conforming to international standards is available.

Série HS Caractéristiques

Les coupleurs à visser de la série HS sont couplés en vissant tout simplement le manchon femelle sur le manchon mâle jusqu'en butée. En raison de la conception élaborée les deux clapets s'ouvrent dans cette position «sur bloc». Pour cette raison et aussi pour sa construction robuste ils sont particulièrement adaptés pour être installés sur des engins de chantier. Les pressions de service de cette série sont plus élevées que pour la série HP. Les coupleurs à visser de la série HS peuvent être couplés avec une pression de 50 bar sur les deux côtés. Le filetage auto-serrant empêche le desserrage lors de vibrations. Pour un verrouillage correct le manchon à visser de l'embout mâle doit couvrir la bague d'arrêt noire du manchon femelle. Une large gamme de produits pour la machine agricole et l'hydraulique des véhicules et des engins de chantier vous est disponible. De par la construction modulaire un grand choix de raccords selon les normes internationales est proposé.

Durchflusskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s
Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s
Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccords non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie HS Type HS 04

Betriebsdruck:

P_{max} 45 MPa (450 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HS Type HS 04

Working Pressure:

P_{max} 45 MPa (450 bar)

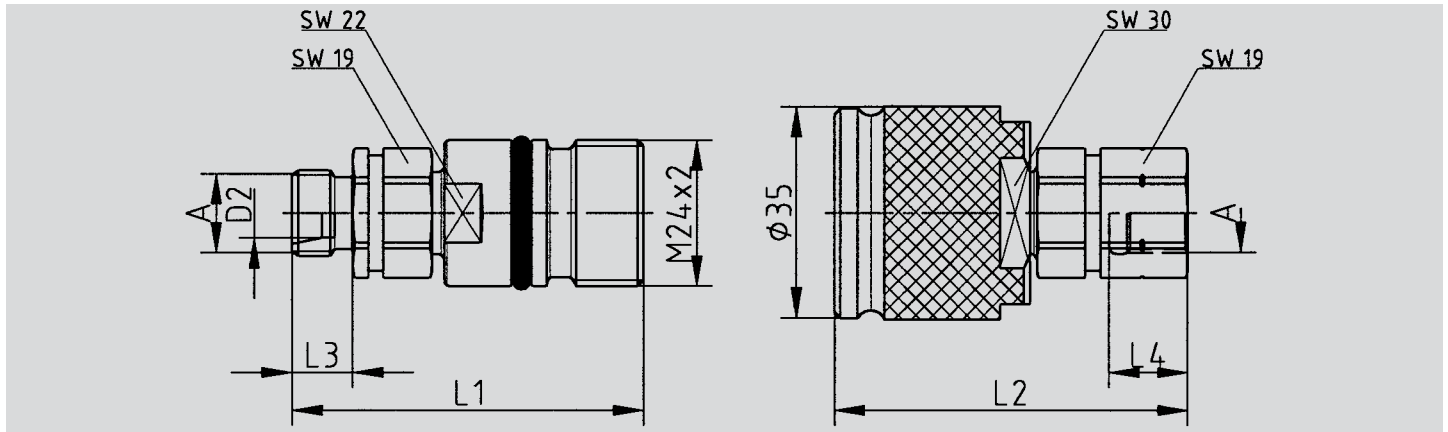
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HS Type HS 04

Pression de service:

P_{max} 45 MPa (450 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



	Rohr Tube	Kupplungs-Muffe Female body <i>Embout femelle</i>				Kupplungs-Stecker Male plug <i>Embout mâle</i>			
Anschluss A Port A <i>Raccord A</i>	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. <i>Désignation</i>	Gew. Weight <i>Poids</i>	Artikelnummer Part No. <i>Désignation</i>	Gew. Weight <i>Poids</i>
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852									
G 1/4"		59	58		13	HS04-1-IGF04 6010307	120	HS04-2-IGF04 6010310	182
NPTF 1/4-18		59	58		13	HS04-1-INF04 6011610	120	HS04-2-INF04 6011612	182
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861									
<i>Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861</i>									
M14x1,5	8L	58	57	10		HS04-1-L0814 6010308	112	HS04-2-L0814 6010312	174
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand									
<i>Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison</i>									
M14x1,5	8L	73	72	25		HS04-1-N0814 6010309	130	HS04-2-N0814 6010313	190

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

HS

Serie HS Type HS 08

Series HS Type HS 08

Série HS Type HS 08

Betriebsdruck:

P_{max} 45 MPa (450 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

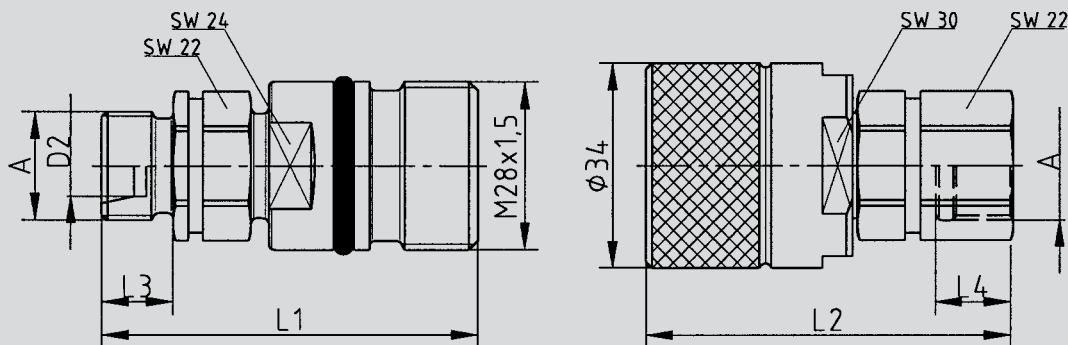
P_{max} 45 MPa (450 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 45 MPa (450 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube				Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Außengewinde / Male thread / Filetage mâle										
G 3/8"		62	62	12		HS08-1-AGF06 6010315	154	HS08-2-AGF06 6010327	170	
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852										
G 1/4"		64	61		13	HS08-1-IGF04 6010316	168	HS08-2-IGF04 6010328	178	
G 3/8"		64	61		13	HS08-1-IGF06 6010317	160	HS08-2-IGF06 6010330	170	
NPTF 3/8-18		64	61		13	HS08-1-INF06 6011608	160	HS08-2-INF06 6011609	170	
M16x1,5		64	61		13	HS08-1-IMF16 6010319	161	HS08-2-IMF16 6010331	174	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861										
Male stud with type W bore (24°) to DIN 3861 / <i>Manchon fileté cône 24°, selon DIN 3861</i>										
M14x1,5	8L	61	58	10		HS08-1-L0814 6010320	144	HS08-2-L0814 6010332	158	
M16x1,5	10L	62	59	11		HS08-1-L1016 6010321	145	HS08-2-L1016 6010333	158	
M16x1,5	8S	63	60	12		HS08-1-S0816 6010322	151	HS08-2-S0816 6010334	160	
M18x1,5	10S	63	60	12		HS08-1-S1018 6010323	152	HS08-2-S1018 6010335	161	
M20x1,5	12S	63	60	12		HS08-1-S1220 6010324	154	HS08-2-S1220 6010336	162	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand										
Male stud with type W bore (24°) to DIN 3861, Bulkhead / <i>Manchon fileté cône 24°, selon DIN 3861, Passe-cloison</i>										
M14x1,5	8L	75	73	25		HS08-1-N0814 6010325	164	HS08-2-N0814 6010337	176	
M16x1,5	10L	76	74	26		HS08-1-N1016 6010326	170	HS08-2-N1016 6010338	170	

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HS Type HS 10

Series HS Type HS 10

Série HS Type HS 10

Betriebsdruck:

P_{max} 40 MPa (400 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

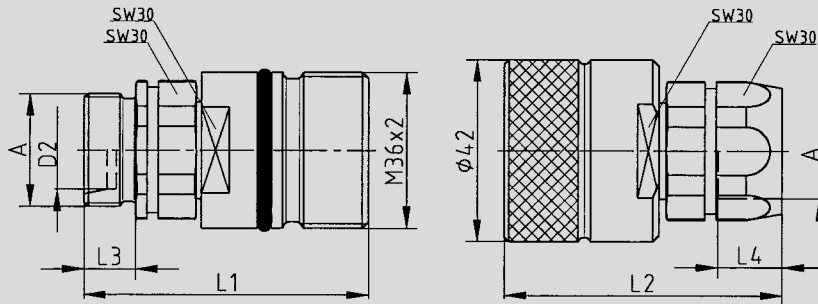
P_{max} 40 MPa (400 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 40 MPa (400 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Außengewinde / Male thread / Filetage mâle											
G 3/8"		70	68	12		HS10-1-AGF06	6010339	281	HS10-2-AGF06	6010365	252
G 1/2"		70	68	12		HS10-1-AGF08	6010340	282	HS10-2-AGF08	6010366	256
M22x1,5		70	68	12		HS10-1-AMF22	6010341	288	HS10-2-AMF22	6010367	262
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/8"		68	66		15	HS10-1-IGF06	6010342	308	HS10-2-IGF06	6010368	286
G 1/2"		68	66		15	HS10-1-IGF08	6010343	285	HS10-2-IGF08	6010369	270
NPTF 1/2-14		68	66		15	HS10-1-INF08	6011606	285	HS10-2-INF08	6011607	270
M18x1,5		68	66		15	HS10-1-IMF18	6010344	302	HS10-2-IMF18	6010370	282
M22x1,5		68	66		15	HS10-1-IMF22	6010345	282	HS10-2-IMF22	6010371	265
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M14x1,5	8L	65	62	10		HS10-1-L0814	6010346	264	HS10-2-L0814	6010372	254
M16x1,5	10L	66	63	11		HS10-1-L1016	6010347	269	HS10-2-L1016	6010373	242
M18x1,5	12L	66	63	11		HS10-1-L1218	6010348	266	HS10-2-L1218	6010374	244
M22x1,5	15L	67	64	12		HS10-1-L1522	6010349	274	HS10-2-L1522	6010375	249
M26x1,5	18L	67	64	12		HS10-1-L1826	6010350	279	HS10-2-L1826	6010377	252
M18x1,5	10S	67	64	12		HS10-1-S1018	6010351	274	HS10-2-S1018	6010378	250
M20x1,5	12S	67	64	12		HS10-1-S1220	6010352	276	HS10-2-S1220	6010379	249
M22x1,5	14S	69	66	14		HS10-1-S1422	6010353	282	HS10-2-S1422	6010380	258
M24x1,5	16S	69	66	14		HS10-1-S1624	6010354	284	HS10-2-S1624	6010381	257
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M14x1,5	8L	81	78	26		HS10-1-N0814	6010355	286	HS10-2-N0814	6010382	261
M16x1,5	10L	81	78	26		HS10-1-N1016	6010356	284	HS10-2-N1016	6010383	268
M18x1,5	12L	85	82	30		HS10-1-N1218	6010357	300	HS10-2-N1218	6010384	278
M22x1,5	15L	82	79	27		HS10-1-N1522	6010358	318	HS10-2-N1522	6010385	282
M26x1,5	18L	82	79	27		HS10-1-N1826	6010359	350	HP10-2-N1826	6010386	326
M18x1,5	10S	82	79	27		HS10-1-T1018	6010360	307	HS10-2-T1018	6010387	280
M20x1,5	12S	82	79	27		HS10-1-T1220	6010361	312	HS10-2-T1220	6010388	288
M22x1,5	14S	84	81	29		HS10-1-T1422	6010363	328	HS10-2-T1422	6010389	304
M24x1,5	16S	84	81	29		HS10-1-T1624	6010364	342	HS10-2-T1624	6010390	316

Maße in mm / Gewicht in g / Änderungen vorbehalten

Dimensions in mm / Weight in g / Subject to modification

Dimensions en mm / Poids en g / Sous réserves de modifications

Serie HS Type HS 12

Series HS Type HS 12

Série HS Type HS 12

Betriebsdruck:

P_{max} 40 MPa (400 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

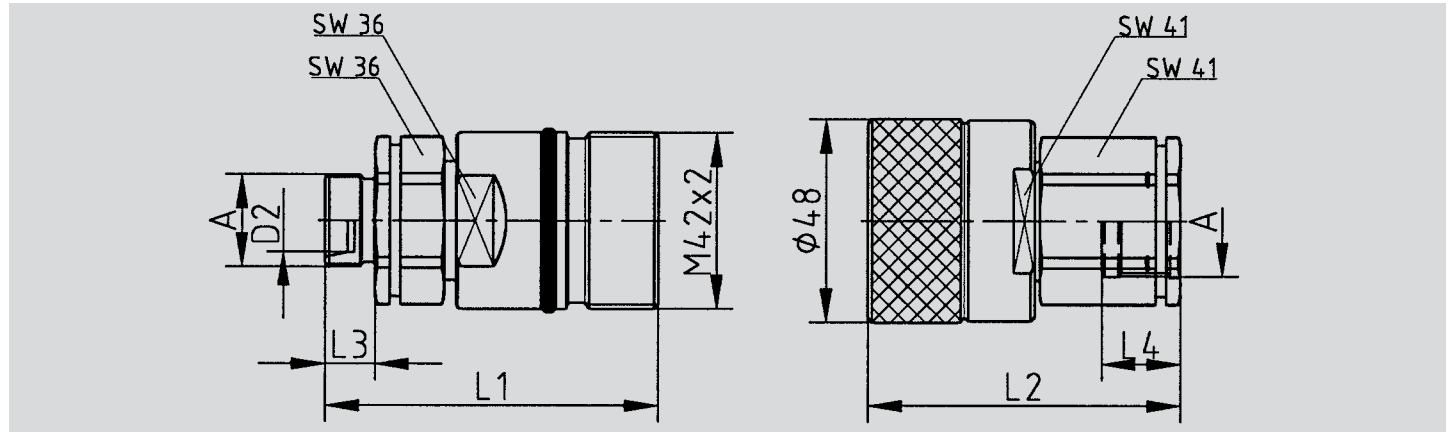
P_{max} 40 MPa (400 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 40 MPa (400 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube				Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle			
	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/4"		85	76		19	HS12-1-IGF12	6010391	526	HS12-2-IGF12	6010405	490
NPTF 3/4-14		85	76		19	HS12-1-INF12	6011604	526	HS12-2-INF12	6011605	490
M22x1,5		85	76		19	HS12-1-IMF22	6010392	550	HS12-2-IMF22	6010406	476
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M18x1,5	12L	79	69	11		HS12-1-L1218	6010393	460	HS12-2-L1218	6010407	421
M22x1,5	15L	80	70	12		HS12-1-L1522	6010394	466	HS12-2-L1522	6010408	396
M26x1,5	18L	80	70	12		HS12-1-L1826	6010395	470	HS12-2-L1826	6010409	400
M30x2	22L	82	72	14		HS12-1-L2230	6010396	480	HS12-2-L2230	6010410	485
M24x1,5	16S	82	72	14		HS12-1-S1624	6010397	474	HS12-2-S1624	6010411	402
M30x2	20S	84	74	16		HS12-1-S2030	6010398	482	HS12-2-S2030	6010412	416
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M18x1,5	12L	94	84	26		HS12-1-N1218	6010399	488	HS12-2-N1218	6010413	422
M22x1,5	15L	95	85	27		HS12-1-N1522	6010400	510	HS12-2-N1522	6010414	438
M26x1,5	18L	95	85	27		HS12-1-N1826	6010401	542	HS12-2-N1826	6010415	475
M30x2	22L	104	94	36		HS12-1-N2230	6010402	594	HS12-2-N2230	6010416	524
M24x1,5	16S	97	87	29		HS12-1-T1624	6010403	534	HS12-2-T1624	6010417	462
M30x2	20S	104	92	36		HS12-1-T2030	6010404	602	HS12-2-T2030	6010418	529

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HS Type HS 20

Series HS Type HS 20

Série HS Type HS 20

Betriebsdruck:

P_{max} 30 MPa (300 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

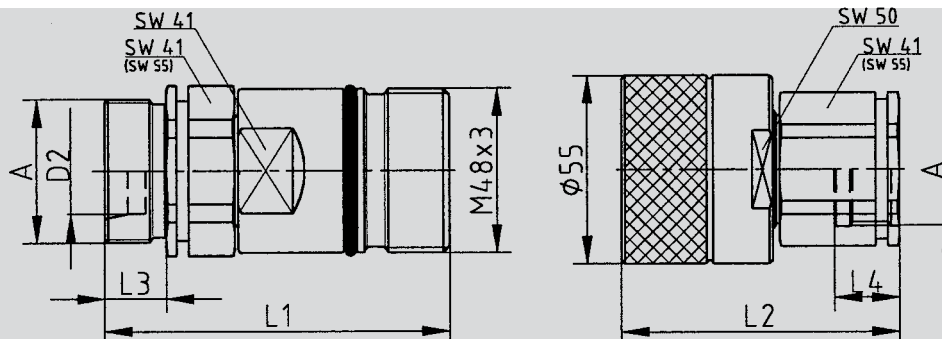
P_{max} 30 MPa (300 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 30 MPa (300 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852											
G 3/4"		99	82		19	HS20-1-IGF12	6010431	755	HS20-2-IGF12	6010448	622
G 1"		99	82		19	HS20-1-IGF16	6010432	706	HS20-2-IGF16	6010449	580
NPTF1-11 1/2		99	82		19	HS20-1-INF16	6011602	706	HS20-2-INF16	6011603	580
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861											
M26x1,5	18L	95	78	12		HS20-1-L1826	6010433	689	HS20-2-L1826	6010450	556
M30x2	22L	97	80	14		HS20-1-L2230	6010434	687	HS20-2-L2230	6010461	556
M36x2	28L	97	80	14		HS20-1-L2836	6010435	686	HS20-2-L2836	6010462	582
M45x2	35L	99	82	16		HS20-1-L3545	6010436	771	HS20-2-L3545	6010463	659
M30x2	20S	99	82	16		HS20-1-S2030	6010437	706	HS20-2-S2030	6010464	566
M36x12	25S	101	84	18		HS20-1-S2536	6010438	721	HS20-2-S2536	6010465	586
M42x2	30S	103	86	20		HS20-1-S3042	6010439	797	HS20-2-S3042	6010466	650
M52x2	38S	105	88	22		HS20-1-S3852	6010440	1001	HS20-2-S3852	6010467	801
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand											
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison											
M26x1,5	18L	115	98	32		HS20-1-N1826	6010441	772	HS20-2-N1826	6010468	638
M30x2	22L	117	100	34		HS20-1-N2230	6010442	787	HS20-2-N2230	6010469	650
M36x2	28L	117	100	34		HS20-1-N2836	6010443	825	HS20-2-N2836	6010470	690
M30x2	20S	119	102	38		HS20-1-T2030	6010444	826	HS20-2-T2030	6010471	706
M36x2	25S	121	104	38		HS20-1-T2536	6010445	873	HS20-2-T2536	6010472	740
M42x2	30S	123	106	40		HS20-1-T3042	6010446	866	HS20-2-T3042	6010473	850
M52x2	38S	123	106	40		HS20-1-T3852	6010447	1330	HS20-2-T3852	6010474	1123

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HS Type HS 20

Betriebsdruck:

P_{max} 30 MPa (300 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HS Type HS 20

Working Pressure:

P_{max} 30 MPa (300 bar)

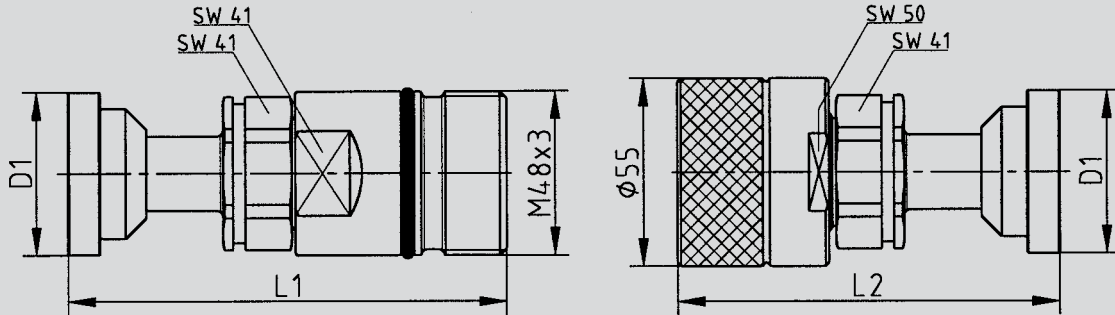
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HS Type HS 20

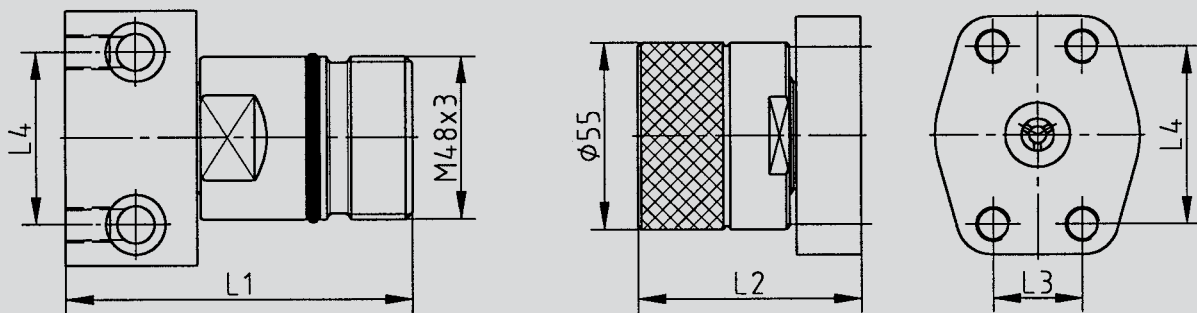
Pression de service:

P_{max} 30 MPa (300 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Flansch/ Flange 6000 psi	Ø D1	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle		Kupplungs-Stecker Male plug Embout mâle			
						Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
3/4"	41,3	127	110			HS20-1-AFS12	6010419	820	HS20-2-AFS12	6010423	715
1"	47,6	129	112			HS20-1-AFS16	6010420	889	HS20-2-AFS16	6010425	784
1 1/4"	54,0	133	116			HS20-1-AFS20	6010421	993	HS20-2-AFS20	6010426	888



Flansch/ Flange 6000 psi	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle		Kupplungs-Stecker Male plug Embout mâle			
					Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
3/4"	103	64	23,8	50,8	HS20-1-X0010	6010422	1610	HS20-2-X0011	6010427	835

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie HS Type HS 25

Series HS Type HS 25

Série HS Type HS 25

Betriebsdruck:

P_{max} 30 MPa (300 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

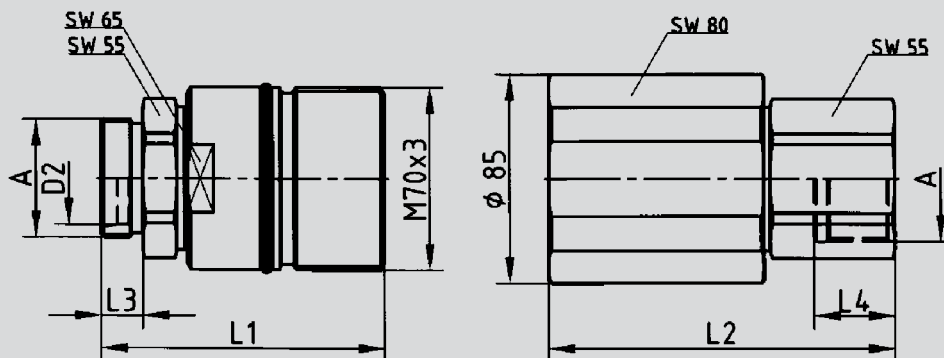
P_{max} 30 MPa (300 bar)

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Pression de service:

P_{max} 30 MPa (300 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle				
	Ø D2	L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids	
Innengewinde DIN 3852 / Female thread DIN 3852 / Filetage femelle DIN 3852										
G 1 1/4"		126	131		29	HS25-1-IGF20 6010475	1630	HS25-2-IGF20 6010481	2329	
G 1 1/2"		128	133		31	HS25-1-IGF24 6010476	1715	HS25-2-IGF24 6010482	2260	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861										
Male stud with type W bore (24°) to DIN 3861 / Manchon fileté cône 24°, selon DIN 3861										
M42x2	30S	113	118	20		HS25-1-S3042 6010477	1572	HS25-2-S3042 6010483	2082	
M52x2	38S	115	120	22		HS25-1-S3852 6010478	1624	HS25-2-S3852 6010484	2153	
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861, Schottwand										
Male stud with type W bore (24°) to DIN 3861, Bulkhead / Manchon fileté cône 24°, selon DIN 3861, Passe-cloison										
M42x2	30S	133	138	40		HS25-1-T3042 6010479	1757	HS25-2-T3042 6010485	2350	
M52x2	38S	133	138	40		HS25-1-T3852 6010480	1730	HS25-2-T3852 6010486	2398	

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

HS

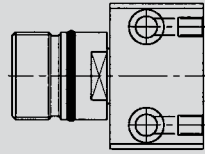
Sonderausführungen | Specials

Auch für Schraubmuffen Type HS 10 ist der für Type HS 20 vorgestellte Gegenflansch lieferbar, und zwar für die Größe 1/2", 6000 psi.

The mating flange shown for type HS 20 is also available for the screw-type body type HS 10, size 1/2", 600 psi.

Exécutions spéciales

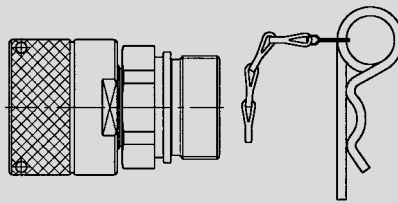
Egalement pour le manchon femelle à visser de type HS 10, il est possible de livrer la contre-bride pour le type HS 20 et cela pour la taille 1/2", 6000 psi.



Schraubstecker der Typen HS 12, HS 20 und HS 25 können mit einer Sicherheitsklammer geliefert werden, die ein unbeabsichtigtes Lösen der Kupplungsverbindung auch bei starken hydraulischen Impulsen verhindert.

Screw-type male plugs of the types HS 12, HS 20 and HS 25 are available with a safety clip which prevents inadvertent release of the coupling connection even under strong hydraulic impulses.

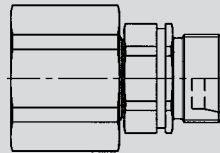
Les embouts mâles à visser de type HS 12, HS 20 et HS 25 peuvent être livrés avec une pince de sécurité qui empêche le détachement non intentionnel de la liaison au coupleur, même lors de fortes impulsions hydrauliques.



HS In speziellen Fällen wünschen Anwender eine Schraubhülse, die eine bessere Ansatzmöglichkeit des Schraubenschlüssels bietet. Dafür ist eine Hülse aus 55 mm Sechskantmaterial lieferbar.

In special cases users may require a screw-type sleeve which offers better accessibility for a spanner. For this purpose, a sleeve made from 55 mm hexagonal material is available.

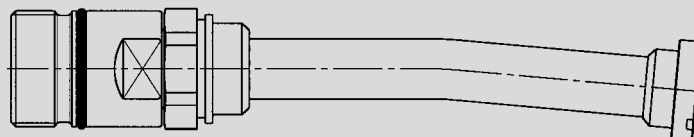
Pour les cas spéciaux, certains utilisateurs désirent un manchon à visser qui permet une meilleure disposition de la clé à visser. De ce fait, il est possible de livrer un manchon six pans de 55 mm.



Für einen besonderen Einsatzfall wurde ein Anschluss entwickelt, bei dem sich zwischen Flansch und Kupplungshälfte ein gebogenes Rohr befindet.

For a special application we developed a connection featuring a curved tube between flange and coupling half.

Pour un cas particulier un raccordement a été conçu avec un tube coudé entre la bride et la moitié du coupleur.



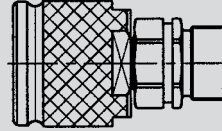
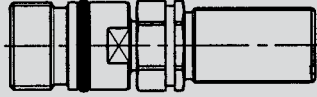
Sonderausführungen ■ Specials

Im Bereich der Baumaschinen, insbesondere bei Baggern, sind auch Kupplungen mit nicht metrischen Gewindeanschlüssen üblich, für die wir kurzfristige Liefermöglichkeiten haben. So sind z.B. folgende Varianten möglich:

In the construction equipment industry, particularly in case of excavators, couplings with non-metric thread connections are commonly used, which we are able to supply at short notice. For example, the following variations are possible:

■ Exécutions spéciales

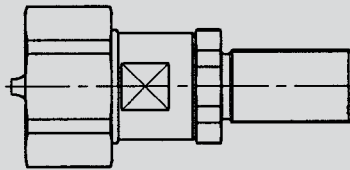
Dans le domaine des machine de TP, en particulier celui des pelleteuses, on trouve des coupleurs avec des raccords taraudés non métriques que nous pouvons livrer également rapidement. Les variantes suivantes sont possibles:



Schraubkupplungen mit ORS-Anschluss (O-Lok-SAE J1453)

Screw-type couplings with ORS connection (O-Lok-SAE J1453)

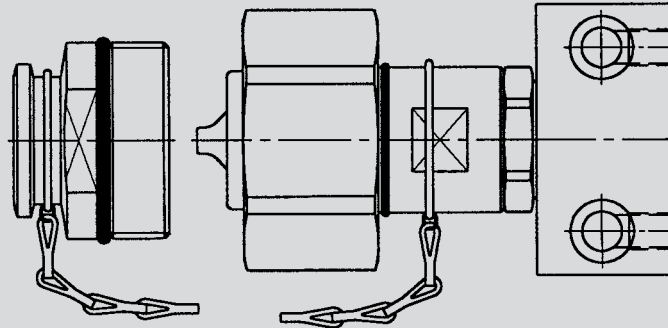
Coupleurs à visser avec raccords ORS (O-Lok-SAE J1453)



Schraubkupplungen Typ HA 16 mit Befestigungsflansch und Schutzkappe aus Stahl

Screw-type couplings type HA 16 with mounting flange and protective cap made from steel

Coupleurs à visser type HA 16 avec bride de fixation et capuchon de protection en acier



Die meisten der hier gezeigten Sonderausführungen sind auch in Kombination mit Kupplungen der Typen HP und HA lieferbar.

Most of the couplings described above can also be used in combination with types HP and HA.

La plupart des exécutions spéciales illustrées ici sont également livrables en combinaison avec les coupleurs rapides série HP et HA.

Serie HA Charakteristika

Schraubkupplungen der Serie HA haben eine besonders robuste Konstruktion. Dadurch sind sie prädestiniert für den Einsatz an Baumaschinen unter extremen Einsatzbedingungen.

Die Kupplungen werden durch einfaches Zusammenschrauben von Muffe und Stecker bis zum Anschlag gekuppelt. Aufgrund der konstruktiven Auslegung werden die beiden Ventile in dieser Stellung „auf Block“ geöffnet. Dadurch ist die Kupplung unempfindlich gegen Hydraulikstöße. Die Betriebsdrücke dieser Serie sind höher als die der Serie HS.

Die Kupplung kann unter Druck gekuppelt werden: bis 50 bar ohne Werkzeug und bis 250 bar mit Werkzeug.

Series HA Characteristics

Screw-type couplings of the HA series are of very rugged design, making them particularly well suited for use in construction equipment under extreme conditions.

The coupling is connected by simply screwing the female and male plug halves together as far as possible. The coupling is designed to open both valves simultaneously in this position. This makes the coupling insensitive to hydraulic surges. The range of operating pressures of this series is higher than that of the HS series.

The coupling can be connected or disconnected under pressure: without tools up to 50 bar and with tools up to 250 bar.

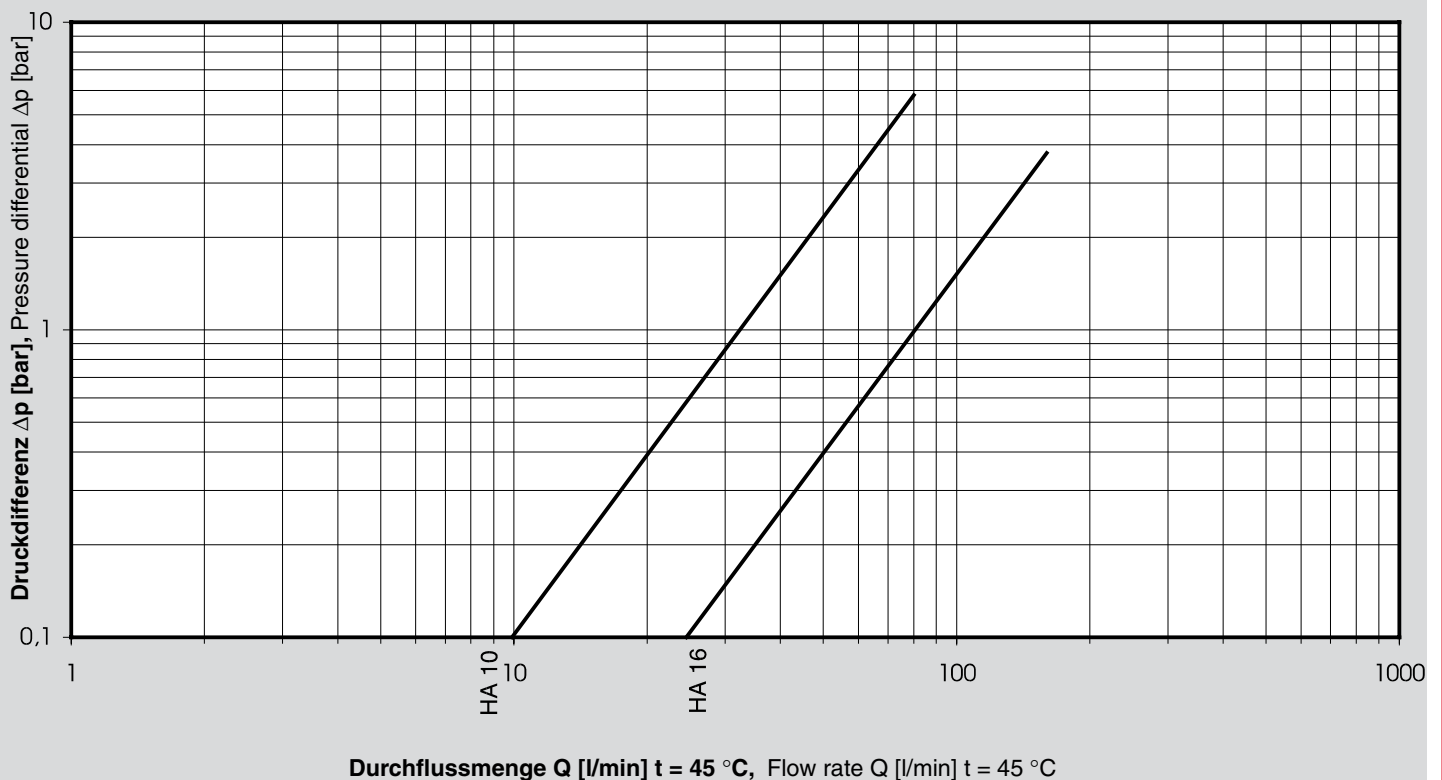
Série HA Caractéristiques

Les coupleurs à visser de la série HA sont particulièrement robustes et par ce fait ils sont prédestinés à être installés sur des engins de chantier avec des conditions extrêmement rudes.

Les coupleurs à visser sont couplés en vissant tout simplement le manchon femelle au manchon mâle jusqu'en butée. En raison de la conception élaborée les deux clapets sont ouverts en position «sur bloc». Par ce fait le coupleur est insensible aux coups de bélier hydrauliques. Les pressions de service de cette série sont plus élevées que celles de la série HS.

Le coupleur peut être couplé sous pression: jusqu'à 50 bar sans outil et jusqu'à 250 bar avec outil.

Durchflussskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s
Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s
Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccordements non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie HA Type HA 10

Betriebsdruck:

P_{max} 46,5 MPa (465 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series HA Type HA 10

Working Pressure:

P_{max} 46.5 MPa (465 bar)

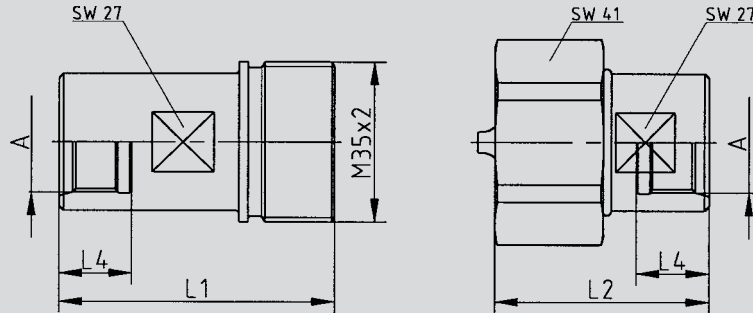
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série HA Type HA 10

Pression de service:

P_{max} 46,5 MPa (465 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.

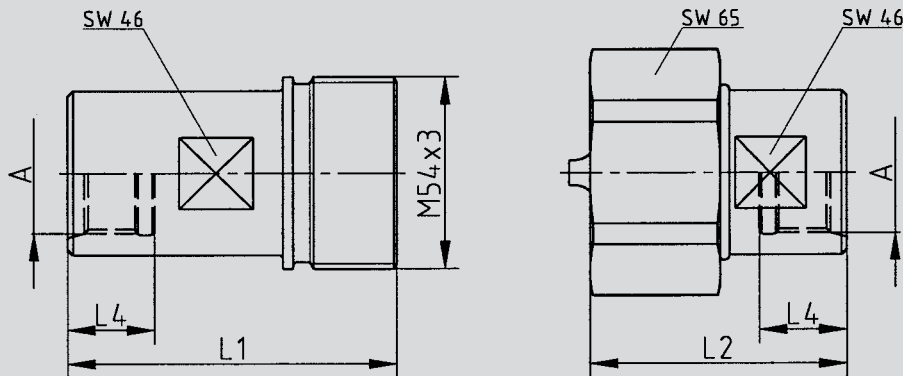


Anschluss A Port A Raccord A	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
					Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde / Female thread / Filetage femelle										
M22x1,5	60	47		16	HA10-1-IMF22	6010576	188	HA10-2-IMF22	6010578	230

Serie HA Type HA 16

Series HA Type HA 16

Série HA Type HA 16



Anschluss A Port A Raccord A	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
					Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde / Female thread / Filetage femelle										
M30x1,5	97	77		18	HA16-1-IMF30	6010577	705	HA16-2-IMF30	6010579	885

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Serie RS Charakteristika

Rohrleitungs-Kupplungen der Serie RS dienen zur Herstellung einer einwandfreien Verbindung gefüllter Hydraulikleitungen ohne Lufteinschluss und ermöglichen ein Trennen ohne Mediumsverlust.

Die Kupplungen werden durch Zusammenschrauben von Muffe (Festhälfte) und Stecker (Loshälfte) bis zum Anschlag gekuppelt. Dies ist bis zu etwa 20 bar Druck von Hand möglich, mit Werkzeug kann die Kupplung auch unter höherem Druck ge- und entkuppelt werden.

Durch das optional lieferbare Staubschutzgehäuse wird die Muffe gegen Verschmutzung und Beschädigung geschützt.

Series RS Characteristics

Pipeline couplings of the RS series are used for flawless connection of filled hydraulic lines without the intake of air and they disconnect without any loss of medium.

The couplings are connected by screwing the body (fixed half) and male plug (loose half) together as far as possible. Up to a pressure of about 20 bar, connection or disconnection can be done by hand, while tools are required under higher pressures.

The optionally available dust cover protects against contamination and damage to the body.

Série RS Caractéristiques

Les coupleurs pour tuyauterie sont conçus pour permettre une connexion parfaite avec une conduite hydraulique pleine sans infiltration d'air et un désaccouplement sans fuite d'huile.

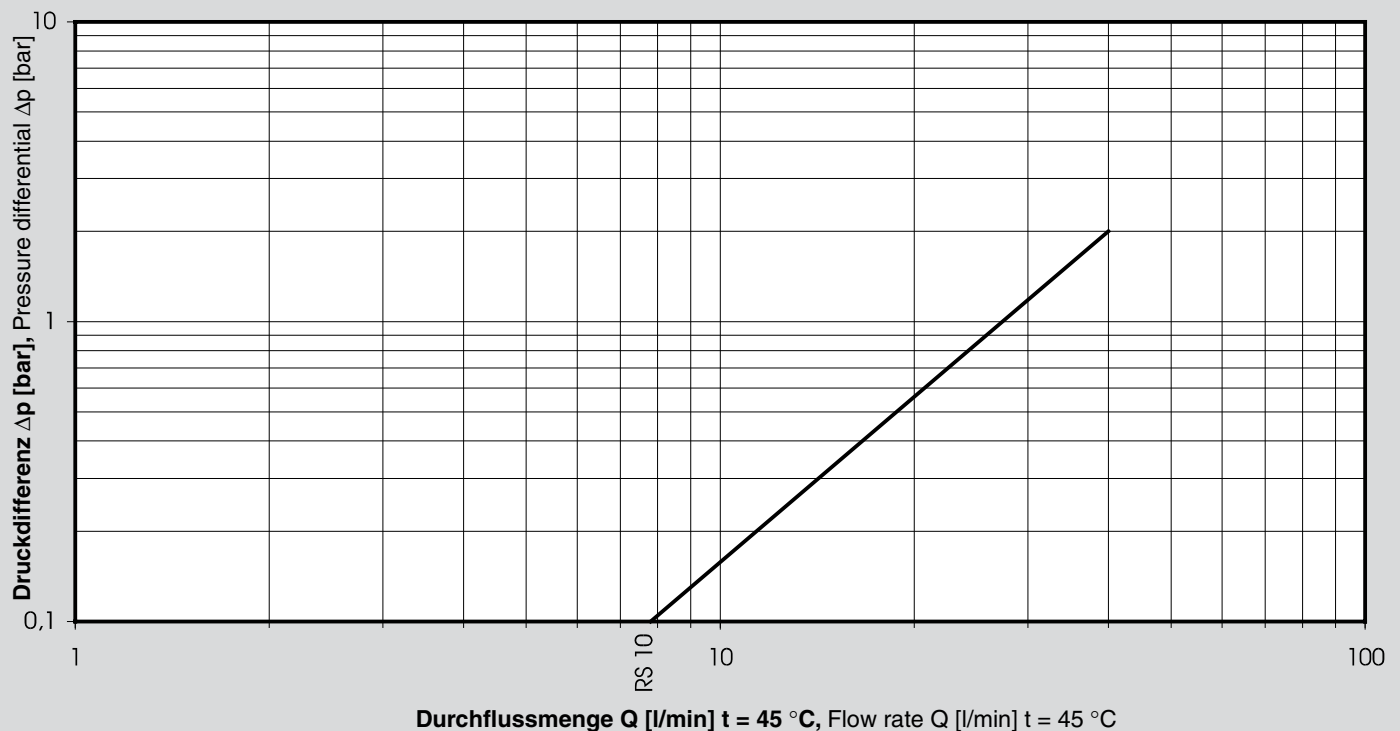
L'accouplement s'effectue par vissage du manchon femelle (moitié fixe) et du manchon mâle (moitié mobile) jusqu'en butée. Cela est possible manuellement jusqu'à 20 bar de pression, avec outil à des pressions plus élevées.

Un corps de protection contre la poussière est proposé en option et pourra protéger la douille extérieure contre les poussières et les détériorations.

Durchflussskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Hydrauliköl 36 mm²/s

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Hydraulic Oil 36 mm²/s

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccords non réduits. Fluide: Huile hydraulique 36 mm²/s



Serie RS Type RS 08

Betriebsdruck:

P_{max} 40 MPa (400 bar)

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Series RS Type RS 08

Working Pressure:

P_{max} 40 MPa (400 bar)

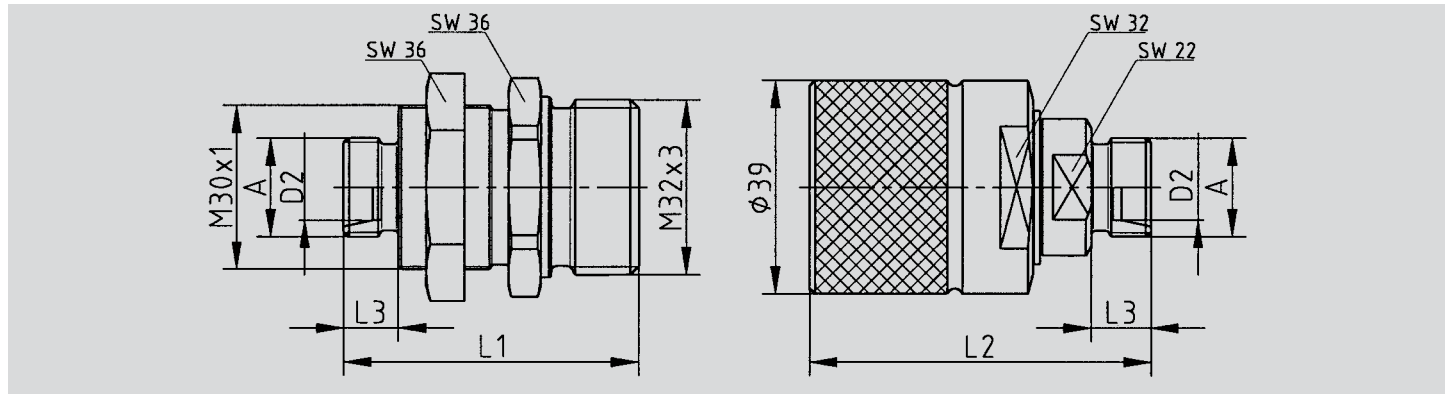
With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

Série RS Type RS 08

Pression de service:

P_{max} 40 MPa (400 bar)

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	Rohr Tube Ø D2	Kupplungs-Muffe Female body Embout femelle				Kupplungs-Stecker Male plug Embout mâle					
		L1	L2	L3	L4	Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Gewindezapfen mit Bohrungsform W (24°) nach DIN 3861											
Male stud with type W bore (24°) to DIN 3861 / <i>Manchon fileté cône 24°, selon DIN 3861</i>											
M14x1,5	8L	54	62	10		RS08-1-L0814	6010587	210	RS08-2-L0814	6010594	305
M16x1,5	10L	54	63	11		RS08-1-L1016	6010588	210	RS08-2-L1016	6010595	305
M18x1,5	12L	54	63	11		RS08-1-L1218	6010589	210	RS08-2-L1218	6010596	305
M22x1,5	15L	54	63	12		RS08-1-L1522	6010590	210	RS08-2-L1522	6010597	305
M18x1,5	10S	54	64	12		RS08-1-S1018	6010591	215	RS08-2-S1018	6010598	315
M20x1,5	12S	54	64	12		RS08-1-S1220	6010592	221	RS08-2-S1220	6010599	315
M22x1,5	14S	54	66	14		RS08-1-S1422	6010593	215	RS08-2-S1422	6010600	315

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

Staubschutzgehäuse für Muffe

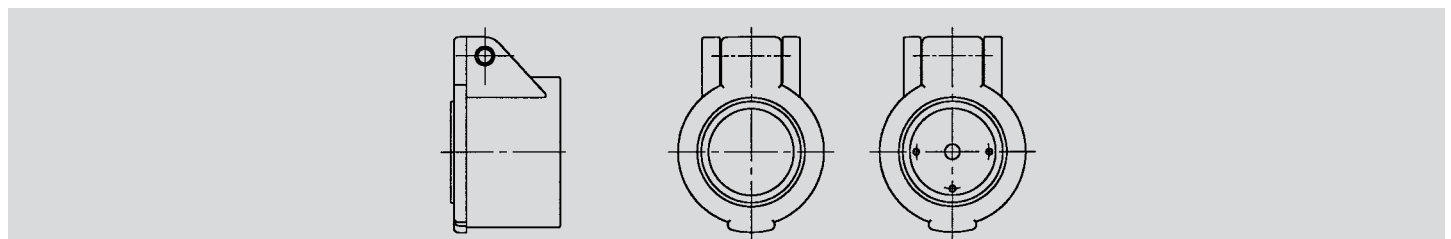
Das Staubschutzgehäuse dient zum Schutz der Muffe vor Verschmutzung. Es ist aus schwarzem Kunststoff gefertigt. Der Deckel kann optional mit einer Bohrung für einen Markierungsclip gefertigt werden. Sie finden die Clipse unter HP-Zubehör.

Dust cover for body

The dust guard is used to protect the body half against contamination. It is made of black plastic. The cap can be supplied optionally with a drill hole for an identification clip. You will find this clip under HP-accessories.

Corps de protection pour embout femelle

Le corps de protection sert à protéger l'embout femelle contre la poussière. Le couvercle peut être proposé en option avec un perçage pour un clip de marquage. Vous trouverez ces clips sous les accessoires HP.



Artikelnummer / Part No. / Designation	
ohne Bohrung without hole / sans perçage	mit Bohrung with hole / avec perçage
RS08-7-SW001A1	RS08-7-SW001C1

Serie KN Charakteristika

Kupplungen der Serie KN sind konzipiert für den Einsatz in Wartungsanlagen für Industriebatterien. Hier werden sie eingesetzt, um die Batteriezellen zu befüllen und zu entlüften.

Die Kupplungen sind aus hochwertigem Kunststoff mit hoher Hitzestabilität und Formbeständigkeit gefertigt. Dadurch sind sie auch einsetzbar im medizinischen Bereich, z. B. in Dialyseanlagen.

Zum Kuppeln und Entkuppeln wird die federbelastete Schiebehülse axial verschoben. Die Verriegelung der beiden Kupplungshälften erfolgt durch Präzisionskugeln.

Die Konstruktion der Kupplung ermöglicht den Einsatz von Kupplungssteckern sowohl mit als auch ohne Ventil in einer Muffe mit Ventil.

Series KN Characteristics

Couplings of the KN series are designed for use in maintenance systems for industrial batteries. They are used for filling and ventilating battery cells.

The couplings are made from high-quality synthetic materials with high thermal endurance and dimensional stability. Therefore, they are also suitable for use in medical applications, e. g. in dialysis devices.

The spring-loaded sliding sleeve slides in an axial direction for connection and disconnection. Locking of the two halves of the coupling is achieved by means of precision snap-in balls.

The design of the coupling allows the use of male plugs with or without valves in bodies with valves.

Série KN Caractéristiques

Les coupleurs de la série KN sont conçus pour être installés sur des installations de maintenance pour les batteries industrielles. Ils sont destinés au remplissage et au vidage des cellules de batteries.

Les coupleurs sont en matière plastique de qualité haut de gamme avec stabilité élevée à la chaleur et résistance à la déformation. Par ce fait ils peuvent également être mis en place dans le domaine médical comme par exemple des installations de dialyse.

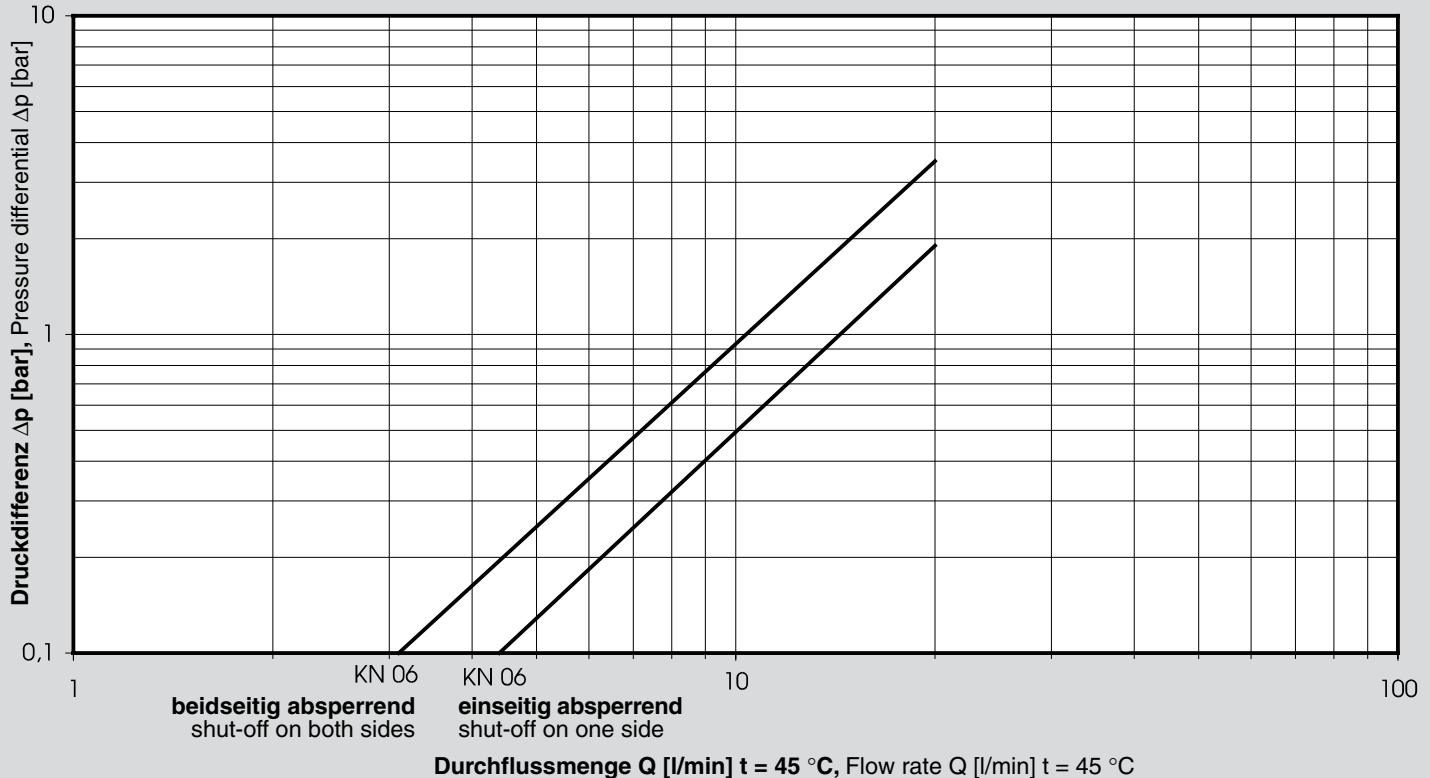
L'accouplement et le désaccouplement se font par un déplacement axial de la bague coulissante plagée par ressort. Des billes de précision assurent un verrouillage des deux demi-coupleurs.

La construction de ces coupleurs permet une utilisation du manchon mâle avec ou sans clapet dans un manchon femelle avec clapet.

Durchflussskennlinien: Die Kennlinien gelten nur für Kupplungen mit nicht reduzierten Anschlüssen. Medium: Wasser

Flow characteristics: The curves are only valid for couplings without reduced size fittings. Medium: Water

Courbes de débit: Les courbes caractéristiques ne sont valables que pour des raccordements non réduits. Fluide: Eau



Serie KN Type KN 06

Series KN Type KN 06

Série KN Type KN 06

Betriebsdruck:

P_{max} 2 MPa (20 bar) stat. $t = 25\text{ °C}$

Bei genormten Gewindeanschlüssen ist bei der Festlegung des Betriebsdruckes der höchstzulässige Betriebsdruck des Anschlusses zu berücksichtigen.

Working Pressure:

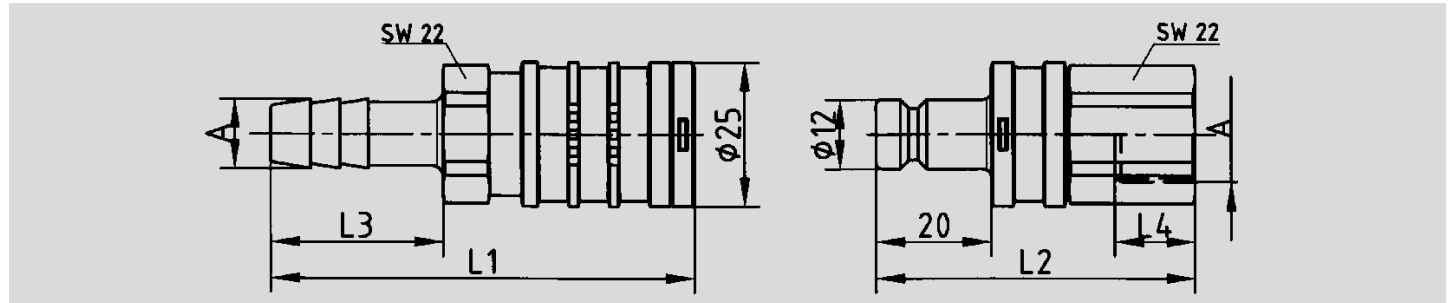
P_{max} 2 MPa (20 bar) stat. $t = 25\text{ °C}$

With standard threaded connections, the working pressure is determined by the highest permissible rated pressure of the connection.

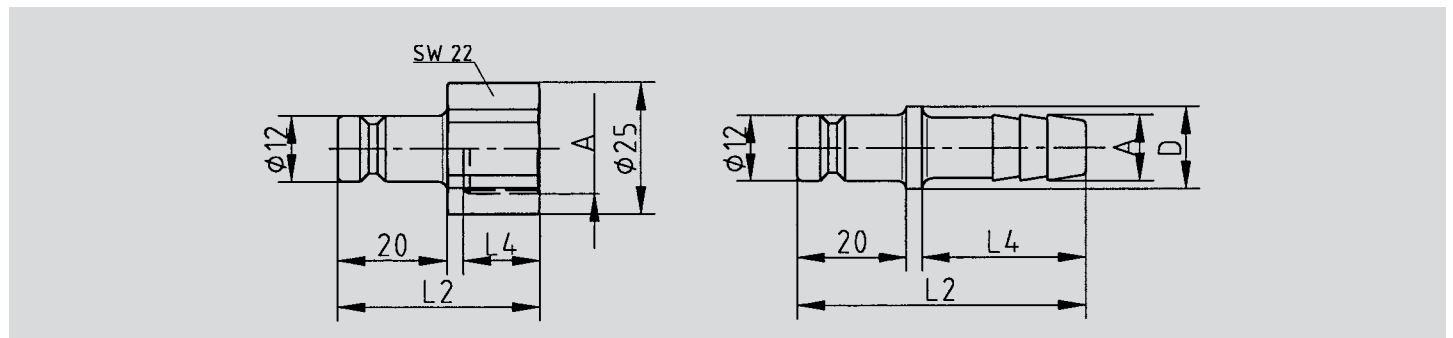
Pression de service:

P_{max} 2 MPa (20 bar) stat. $t = 25\text{ °C}$

Avec les raccords filetés normés, la pression de service est déterminée en tenant compte de la pression de service maxi. admissible.



Anschluss A Port A Raccord A	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
					Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde nach DIN ISO 228 / Female thread to DIN ISO 228 / Filetage femelle selon DIN ISO 228										
G 3/8"	57,5	55,5		14	KN06-1-IGF06	6010601	21	KN06-2-IGF06	6010604	12
Schlauchanschluss / Hose insert / raccord de tuyau										
7 mm	69	67	26		KN06-1-SL007	6010602	20	KN06-2-SL007	6010605	11
11 mm	73,5	71,5	30		KN06-1-SL011	6010603	21	KN06-2-SL011	6010606	12



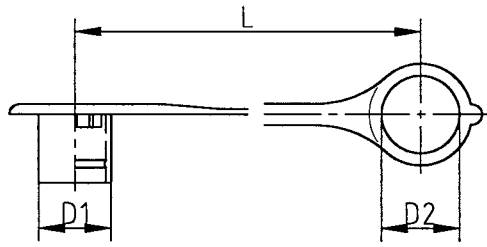
Anschluss A Port A Raccord A	L1	L2	L3	L4	Kupplungs-Muffe Female body Embout femelle			Kupplungs-Stecker Male plug Embout mâle		
					Artikelnummer Part No. Désignation	Gew. Weight Poids	Artikelnummer Part No. Désignation	Gew. Weight Poids		
Innengewinde nach DIN ISO 228 / Female thread to DIN ISO 228 / Filetage femelle selon DIN ISO 228										
G 3/8"		38		14				KN06-6-IGF06	6010607	6
Schlauchanschluss / Hose insert / raccord de tuyau										
7 mm		46,5		26				KN06-6-SL007	6010608	4
11 mm		53		30				KN06-6-SL011	6010609	5

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

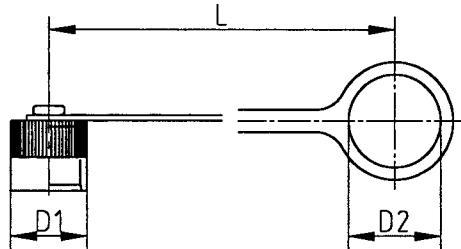
Dimensions en mm / Poids en g
Sous réserves de modifications

Staubkappen / Dust caps / Capuchon de protection

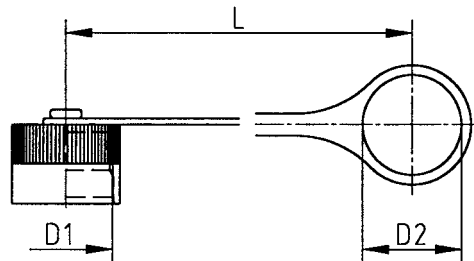


		D1	D2	L			D1	D2	L
HP08-0-RT001	6011694	22	22	125	HP08-9-RT001	6011741	18	22	125
HP10-0-RT001	6011695	27	30	130	HP10-9-RT001	6011742	24	30	135
HP10-0-RT004	6011696	27	27	130	HP10-9-RT004	6011743	24	27	135
HP12-0-RT001	6011697	33	37	190	HP12-9-RT001	6011744	30	37	190
HP20-0-RT001	6011698	39	41	190	HP20-9-RT001	6011745	36	41	190

Préférentiel pour HP 10



		D1	D2	L			D1	D2	L
HF08-0-RT004	6011699	24	27	190					
FF12-0-RT001	6011700	29	37	190	FF12-9-RT001	6011747	41	41	190



		D1	D2	L			D1	D2	L
HS04-0-RT001	6011731	M24x2	19	180	HS04-9-RT001	6011748	M24x2	19	180
HS08-0-RT001	6011732	M28x2	22	180	HS08-9-RT001	6011749	M28x2	22	180
HS10-0-RT001	6011733	M36x2	29	190	HS10-9-RT001	6011750	M36x2	29	190
HS12-0-RT001	6011734	M42x2	37	190	HS12-9-RT001	6011751	M42x2	37	190
HS20-0-RT001	6011735	M48x3	41	190	HS20-9-RT001	6011752	M48x3	41	190
HS25-0-RT001	6011736	M70x3	56	205	HS25-9-RT001	6011753	M70x3	56	205
HA10-0-SW001	6011737	M35x2	32	145	HA10-9-SW001	6011754	M35x2	29	190
BP10-0-RT001	6011738	29	27	165	BP10-9-RT001	6011755	29	27	165
RS08-0-RT001	6011739	M32x3	29	190	RS08-9-RT001	6011756	M32x2	29	190
RS10-0-RT003	6011740	M36x3	41	190	RS10-9-RT001	6011757	M36x3	29	190

Außer in den oben angegebenen Standardfarben sind die Staubschutzteile für die Typen HP 10 und HS 10 noch in den Farben Blau, Grün, Gelb und Schwarz lieferbar. Bitte verwenden Sie dann bei Ihrer Bestellung die Farbschlüssel **BL**, **GN**, **GE** und **SW** anstelle des Farbschlüssels RT.

Apart from the above standard colours, dust caps are also available for the Series HP 10 and HS 10, in blue, green, yellow and black. Please use the codes **BL**, **GN**, **GE** and **SW** respectively instead of RT.

En dehors des couleurs standards, les capuchons ou bouchons de protection sont disponibles en bleu, vert, jaune et noir pour les séries HP 10 et HS 10. Utilisez alors les désignations respectives **BL**, **GN**, **GE** et **SW** à la place de RT.

Ersatzteile

Spare parts

Pièces de Rechange

Typ	O-Ring O-ring <i>Joint torique</i> Material: NBR		Stützring Back up ring <i>bague d'appui</i> Material: PTFE		Bremsring brake ring <i>bague d'arrêt</i> Material: NBR		Ventildichtung valve gasket <i>garniture de valve</i> Material: NBR
	Artikelnr. Part No. <i>Désignation</i>	Abmessung Dimension <i>Dimensions</i>	Artikelnr. Part No. <i>Désignation</i>	Abmessung Dimension <i>Dimensions</i>	Artikelnr. Part No. <i>Désignation</i>	Abmessung Dimension <i>Dimensions</i>	Artikelnr. Part No. <i>Désignation</i>
HP04	3405-0910	12,0x2,25	3405-0710	15,8x12,2x1			3506-0601
HP08	3406-0901	17,0x2,5	3406-0701	21,5x17,7x1			3406-0600
HP08A	3406-0902	15,88x2,62	3406-0702	20,2x16,0x1			3406-0600
HP10	3410-0901	20,22x3,53	3410-0701	26,7x20,6x1			3410-0600
HP10 neu	3410-0902	20,29x2,62					3410-0600
HP12	3413-0905	29,6x2,4	3413-0704	33,5x30,0x1			3513-0600
HP20	3420-0901	34,59x2,62	3420-0702	38,8x34,8x1			3520-0600
HS04	3506-0901	12,5x2	3506-0701	16,1x13,0x1	3506-0801	19,0x3	3506-0601
HS08	3508-0901	17,0x2	3508-0701	20,7x17,5x1	3508-0801	23,0x3	3406-0600
HS10	3510-0901	22,0x3	3510-0701	27,2x22,0x1	3510-0801	31,0x3	3410-0600
HS12	3513-0901	28,0x3	3531-0700	33,2x28,0x1	3513-0800	36,0x3	3513-0600
HS20	3520-0901	35,0x2,5	3520-0701	39,0x35,0x1	3520-0801	43,0x3,5	3520-0600
HS25	HS25-1-00003/21	53,0x3	HS25-1-00001/22	58,6x54x1	HS25-1-00002/21	64,0x4	HS25-1-00001/09
FF08-2-	3406-0903	12,5x1,5	3406-0704 (2x)	15,0x12,5x1			
HF08-2-	3406-0601	Dichtung					
FF12-2-	3410-0928	15,4x2,1	3410-0724 (2x)	19,1x15,6x1			
RS08-1-	3610-1004	17,5x2			3610-1005	22x1,5	3610-1006
RS08-2-	3610-1004	17,5x2	3610-1003	21,0x17,5x1			3610-1001
HA10	HA10-1-00001/21	21,82x3,53	HA10-1-00001/22	28x22,4x1			
HA16	3613-1006	37,7x3,53	HA16-1-00001/22	43,9x38,0x1			

Gegenmutter aus Stahl, verzinkt / Lock nut in steel, zinc-plated / Contre écrou

Artikelnr. / Part No. / Désignation	Gewinde/Thread	Artikelnr. / Part No. / Désignation	Gewinde/Thread
341215	M 12 x 1,5	342615	M 26 x 1,5
341415	M 14 x 1,5	343010	M 30 x 1
341615	M 16 x 1,5	343020	M 30 x 2
341815	M 18 x 1,5	343620	M 36 x 2
342015	M 20 x 1,5	343815	M 38 x 1,5
342215	M 22 x 1,5	344220	M 42 x 2
342415	M 24 x 1,5	345220	M 52 x 2

Maße in mm / Gewicht in g
Änderungen vorbehalten

Dimensions in mm / Weight in g
Subject to modification

Dimensions en mm / Poids en g
Sous réserves de modifications

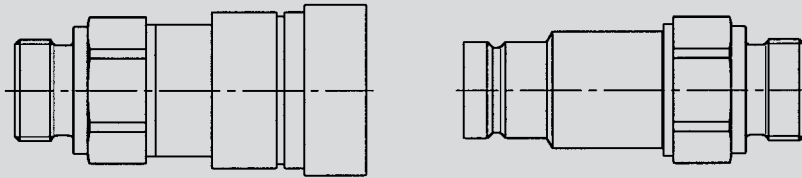
Sonderausführungen Specials

Wir stellen Ihnen auf dieser Seite Beispiele von Sonderkupplungen vor, die von unterschiedlichen Industriezweigen benötigt werden. Wir möchten Ihnen hiermit die vielfältigen Möglichkeiten aufzeigen.

Below are a few examples of special couplings, with typical applications in various branches of industry to demonstrate the variety of potential uses.

Exécutions spéciales

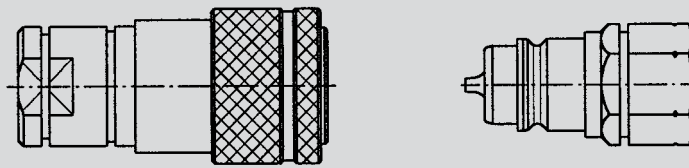
Nous vous présentons sur cette page des exemples de coupleurs spéciaux utilisés dans différentes branches de l'industrie afin de vous donner un aperçu de nombreuses possibilités existantes.



Die flachdichtende Kupplung der Type FF 08 aus nichtrostendem Stahl wird eingesetzt im Kühlmittelkreislauf einer Sendeanlage.

The flat face coupling type FF08 made from stainless steel is used in the coolant circuit of a transmission system.

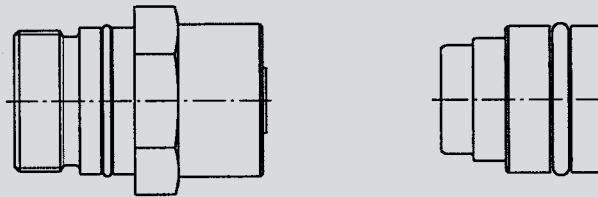
Coupleurs à face plane du type FF08 en acier inox, utilisés dans des circuits d'agents réfrigérants d'une centrale d'émission.



Die Push-Pull-Kupplung der Type HP07 aus verzinktem Stahl ist konzipiert für einen Betriebsdruck von 500 bar.

The push-pull coupling type HP07 made from zinc-plated steel is designed for an operating pressure of 500 bar.

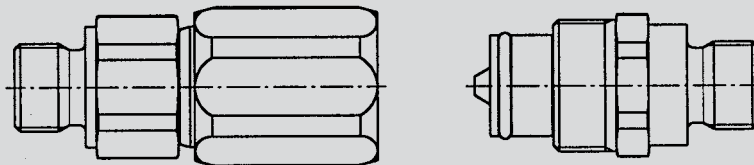
Coupleurs push-pull du type HP07 en acier zingué est conçu pour une pression de service de 500 bar.



Die flachdichtende Kupplung in Cartridge-Bauweise wird eingesetzt in der Spannhydraulik von Werkzeugmaschinen und Transferstraßen.

The flat face cartridge-style coupling is used in clamping hydraulics with machine tools and transfer lines.

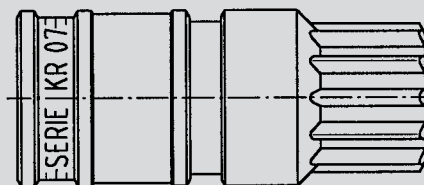
Le coupleur à face plane en forme cartouche est utilisé dans l'hydraulique stationnaire pour les fonctions de serrage dans la machine-outils.



Die Schraubkupplung aus Aluminium dient zum Befüllen von Hochspannungsschaltern mit SF₆-Gas als Isolationsmittel. Sie wird unter extremen Bedingungen auf Dichtheit geprüft.

The aluminium screw type coupling, is designed for filling the high-tension switchgear with SF₆ gas. This gas is used as an insulating agent, and it is tested for leak-tightness under extreme conditions.

Le coupleur à visser en aluminium sert au remplissage des disjoncteurs haute tension fonctionnant au gaz isolant de type SF₆. Il est soumis à des contrôles d'étanchéité sévères sous des conditions extrêmes.



Schnellkupplungen der Serie KR07 aus Kunststoff werden im Sanitärbereich eingesetzt. Sie werden benötigt zur einfachen Verbindung der flexiblen Schläuche an Handbrausen mit Absperrarmatur.

The plastic quick release couplings Series KR07, are used in the sanitary industry to connect flexible hoses on shower attachments, with the stop cock.

Les coupleurs rapides de la série KR07 en matière plastique sont utilisés dans le domaine du sanitaire. Ils permettent un raccordement simple et rapide des flexibles souples pour pommes de douches avec robinet d'arrêt.

Übersicht Kupplungen

Couplings Selector Guide

Table de sélection des coupleurs

Benennung Description Désignation	Funktion Application Application	BG Size	DN	Size	A _{min} mm ²	Q _{max} l/min	Betriebs- druck Working- pressure Pression de service	Berstdruck/burst pressure Pression de déflagration			Lecköl Leakage Fuite	
								gekuppelt connected couplé	Muffe female femelle	Stecker Male plug Embout mâle		
Steck-Kupplung	Push-Pull-Ausführung											
Quick release coupling <i>Coupleur enfichable</i>	Abreißfunktion Push-pull-type Breakaway function <i>Exécution push-pull</i> <i>Fonction de rupture</i>	1 2 3 4 6	1/4" 3/8" 1/2" 3/4" 1"	4 6 8 12 16	24 45 76 130 265	20 40 80 120 160	250 250 250 250 250	1000 1000 1000 1000 1000	1000 1000 1000 1000 1000	1000 1000 1000 700 700	1000 1000 1000 700 700	ml 0,8 1,2 1,7 8,0 12,0
Flachdichtende Kupplungen	Einhand-Bedienung, tropffrei											
Flat face coupling <i>Coupleur à face plan</i>	One-hand operation, clean break <i>Manipulation à une main, Sans fuite</i>	2 3 4	3/8" 1/2" 3/4"	6 8 10	56 95 172	60 100 150	250 250 250	1000 1000 1000	1000 900 700	1000 1000 1000	1000 1000 1000	0,010 0,012 0,015
Bremsléitungs-Kupplung	Leckarme Flachdichtung											
Coupling for tractor braking system <i>Coupleur pour freinage hydraulique</i>	entspr. ISO 5676 Low leakage flat seal to ISO 5676 <i>Faible fuite</i> <i>selon à ISO 5676</i>	3	1/2"	8		70	150	315	75	150	150	
Schraubkupplung	Kuppelbar bei Druck											
Screw-type coupling <i>Coupleur à visser</i>	ohne / mit Werkzeug Can be connected under pressure without / with tool <i>Pouvant être couplé sous pression</i> <i>sans / avec outil</i>	1 2 3 4 6 8	1/4" 3/8" 1/2" 3/4" 1" 1 1/4"	4 6 8 12 16 20	24 45 76 130 256 660	20 40 80 120 160 220	450 450 400 400 300 300	1800 1800 1600 1600 1300 1800	1400 1800 1200 1200 1500 1600	1400 1700 1200 1200 1150 1200	1400 1700 1200 1200 1150 1200	
Schraubkupplung	Für hohe Drücke											
Screw-type coupling <i>Coupleur à visser</i>	For high pressure <i>Pour pressions élevées</i>	3 4	1/2" 3/4"	8 12	76 256	80 160	350/465* 350/465*	2000 1800	1850 2000	1750 1750	1750 1750	
Rohrleitungs-Kupplung	Leckarme Flachdichtung											
Pipeline coupling <i>Coupleur pour tuyauterie</i>	Low leakage flat seal <i>Faible fuite</i>	2	3/8"	6	55	40	400	2250	1150	500	500	
Kunststoff-Kupplung	Auch ohne Ventile											
Plastic coupling <i>Coupleur plastique</i>	Also without valves <i>Egalement sans clapet</i>	1	1/4"	4	26,4	20	20	80	60	80	80	

* statischer Druck / static pressure / pression statique

Bestimmung der Kupplungsgröße

Nomogramm zur Bestimmung der Kupplungsgröße der Serien HP, HS, FF und HF.

Q = Durchflussmenge
Flow rate
Débit

A = Kupplungs-Querschnitt
Coupling cross section
Coupe transversale du coupleur

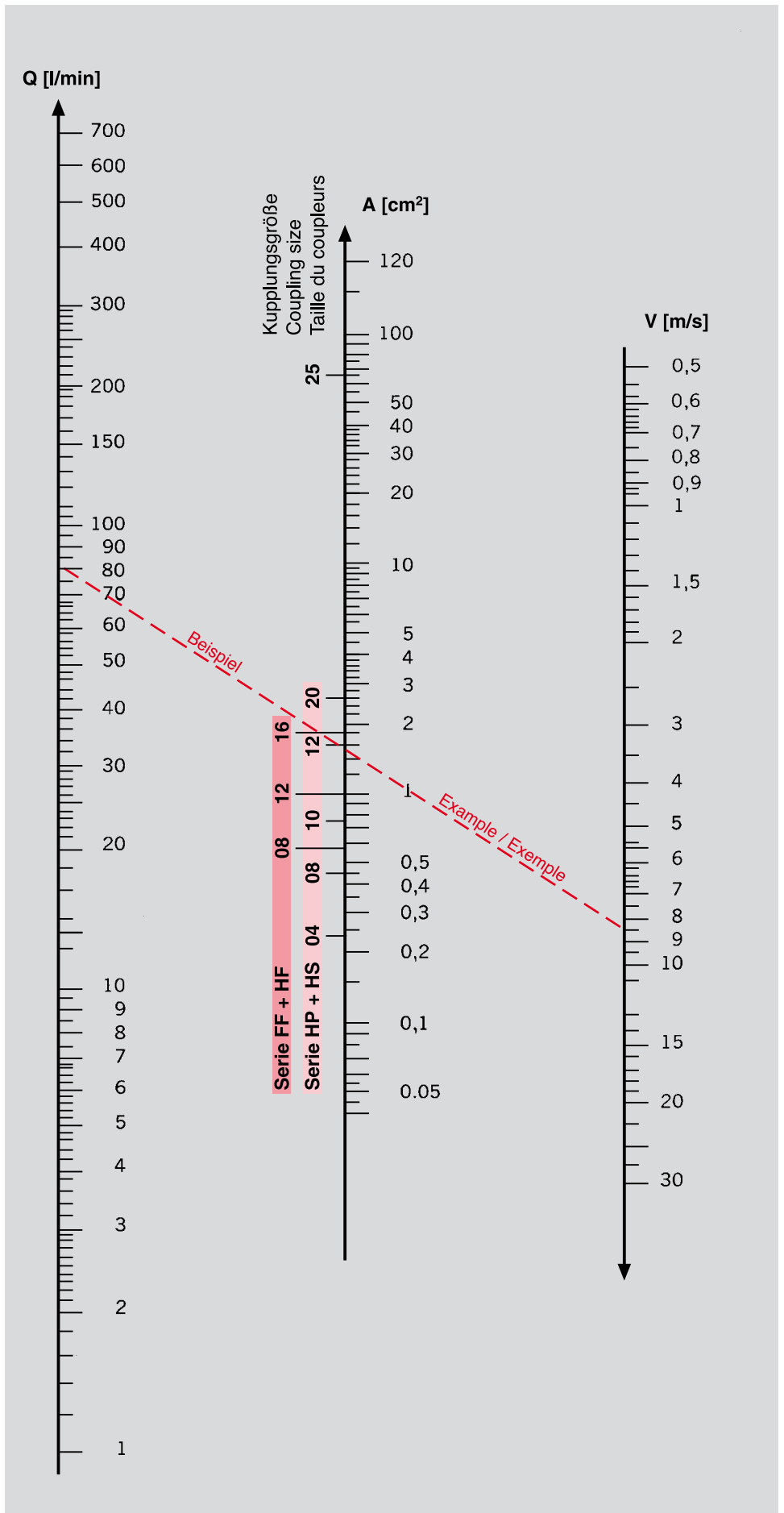
V = Ölgeschwindigkeit
Fluid velocity
Vitesse du fluide

Determination of the coupling size

Nomograph for the determination of the coupling size of the series HP, HS, FF and HF.

Détermination de la taille du coupleur

Abaque pour la détermination de la taille des coupleurs des séries HP, HS, FF et HF.



Sicherheitshinweise für die Handhabung von Schnellverschlusskupplungen und dem entsprechenden Zubehör

Wichtig !

Falsche Auswahl oder falsche und unsachgemäße Handhabung von Verschlusskupplungen und Zubehör kann zu Sach- und Personenschäden führen.

- Austreten von Hydraulikflüssigkeiten unter hohem Druck
- Explosion oder Entflammen des verwendeten Fluids
- Zusammenstoß mit sich in Bewegung setzenden oder absinkenden Bauteilen, verursacht durch den Ausfall des Hydraulikkreislaufs
- Gefährliches Ausschlagen der Hydraulikschlauchleitung (sogenannter Peitscheneffekt)
- Verletzungsgefahr durch den Kontakt mit dem heißen, kalten oder aus anderen Gründen gefährlichen Fluid

Bevor Sie eine Schnellverschlusskupplung oder das entsprechende Zubehör auswählen und einsetzen, sollten Sie unbedingt die folgenden Anweisungen befolgen.

1. Allgemeine Hinweise

1.1 Allgemeines

Dieser Abschnitt enthält Anweisungen zur Auswahl und Handhabung (Einbau, Ein- und Auskuppelvorgang und Wartung). Dies ist als zusätzlicher Sicherheitshinweis zu verstehen und muss beim Einsatz der Produkte berücksichtigt werden.

1.2 Sicherheitsvorkehrungen

Verschlusskupplungen können unter Umständen unvorhergesehen ausfallen. Berücksichtigen Sie dies bei der Planung des Systems oder Anlage durch Sicherheitseinrichtungen.

1.3 Information für den Anwender

Geben Sie diese Sicherheitshinweise an die Personen weiter, die für die Auswahl oder Handhabung verantwortlich sind. Setzen Sie die Verschlusskupplungen nur ein, nachdem Sie die produktspezifischen Informationen erhalten bzw. verstanden haben.

1.4 Verantwortlichkeit des Anwenders

Aufgrund der vielseitigen Anwendungsmöglichkeiten von Verschlusskupplungen kann nicht jeder Anwendungsfall und jedes technische Detail berücksichtigt werden.

Der Anwender ist verantwortlich für

- die Endauswahl des Produkts
- die Erfüllung der Anforderungen durch den Betreiber
- die Sicherheit der Personen und Anlage
- die Sicherheitsvorkehrungen, die beim Einsatz der Verschlusskupplungen erforderlich sind

Bei weiteren Fragen wenden Sie sich bitte an unseren Vertrieb.

2. Hinweise für die richtige Kupplungsauswahl

2.1 Druckbereich

Die Auswahl der Verschlusskupplung muss so getroffen werden, dass der maximal zulässige Betriebsdruck der Kupplung größer oder gleich dem Systemdruck ist. Druckspitzen im System, die oberhalb des Betriebsdrucks liegen, verringern die Lebensdauer der Kupplung und müssen deshalb bei der Auswahl berücksichtigt werden.

2.2 Medienbeständigkeit

Die Dichtungswerkstoffe in den Verschlusskupplungen sind für eine Vielzahl von Druckmedien geeignet. Informationen über die Verträglichkeit des Fluids erfragen Sie beim Produktmanager.

2.3 Einsatztemperatur

Die Angaben zu den Einsatztemperaturen in den Spezifikationen sind Maximalwerte. Diese Werte sind im stehenden und fließenden Kreislauf nicht zu überschreiten. Bei der Betätigung ist die natürliche Erwärmung der Verschlusskupplung zu beachten.

2.4 Baugröße

Die Auswahl der Baugröße und der Anschlussform ist abhängig von der geforderten Leistungsübertragung. Hierzu sind die entsprechenden Diagramme zu verwenden. Durchflussmenge, Druckverlust und Strömungsgeschwindigkeit sind bei der Auswahl der richtigen Baugröße zu beachten. Werden diese Werte im Betrieb überschritten, kann es zu Funktionsstörungen innerhalb der Verschlusskupplung kommen.

2.5 Mechanische Verbindung

Das Verbinden der Kupplungshälften erfolgt je nach Bauart. Hierbei ist auf das vollständige Einrasten bei Steckkupplungen bzw. auf die vollständige Verschraubung der Schraubhülse bis Anschlag zu achten. Das gewaltsame und nicht sachgemäße Trennen der Verschlusskupplung führt zu Funktionsstörungen.

2.6 Thermische Belastung

Durch starke Erwärmung über die empfohlene Einsatztemperatur hinaus, wie durch Schweißen oder Löten an den Kupplungen, können gefährliche Gase entstehen. Außerdem wird der Oberflächenschutz (Verzinkung) beschädigt. Die Funktionsfähigkeit kann dadurch gestört werden.

2.7 Richtlinien

Die für den Einsatzbereich geltenden Spezifikationen, Standards und Normen sowie technische Regeln sind bei der Auswahl einzuhalten.

Safety Regulations for Handling of Quick Action Couplings and Accessories

Important!

Incorrect selection or incorrect and inexpert handling of couplings and accessories may result in property damage or personal injury.

- High velocity fluid discharge
- Explosion or combustion of the fluid used
- Collision with moving or lowering components, caused by failure of a hydraulic circuit
- Dangerous whipping of hydraulic hoses
- Risk of injury through contacting hot, cold or otherwise dangerous fluids

Read and observe the following instructions prior to selecting and using a quick-action coupling or associated accessories.

1. General Notes

1.1 General

This section contains instructions on selection and handling (installation, coupling and uncoupling and maintenance). This is to be seen as additional safety instructions and must be taken into consideration in the use and application of the products.

1.2 Safety Measures

Couplings may possibly fail without prior warning. Take this into consideration when planning the safety devices of your system or plant.

1.3 Information for the User

Forward these safety notes to the persons responsible for the selection and handling of couplings. Use only couplings for which you have received and understood product-specific information.

1.4 Responsibility of the User

Due to the versatile range of applications of couplings, not every application case and every technical detail can be dealt with in this document.

The user is responsible for:

- final selection of the product
- fulfilment of requirements by the operator
- safety of operating personnel and plant
- safety measures necessary in the use of couplings

Should you have any further questions, please contact our sales department.

2. Correct Selection of Couplings

2.1 Pressure Range

The coupling to be used must be selected so that the maximum permissible operating pressure is equal to or higher than the system pressure. Pressure peaks in the system in excess of the operating pressure reduce the service life of the couplings and therefore should be taken into consideration when making the selection.

2.2 Resistance to Media

The sealing materials for the couplings are suitable for a large variety of pressure media. Information on the compatibility of a particular type of fluid are available on request from the product manager.

2.3 Operating Temperature

The indication of operating temperatures in the technical specifications represents maximum values. These values must not be exceeded in static or flowing circuits. During actuation the natural heating of the coupling must also be taken into consideration.

2.4 Size

The selection of the size and type of connection depends on the required transmission of power. For this purpose, refer to the corresponding diagrams. Flow rate, pressure loss and flow speed should be taken into consideration when selecting the correct size of a coupling. Should these values be exceeded, malfunctions within the coupling may occur.

2.5 Mechanical Connection

The connection of the two halves of a coupling varies depending on the type. It is important to ensure the complete engagement of plug-type couplings and the secure tightening of screw-type couplings to the limit stop of the thread. Forcible or incorrect separation will result in malfunction of the coupling.

2.6 Thermal Stress

An excessive increase in temperature of the coupling above the recommended operating temperature, for instance due to welding or soldering, can cause the formation of dangerous gases. In addition, the protective surface finish (zinc-plating) will be damaged and the function of the coupling may be impaired.

2.7 Guidelines

Applicable specifications, standards and regulations as well as technical rules must be taken into consideration in the selection of couplings.

Consignes de sécurité concernant la manipulation des coupleurs rapides et accessoires correspondants

Attention !

Un mauvais choix et une manipulation par un personnel non qualifié des coupleurs rapides et leurs accessoires peuvent conduire à des dommages matériels et personnels.

- émergence de fluides hydrauliques sous haute pression
- explosion ou inflammation du fluide utilisé
- chocs avec des éléments en mouvement provoquant une panne du circuit hydraulique
- décrochage dangereux de la conduite hydraulique (effet coup de fouet)
- danger dû au contact avec un fluide chaud, froid ou dangereux.

Avant de choisir et installer un coupleur rapide ou l'accessoire correspondant, vous devez impérativement vous reporter aux indications suivantes.

1. Indications générales

1.1 Généralités

Ce paragraphe renferme des indications pour le choix et la manipulation (montage, procédure de couplage et découplage ainsi que la maintenance). Ce sont des conseils qui doivent impérativement être pris en compte lors de l'utilisation de ces produits.

1.2 Précautions de sécurité

Il peut arriver qu'il y ait un dysfonctionnement des coupleurs pour une raison indéterminée. Veuillez en tenir compte lors de la conception du système ou de la centrale en prévoyant un mécanisme de sûreté.

1.3 Informations destinées à l'utilisateur

Transmettez ces informations aux personnes responsables du choix ou de la manipulation. Ne montez que les coupleurs pour lesquels vous avez reçu et assimilés les informations spécifiques.

1.4 Responsabilité de l'utilisateur

Etant donné les multiples possibilités d'utilisation du coupleur on ne peut tenir compte de chaque cas d'utilisation et de chaque détail technique.

L'utilisateur est responsable

- du choix final du produit
- du respect des consignes par l'opérateur
- de la sécurité des personnes et de la centrale
- des précautions de sécurité nécessaires lors de l'utilisation des coupleurs

Pour de plus amples informations, veuillez vous adresser à notre service commercial.

2. Indications pour le choix du bon coupleur

2.1 Plage de pression

Le choix du coupleur doit être faite de telle manière que la pression de fonctionnement admissible max. du coupleur, soit supérieure ou égale à la pression du système. Des pointes de pression du système, supérieures à la pression de fonctionnement, réduisent la durée de vie du coupleur et doivent par conséquent être prises en compte lors des critères de sélection.

2.2 Compatibilité aux fluides

Les matériaux des joints des coupleurs conviennent à un grand nombre de fluides. Vous recevrez des informations relatives à la compatibilité au fluide en vous adressant au responsable produit.

2.3 Température d'utilisation

Les données concernant les températures d'utilisation qui se trouvent dans les spécifications sont des valeurs maximales. Ces valeurs ne doivent être dépassées, ni en statique ni en dynamique. Veuillez faire attention, lors de la mise en service, au réchauffement naturel du coupleur.

2.4 Size

Le choix de la size et de la forme de raccord dépend des performances souhaitées. Utilisez à cet effet les diagrammes correspondants. Les débits, pertes de charge et vitesses du fluide doivent être prises en compte lors de la sélection.

Si ces vitesses sont dépassées, des dysfonctionnements peuvent survenir à l'intérieur du coupleur.

2.5 Liaison mécanique

La liaison de chaque partie du coupleur se fait selon le type de construction. A cette effet, il faut impérativement visser ou encliqueter les coupleurs jusqu'en butée. Une séparation du coupleur effectuée avec force, ou par tout autre moyen peut provoquer des dysfonctionnements.

2.6 Charge thermique

Des gaz dangereux peuvent être produits à cause d'un fort réchauffement au delà de la température d'utilisation recommandée, ou à cause de soudage au niveau des coupleurs.

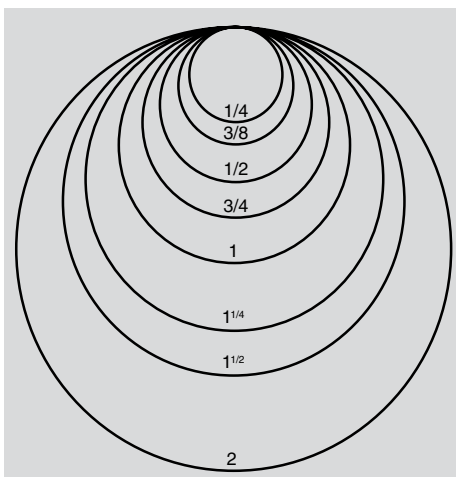
Outre cela, la protection de surface (zingage) peut être endommagée.

Le fonctionnement peut alors être mis en cause.

2.7 Directives

Les spécifications, standards et normes valables pour le domaine d'utilisation, ainsi que les règles techniques doivent être respectées lors du choix du coupleur.

Size	DN	3000 psi	Flansch / Flange / Bride		metrisch / metric métrique			BSP 60°	JIC UNF 37°	ORS UNF	NPTF
			6000 psi	leichte Reihe light series série légère	schwere Reihe heavy series série lourde	Zoll Inch Pouce					
03	05			M12x1,5-6	M16x1,5-8	3/16	G1/8"	3/8-24		1/8-27	
04	06			M14x1,5-8	M18x1,5-10	1/4	G1/4"	7/16-20	9/16-18	1/4-18	
05	08			M16x1,5-10	M20x1,5-12	5/16		1/2-20			
06	10			M18x1,5-12	M22x1,5-14	3/8	G3/8"	9/16-18	11/16-16	3/8-18	
08	12	1/2"	1/2"	M22x1,5-15	M24x1,5-16	1/2	G1/2"	3/4-16	13/16-16	1/2-14	
10	16			M26x1,5-18	M30x2-20	5/8	G5/8"	7/8-14	1-14		
12	20	3/4"	3/4"	M30x2-20	M36x2-25	3/4	G3/4"	1 1/16-12	1 3/16-12	3/4-14	
16	25	1"	1"	M36x2-25	M42x2-30	1	G1"	1 5/16-12	1 7/16-12	1-11,5	
20	32	1 1/4"	1 1/4"	M45x2-35	M52x2-38	1 1/4	G 1 1/4"	1 5/8-12		1 1/4-11,5	
24	40	1 1/2"	1 1/2"	M52x2-42		1 1/2	G 1 1/2"	1 7/8-12		1 1/2-11,5	
32	50	2"	2"			2	G2"	2 1/2-12		2-11,5	
40	65	2 1/2"				2 1/2		3-12			
48	80	3"				3		3 1/2-12			
56	90	3 1/2"				3 1/2					
64	100	4"				4					



Amerikanische Gewindeanschlüsse (NPTF und NPSM)

Um das Nennmaß des NPTF-Gewindes zu bestimmen, hält man das Ende des Gewindes gegen den passenden Kreis.

American national standard taper pipe threads (NPTF and NPSM)

To obtain the nominal dimension of an NPTF thread, place the threaded end on the appropriate circle and read the diameter.

Raccordement fileté américain (NPTF et NPSM)

Afin de déterminer la cote nominale du filetage NPTF il faut positionner l'extrémité du filetage sur le cercle qui convient.

Die Angaben in diesem Prospekt beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle. Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung. Technische Änderungen sind vorbehalten.

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

Les données de ce prospectus se réfèrent aux conditions de fonctionnement et d'utilisation décrites. Pour des conditions d'utilisation et de fonctionnement différentes, veuillez vous adresser au service technique compétent. Sous réserve de modifications techniques.

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Internet: www.hydac.com
E-Mail: info@hydac.com



Multi-Station Gauge Isolator MS / MSL



MS 2



MSL 2



MS 4



MS 6



MS 5



MS 7

1. DESCRIPTION

1.1. GENERAL

Multi-station gauge isolators are designed to check different pressures in a hydraulic system.

There are models with a built-in pressure gauge for different pressure ranges or models to which a separate pressure gauge can be connected.

If it is necessary for the system pressure to be retained during the measuring process, the leakage-free model must be used.

1.2. MULTI-STATION GAUGE ISOLATORS TYPE MS 2

with built-in pressure gauge, are designed to check up to 6 different pressures in a hydraulic system. The gauge is built directly into the selector knob, therefore eliminating the need for a separate gauge. The pressure can be read when the arrow on the rotary knob is pointing to one of the six measuring positions. By turning the knob each of the six measuring positions can be selected. Between each measuring position there is a zero position to relieve the gauge pressure. A built-in detent locks any selected position. Different gauges are available for different pressure ranges. The gauges are filled with a special damping fluid to prolong the gauge life.

1.3. MULTI-STATION GAUGE ISOLATORS TYPE MSL 2

with built-in pressure gauge, fulfil the same function as Type MS 2, however the measuring points are shut off leakage-free. The MSL 2 is suitable for hydraulic systems where the pressure must be retained and therefore a leakage-free gauge isolator must be used.

1.4. MULTI-STATION GAUGE ISOLATORS TYPE MS 4 / MS 6

without pressure gauge, are designed to check up to 6 or 9 different pressures in a hydraulic system. The gauge has to be mounted separately and must be connected to port M of the gauge isolator by means of a pipe or hose. The pressure can be read when the arrow on the rotary knob is turned to one of the measuring positions and pushed against a spring force in an axial direction. When the knob is released it returns to its original position and the gauge is connected to the tank port. A built-in detent locks any of the selected positions.

1.5. MULTI-STATION GAUGE ISOLATORS TYPE MS 5 / MS 7

without pressure gauge, are designed to check up to 5 or 8 different pressures in a hydraulic system. The gauge has to be mounted separately and must be connected to port M of the gauge isolator by means of a pipe or hose. The pressure can be read when the arrow on the rotary knob is pointing to one of the measuring positions. By turning the rotary knob each of the measuring positions can be selected. An additional 0 position allows pressure from the gauge to be released to the tank. A built-in detent locks any of the selected positions.

2. TECHNICAL SPECIFICATIONS

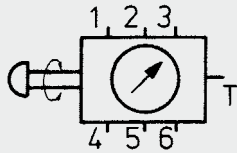
to VDI 3267

2.1. GENERAL

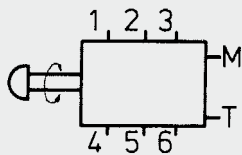
2.1.1 Designation and Symbol

Multi-station gauge isolator

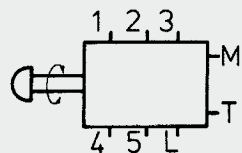
Type MS 2/MSL 2



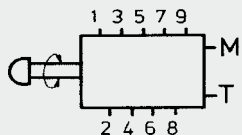
Type MS 4



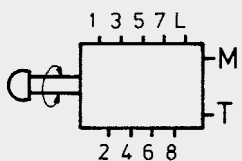
Type MS 5



Type MS 6



Type MS 7



2.1.2 Model code (also order example)

MSL 2 A 2 . 0 / 315 .

Multi-station gauge isolator

MS
MSL

with built-in pressure gauge

Type of connection

A = G 1/4

G = 1/4 NPTF

H = 7/16 - 20 UNF

only for MSL

Type code

Modification number

Scale

40 = max. eff. indication range 40 bar / 570 psi (Scale 63 bar / 900 psi)

63 = max. eff. indication range 63 bar / 900 psi (Scale 100 bar / 1400 psi)

100 = max. eff. indication range 100 bar / 1400 psi (Scale 160 bar / 2300 psi)

180 = max. eff. indication range 180 bar / 2600 psi (Scale 250 bar / 3600 psi)

315 = max. eff. indication range 315 bar / 4500 psi (Scale 400 bar / 5700 psi)

Supplementary details

V = Viton seals

D = Connection for external pressure gauge

(only for MSL without built-in pressure gauge)

Multi-station gauge isolator

MS 4 A 2 . 0 / .

Type

4 = turn and press to read (6 positions)

5 = turn to read (5 positions)

6 = turn and press to read (9 positions)

7 = turn to read (8 positions)

Type of connection

A = threaded connections for inline mounting

Type code

Modification number

Supplementary details

V = Viton seals

12 = 7/16 x 20 UNF - MS 4/5

2.1.3 Mounting method

Flange mounting

4 screws M 6 ISO 4762

2.1.4 Connections

MS 2/MSL 2/MS 4/MS 5

G 1/4 (ISO 228)

MS 6/MS 7

G 1/8 (ISO 228)

MS 2/MSL 2

6 measuring points

1 tank connection

MS 4/MS 6

6/9 measuring points

1 gauge connection = M

1 tank connection = T

MS 5/MS 7

5/8 measuring points

1 gauge connection = M

1 tank connection = T

1 leakage connection = L

2.1.5 Weight

MS 2/MSL 2: 1.7 kg

MS 4/MS 5: 1.4 kg

MS 6/MS 7: 1.9 kg

2.1.6 Mounting position

Optional

2.1.7 Operating fluid

Mineral oil to DIN 51524

and DIN 51525

Special fluids on request.

2.2. HYDRAULIC TECHNICAL DATA

2.2.1 Operating pressure range

MS 2/MSL 2

Max. permitted operating pressure at measuring points 1 to 6: depending on permitted indicator range of gauge

= p_{max} up to 315 bar

Tank connection = p_{max} 10 bar.

MS 4/MS 5/MS 6/MS 7

Max. permitted operating pressure at the measuring points

= p_{max} 315 bar

Tank connection and

leakage connection = p_{max} 10 bar.

2.2.2 Temperature range of operating medium

-20 °C... +70 °C

2.2.3 Gauge accuracy

MS 2/MSL 2

The accuracy of the built-in gauge is 1.6% of the red scale value at 20 °C.

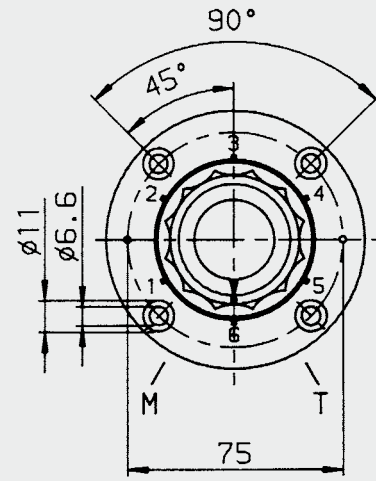
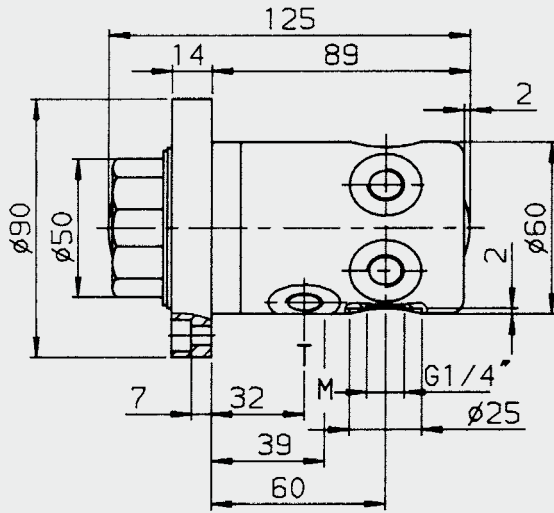
Inaccuracy per 10 °C temperature

increase approx. +0.3%

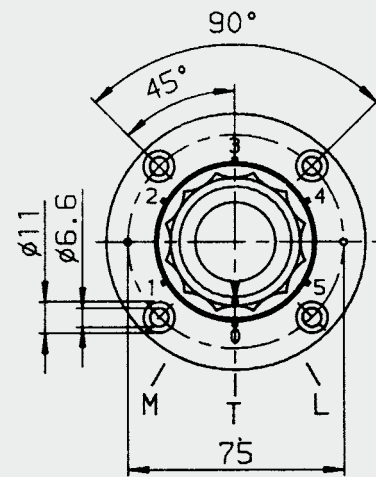
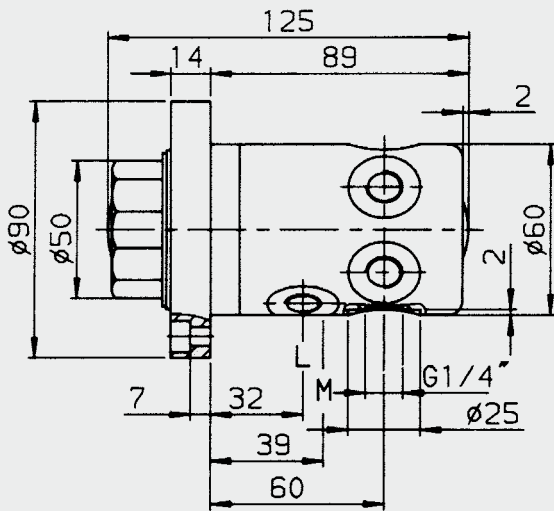
and per 10 °C temperature decrease

approx. -0.3% of the red scale value.

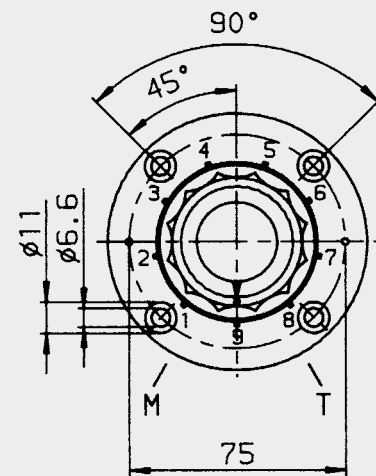
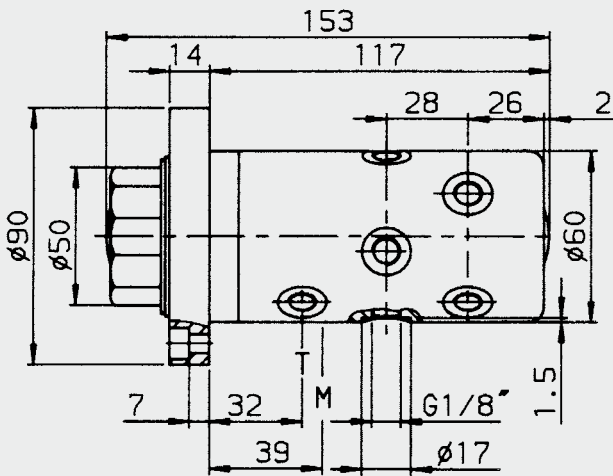
TYPE MS 4



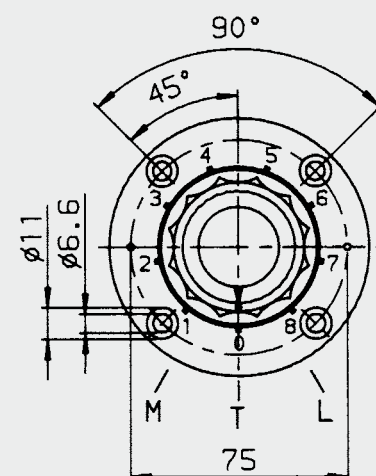
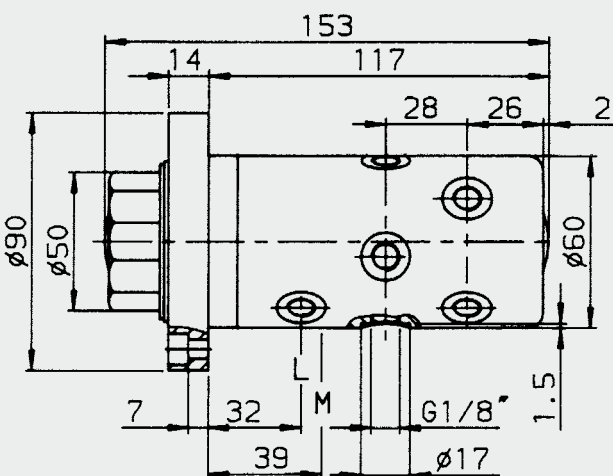
TYPE MS 5



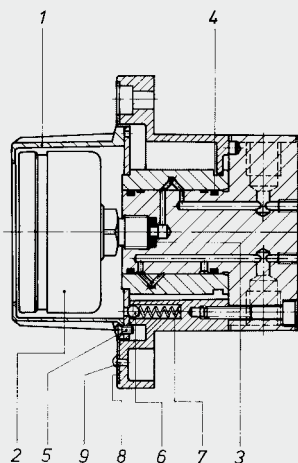
TYPE MS 6



TYPE MS 7



4. SPARE PARTS MS 2



Item	Qty.	Description
1	1	Rotary knob
2	1	Gauge
3	1	Seal ring
4	2	Quad rings
5	3	Slotted head screws M3 x 6 DIN 964 - 5.8
6	1	Ball 5 mm DIN 5401 Class III
7	1	Spring
8	1	Scale plate
9	2	Rivets 2 x 6 DIN 1476

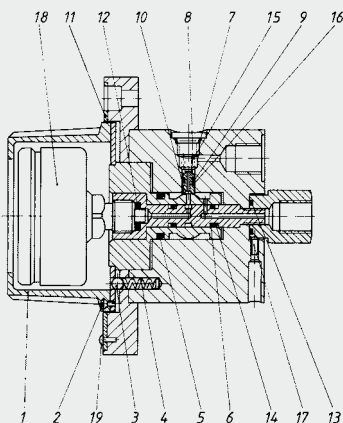
ORDER EXAMPLE

Type MS 2 A 2 . 0 / 315 .

1 off seal ring, item 3

(When ordering, always quote the whole model code of the unit)

SPARE PARTS MSL 2



Item	Qty.	Description
1	1	Rotary knob
2	3	Slotted head screws M 3 x 5 DIN 964
3	1	Ball 5 mm DIN 5401 Class III
4	1	Spring
5	1	O-ring 15 x 2.5
6	2	O-ring 6 x 2
7	6	O-ring 8.5 x 1.5
8	6	Locking screws G 1/8 DIN 908
9	6	O-ring 2 x 1.6
10	6	Seals
11	1	Scale plate
12	1	Seal ring
13	1	O-ring 9.25 x 1.78
14	2	Support rings
15	6	Springs
16	6	Support rings
17	1	Grub screw M 4 x 10 DIN 914
18	1	Pressure gauge
19	2	Rivets 2 x 6 DIN 1476

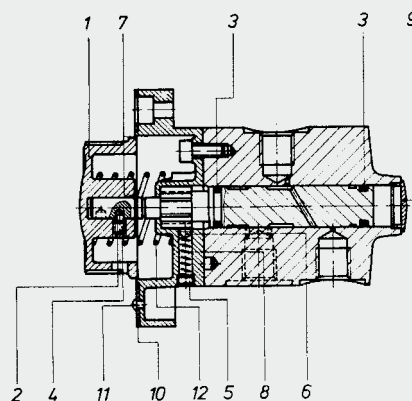
ORDER EXAMPLE

Type MSL 2 A 2 . 0 / 315 .

1 off seal ring, item 12

(When ordering, always quote the whole model code of the unit)

SPARE PARTS MS 4



Item	Qty.	Description
1	1	Rotary knob
2	1	Disc
3	2	Quad rings
4	1	Grub screw M 5 x 8 DIN 417
5	1	Grub screw M 6 x 4 DIN 557
6	1	Ball 5 mm DIN 5401 Class III
7	1	Retainer 8 x 0.8 DIN 471
8	1	Spring
9	1	End cap
10	1	Scale plate
11	2	Rivets 2 x 6 DIN 1476
12	1	Spring

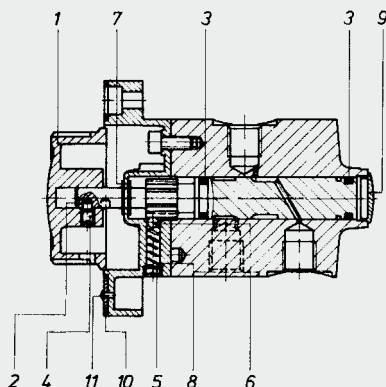
ORDER EXAMPLE

Type MS 4 A 2 . 0 / .

1 off quad ring item 3

(When ordering, always quote the whole model code of the unit)

SPARE PARTS MS 5



Item	Qty.	Description
1	1	Rotary knob
2	1	Disc
3	2	Quad rings
4	1	Grub screw M 5 x 8 DIN 417
5	1	Grub screw M 6 x 4 DIN 557
6	1	Ball 5 mm DIN 5401 Class III
7	2	Retainers 8 x 0.8 DIN 471
8	1	Spring
9	1	End cap
10	1	Scale plate
11	2	Rivets 2 x 6 DIN 1476

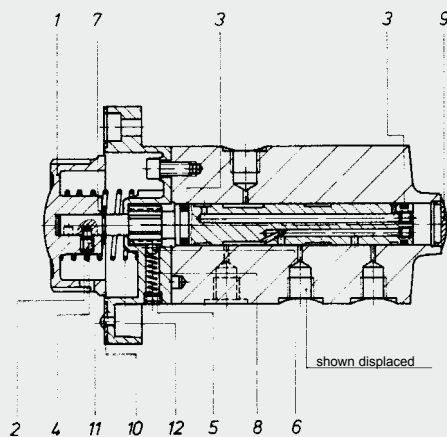
ORDER EXAMPLE

Type MS 5 A 2 . 0 / .

1 off quad ring, item 3

(When ordering, always quote the whole model code of the unit)

SPARE PARTS MS 6



Item	Qty.	Description
1	1	Rotary knob
2	1	Disc
3	2	Quad rings
4	1	Grub screw M 5 x 8 DIN 417
5	1	Grub screw M 6 x 4 DIN 557
6	1	Ball 5 mm DIN 5401 Class III
7	1	Retainer 8 x 0.8 DIN 471
8	1	Spring
9	1	End cap
10	1	Scale plate
11	2	Rivets 2 x 6 DIN 1476
12	1	Spring

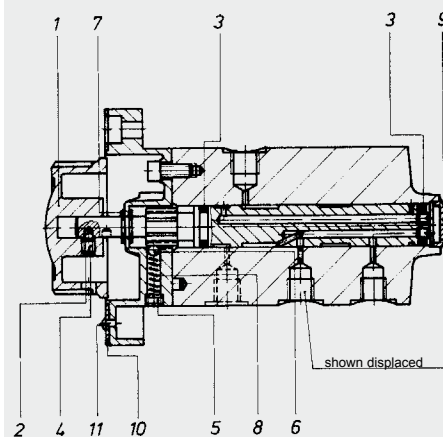
ORDER EXAMPLE

Type MS 6 A 2 . 0 / .

1 off quad ring, item 3

(when ordering, always quote the whole model code of the unit)

SPARE PARTS MS 7



Item	Qty.	Description
1	1	Rotary knob
2	1	Disc
3	2	Quad rings
4	1	Grub screw M 5 x 8 DIN 417
5	1	Grub screw M 6 x 4 DIN 557
6	1	Ball 5 mm DIN 5401 Class III
7	2	Retainers 8 x 0.8 DIN 471
8	1	Spring
9	1	End cap
10	1	Scale plate
11	2	Rivets 2 x 6 DIN 1476

ORDER EXAMPLE

Type MS 7 A 2 . 0 / .

1 off quad ring item 3

(When ordering, always quote the whole model code of the unit)

MOUNTING INSTRUCTIONS

Taking into account the operating forces, it is recommended that measuring points with pressures of more than 100 bar are arranged symmetrically. Ports not required should be plugged.

Required oil cleanliness class for MSL:
NAS 1638-9 ISO DIS 4406-18/14

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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Single Station Gauge Isolator MA

1. DESCRIPTION

Long life and continuous accuracy can be achieved if pressure gauges are only pressurised for the time it takes to read the pressure. For the rest of the time the gauge isolator isolates the pressure gauge and the gauge is automatically vented to the tank. This then protects the gauge from possible pressure surges from the system.

This is possible with the HYDAC Single Station Gauge Isolator.

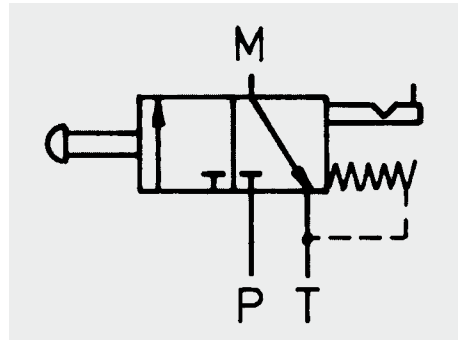
It can be operated in two ways:

- A) Push button:
the pressure is indicated as long as the button is depressed.
- B) Push button and turn clockwise through 90°:
this locks the pressure indication until the button is released.

2. TECHNICAL SPECIFICATIONS

2.1. GENERAL

2.1.1 **Designation/Symbol**
Single Station Gauge Isolator



2.1.2 **Mounting method**

Panel mounting
(max. 10 mm panel thickness)

2.1.3 **Connections**

G 1/4" (for M, P, T)

2.1.4 **Weight**

Approx. 0.4 kg

2.1.5 **Mounting position**

Optional

2.1.6 **Operating fluid**

Mineral oil

Other fluids on request

Special models and surface treatments on request

Oil cleanliness class

NAS 1638-9

ISO DIS 4406-18/14

2.1.7 Model code
(order example)

MA 1 A 1 0 / V

Single Station Gauge Isolator _____

Design _____

1 = push & turn button

Type of connection _____

A = threaded connection

Type code _____

Modification number _____

Supplementary details _____

5 = NPT thread 1/4"

V = Viton seals

(no code for standard = Perbunan)

2.2. HYDRAULIC DATA

2.2.1 Operating pressure

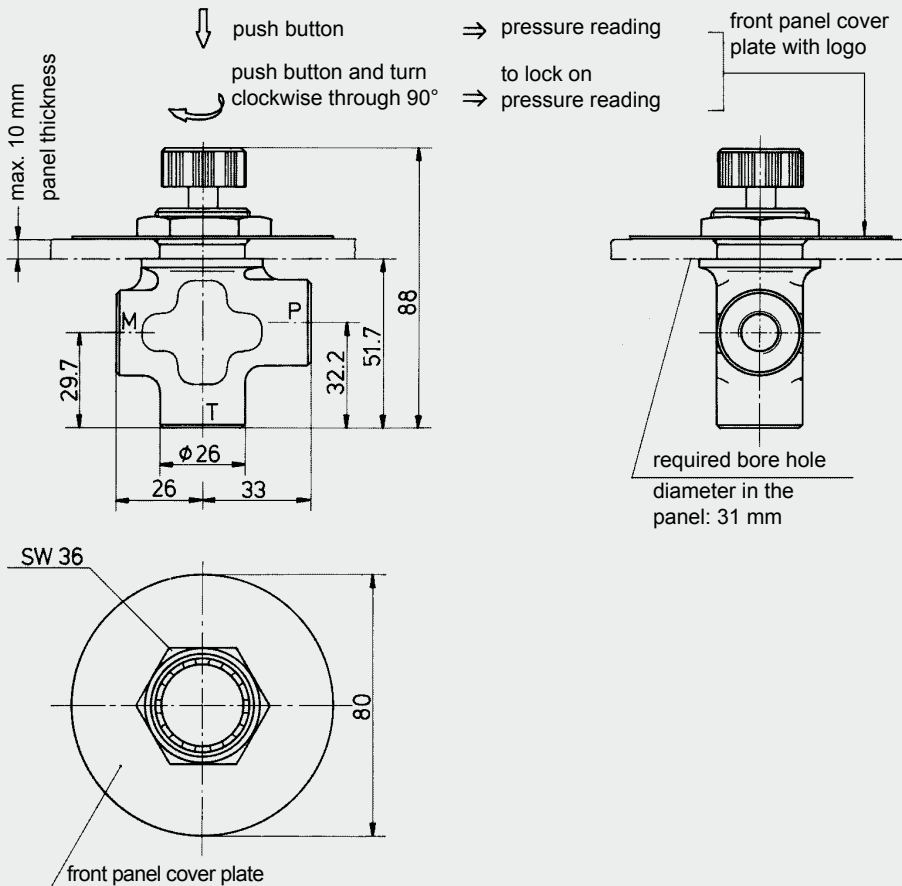
max. 350 bar

(port T: max. 10 bar)

2.2.2 Temperature range of operating fluid

- 20 °C ... + 80 °C

3. DIMENSIONS



4. NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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Fluid Level Gauge Fluid Level Sensor Temperature Switch

FSA / FSK / TS

up to size 381, up to PN 0.5 bar, up to T = 80 °C

1. DESCRIPTION

1.1. GENERAL

FSA fluid level gauges, FSK fluid level sensors and TS temperature switches are designed to monitor and control the level of operating fluid.

The flexible product range means that many combinations are possible:

- FSA: Range of five sizes.
Visual thermometer with °C and °F scale.
Temperature gauge which records the temperature of the operating fluid in the tank. Scale in °C. Dual scale in °C and °F available on request.
Simple, standardised mounting (FSA/K).
- FSK: Range of four sizes.
Switching contact can be either type O (opens when fluid is at low level), type C (closes when fluid is at low level) or type W (dual switching unit).
Temperature gauge which records the temperature of the operating fluid in the tank. Scale in °C. Dual scale in °C and °F available on request.
- FSK-2SP: Monitoring of the minimum or maximum fluid level.
Two additional alternative switching points for size 254 and above.
Option: line marking on sight tube and float.
Better visual fluid level monitoring possible with red float.
Simple, standardised mounting (FSA/K).
- TS: three nominal temperatures possible: 60 °C, 70 °C and 80 °C.
Can be easily fitted into the FSA and FSK.
Simple, standardised mounting (FSA/K).
Non-corroding surfaces.

1.2. FUNCTION

FSA

By using the FSA, the fluid level can be easily seen on the outside of the tank. The fluid enters the unit via the lower connection bore and is clearly visible in the tube. By selecting the right size, the particular fluid level can be monitored.

FSK

By using the FSK, the fluid level is monitored via an electrical switching signal. This switching signal can be used as an alarm or to adjust the fluid level. The fluid enters the unit via the lower connection bore and pushes the float up the tube. The float now shows the level of the fluid in the tank. If the level of the fluid drops again, the float activates a switching contact. On type C the circuit is then closed, on type O the circuit is then open.

The special dual switching model (type W) offers two possibilities. It can be used either to close on contact or to open on contact.

TS

The TS is a very useful additional option to the FSA and FSK products. However, it also has a useful application as a separate accessory for systems.

Once fitted, the temperature sensor of the TS is surrounded by operating fluid. When the nominal temperature is reached, a contact opens and the circuit is broken.

This switching process can be used either as an alarm or to monitor the temperature.

When the temperature of the fluid drops by approx. 15 K, the circuit closes again.

1.3. APPLICATION

Fluid level gauges FSA, fluid level sensors FSK and temperature switches TS are used to monitor and control levels of operating fluid.

Areas of application are for example: Machine tools, system engineering, tanks for hydraulic, lubricating and cutting oils, and gearboxes.

1.4. NOTES

The upper viscosity limit is 2,000 mm²/s. It is not possible to combine a temperature switch TS with an FT temperature gauge.

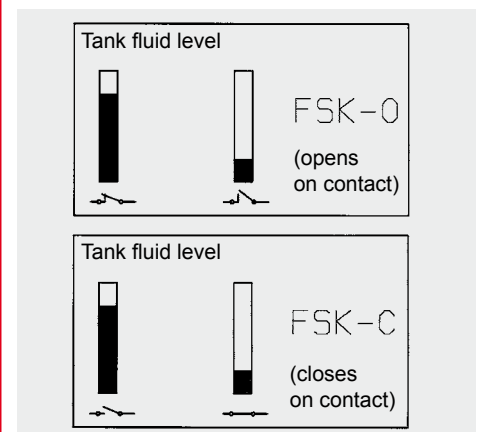
To ensure correct functioning, pressure, viscosity and temperature specifications must be observed.

FSA/FSK

Not suitable for use with glycol or fluids containing glycol.

FSK

Depending on the fluid level of the tank, the following switching logic applies.



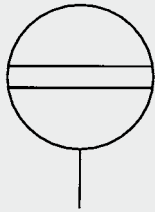
In the FSK type O the switching contact opens when the fluid level drops below the switching level. Correspondingly, in the FSK type C, the switching contact closes when the fluid level drops below the switching level.

2. TECHNICAL SPECIFICATIONS

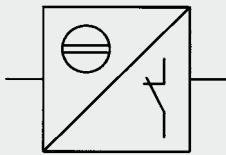
2.1. GENERAL

2.1.1 Designation and symbol

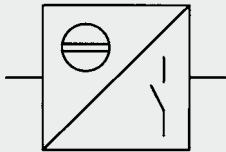
Fluid level gauge FSA



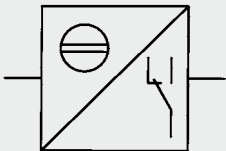
Fluid level sensor FSK



O - N/C contact

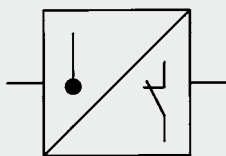


C - N/O contact



W - N/O or N/C contact

Temperature switch TS



2.1.2 Model codes

Model code for FSA

(also order example)

FSA - 076 - 2 . X / FT200 / 12 ...

Fluid level gauge

Size

≅ centre distance of bolts

076

127

176

254

381

Material of seals

1 = NBR (Perbunan)

2 = FKM (Viton)

Series

(determined by manufacturer)

Additional thermometer function

- = no additional function

T = temperature gauge in display tube

FF = prepared for temperature gauge

FT 200 = temperature gauge 200 mm

FT 300 = temperature gauge 300 mm

TS 60 = temperature switch nominal temperature 60 °C

TS 70 = temperature switch nominal temperature 70 °C

TS 80 = temperature switch nominal temperature 80 °C

Mounting

Banjo bolt thread

M 12 (standard)

M 10 (not on TS)

Special models

SO2 = with glass tube, end caps in aluminium and round shape

SO7 = housing, mounting bolts and nuts in stainless steel (1.4571)

SO8 = mounting bolts and nuts in stainless steel (1.4571)

SO14 = with glass tube, end caps in plastic (PA)

SO19 = with green banjo bolt, without label

SO65 = FSA - standard, but without mounting nuts and washers

SO67 = FSA - standard, but without mounting nuts

Model code TS

(also order example)

TS - 70 / X / 12

Temperature switch

TS - temperature switch (for FSA)

TS-L - temperature switch long (for FSK)

Nominal temperature

60 °C

70 °C

80 °C

Series

(determined by manufacturer)

Banjo bolt thread

M 12

Model code FSK

(also order example)

FSK - 127 - 2 . X / O / FT200 / 12 / ...**Fluid level sensor****Size**

≅ centre distance of bolts

127
176
254
381**Material of seals**

2 = FKM (Viton)

Series

(determined by manufacturer)

Switching functionO = opens at the switching level
C = closes at the switching level
W = opens or closes at the switching level
(connector Z4 = standard)**Additional thermometer function**- = no additional function
FT 200 = temperature gauge 200 mm
FT 300 = temperature gauge 300 mm
TSL 60 = temperature switch nominal temperature 60 °C
TSL 70 = temperature switch nominal temperature 70 °C
TSL 80 = temperature switch nominal temperature 80 °C**Mounting**Banjo bolt thread
M 12 (standard)
M 10 (not on TS)**Connection**No details = 3 pole MPM (standard)
Z4 = 4 pole Hirschmann
SEW = 4 pole M12x1 (sensor connection horizontal)
SES = 4 pole M12x1 (sensor connection vertical)
Form B = special connection**Model code FSK-2SP**

(also order example)

FSK - 127 - 1 . O / W / - / 12 / 2SP**Fluid level sensor**

FSK = Fluid level sensor

Size

≅ centre distance of bolts

127
176
254
381**Material of seals**1 = NBR (Perbunan)
2 = FKM (Viton)**Series**

(determined by manufacturer)

Switching function

W = opens or closes at the switching level

Additional thermometer function

- = no additional function (standard)

Mounting

12 = M12 (banjo bolt thread)

Switching points

2SP = 2 switching points (1 x minimum, 1 x maximum)

Connector (standard)

5 pole M12x1 (sensor)

2.1.3 Type of construction

The units are designed to be mounted directly on to the operating fluid tank.

2.1.4 Type of connection

FSA / FSK

The unit is mounted using two banjo bolts. The connection bores can either be threaded holes or clearance holes ($\varnothing 13, \varnothing 11$).

TS

The temperature switch can be fitted to the FSA/FSK in place of the lower banjo bolt.

2.1.5 Mounting position

FSA – vertically on the tank wall

FSK – vertically on the tank wall
(connection plug at the bottom of the tank)

TS – instead of lower banjo bolt
M12 (FSA)

TS-L – instead of lower banjo bolt
M12 (FSK)

2.1.6 Weight

FSK 127 – 0.21 kg

FSK 176 – 0.23 kg

FSK 254 – 0.26 kg

FSK 381 – 0.30 kg

FSA 076 – 0.17 kg

FSA 127 – 0.19 kg

FSA 176 – 0.21 kg

FSA 254 – 0.24 kg

FSA 381 – 0.29 kg

TS-... – 0.11 kg

TS-L-... – 0.13 kg

FT 200 – 0.03 kg

FT 300 – 0.04 kg

2.1.7 Flow direction

Optional

2.1.8 Ambient temperature

- 20 °C to + 80 °C

2.1.9 Materials

FSA / FSK

- End caps and tube in high quality synthetic material
- Housing in aluminium
- Soft seals in Viton (FKM) or Perbunan (NBR)
- Bolts, nuts and washers in steel (zinc-plated)
- Plug connections in high quality synthetic material (FSK)

FSK – 2SP

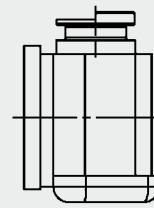
- End caps and housing in aluminium

- Tube in glass

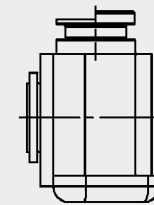
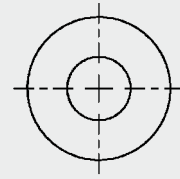
TS / TS-L

- Housing with temperature sensor, washer and nut in steel (zinc-plated)
- Plug connections in high quality synthetic material

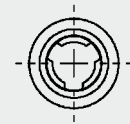
2.1.10 FSA seal types



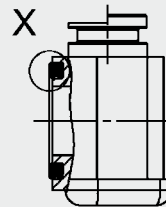
Flat seal (standard)



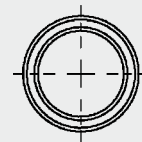
Bonded Seal



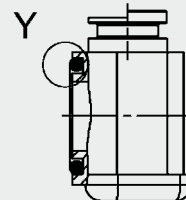
X 2 : 1



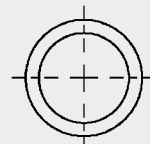
Quad ring



Y 2 : 1



O-ring



2.2. HYDRAULIC DATA

2.2.1 Nominal pressure

max. 0.5 bar

2.2.2 Operating fluids

Mineral oil to DIN 51524 Part 1 and 2, water-oil emulsions and synthetic fluids, such as hydraulic fluids based on phosphate ester.

(other fluids on request)

2.2.3 Temperature of operating fluid

- 20 °C to + 80 °C

2.2.4 Scale range of thermometer

FSA / FSK

Thermometer T for FSA:

+ 20 °C to + 80 °C

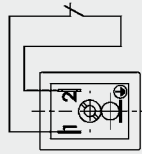
Thermometer FT for FSA / FSK:

0 °C to + 100 °C

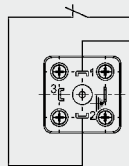
2.3. ELECTRICAL DATA FSK

2.3.1 Electrical functions

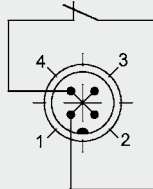
Type O / Opens on contact
opens when fluid at switching level



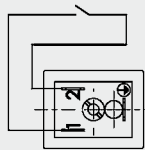
Type O / Opens on contact
(Hirschmann plug Z4 and Form B)
opens when fluid at switching level



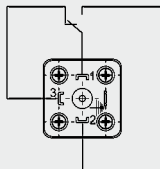
Type O / Opens on contact
(Sensor plug - SEW)
opens when fluid at switching level



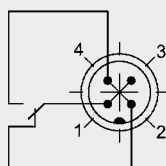
Type C / Closes on contact
closes when fluid at switching level



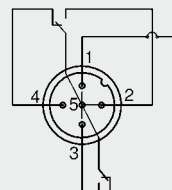
Type W / Dual switching unit
(Hirschmann plug Z4 and Form B)
opens or closes when fluid at switching level



Type W / Dual switching unit
(Sensor plug - SEW)
opens or closes when fluid at switching level



FSK-2SP



Type W / Dual switching unit
When delivered, switching point at bottom is activated by magnetic field. For the closed circuits, see table below:

Contact assignment	bottom switch	top switch
Float setting		
Minimum	5 - 3	5 - 4
Maximum	5 - 1	5 - 2

2.3.2 Contact load

Max. 8 W

2.3.3 Switching voltage

50 V AC / DC

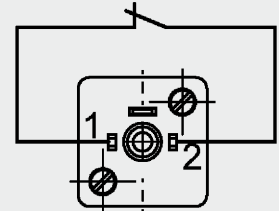
2.3.4 Switching current

0.2 A

2.4. ELECTRICAL DATA TS / TS-L

2.4.1 Electrical function

opens on contact



2.4.2 Switching power

2.5 A/50 V - 10,000 switch operations

0.5 A/50 V - 100,000 switch operations

2.4.3 Minimum switching current

50 mA

2.4.4 Switching tolerance

± 5 K

2.4.5 Switching hysteresis

Opens on contact

60 °C - 10-15 K

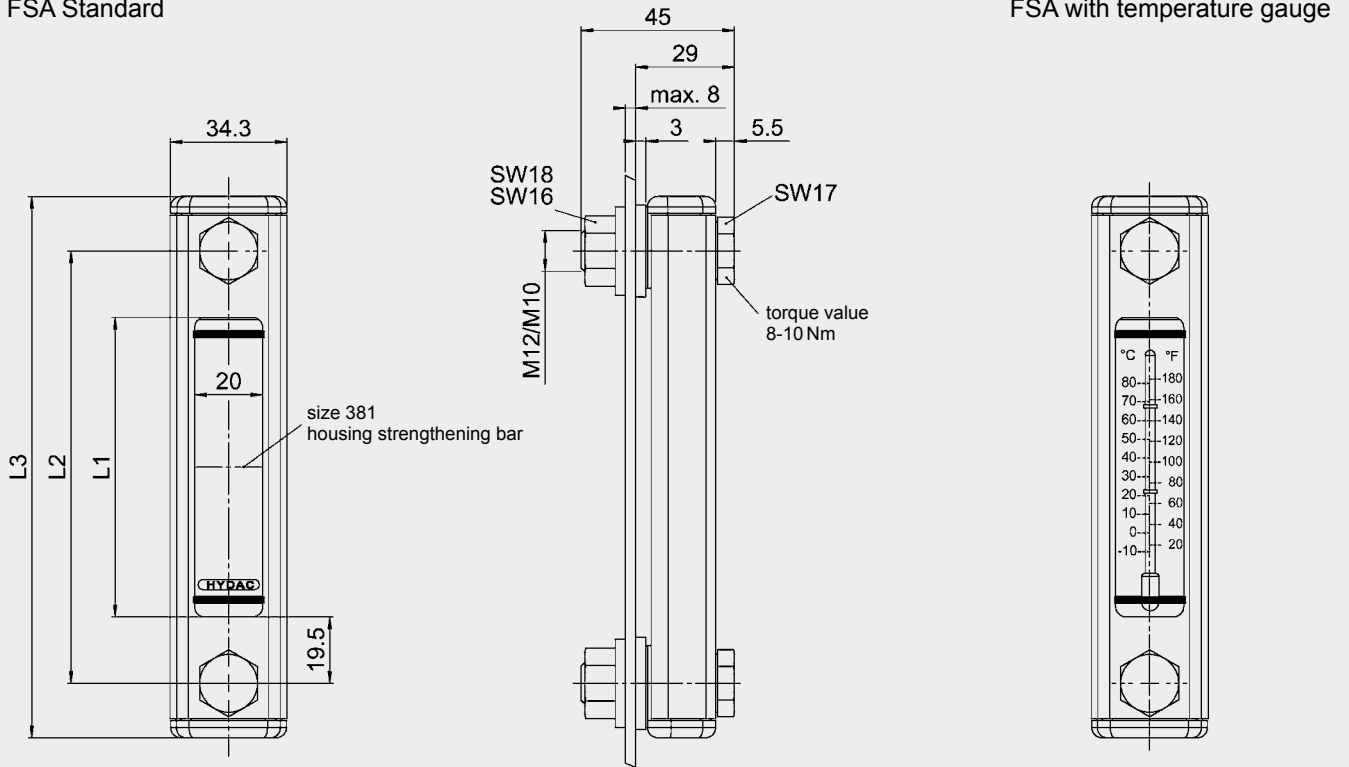
70 °C - 10-15 K

80 °C - 15-20 K

3. DIMENSIONS

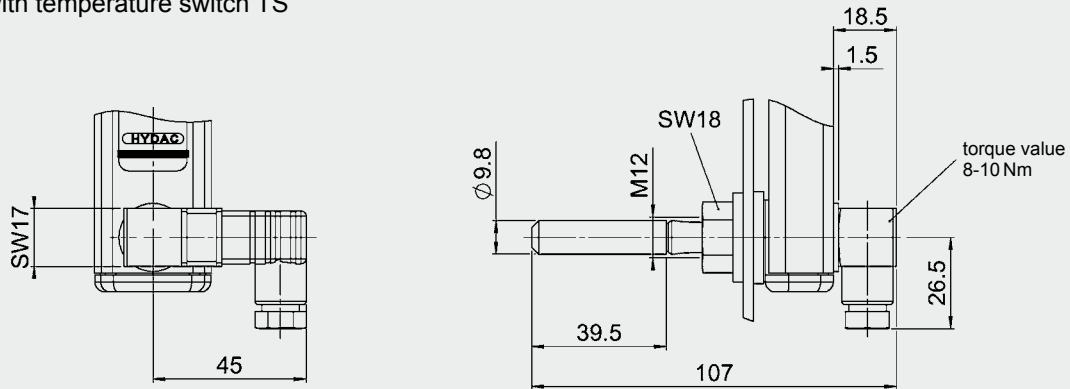
3.1. FLUID LEVEL GAUGE FSA

FSA Standard

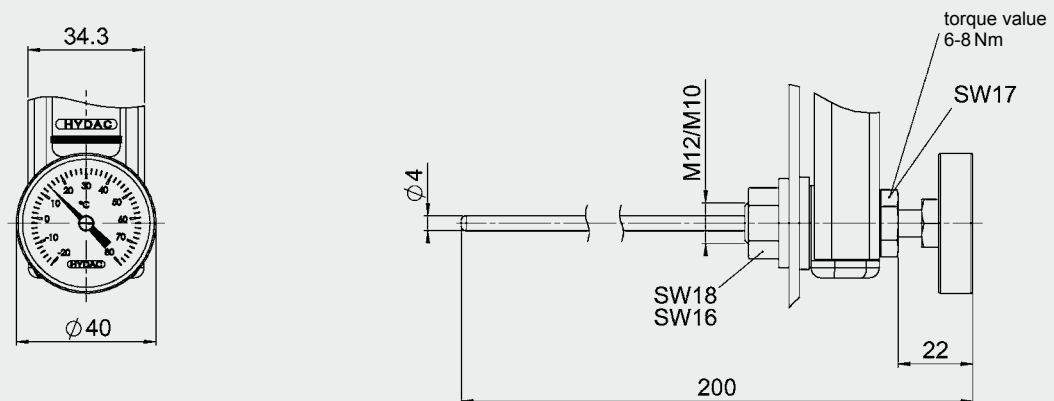


FSA with temperature gauge

FSA with temperature switch TS



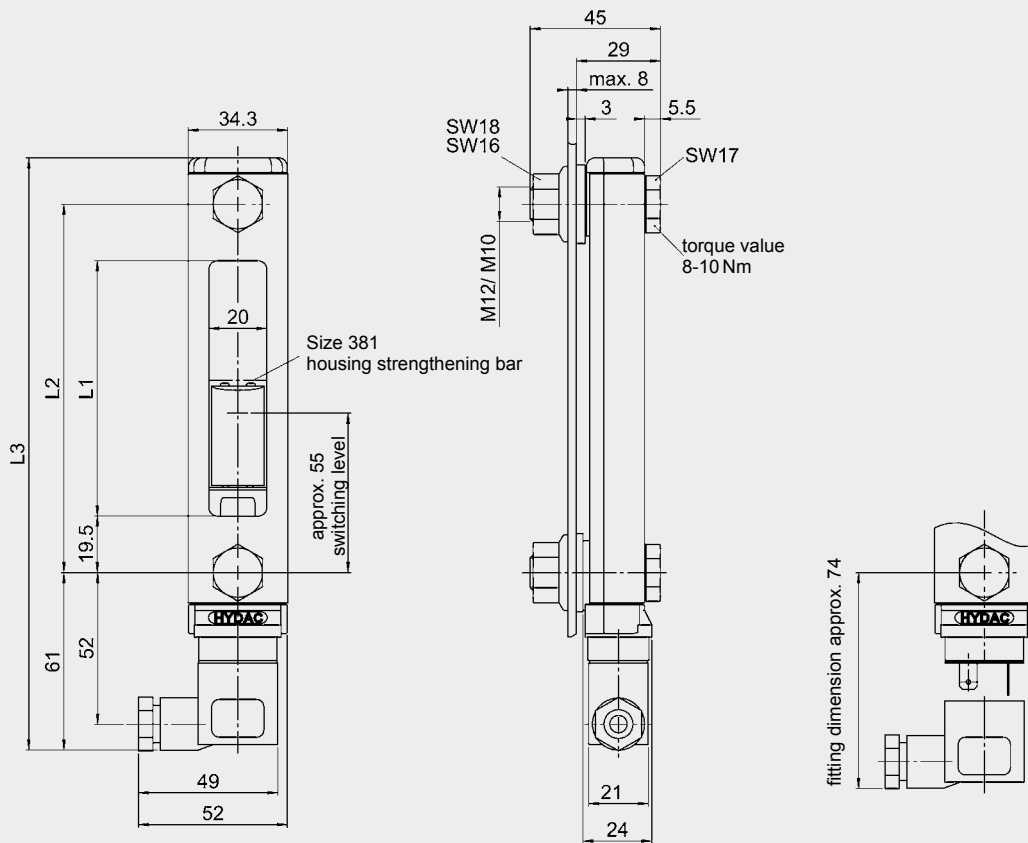
FSA / FSK with temperature gauge



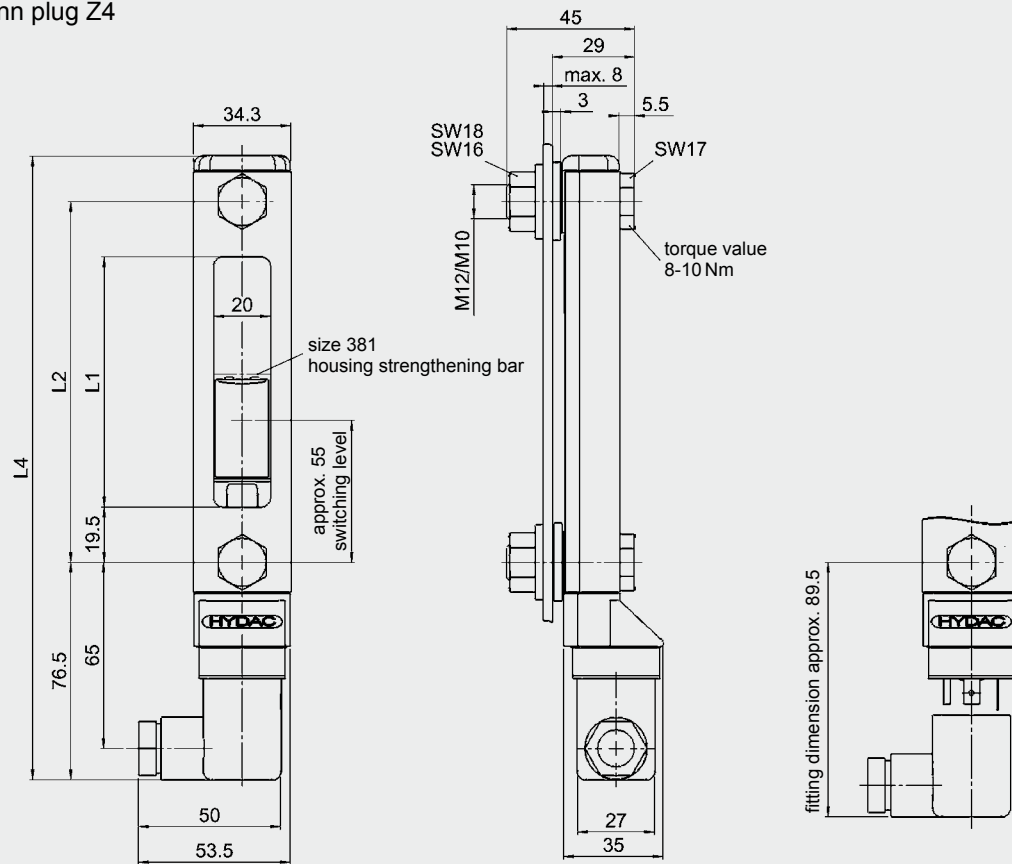
Size = centre distance of bolts	L3	L1	L2
76	107	37	76
127	158	88	127
176	207	137	176
254	285	215	254
381	412	342	381

3.2. FLUID LEVEL SENSOR FSK

FSK Standard

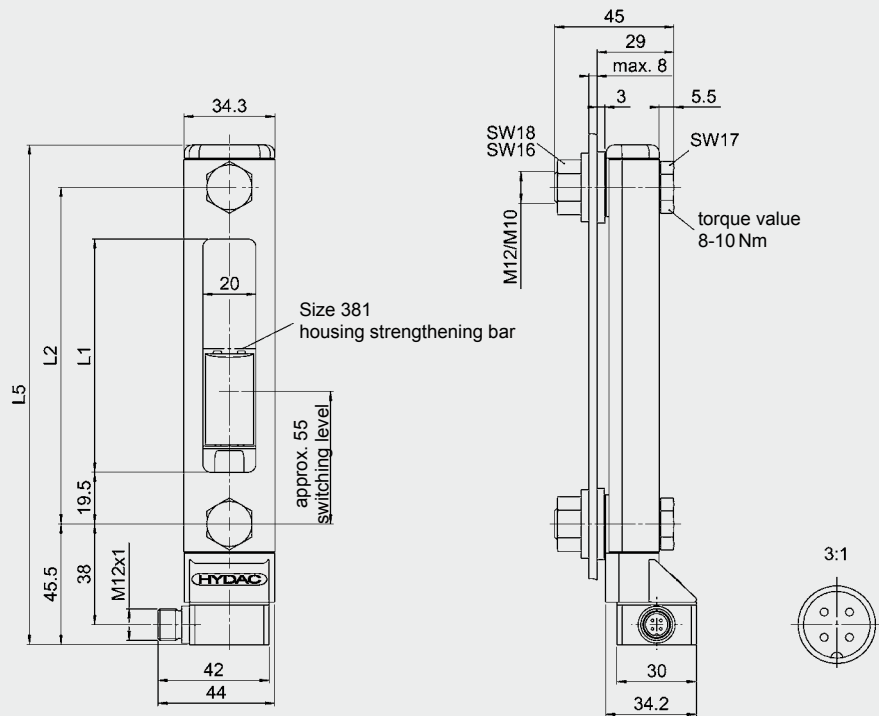


FSK Hirschmann plug Z4

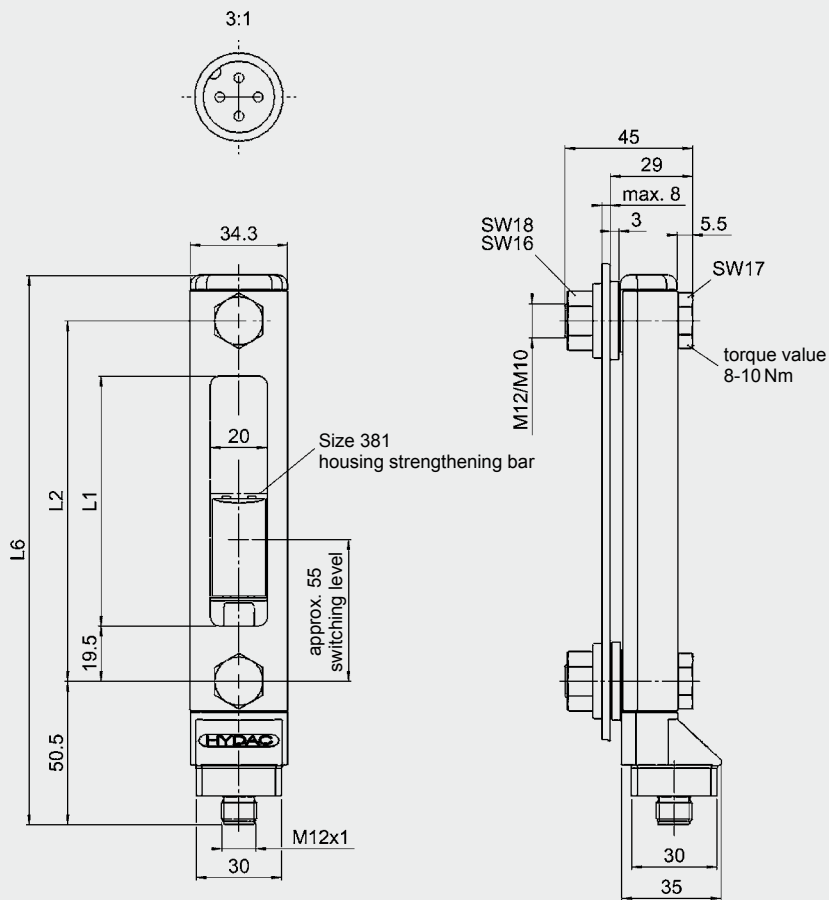


Size = centre distance of bolts	L1	L2	L3	L4
127	88	127	215	219
176	137	176	264	268
254	215	254	347	351
381	342	381	474	478

FSK sensor connection SEW-M12x1 horizontal

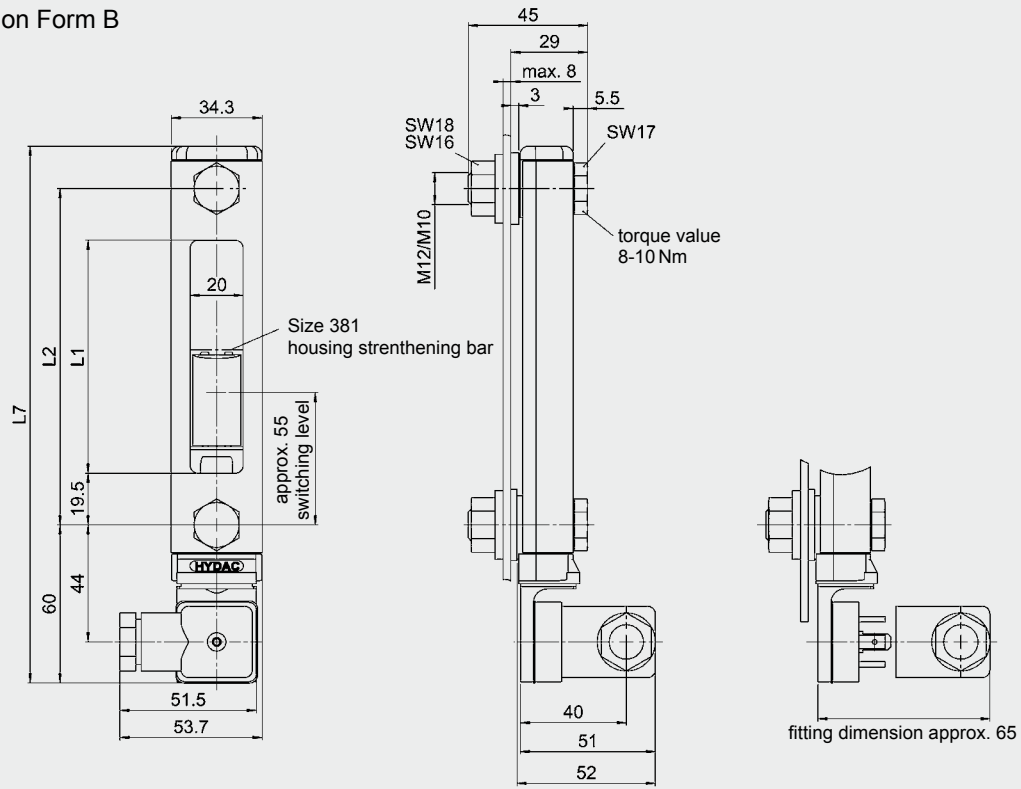


FSK sensor connection SES-M12x1 vertical



Size = centre distance of bolts	L1	L2	L5	L6
127	88	127	188	194
176	137	176	237	243
254	215	254	315	321
381	342	381	442	448

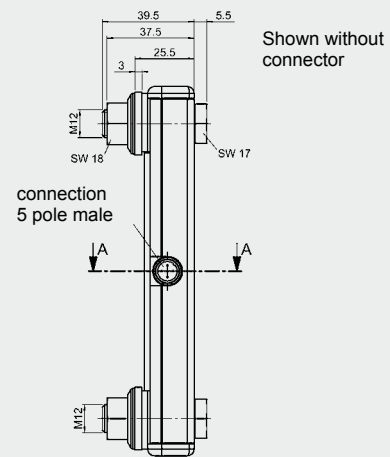
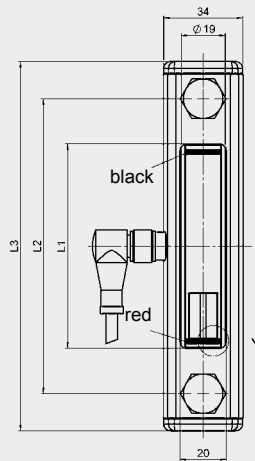
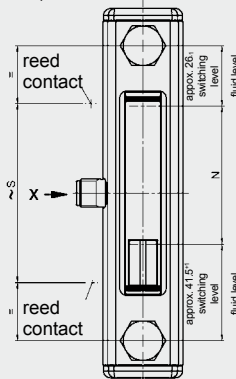
FSK male connection Form B



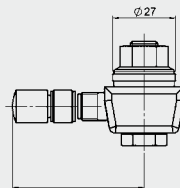
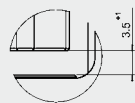
Size = centre distance of bolts	L1	L2	L7
127	88	127	203
176	137	176	352
254	215	254	330
381	342	381	457

FSK with two switching points

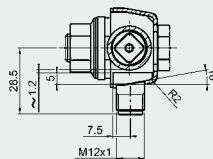
view of switching level MIN-MAX
(shown without connector)



Y (3:1)
shown without label

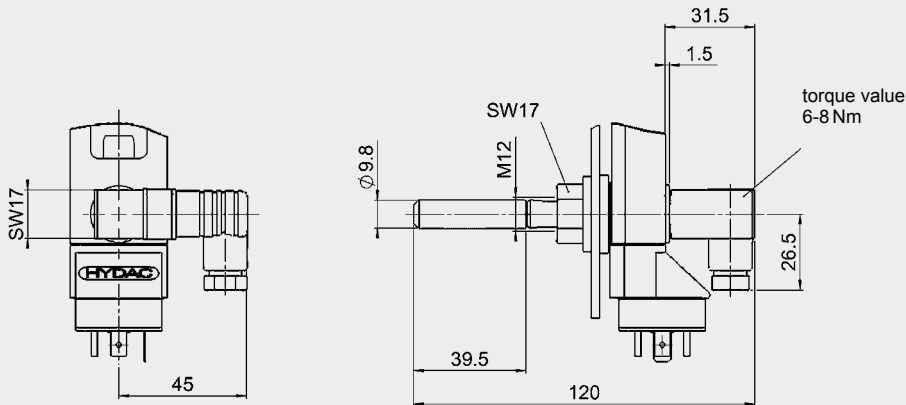


A-A
shown without end
cap or connector



Type	Size	L1	L2	L3	N	approx. S
FSK-127-2.0/WI-/12/2SP	127	88	127	159	59.5	77
FSK-176-1.0/WI-/12/2SP	176	137	176	208	108.5	126
FSK-254-1.0/WI-/12/2SP	254	215	254	286	186.5	204
FSK-381-1.0/WI-/12/2SP	381	342	318	413	313.5	331

FSK with temperature switch TS-L

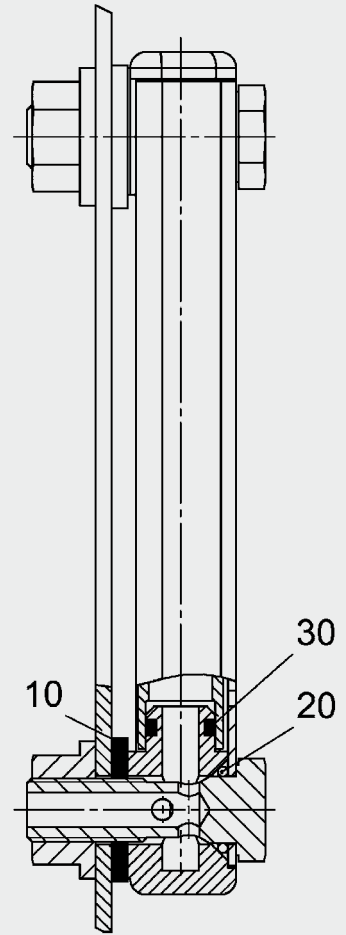


3.3. TEMPERATURE SWITCH TS / TS-L

See FSA with TS fitted
See FSK with TS-L fitted

4. SPARE PARTS

4.1. SEAL KIT



Seal kit	Order no. = Part number
FSA - 76 - 381 - 1.X / - /12 NBR	704 616
FSA - 76 - 381 - 2.X / - /12 FKM	704 627
FSA - 76 - 381 - 1.X / - /10 NBR	3248767
FSA - 76 - 381 - 2.X / - /10 FKM	3395614

5. NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC Accessories GmbH
Hirschbachstr. 2
66280 Sulzbach/Saar
Tel.: +49 (0)6897 - 509-1001
Fax: +49 (0)6897 - 509-1009
Internet: www.hydac.com
E-Mail: info@hydac.com

HYDAC INTERNATIONAL



HYDAC Accessories: Buyer's Guide

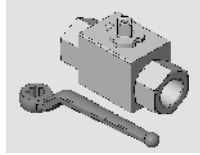


**Order direct
by telephone, fax or e-mail.**

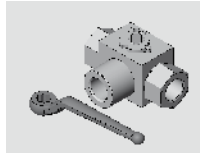
The benefits to you:

- Products immediately available,
- Easy to order using Part Number,
- Renowned "Made in Germany" quality,
- Over 40 years' experience in hydraulics.

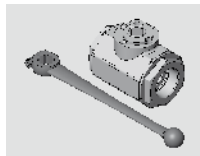
**HYDAC Accessories:
Product Range Overview**



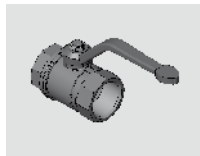
High Pressure Ball Valves,
Steel



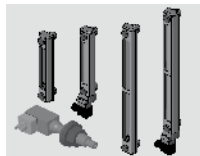
Change-Over Ball Valves,
Steel



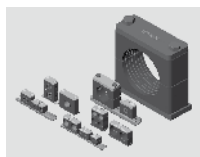
High Pressure Ball Valves,
Stainless steel



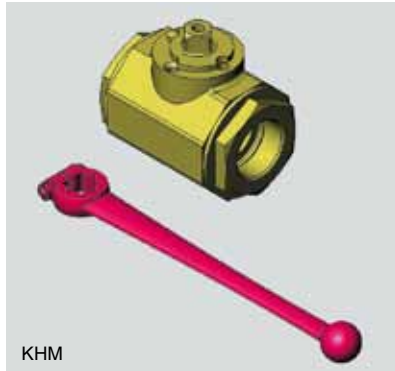
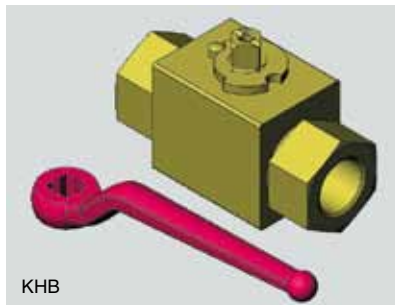
Low Pressure Ball Valves



Gauges, Switches



Mounting Clamps,
Overview



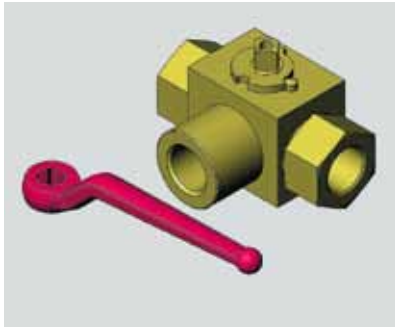
HYDAC Accessories: High Pressure Ball Valves, Steel

2/2-Way Ball Valve KHB / KHM Steel

Features:

- ▄ Seals: Ball (POM), O-ring (NBR)
- ▄ High pressure version up to 500 bar
- ▄ Full port
- ▄ Zinc-plated DN 04-25, Phosphate-plated DN 32-50
- ▄ Connections in G, LR, SR
- ▄ Temperature resistant from -10 °C – +80 °C
- ▄ Handle in aluminium (straight 01), Zinc die-cast (cranked 04)

Type of connection	DN	Type	Handle	Part No.	Length in mm	PN in bar	
G	06	KHB-G1/4	04	3288786	69	500	
	10	KHB-G3/8	04	700950	72	500	
	13	KHB-G1/2	04	851728	83	500	
	16	KHB-G1/2	01	855871	83	400	
	20	KHB-G3/4	01	552762	95	315	
	25	KHB-G1	01	850711	113	315	
	25	KHB-G1 1/4	01	562730	120	315	
	32	KHM-G1 1/4	01	700721	110	315	
	40	KHM-G1 1/2	01	700724	130	315	
	50	KHM-G2	01	700727	140	315	
	LR	04	KHB-06LR	04	3288754	67	500
		06	KHB-08LR	04	3288813	67	500
08		KHB-10LR	04	855967	74	500	
10		KHB-12LR	04	704200	74	500	
13		KHB-15LR	04	704800	82	500	
16		KHB-18LR	01	851913	82	400	
20		KHB-22LR	01	707868	101	315	
25		KHB-28LR	01	707869	108	315	
32		KHM-35LR	01	700573	141	315	
40		KHM-42LR	01	700576	162	315	
SR	04	KHB-08SR	04	3288829	73	500	
	06	KHB-10SR	04	3288837	73	500	
	08	KHB-12SR	04	855414	76	500	
	13	KHB-16SR	04	854996	86	500	
	16	KHB-20SR	01	700602	90	400	
	20	KHB-25SR	01	700819	109	315	
	25	KHB-30SR	01	707722	120	315	
	32	KHM-38SR	01	700658	153	315	



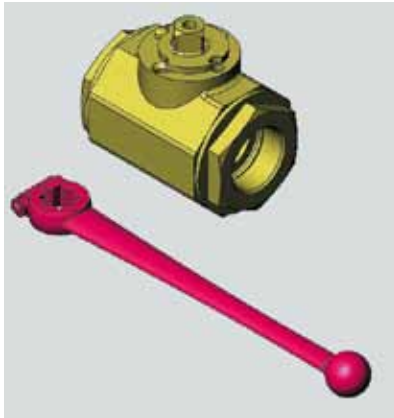
HYDAC Accessories: Change-Over Ball Valves, Steel

3/2-Way Ball Valve KHB3K-L Steel

Features:

- ▮ Seals: Ball (POM), O-ring (NBR)
- ▮ High pressure version up to 500 bar
- ▮ Full port
- ▮ Zinc-plated DN 04-25, Phosphate-plated DN 32-50
- ▮ Connections in G, LR, SR
- ▮ Temperature resistant from -10 °C – +80 °C
- ▮ Handle in aluminium (straight 01), Zinc die-cast (cranked 04)

Type of connection	DN	Type	Handle	Part No.	Length in mm	PN in bar
G	06	KHB3K-G1/4-L	04	3248008	69	500
	10	KHB3K-G3/8-L	04	703308	72	500
	13	KHB3K-G1/2-L	04	703309	83	500
	16	KHB3K-G1/2-L	01	557811	83	400
	20	KHB3K-G3/4-L	01	702891	95	315
	25	KHB3K-G1-L	01	398948	113	315
LR	08	KHB3K-10LR-L	04	3007101	74	500
	10	KHB3K-12LR-L	04	703307	74	500
	13	KHB3K-15LR-L	04	703373	82	500
SR	04	KHB3K-08SR-L	04	3289217	73	500
	06	KHB3K-10SR-L	04	3288900	73	500
	08	KHB3K-12SR-L	04	3015948	76	500
	13	KHB3K-16SR-L	04	3015950	86	500



HYDAC Accessories: High Pressure Ball Valves, Stainless Steel

2/2-Way Ball Valves KHM Stainless steel

Features:

- ▄ High pressure version up to 500 bar
- ▄ Full port
- ▄ Connections in G, LR, SR
- ▄ Temperature resistant from -20 °C – +80 °C
- ▄ Handle in aluminium (straight 01)
- ▄ Seals: Ball (POM), O-ring (VITON)

Type of connection	DN	Type	Handle	Part No.	Length in mm	PN in bar
G	06	KHM-G1/4	01	3146514	69	500
	10	KHM-G3/8	01	854863	72	500
	16	KHM-G1/2	01	398245	83	400
	20	KHM-G3/4	01	851545	95	315
	25	KHM-G1	01	851546	113	315
	32	KHM-G11/4	01	851547	110	315
	40	KHM-G11/2	01	851548	130	315
	50	KHM-G2	01	398246	140	315
LR	04	KHM-06LR	01	3289261	67	500
	06	KHM-08LR	01	3289263	67	500
	08	KHM-10LR	01	3178451	74	500
	10	KHM-12LR	01	3178452	74	500
	12	KHM-15LR	01	398238	82	400
	16	KHM-18LR	01	398239	82	400
	20	KHM-22LR	01	398240	101	315
	25	KHM-28LR	01	398242	108	315
SR	32	KHM-35LR	01	398243	141	315
	40	KHM-42LR	01	855253	162	315
	04	KHM-08SR	01	3289264	73	500
	06	KHM-10SR	01	3289275	73	500
	08	KHM-12SR	01	3178457	76	500
	12	KHM-16SR	01	851742	86	400
	16	KHM-20SR	01	700648	90	400
	20	KHM-25SR	01	851549	109	400
25	KHM-30SR	01	397753	120	315	
32	KHM-38SR	01	851550	153	315	



HYDAC Accessories: Low Pressure Ball Valves

2/2-Way Low Pressure Ball Valve KHNVN / KHNVS Brass

Features:

- Cost-competitive version
- Cranked handle in aluminium
- With PTFE sealing cups
- Suitable for water, air and nitrogen

DN	Type	Part No.	Length in mm	PN in bar
16	KHNVN-G1/2-2233-12X	702152	50.5	50
20	KHNVN-G3/4-2233-12X	702153	57.5	40
25	KHNVN-G1-2233-12X	702154	70	40
32	KHNVN-G11/4-2233-12X	702155	80.5	30
40	KHNVN-G11/2-2233-12X	702156	94	30
50	KHNVN-G2-2233-12X	702157	112.5	25
06	KHNVS-Rp1/4-2233-12X	702164	49.5	50
10	KHNVS-Rp3/8-2233-12X	702165	52.5	50
16	KHNVS-Rp1/2-2233-12X	551093	61	50
20	KHNVS-Rp3/4-2233-12X	551094	68	40
25	KHNVS-Rp1-2233-12X	551095	85	40
32	KHNVS-Rp11/4-2233-12X	551096	99.5	30
40	KHNVS-Rp11/2-2233-12X	551097	109	30
50	KHNVS-Rp2-2233-12X	551098	130	25
65	KHNVS-Rp21/2-2233-12X	702172	152	16
80	KHNVS-Rp3-2233-12X	702173	177	16
100	KHNVS-Rp4-2233-12X	702174	214	16



HYDAC Accessories: Low Pressure Ball Valves

2/2-Way Low Pressure Ball Valve KHNVN / KHNVS Stainless steel

Features:

- Cost-competitive version
- Cranked handle in stainless steel
- With PTFE sealing cups
- Suitable for water, air and nitrogen

DN	Type	Part No.	Length in mm	PN in bar
06	KHNVN-G1/4-3333-18X	398344	53.5	64
10	KHNVN-G3/8-3333-18X	398345	53.5	64
16	KHNVN-G1/2-3333-18X	398346	60	64
20	KHNVN-G3/4-3333-18X	398347	70	40
25	KHNVN-G1-3333-18X	398348	79	40
32	KHNVN-G11/4-3333-18X	398349	91	25
40	KHNVN-G11/2-3333-18X	397686	103	25
50	KHNVN-G2-3333-18X	398350	124	25
04	KHNVS-Rp1/8-3333-18X	702434	55.5	64
06	KHNVS-Rp1/4-3333-18X	702402	55.5	64
10	KHNVS-Rp3/8-3333-18X	702403	55.5	64
16	KHNVS-Rp1/2-3333-18X	702404	66	64
20	KHNVS-Rp3/4-3333-18X	702405	79	40
25	KHNVS-Rp1-3333-18X	702406	93	40
32	KHNVS-Rp11/4-3333-18X	702407	100	25
40	KHNVS-Rp11/2-3333-18X	702408	110	25
50	KHNVS-Rp2-3333-18X	702409	131	25



HYDAC Accessories: Gauges, Switches

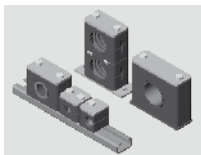
Fluid Level Gauge **FSA**
 Fluid Level Sensor **FSK**
 Temperature Switch **TS/TS-L**

Features:

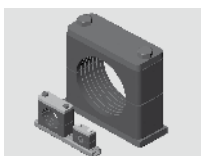
- ▄ Impact and scratch resistant
- ▄ Highly resistant to leakage
- ▄ Precise fluid level indication
- ▄ Excellent fluid level detection
- ▄ Operating temperature up to 80° C
- ▄ Highly reliable due to potted connector in protection class IP64

Type	Size = centre distance of bolts	Order code	Part No.	
FSA	NG 76	FSA-076-1.X/-/12	700000	
	NG 76	FSA-076-1.X/T/12	700004	
	NG 127	FSA-127-1.X/-/12	700036	
	NG 127	FSA-127-1.X/T/12	700040	
	NG 176	FSA-176-1.X/-/12	700113	
	NG 176	FSA-176-1.X/T/12	700116	
	NG 254	FSA-254-1.X/-/12	700072	
	NG 254	FSA-254-1.X/T/12	700076	
	NG 381	FSA-381-1.X/-/12	700095	
	NG 381	FSA-381-1.X/T/12	700125	
	TS	M 12	TS-60/X/12	3233817
		M 12	TS-70/X/12	3233820
		M 12	TS-80/X/12	3243251
	FSK	NG 127	FSK-127-2.5/C/-/12	3112276
NG 127		FSK-127-2.5/O/-/12	3070285	
NG 176		FSK-176-2.5/C/-/12	3112299	
NG 176		FSK-176-2.5/O/-/12	3112231	
NG 254		FSK-254-2.5/C/-/12	3112303	
NG 254		FSK-254-2.5/O/-/12	3112302	
NG 381		FSK-381-2.5/C/-/12	3112307	
NG 381		FSK-381-2.5/O/-/12	3112306	
TS-L		M 12	TS-L-60/X/12	3252752
		M 12	TS-L-70/X/12	3252766
	M 12	TS-L-80/X/12	3252767	

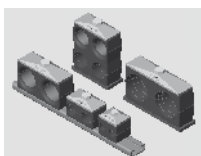
**HYDAC Accessories:
Mounting Clamps,
Overview**



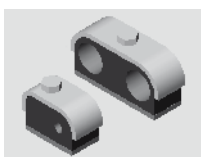
Light Range DIN 3015
Part 1



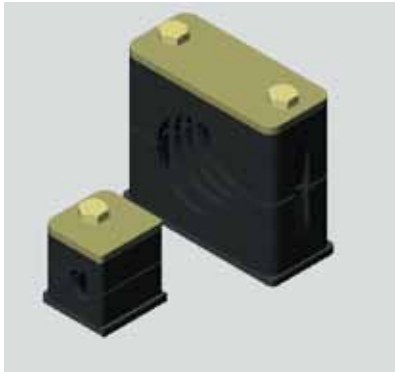
Heavy range DIN 3015
Part 2



Twin Clamps DIN 3015
Part 3



Buegu Clamp



HYDAC Accessories: Mounting Clamps

Light Range
DIN 3015 Part 1
Type: Internal surface ribbed

Features:

- I International standard
- I Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
1	6	HRL 1 A 6 PP ST M BL	423127
	6.4	HRL 1 A 6.4 PP ST M BL	423128
	8	HRL 1 A 8 PP ST M BL	423129
	9.5	HRL 1 A 9.5 PP ST M BL	423130
	10	HRL 1 A 10 PP ST M BL	423131
	12	HRL 1 A 12 PP ST M BL	423132
2	12.7	HRL 2 A 12.7 PP ST M BL	423133
	13.7	HRL 2 A 13.7 PP ST M BL	423134
	14	HRL 2 A 14 PP ST M BL	423135
	15	HRL 2 A 15 PP ST M BL	423136
	16	HRL 2 A 16 PP ST M BL	423137
	17.1	HRL 2 A 17.1 PP ST M BL	423138
3	18	HRL 2 A 18 PP ST M BL	423139
	19	HRL 3 A 19 PP ST M BL	423140
	20	HRL 3 A 20 PP ST M BL	423141
	21.3	HRL 3 A 21.3 PP ST M BL	423142
	22	HRL 3 A 22 PP ST M BL	423143
	23	HRL 3 A 23 PP ST M BL	423144
4	25	HRL 3 A 25 PP ST M BL	423145
	25.4	HRL 3 A 25.4 PP ST M BL	423146
	26.9	HRL 4 A 26.9 PP ST M BL	423147
	28	HRL 4 A 28 PP ST M BL	423148
	30	HRL 4 A 30 PP ST M BL	423149
	5	32	HRL 5 A 32 PP ST M BL
33.7		HRL 5 A 33.7 PP ST M BL	423151
35		HRL 5 A 35 PP ST M BL	423152
38		HRL 5 A 38 PP ST M BL	423153
40		HRL 5 A 40 PP ST M BL	423154
42		HRL 5 A 42 PP ST M BL	423155
6	44.5	HRL 6 A 44.5 PP ST M BL	423156
	48.3	HRL 6 A 48.3 PP ST M BL	423157
	50.8	HRL 6 A 50.8 PP ST M BL	423158



HYDAC Accessories: Mounting Clamps

Light Range
DIN 3015 Part 1
Type: Internal surface smooth

Features:

- International standard
- Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
1	6	HRGL 1 A 6 PP ST M BL	439815
	8	HRGL 1 A 8 PP ST M BL	439817
	9.5	HRGL 1 A 9.5 PP ST M BL	439818
	10	HRGL 1 A 10 PP ST M BL	439819
	12	HRGL 1 A 12 PP ST M BL	439820
2	12.7	HRGL 2 A 12.7 PP ST M BL	439875
	13.7	HRGL 2 A 13.7 PP ST M BL	439876
	14	HRGL 2 A 14 PP ST M BL	439877
	15	HRGL 2 A 15 PP ST M BL	439878
	16	HRGL 2 A 16 PP ST M BL	439879
	17.1	HRGL 2 A 17.1 PP ST M BL	439880
	18	HRGL 2 A 18 PP ST M BL	439881
3	19	HRGL 3 A 19 PP ST M BL	439945
	20	HRGL 3 A 20 PP ST M BL	439946
	21.3	HRGL 3 A 21.3 PP ST M BL	439947
	22	HRGL 3 A 22 PP ST M BL	439948
	23	HRGL 3 A 23 PP ST M BL	439949
	25	HRGL 3 A 25 PP ST M BL	439950
4	26.6	HRGL 4 A 26.6 PP ST M BL	440015
	28	HRGL 4 A 28 PP ST M BL	440016
	30	HRGL 4 A 30 PP ST M BL	440017
5	32	HRGL 5 A 32 PP ST M BL	440045
	33.7	HRGL 5 A 33.7 PP ST M BL	440046
	35	HRGL 5 A 35 PP ST M BL	440047
	38	HRGL 5 A 38 PP ST M BL	440048
	40	HRGL 5 A 40 PP ST M BL	440049
	42	HRGL 5 A 42 PP ST M BL	440050
6	48.3	HRGL 6 A 48.3 PP ST M BL	440106
	50.8	HRGL 6 A 50.8 PP ST M BL	440107



HYDAC Accessories: Mounting Clamps

Light Range
DIN 3015 Part 1
Type: With elastomer insert

Features:

- I International standard
- I Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.	
4	6	HREL 4 A 6 PP ST M BL	435001	
	8	HREL 4 A 8 PP ST M BL	435002	
	10	HREL 4 A 10 PP ST M BL	435003	
	12	HREL 4 A 12 PP ST M BL	435004	
	12.7	HREL 4 A 12.7 PP ST M BL	435005	
	14	HREL 4 A 14 PP ST M BL	435006	
	15	HREL 4 A 15 PP ST M BL	435007	
	16	HREL 4 A 16 PP ST M BL	435008	
	17.2	HREL 4 A 17.2 PP ST M BL	435009	
	18	HREL 4 A 18 PP ST M BL	444515	
	19	HREL 4 A 19 PP ST M BL	435010	
	6	20	HREL 6 A 20 PP ST M BL	435641
		22	HREL 6 A 22 PP ST M BL	435642
		25	HREL 6 A 25 PP ST M BL	435643
26.9		HREL 6 A 26.9 PP ST M BL	435644	
28		HREL 6 A 28 PP ST M BL	435645	
30		HREL 6 A 30 PP ST M BL	435646	
32		HREL 6 A 32 PP ST M BL	435647	



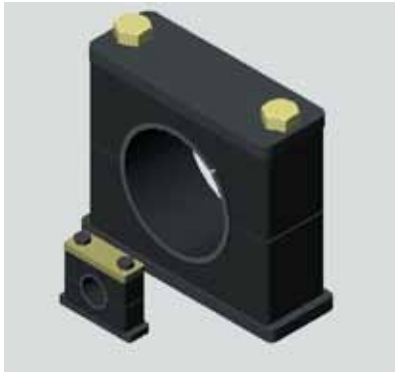
HYDAC Accessories: Mounting Clamps

Heavy Range
DIN 3015 Part 2
Type: Internal surface ribbed

Features:

- International standard
- Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
1	6	HRS 1 S 6 PP ST M BL	420000
	6.4	HRS 1 S 6.4 PP ST M BL	420001
	8	HRS 1 S 8 PP ST M BL	420002
	9.5	HRS 1 S 9.5 PP ST M BL	420003
	10	HRS 1 S 10 PP ST M BL	420004
	12	HRS 1 S 12 PP ST M BL	420006
	12.7	HRS 1 S 12.7 PP ST M BL	420007
	13.7	HRS 1 S 13.7 PP ST M BL	420008
	14	HRS 1 S 14 PP ST M BL	420009
	15	HRS 1 S 15 PP ST M BL	420010
	16	HRS 1 S 16 PP ST M BL	420011
	17.1	HRS 1 S 17.1 PP ST M BL	420012
	18	HRS 1 S 18 PP ST M BL	420013
	2	19	HRS 2 S 19 PP ST M BL
20		HRS 2 S 20 PP ST M BL	420015
21.3		HRS 2 S 21.3 PP ST M BL	420016
22		HRS 2 S 22 PP ST M BL	420017
25		HRS 2 S 25 PP ST M BL	420018
25.4		HRS 2 S 25.4 PP ST M BL	420019
26.7		HRS 2 S 26.7 PP ST M BL	420020
28		HRS 2 S 28 PP ST M BL	420021
30		HRS 2 S 30 PP ST M BL	441349
3		25	HRS 3 S 25 PP ST M BL
	30	HRS 3 S 30 PP ST M BL	420022
	32	HRS 3 S 32 PP ST M BL	420023
	33.7	HRS 3 S 33.7 PP ST M BL	420024
	35	HRS 3 S 35 PP ST M BL	420025
	38	HRS 3 S 38 PP ST M BL	420026
	40	HRS 3 S 40 PP ST M BL	420027
	42	HRS 3 S 42 PP ST M BL	420028
4	30	HRS 4 S 30 PP ST M BL	420029
	38	HRS 4 S 38 PP ST M BL	420030
	42	HRS 4 S 42 PP ST M BL	420031
	44.5	HRS 4 S 44.5 PP ST M BL	420032
	48.3	HRS 4 S 48.3 PP ST M BL	420033
	50.8	HRS 4 S 50.8 PP ST M BL	420034
	54	HRS 4 S 54 PP ST M BL	420035
	57	HRS 4 S 57 PP ST M BL	420036
	60.3	HRS 4 S 60.3 PP ST M BL	420037
	63.5	HRS 4 S 63.5 PP ST M BL	441578
	65	HRS 4 S 65 PP ST M BL	420038
70	HRS 4 S 70 PP ST M BL	420039	



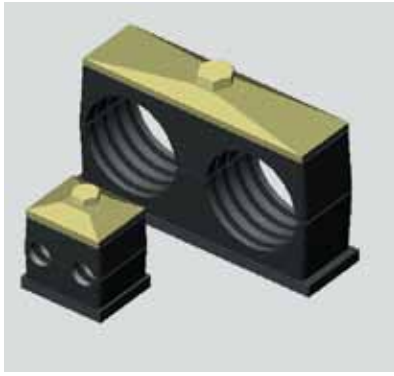
HYDAC Accessories: Mounting Clamps

Heavy Range
DIN 3015 Part 2
Type: With elastomer insert

Features:

- International standard
- Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
2	6	HRES 2 S 6 PP ST M BL	433457
	8	HRES 2 S 8 PP ST M BL	433458
	10	HRES 2 S 10 PP ST M BL	433459
	12	HRES 2 S 12 PP ST M BL	433460
	12.7	HRES 2 S 12.7 PP ST M BL	433461
	14	HRES 2 S 14 PP ST M BL	433462
	15	HRES 2 S 15 PP ST M BL	433463
	16	HRES 2 S 16 PP ST M BL	433464
	17.2	HRES 2 S 17.2 PP ST M BL	433465
	18	HRES 2 S 18 PP ST M BL	443460
	19	HRES 2 S 19 PP ST M BL	433466
3	20	HRES 3 S 20 PP ST M BL	433577
	22	HRES 3 S 22 PP ST M BL	433578
	25	HRES 3 S 25 PP ST M BL	433579
	26.9	HRES 3 S 26.9 PP ST M BL	433580
	28	HRES 3 S 28 PP ST M BL	433581
	30	HRES 3 S 30 PP ST M BL	433582
	33.7	HRES 4 S 33.7 PP ST M BL	433661
4	35	HRES 4 S 35 PP ST M BL	433662
	38	HRES 4 S 38 PP ST M BL	433663
	40	HRES 4 S 40 PP ST M BL	433664
	42	HRES 4 S 42 PP ST M BL	433665
	45.5	HRES 4 S 45.5 PP ST M BL	433666
	48	HRES 4 S 48 PP ST M BL	433667
	51	HRES 4 S 51 PP ST M BL	433668
	53.4	HRES 4 S 53.4 PP ST M BL	433669
	56.4	HRES 4 S 56.4 PP ST M BL	433670
	5	60	HRES 5 S 60 PP ST M BL
65		HRES 5 S 65 PP ST M BL	436239
70		HRES 5 S 70 PP ST M BL	433782



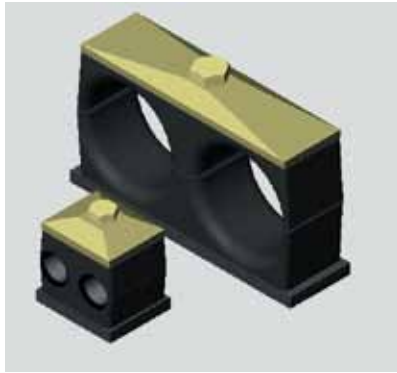
HYDAC Accessories: Mounting Clamps

Twin Clamps
DIN 3015 Part 3
Type: Internal surface ribbed

Features:

- I International standard
- I Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
1	6	HRZ 1 A 6-6 PP ST M BL	430608
	8	HRZ 1 A 8-8 PP ST M BL	430610
	9.5	HRZ 1 A 9.5-9.5 PP ST M BL	430611
	10	HRZ 1 A 10-10 PP ST M BL	430612
	12	HRZ 1 A 12-12 PP ST M BL	430613
2	12.7	HRZ 2 A 12.7-12.7 PP ST M BL	430614
	13.7	HRZ 2 A 13.7-13.7 PP ST M BL	430615
	14	HRZ 2 A 14-14 PP ST M BL	430616
	15	HRZ 2 A 15-15 PP ST M BL	430617
	16	HRZ 2 A 16-16 PP ST M BL	430618
	17.1	HRZ 2 A 17.1-17.1 PP ST M BL	430619
	18	HRZ 2 A 18-18 PP ST M BL	430620
3	19	HRZ 3 A 19-19 PP ST M BL	430621
	20	HRZ 3 A 20-20 PP ST M BL	430622
	21.3	HRZ 3 A 21.3-21.3 PP ST M BL	430623
	22	HRZ 3 A 22-22 PP ST M BL	430624
	23	HRZ 3 A 23-23 PP ST M BL	430625
	25	HRZ 3 A 25-25 PP ST M BL	430626
4	25.4	HRZ 3 A 25.4-25.4 PP ST M BL	430627
	26.6	HRZ 4 A 26.6-26.6 PP ST M BL	430628
	28	HRZ 4 A 28-28 PP ST M BL	430629
5	30	HRZ 4 A 30-30 PP ST M BL	430630
	32	HRZ 5 A 32-32 PP ST M BL	430631
	35	HRZ 5 A 35-35 PP ST M BL	430633
	38	HRZ 5 A 38-38 PP ST M BL	430634



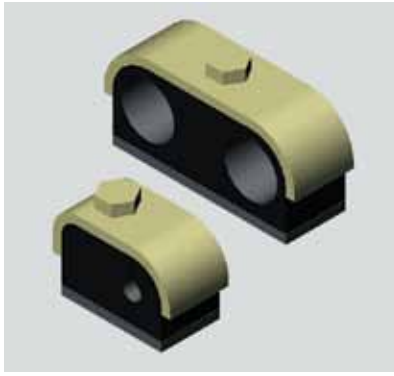
HYDAC Accessories: Mounting Clamps

Twin Clamps
DIN 3015 Part 3
Type: Internal surface smooth

Features:

- International standard
- Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
1	6	HRGZ 1 A 6-6 PP ST M BL	3283242
	8	HRGZ 1 A 8-8 PP ST M BL	3283306
	10	HRGZ 1 A 10-10 PP ST M BL	3283307
	12	HRGZ 1 A 12-12 PP ST M BL	3283308
2	15	HRGZ 2 A 15-15 PP ST M BL	3094885
	16	HRGZ 2 A 16-16 PP ST M BL	443268
	18	HRGZ 2 A 18-18 PP ST M BL	443660
3	19	HRGZ 3 A 19-19 PP ST M BL	444032
	20	HRGZ 3 A 20-20 PP ST M BL	443266
	22	HRGZ 3 A 22-22 PP ST M BL	443659
	23	HRGZ 3 A 23-23 PP ST M BL	443552
	25	HRGZ 3 A 25-25 PP ST M BL	3255780
4	26.6	HRGZ 4 A 26.6-26.6 PP ST M BL	3142660
	30	HRGZ 4 A 30-30 PP ST M BL	3056357
5	32	HRGZ 5 A 32-32 PP ST M BL	3204419



HYDAC Accessories: Mounting Clamps

Buegu Clamps

Features:

- International standard
- Worldwide availability

Size	Pipe diameter Ø in mm	Order code	Part No.
0a	6	HRBGS 0a A 6 TPE ST M BL	441418
	8	HRBGS 0a A 8 TPE ST M BL	441419
	10	HRBGS 0a A 10 TPE ST M BL	441420
	12	HRBGS 0a A 12 TPE ST M BL	441421
0b	14	HRBGS 0b A 14 TPE ST M BL	441422
	15	HRBGS 0b A 15 TPE ST M BL	441480
	16	HRBGS 0b A 16 TPE ST M BL	441423
	19	HRBGS 0b A 19 TPE ST M BL	442666
	20	HRBGS 0b A 20 TPE ST M BL	444344
1	6 - 6	HRBGS 1 A 6-6 TPE ST M BL	441492
	8 - 8	HRBGS 1 A 8-8 TPE ST M BL	441985
	12 - 12	HRBGS 1 A 12-12 TPE ST M BL	441427
2	14 - 14	HRBGS 2 A 14-14 TPE ST M BL	3087396
	15 - 15	HRBGS 2 A 15-15 TPE ST M BL	441486
	16 - 16	HRBGS 2 A 16-16 TPE ST M BL	441430
	18 - 18	HRBGS 2 A 18-18 TPE ST M BL	441431
	19 - 19	HRBGS 2 A 19-19 TPE ST M BL	444869
	20 - 20	HRBGS 2 A 20-20 TPE ST M BL	441432



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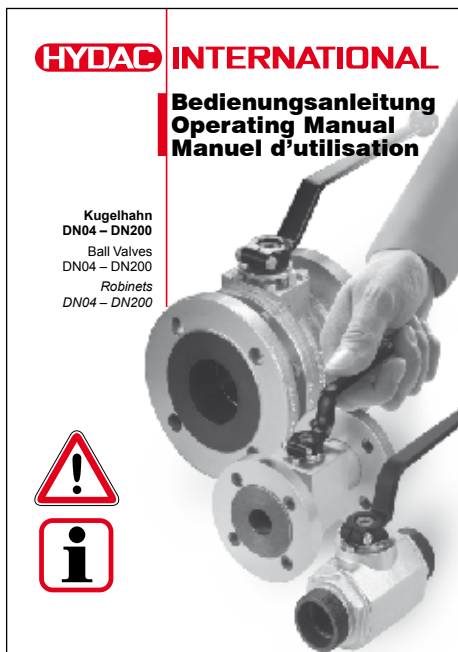
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D/E/F 5.500.B../..



OPERATING MANUAL
Fluid Level Sensor FSK
D/E/F 5.050.B../..

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