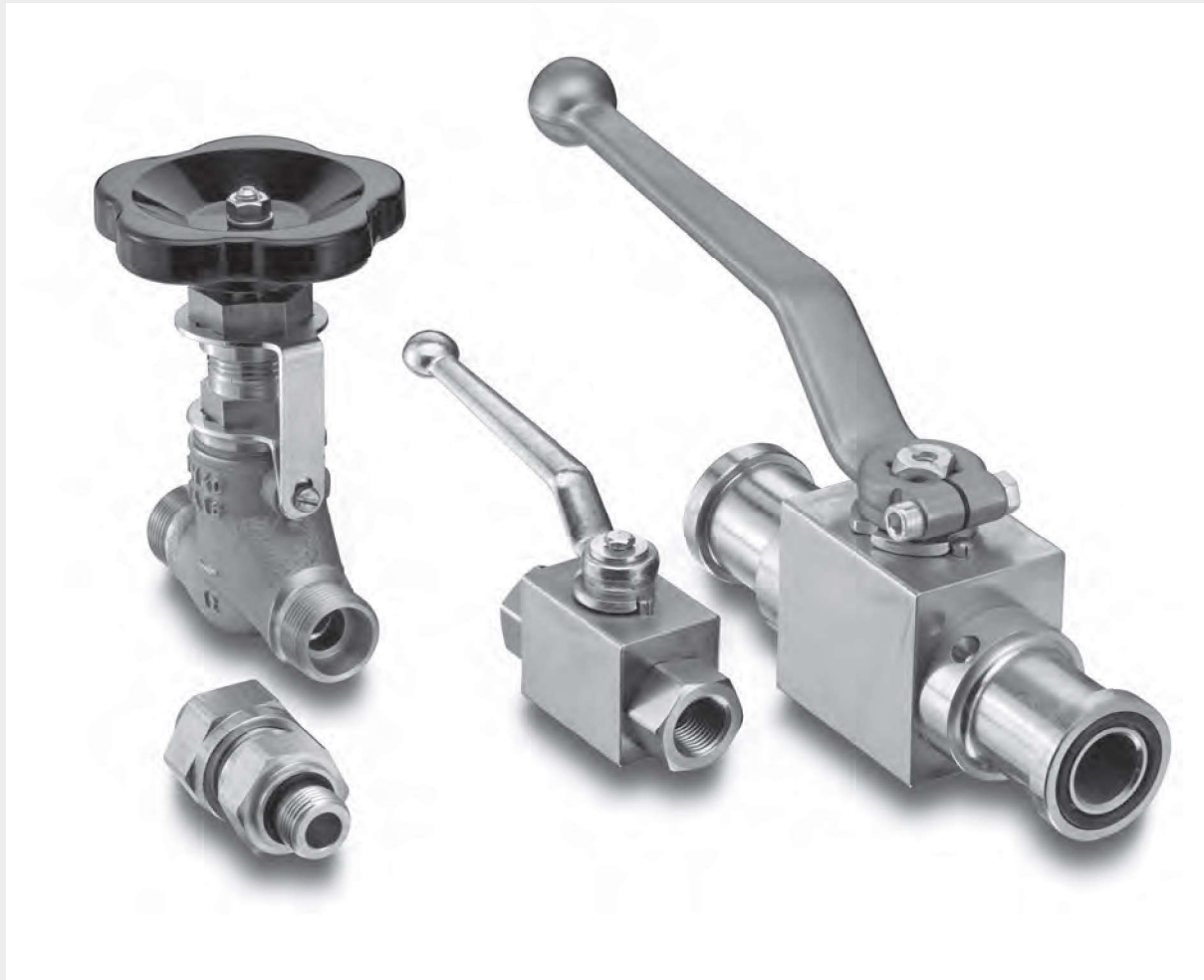


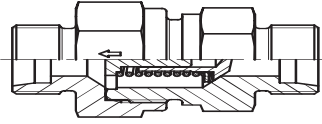


EO[®] Ermeto Original Valves



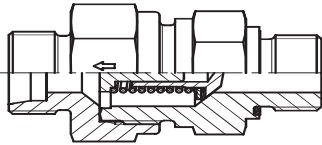
Visual index Non return valves

RHD / p. P13



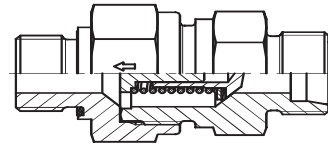
EO 24° cone end / EO 24° cone end

RHV-R-ED / p. P14



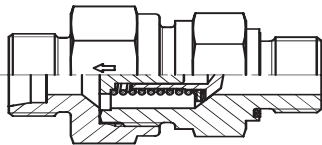
EO 24° cone end /
Male BSPP thread – ED-seal (ISO 1179)

RHZ-R-ED / p. P15



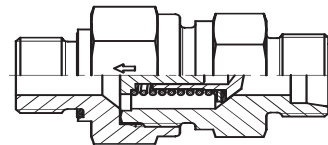
Male BSPP thread – ED-seal (ISO 1179) /
EO 24° cone end

RHV-M-ED / p. P16



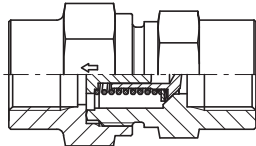
EO 24° cone end /
Male metric thread – ED-seal (ISO 9974)

RHZ-M-ED / p. P17



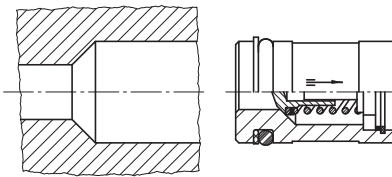
Male metric thread – ED-seal (ISO 9974) /
EO 24° cone end

RHDI / p. P18



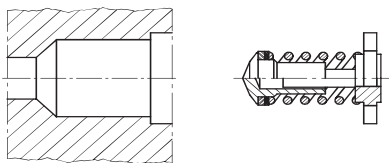
Female BSPP thread (ISO 1179-1) /
Female BSPP thread (ISO 1179-1)

RVP / p. P19



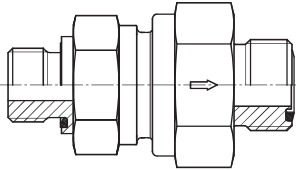
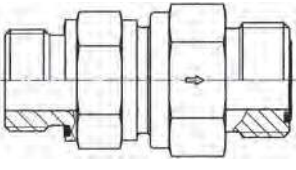
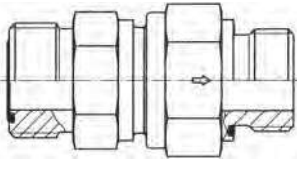
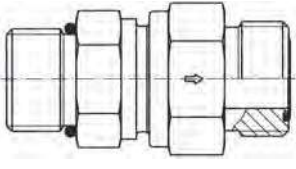
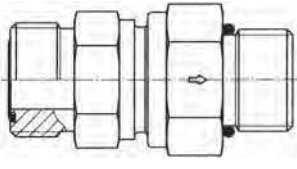
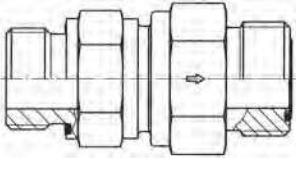
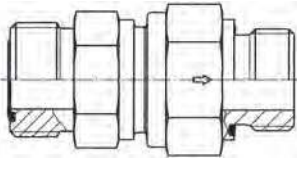
Non return valve cartridge

I-TL / p. P20



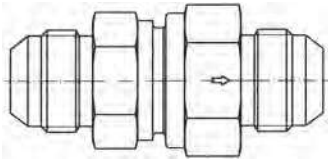
Internal parts of non return valve

Visual index Non return valves with O-Lok® connections

<p>RHDMLOS / p. P22</p>  <p>O-Lok® ORFS end / O-Lok® ORFS end</p>	
<p>RHV42EDMLOS / p. P23</p>  <p>Male BSPP thread – ED-seal (ISO 1179) / O-Lok® ORFS end</p>	<p>RHZ42EDMLOS / p. P24</p>  <p>O-Lok® ORFS end / Male BSPP thread – ED-seal (ISO 1179)</p>
<p>RHV50MLOS / p. P25</p>  <p>Male UN/UNF thread– O-ring (ISO 11926) / O-Lok® ORFS end</p>	<p>RHZ50MLOS / p. P26</p>  <p>O-Lok® ORFS end / Male UN/UNF thread– O-ring (ISO 11926)</p>
<p>RHV82EDMLOS / p. P27</p>  <p>Male metric thread – ED-seal (ISO 9974) / O-Lok® ORFS end</p>	<p>RHZ82EDMLOS / p. P28</p>  <p>O-Lok® ORFS end / Male metric thread – ED-seal (ISO 9974)</p>

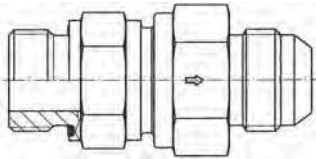
Visual index Non return valves with Triple-Lok® connections

RHDMTXS / p. P29



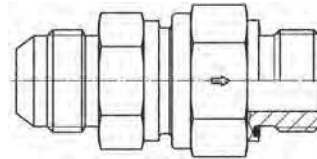
Triple-Lok® 37° flare end /
Triple-Lok® 37° flare end

RHV42EDMXS / p. P30



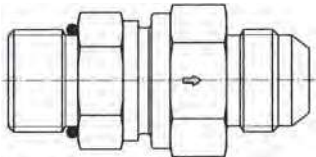
Male BSPP thread – ED-seal (ISO 1179) /
Triple-Lok® 37° flare end

RHZ42EDMXS / p. P31



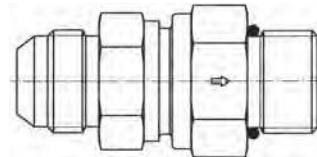
Triple-Lok® 37° flare end /
Male BSPP thread – ED-seal (ISO 1179)

RHV50MXS / p. P32



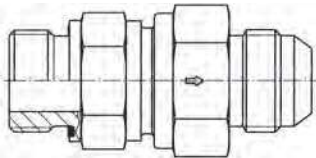
Male UN/UNF thread – O-ring (ISO 11926) /
Triple-Lok® 37° flare end

RHZ50MXS / p. P33



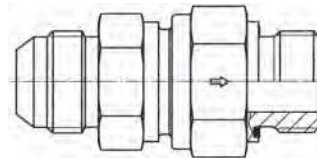
Triple-Lok® 37° flare end /
Male UN/UNF thread – O-ring (ISO 11926)

RHV82EDMXS / p. P34



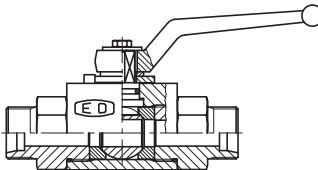
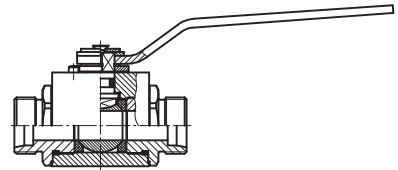
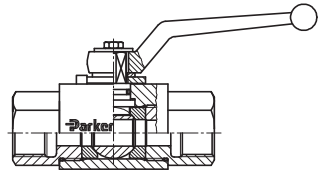
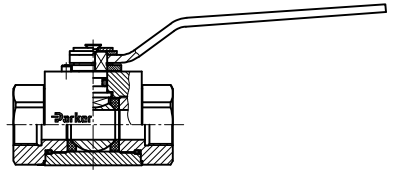
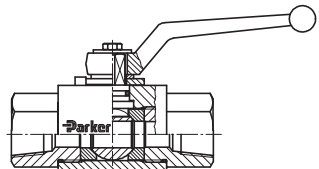
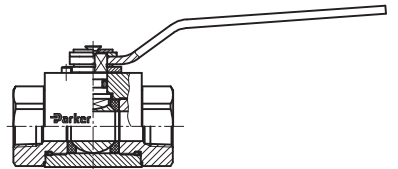
Male metric thread – ED-seal (ISO 9974) /
Triple-Lok® 37° flare end

RHZ82EDMXS / p. P35

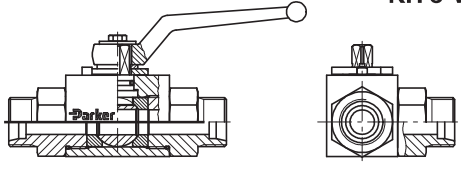
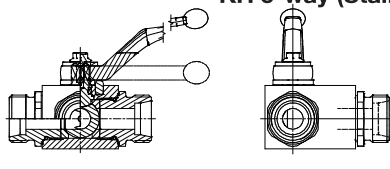
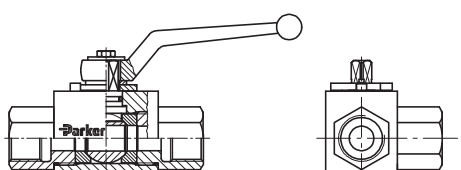
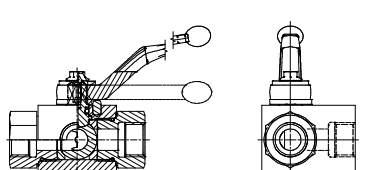
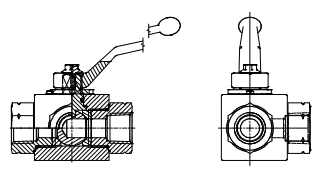
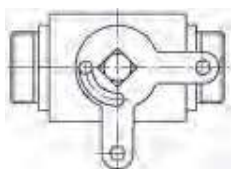


Triple-Lok® 37° flare end /
Male metric thread – ED-seal (ISO 9974)

Visual index 2-way ball valves

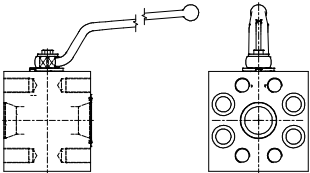
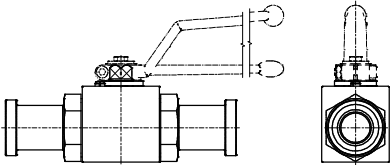
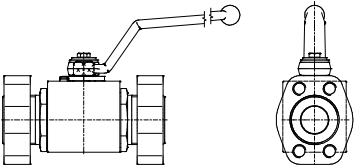
<p>KH (Steel CF) p. P40</p>  <p>EO 24° cone end</p>	<p>KH (Stainless steel 71) p. P41</p>  <p>EO 24° cone end</p>
<p>KH-BSPP (Steel CF) p. P42</p>  <p>Female BSPP thread (ISO 1179-1)</p>	<p>KH-BSPP (Stainless steel 71) p. P43</p>  <p>Female BSPP thread (ISO 1179-1)</p>
<p>KH-NPT (Steel CF) p. P44</p>  <p>Female NPT thread (SAE 476)</p>	<p>KH-NPT (Stainless steel 71) p. P45</p>  <p>Female NPT thread (SAE 476)</p>

Visual index 3-way ball valves

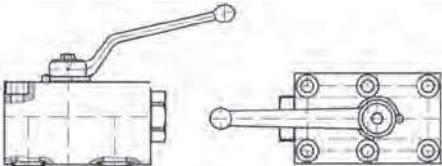
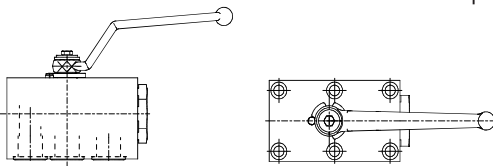
<p>KH 3-way (Steel CF) p. P46</p>  <p>EO 24° cone end</p>	<p>KH 3-way (Stainless steel 71) p. P47</p>  <p>EO 24° cone end</p>
<p>KH 3-way BSPP (Steel CF) p. P48</p>  <p>Female BSPP thread (ISO 1179-1)</p>	<p>KH 3-way BSPP (Stainless steel 71) p. P49</p>  <p>Female BSPP thread (ISO 1179-1)</p>
<p>KH 3-way NPT (Steel CF) p. P50</p>  <p>Female NPT thread (SAE 476)</p>	<p>KHLOCKING p. P51</p>  <p>Locking Devices for Two-Way and Multiway ball valves</p>



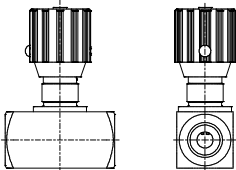
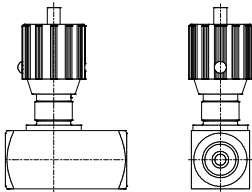
Visual index SAE ball valves

<p style="text-align: right;">KH-B1V (Steel CF) p. P52</p>  <p style="text-align: center;">Ball valve with SAE Flange connection</p>	<p style="text-align: right;">KH-A (Steel CF) p. P53</p>  <p style="text-align: center;">Ball valve with SAE Flange connection</p>
<p style="text-align: right;">KH-T (Steel CF) p. P54</p>  <p style="text-align: center;">Ball valve with SAE Flange connection ISO 6162 (1/2)</p>	<p style="text-align: center;">More flange ball valves see catalogue 4162</p>

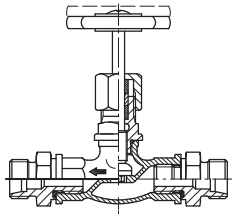
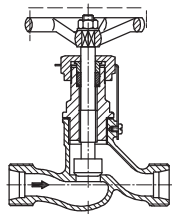
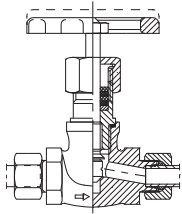
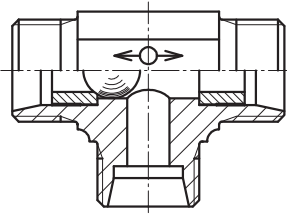
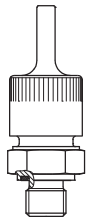
Visual index ball valves for block structure

<p style="text-align: right;">KHBLOCK p. P55</p>  <p style="text-align: center;">2-way ball valve for block structure</p>	<p style="text-align: right;">KHBLOCK -3-way p. P56</p>  <p style="text-align: center;">3-way ball valve for block structure</p>
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Visual index Flow Control Valves

<p style="text-align: right;">RDV p. P58</p>  <p style="text-align: center;">Flow Control Valve (Female BSPP thread ISO 1179-1)</p>	<p style="text-align: right;">RDVR p. P59</p>  <p style="text-align: center;">Flow Control Check Valve (Female BSPP thread ISO 1179-1)</p>
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Visual index shut off valves

 <p style="text-align: center;">EO 24° cone end</p>	<p style="text-align: right;">DV p. P60</p>  <p style="text-align: right;">LD p. P61</p> <p style="text-align: center;">EO 24° cone end</p>
 <p style="text-align: center;">EO tube end</p>	<p style="text-align: right;">VDHA p. P62</p>  <p style="text-align: right;">WV p. P63</p> <p style="text-align: center;">EO 24° cone end</p>
 <p style="text-align: center;">Air-bleed valves</p>	<p style="text-align: right;">ELA/ELAE p. P64/P65</p>

Range of non return valves, alternating valves and hand-operated shut off valves

Non-return valves with nominal pressure ratings up to PN 420 bar:

- with tube connection both ends: RHD
- with tube connection to male stud: RHV/RHZ
- with female thread both ends: RHDl
- valve cartridges: RVP
- valve internal parts: I-TL
- leakage rate hydraulic testing under test pressure: 1 drop per minute

Alternating valves:

- for nominal pressure ratings up to PN 160 WV
- leakage rate hydraulic testing under test pressure: 20 drops per minute

Shut-off valves:

- for high pressure ratings up to PN 630 bar VDHA

Design:

1. For materials, permissible working pressures, temperatures, flow medium torques for male studs etc. see relevant pages of the catalogue.
2. Tube connection ends must be assembled according to the Parker EO/EO-2 assembly instructions.
3. The valve bodies must be held rigidly during assembly of the tube connection ends.
4. Test pressures for non return valves: PN in conformance with O.D. information see chapter C.
5. Pressure drop values please see p. C12 and diagrams.

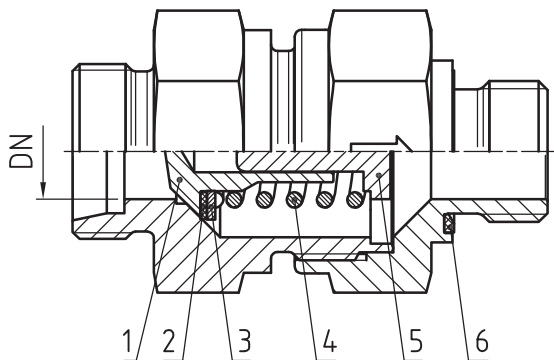
Caution!

Please note the admissible pressure ratings for the EO-tube ends.

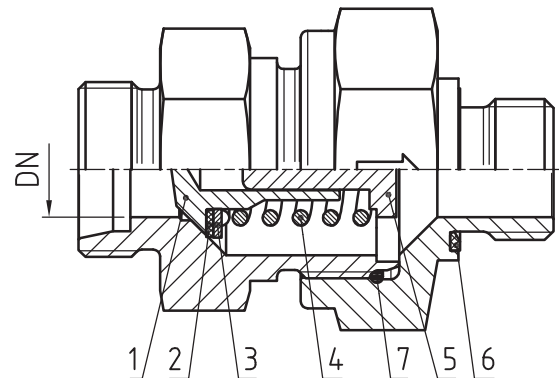
Notes:

To assess the suitability of valves for specific applications, please advise us of the exact specification of the medium to be used, max. working pressure incl. pressure peaks, temperature and frequency of valve operations. If water is used, indicate type of water or additives, if any.

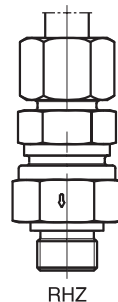
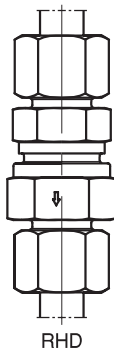
RHD/V/Z non return valve



Design with sealing edge:
Size 06L and 08L / 06S and 08S
and all sizes in stainless steel with a PTFDE sealing disc.



Design with O-ring (item. 7):
Sizes 10L, 12L, 15L, 18L, 22L, 28L, 35L and 42L
as well as 10S, 12S, 14S, 16S, 20S, 25S, 30S and 38S with a
sealing disc out of NBR (steel) or FKM (stainless steel).



- 1: poppet
 - 2: sealing disc
 - 3: cover disc
 - 4: spring
 - 5: passage disc
 - 6: Eolastic-sealing
 - 7: O-ring
- DN = Nominal diameter (mm)

Characteristics:

Poppet check valve with a 90° valve seat with an elastomere sealing disc. Poppet stop for controlled valve opening. Damped opening action to minimize shock and noise. No reduction of cross section. Maximum flow velocity not more than 8 m/sec. Sealing of male stud thread by Eolastic soft seal with types RHV and RHZ.

Opening pressure:

Standard 1 bar (on request also 0.2, 0.5, 2, 3, 4, 5 and 6 bar are available; please specify on order). For working pressure see appropriate tables. Cracking pressure tolerance: $\pm 20\%$.

Material:

- Steel zinc-plated (CF Cr[VI]-free), seals in NBR (e.g. Perbunan), or (FKM) on request.

Perbunan = registered trademark of Bayer

- Stainless steel valves have FKM as standard. (Up to 3 bar cracking pressure)

- Brass-valves (CuZn35Ni2 2.0540) with internals (1.4571) available on request. (Up to 3 bar cracking pressure)

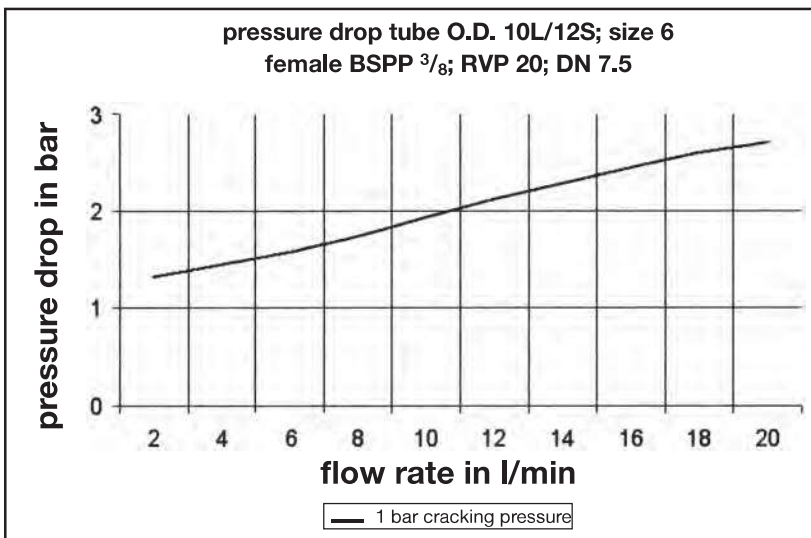
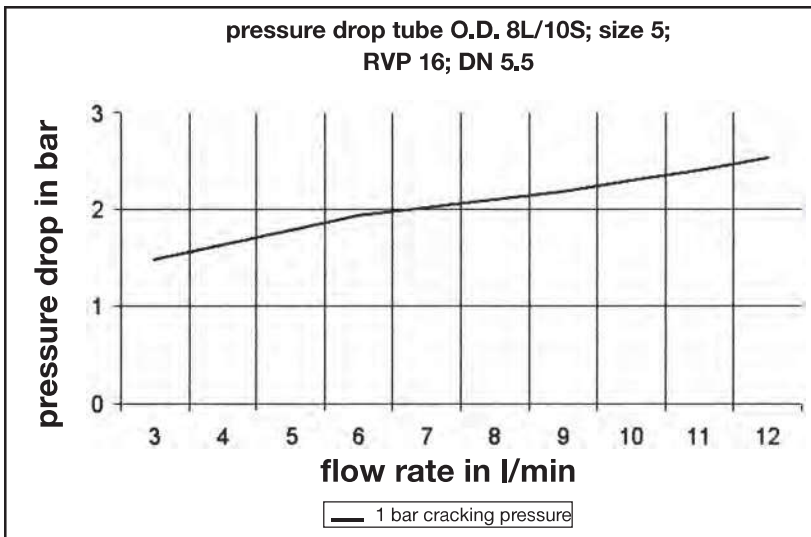
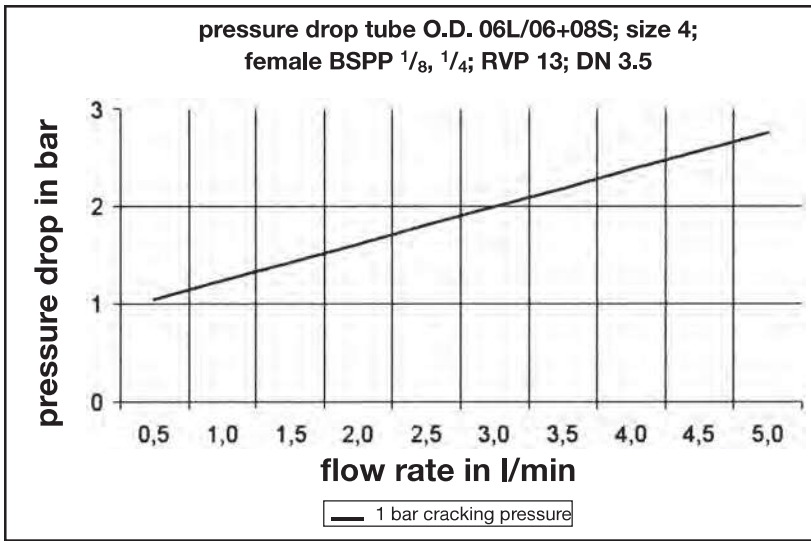
Assembly:

See assembly instructions for EO/EO 2 connections. Non-return valves are all packaged against contamination.

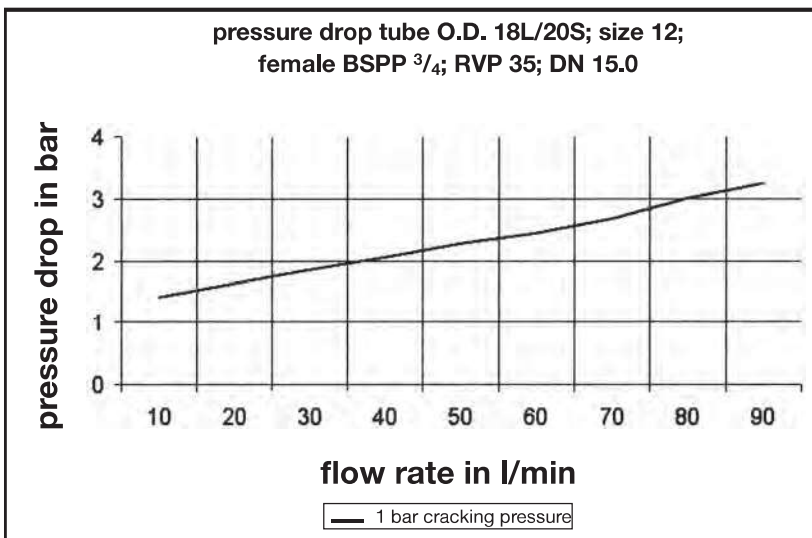
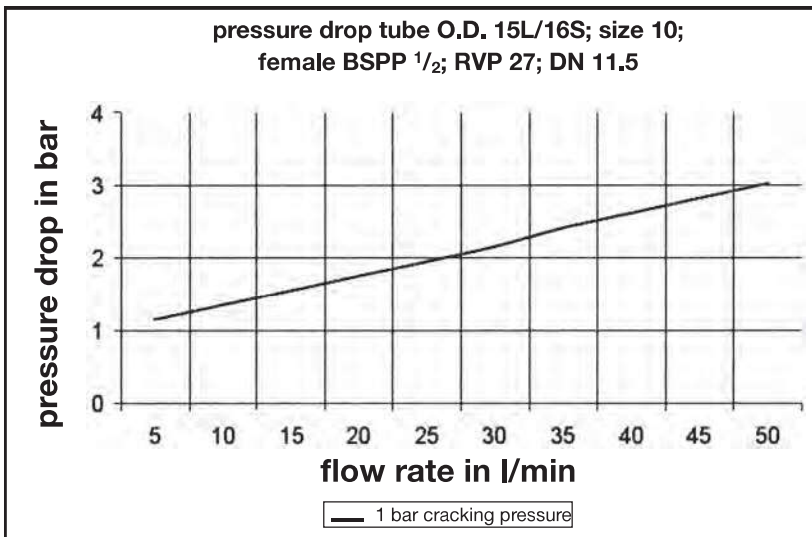
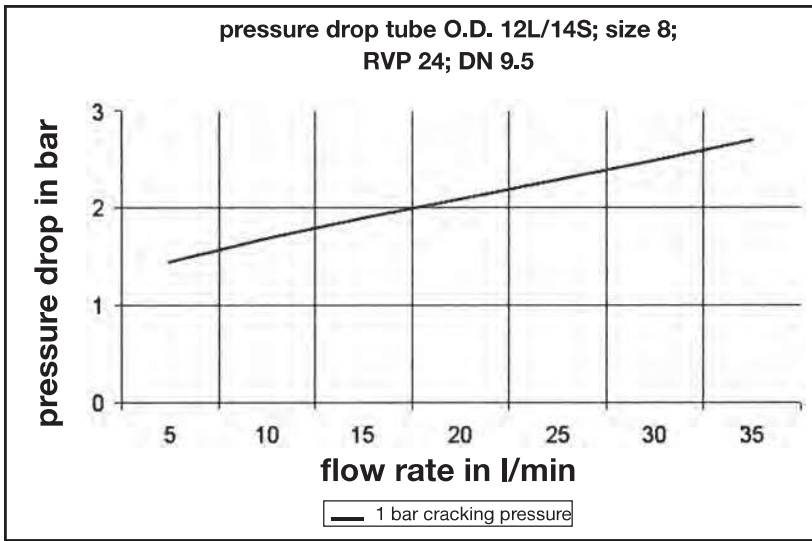
Media:

Hydraulic oil, low flammability hydraulic fluids (except for types HFC: for HFD types; FKM seals are necessary). Air pressure tested (please indicate on order). Not suitable for steam, combustible/explosive gases, or oxygen. For water applications, please consult Parker with details of water and any additives.

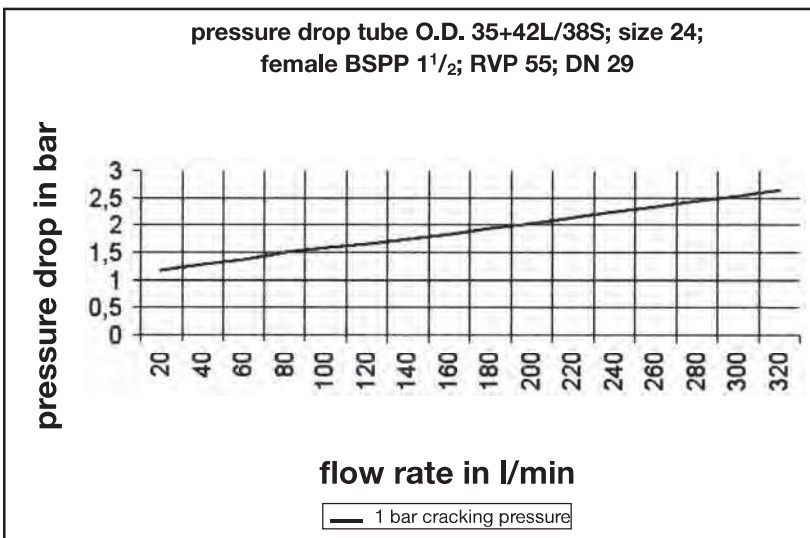
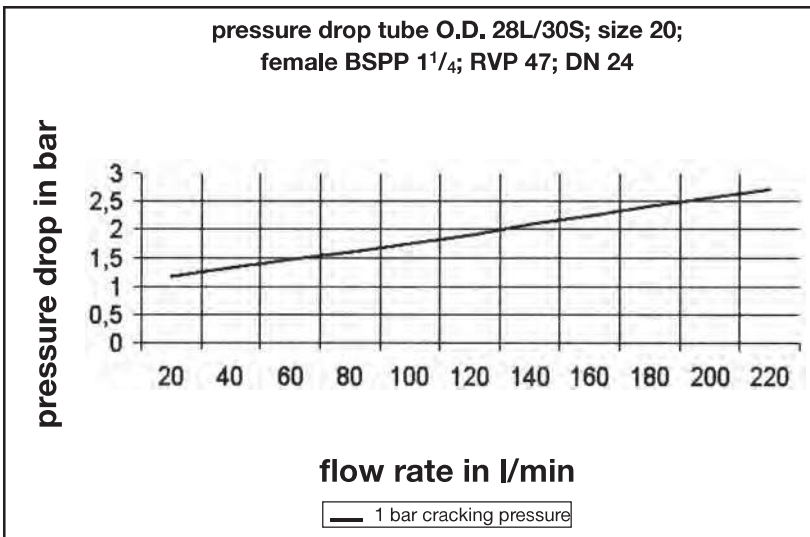
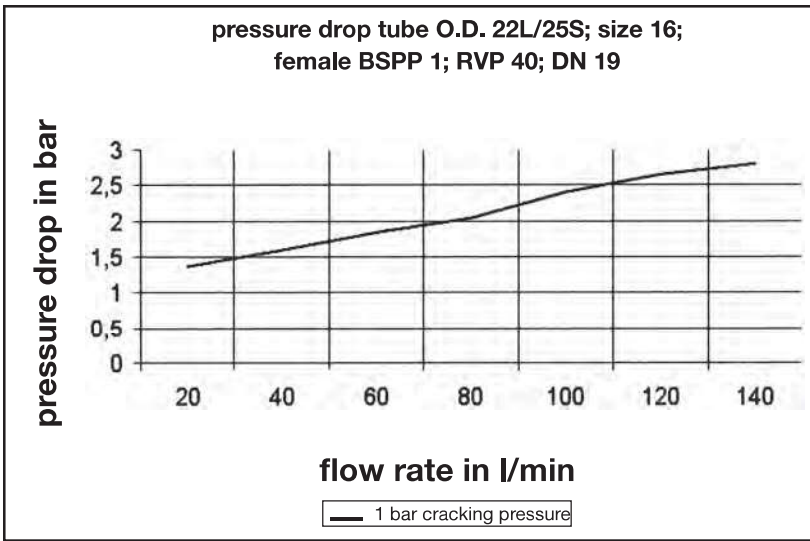
In all diagrams is the peak value of the flow rate in l/min. relating to the maximum permissible flow velocity of 8 m/sec.



In all diagrams is the peak value of the flow rate in l/min. relating to the maximum permissible flow velocity of 8 m/sec.

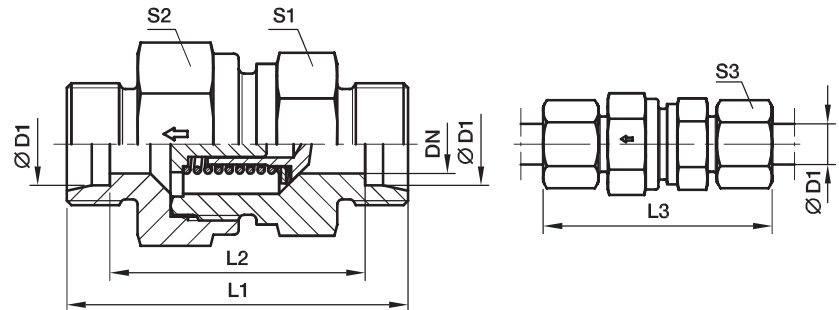


In all diagrams is the peak value of the flow rate in l/min. relating to the maximum permissible flow velocity of 8 m/sec.



RHD Non return valve

EO 24° cone end / EO 24° cone end



Series	D1 	CF DN	71 DN	L1	L2	L3	S1	CF S2	71 S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
													CF	71
L ³⁾	06	3.5	3.5	43.0	29.0	58.0	17	17	17	14	46	RHD06LOMD	400	250
	08	5.5	5.5	44.0	30.0	59.0	19	19	19	17	61	RHD08LOMD	400	250
	10	7.5	7.5	55.0	40.5	69.5	22	24	24	19	104	RHD10LOMD	400	250
	12	9.5	9.5	58.0	43.5	72.5	27	30	30	22	166	RHD12LOMD	400	250
	15	11.0	11.5	62.0	47.5	77.5	27	32	32	27	192	RHD15LOMD	400	250
	18	14.0	14.0	67.0	51.5	83.5	36	41	36	32	292	RHD18LOMD	400	160
	22	18.0	18.0	77.0	61.5	93.5	41	46	46	36	472	RHD22LOMD	250	160
	28	23.0	23.0	85.0	69.5	102.5	50	55	55	41	746	RHD28LOMD	250	100
	35	29.0	29.0	96.0	74.0	117.5	60	65	60	50	1062	RHD35LOMD	250	100
	42	29.0	29.0	96.0	74.0	119.0	65	70	70	60	1518	RHD42LOMD	250	100
S ⁴⁾	06	3.5	3.5	48.5	34.5	63.5	19	19	19	17	70	RHD06SOMD	420	400
	08	3.5	3.5	48.5	34.5	63.5	19	19	19	19	74	RHD08SOMD	420	400
	10	5.5	5.5	55.5	40.5	72.5	22	24	24	22	121	RHD10SOMD	420	400
	12	7.5	7.5	57.5	42.5	74.5	24	27	27	24	148	RHD12SOMD	420	400
	16	11.0	11.5	68.0	50.5	86.5	32	36	36	30	286	RHD16SOMD	420	315
	20	15.0	15.0	76.0	54.5	97.5	41	50	46	36	506	RHD20SOMD	420	250
	25	19.0	19.0	83.0	58.5	106.5	46	55	50	46	639	RHD25SOMD	420	250
	30	24.0	24.0	97.0	69.5	122.5	60	60	60	50	1157	RHD30SOMD	250	250
	38	29.0	29.0	108.0	75.5	136.5	65	70	70	60	1650	RHD38SOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

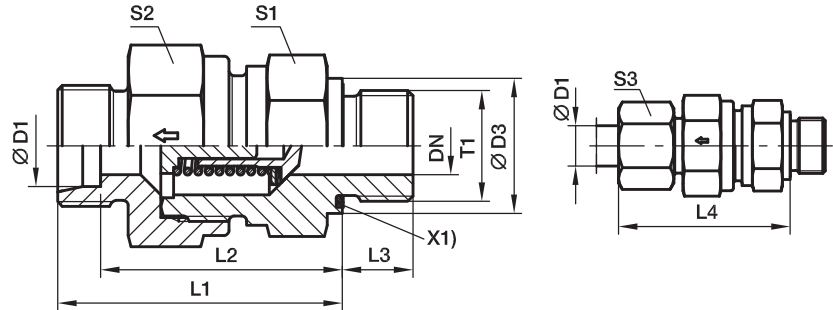
Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHD06LOMDCF	NBR
Stainless steel	71	RHD06LOMD71	VIT

RHV-R-ED Non return valve

EO 24° cone end / Male BSPP thread – ED-seal (ISO 1179)



X1) Eolastic sealing

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	G 1/8 A	3.5	3.5	14	35.0	28.0	8	42.5	17	17	17	14	47	RHV06LREDOMD	400	250
	08	G 1/4 A	5.5	5.5	19	37.0	30.0	12	44.5	19	19	19	17	62	RHV08LREDOMD	400	250
	10	G 1/4 A	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	105	RHV10LREDOMD	400	250
	12	G 3/8 A	9.5	9.5	22	50.0	42.5	12	57.0	27	30	30	22	175	RHV12LREDOMD	400	250
	15	G 1/2 A	11.0	11.5	27	53.0	45.5	14	60.5	27	32	32	27	205	RHV15LREDOMD	400	250
	18	G 1/2 A	14.0	14.0	27	58.0	50.0	14	66.0	36	41	36	32	294	RHV18LREDOMD	400	160
	22	G 3/4 A	18.0	18.0	32	63.0	55.0	16	71.0	41	46	46	36	450	RHV22LREDOMD	250	160
	28	G 1 A	23.0	23.0	40	71.0	63.0	18	79.5	50	55	55	41	720	RHV28LREDOMD	250	100
	35	G 1 1/4 A	29.0	29.0	50	80.0	69.0	20	90.5	60	65	65	50	1050	RHV35LREDOMD	250	100
	42	G 1 1/2 A	29.0	29.0	55	80.0	68.5	22	91.0	65	70	70	60	1560	RHV42LREDOMD	250	100
S ⁴⁾	06	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	17	73	RHV06SREDOMD	420	400
	08	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	79	RHV08SREDOMD	420	400
	10	G 3/8 A	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	132	RHV10SREDOMD	420	400
	12	G 3/8 A	7.5	7.5	22	48.5	41.0	12	57.0	24	27	27	24	153	RHV12SREDOMD	420	400
	16	G 1/2 A	11.0	11.5	27	57.0	48.0	14	66.0	32	36	36	30	293	RHV16SREDOMD	420	315
	20	G 3/4 A	15.0	15.0	32	63.0	52.0	16	73.5	41	50	46	36	511	RHV20SREDOMD	420	250
	25	G 1 A	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	648	RHV25SREDOMD	420	250
	30	G 1 1/4 A	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1176	RHV30SREDOMD	250	250
38	G 1 1/2 A	29.0	29.0	55	86.0	69.5	22	100.0	65	70	70	60	1624	RHV38SREDOMD	250	250	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

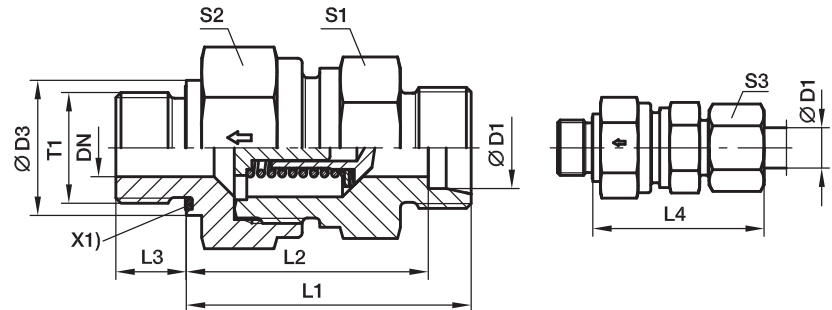
Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the suffixes below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHV06LREDOMDCF	NBR
Stainless steel	71	RHV06LREDOMD71	VIT

RHZ-R-ED Non return valve

Male BSPP thread – ED-seal (ISO 1179) / EO 24° cone end



X1) Eolastic sealing

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	G 1/8 A	3.5	3.5	14	33.5	26.5	8	41.0	17	17	17	14	44	RHZ06LREDOMD	400	250
	08	G 1/4 A	5.5	5.5	19	35.5	28.5	12	43.0	19	19	19	17	59	RHZ08LREDOMD	400	250
	10	G 1/4 A	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	125	RHZ10LREDOMD	400	250
	12	G 3/8 A	9.5	9.5	22	48.0	40.5	12	55.0	27	30	30	22	161	RHZ12LREDOMD	400	250
	15	G 1/2 A	11.0	11.5	27	50.0	42.5	14	57.5	27	32	32	27	186	RHZ15LREDOMD	400	250
	18	G 1/2 A	14.0	14.0	27	56.0	48.0	14	64.0	36	41	36	32	275	RHZ18LREDOMD	400	160
	22	G 3/4 A	18.0	18.0	32	64.0	56.0	16	72.0	41	46	46	36	463	RHZ22LREDOMD	250	160
	28	G 1 A	23.0	23.0	40	72.0	64.0	18	80.5	50	55	55	41	721	RHZ28LREDOMD	250	100
	35	G 1 1/4 A	29.0	29.0	50	81.0	70.0	20	91.5	60	65	65	50	1073	RHZ35LREDOMD	250	100
	42	G 1 1/2 A	29.0	29.0	55	82.0	70.5	22	93.0	65	70	70	60	1602	RHZ42LREDOMD	250	100
S ⁴⁾	06	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	17	71	RHZ06SREDOMD	420	400
	08	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	74	RHZ08SREDOMD	420	400
	10	G 3/8 A	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	128	RHZ10SREDOMD	420	400
	12	G 3/8 A	7.5	7.5	22	48.5	41.0	12	57.0	24	27	27	24	152	RHZ12SREDOMD	420	400
	16	G 1/2 A	11.0	11.5	27	55.0	46.0	14	64.0	32	36	36	30	275	RHZ16SREDOMD	420	315
	20	G 3/4 A	15.0	15.0	32	61.0	50.0	16	71.5	41	50	46	36	490	RHZ20SREDOMD	420	250
	25	G 1 A	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	647	RHZ25SREDOMD	420	250
	30	G 1 1/4 A	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1180	RHZ30SREDOMD	250	250
38	G 1 1/2 A	29.0	29.0	55	88.0	71.5	22	102.0	65	70	70	60	1670	RHZ38SREDOMD	250	250	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

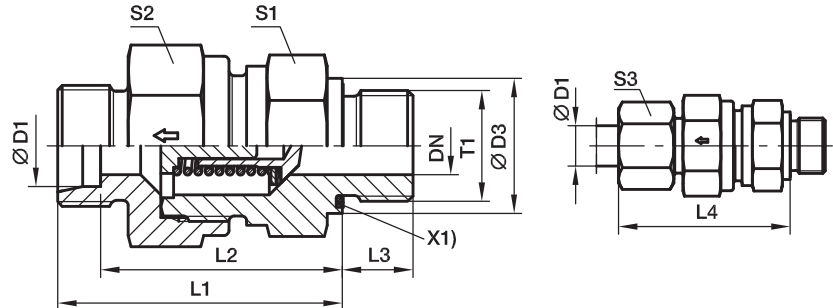
Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHZ06LREDOMDCF	NBR
Stainless steel	71	RHZ06LREDOMD71	VIT

RHV-M-ED Non return valve

EO 24° cone end / Male metric thread – ED-seal (ISO 9974)



X1) Eolastic sealing

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	M 10×1.0	3.5	3.5	14	35.0	28.0	8	42.5	17	17	17	14	46	RHV06LMEDOMD	400	250
	08	M 12×1.5	5.5	5.5	17	37.0	29.5	12	43.5	19	19	19	17	58	RHV08LMEDOMD	400	250
	10	M 14×1.5	7.5	7.5	19	46.0	38.5	12	53.0	22	24	44	19	108	RHV10LMEDOMD	400	250
	12	M 16×1.5	9.5	9.5	22	50.0	42.5	12	57.0	27	30	30	22	173	RHV12LMEDOMD	400	250
	15	M 18×1.5	11.0	11.5	24	53.0	45.5	12	60.5	27	32	32	27	192	RHV15LMEDOMD	400	250
	18	M 22×1.5	14.0	14.0	27	58.0	50.0	14	66.0	36	41	36	32	298	RHV18LMEDOMD	400	160
	22	M 26×1.5	18.0	18.0	32	63.0	55.0	16	71.0	41	46	46	36	446	RHV22LMEDOMD	250	160
	28	M 33×2.0	23.0	23.0	40	71.0	63.0	18	79.5	50	55	55	41	722	RHV28LMEDOMD	250	100
	35	M 42×2.0	29.0	29.0	50	80.0	69.0	20	90.5	60	65	65	50	1053	RHV35LMEDOMD	250	100
	42	M 48×2.0	29.0	29.0	55	80.0	68.5	22	91.0	65	70	70	60	1563	RHV42LMEDOMD	250	100
S ⁴⁾	06	M 12×1.5	3.5	3.5	17	38.5	31.5	12	46.0	19	19	19	17	70	RHV06SMEDOMD	420	400
	08	M 14×1.5	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	76	RHV08SMEDOMD	420	400
	10	M 16×1.5	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	124	RHV10SMEDOMD	420	400
	12	M 18×1.5	7.5	7.5	24	48.5	41.0	12	57.0	24	27	27	24	157	RHV12SMEDOMD	420	400
	16	M 22×1.5	11.0	11.5	27	57.0	48.0	14	66.0	32	36	36	30	296	RHV16SMEDOMD	420	315
	20	M 27×2.0	15.0	15.0	32	63.0	52.0	16	73.5	41	50	46	36	521	RHV20SMEDOMD	420	250
	25	M 33×2.0	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	648	RHV25SMEDOMD	420	250
	30	M 42×2.0	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1178	RHV30SMEDOMD	250	250
	38	M 48×2.0	29.0	29.0	55	86.0	69.5	22	100.0	65	70	70	60	1627	RHV38SMEDOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

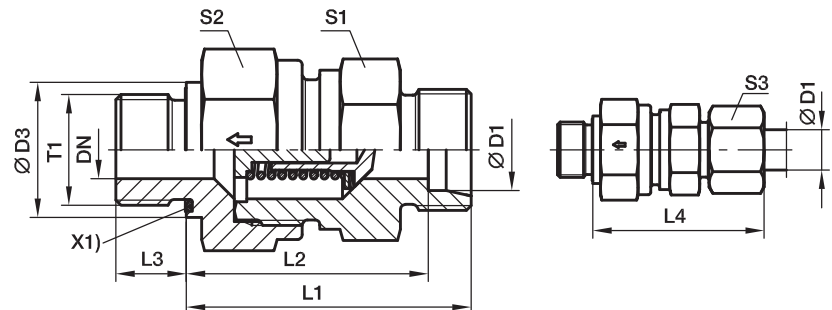
Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHV06LMEDOMDCF	NBR
Stainless steel	71	RHV06LMEDOMD71	VIT

RHZ-M-ED Non return valve

Male metric thread – ED-seal (ISO 9974) / EO 24° cone end



X1) Eolastic sealing

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	M 10×1.0	3.5	3.5	14	33.5	26.5	8	41.0	17	17	17	14	44	RHZ06LMEDOMD	400	250
	08	M 12×1.5	5.5	5.5	17	35.5	28.5	12	43.0	19	19	19	17	58	RHZ08LMEDOMD	400	250
	10	M 14×1.5	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	104	RHZ10LMEDOMD	400	250
	12	M 16×1.5	9.5	9.5	22	48.0	40.5	12	55.0	27	30	30	22	169	RHZ12LMEDOMD	400	250
	15	M 18×1.5	11.0	11.5	24	50.0	42.5	12	57.5	27	32	32	27	174	RHZ15LMEDOMD	400	250
	18	M 22×1.5	14.0	14.0	27	56.0	48.0	14	64.0	36	41	36	32	279	RHZ18LMEDOMD	400	160
	22	M 26×1.5	18.0	18.0	32	64.0	56.0	16	72.0	41	46	46	36	459	RHZ22LMEDOMD	250	160
	28	M 33×2.0	23.0	23.0	40	72.0	64.0	18	80.5	50	55	55	41	721	RHZ28LMEDOMD	250	100
	35	M 42×2.0	29.0	29.0	50	81.0	70.0	20	91.5	60	65	65	50	1078	RHZ35LMEDOMD	250	100
	42	M 48×2.0	29.0	29.0	55	82.0	70.5	22	93.0	65	70	70	60	1601	RHZ42LMEDOMD	250	100
S ⁴⁾	06	M 12×1.5	3.5	3.5	17	38.5	31.5	12	46.0	19	19	19	17	70	RHZ06SMEDOMD	420	400
	08	M 14×1.5	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	75	RHZ08SMEDOMD	420	400
	10	M 16×1.5	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	123	RHZ10SMEDOMD	420	400
	12	M 18×1.5	7.5	7.5	24	48.5	41.0	12	57.0	24	27	27	24	157	RHZ12SMEDOMD	420	400
	16	M 22×1.5	11.0	11.5	27	55.0	46.0	14	64.0	32	36	36	30	279	RHZ16SMEDOMD	420	315
	20	M 27×2.0	15.0	15.0	32	61.0	50.0	16	71.5	41	50	46	36	487	RHZ20SMEDOMD	420	250
	25	M 33×2.0	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	647	RHZ25SMEDOMD	420	250
	30	M 42×2.0	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1180	RHZ30SMEDOMD	250	250
38	M 48×2.0	29.0	29.0	55	88.0	71.5	22	102.0	65	70	70	60	1669	RHZ38SMEDOMD	250	250	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

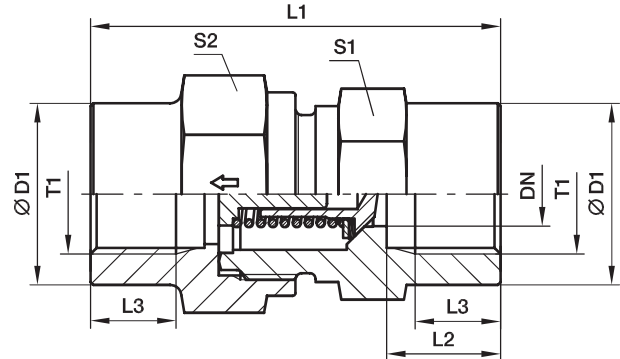
Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHZ06LMEDOMDCF	NBR
Stainless steel	71	RHZ06LMEDOMD71	VIT

RHDI Non return valve

Female BSPP thread (ISO 1179-1) / Female BSPP thread (ISO 1179-1)



Series	T1	DN	D1	L1	L2	L3	S1	S2	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
											CF	71
L ³⁾	G 1/8	3.5	19	42.5	12.0	8.0	19	19	76	RHDI1/8	400	400
	G 1/4	3.5	19	51.0	16.0	12.0	19	19	82	RHDI1/4	400	400
	G 3/8	7.5	24	60.0	17.0	12.0	24	27	157	RHDI3/8	400	400
	G 1/2	11.5	32	72.0	20.0	15.0	32	36	344	RHDI1/2	315	315
	G 3/4	15.0	41	84.0	22.0	16.5	41	46	664	RHDI3/4	250	250
	G 1	19.0	46	95.0	25.5	19.0	46	50	821	RHDI1	250	250
	G 1 1/4	24.0	60	110.0	28.0	21.5	60	60	1581	RHDI11/4	250	250
G 1 1/2	29.0	65	114.0	28.5	22.0	65	70	1919	RHDI11/2	250	250	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

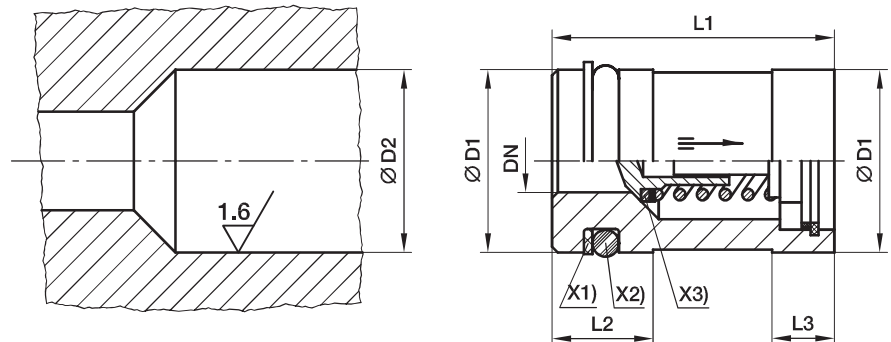
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHDI1/8CF	NBR
Stainless steel	71	RHDI1/871	VIT

RVP Non return valve cartridge



- X1) Supporting ring PTFE
 X2) O-ring NBR
 X3) Sealing disc NBR

Valve ITL	DN	D1	D2	L1 ± 0,15	L2	L3	O-ring	Supporting ring	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
											CF	71
6-L/6 & 8-S	3.5	12.945 ± 0.055	13 ^{+0.12 +0.05}	23.15	9.5	6.0	8,3×2,4	SRA 13-2.05-1.0	21	RVP13	420	400
8-L/10-S	5.5	15.945 ± 0.055	16 ^{+0.12 +0.05}	26.65	9.5	6.5	11.3×2,4	SRA 16-2.05-1.0	32	RVP16	420	400
10-L/12-S	7.5	19.935 ± 0.065	20 ^{+0.142 +0.065}	30.15	9.5	6.5	15.3×2,4	SRA 20-2.05-1.0	54	RVP20	420	400
12-L/14-S	9.5	23.935 ± 0.065	24 ^{+0.149 +0.065}	35.15	12.0	7.5	18.2×3	SRA 24-2.6-1.0	80	RVP24	420	315
15-L/16-S	11.5	26.935 ± 0.065	27 ^{+0.149 +0.065}	38.15	12.0	7.5	21.2×3	SRA 27-2.6-1.0	105	RVP27	420	315
18-L/20-S	15.0	34.92 ± 0.08	35 ^{+0.18 +0.08}	44.65	12.0	9.5	29.2×3	SRA 35-2.5-1.0	204	RVP35	420	250
22-L/25-S	19.0	39.92 ± 0.08	40 ^{+0.18 +0.08}	50.65	12.0	11.0	34.2×3	SRA 40-2.5-1.0	275	RVP40	420	250
28-L/30-S	24.0	46.92 ± 0.08	47 ^{+0.18 +0.08}	60.15	13.0	13.0	41.0×3	SRA 47-2.6-1.5	412	RVP47	250	250
35-L/38-S	29.0	54.905 ± 0.095	55 ^{+0.22 +0.01}	70.15	16.0	13.0	44.2×5,7	SRA 55-5.1-1.5	607	RVP55	250	250

¹⁾ Pressure shown = item deliverable

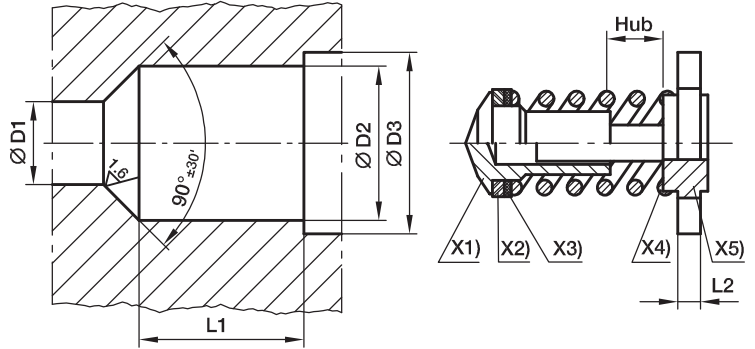
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RVP13CF	NBR
Stainless steel	71	RVP1371	VIT

*Please add the **suffixes** below according to the material/surface required.

I-TL Internal parts of non return valve



- X1) poppet
- X2) sealing disc (smooth side to the poppet)
- X3) cover disc
- X4) spring
- X5) passage disc

Series	Tube O.D.	D1 ^{+0.1}	D2 ^{+0.1}	D3 ^{+0.1}	L1 ^{±0.1}	L2	Hub	Weight g/1 piece	Order code*	PN (bar) ¹⁾	
										CF	71
L/S/S	06/06/08	3.5	7.5	8.6	8.2	2.0	1.0	2	ITL06L/06+08S	*	*
L/S	08/10	5.5	10.2	11.6	11.0	2.0	1.7	4	ITL08L/10S	*	*
L/S	10/12	7.5	13.0	14.1	14.0	2.0	2.3	7	ITL10L/12S	*	*
L/S	12/14	9.5	16.7	18.1	16.5	2.5	2.9	13	ITL12L/14S	*	*
L/S	15/16	11.5	19.5	20.6	19.0	2.5	3.5	18	ITL15L/16S	*	*
L/S	18/20	15.0	25.2	27.1	22.5	3.0	4.4	37	ITL18L/20S	*	*
L/S	22/25	19.0	30.8	32.6	27.0	3.0	5.5	54	ITL22L/25S	*	*
L/S	28/30	24.0	38.6	40.6	32.5	3.5	7.3	107	ITL28L/30S	*	*
L/L/S	35/38/42	29.0	45.7	48.1	37.5	3.5	8.9	144	ITL35L+42I/38S	*	*

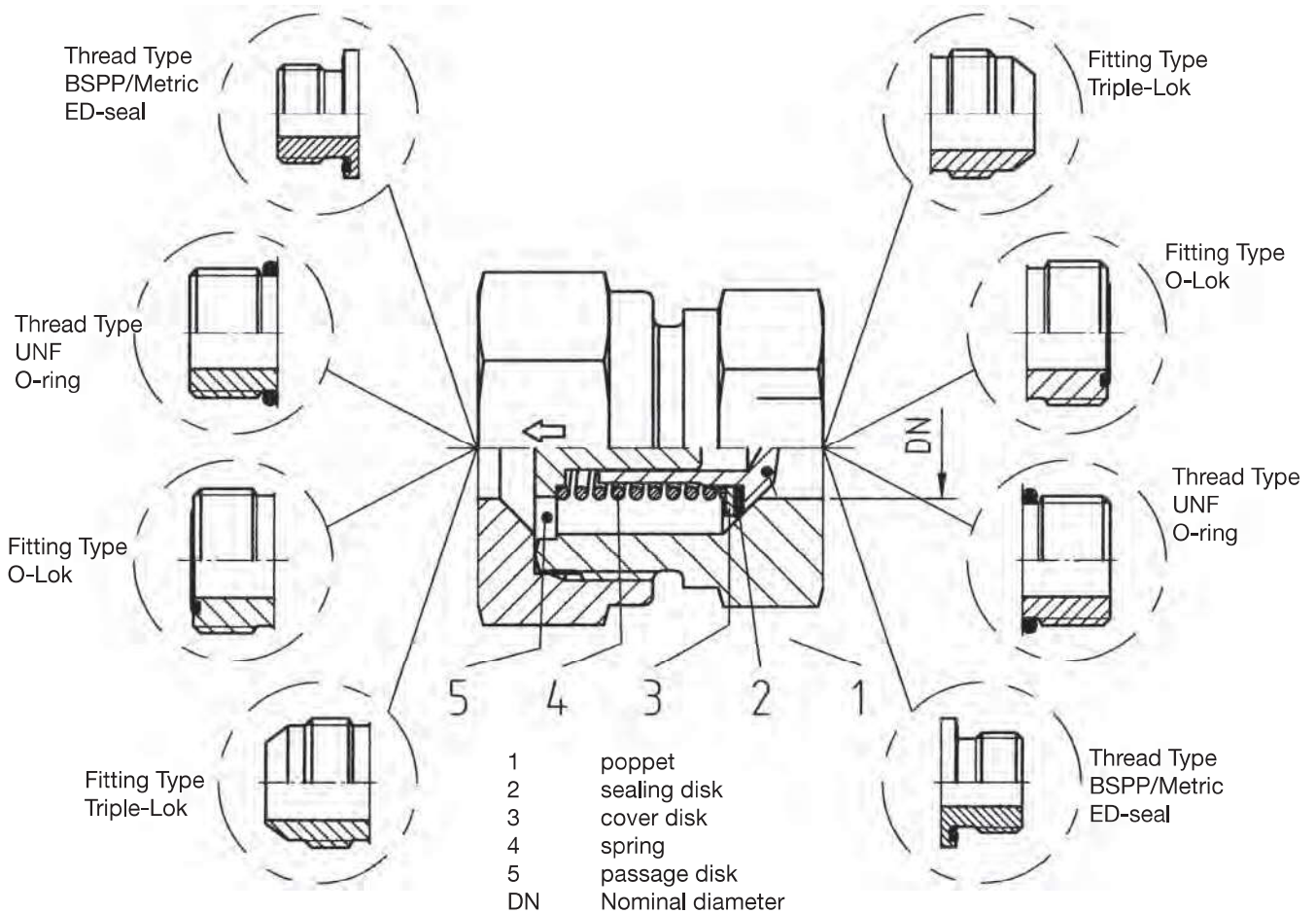
* = item deliverable

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	ITL06L/06+08S	NBR
Stainless steel	71	ITL06L71/06+08S	VIT

RHD/V/Z Non return valves with O-Lok® or Triple-Lok® connections



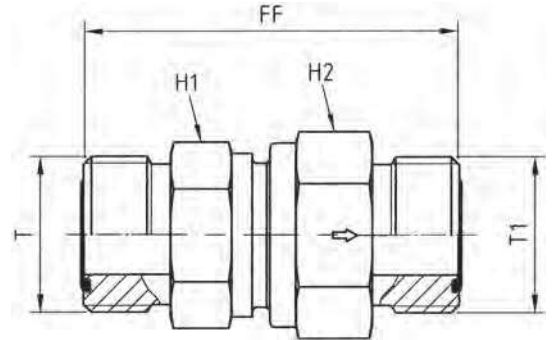
Material:

- Steel zinc-plated CF Cr(VI)-free, seals in NBR (e.g. Perbunan)
- Internal parts in stainless steel with FKM also available on request.

Perbunan = registered trademark of Bayer

RHDMLOS Non return valve

O-Lok® ORFS end / O-Lok® ORFS end



Tube 1 O.D.		Tube 2 O.D.		ORFS (UN/UNF) thread T	ORFS (UN/UNF) thread T1	H1	H2	FF	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch	mm	Inch									CF
6	1/4	6	1/4	9/16-18 UNF	9/16-18 UNF	19	19	44.5	3.5	108	4RHDMLOS	420
8, 10	5/16, 3/8	8, 10	5/16, 3/8	11/16-16 UNF	11/16-16 UNF	22	24	53.5	5.5	188	6RHDMLOS	420
12	1/2	12	1/2	13/16-16 UNF	13/16-16 UNF	24	27	59.5	7.5	223	8RHDMLOS	420
14, 15, 16	5/8	14, 15, 16	5/8	1-14 UNF	1-14 UNF	32	36	70.5	11.5	428	10RHDMLOS	420
18, 20	3/4	18, 20	3/4	1 3/16-12 UNF	1 3/16-12 UNF	41	46	77.5	15.0	731	12RHDMLOS	420
22, 25	1	22, 25	1	1 7/16-12 UNF	1 7/16-12 UNF	46	50	81.5	19.0	1076	16RHDMLOS	420
28, 30, 32	1 1/4	28, 30, 32	1 1/4	1 11/16-12 UNF	1 11/16-12 UNF	60	60	91.5	24.0	1630	20RHDMLOS	250
35, 38	1 1/2	35, 38	1 1/2	2-12 UNF	2-12 UNF	65	70	98.5	29.0	2362	24RHDMLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

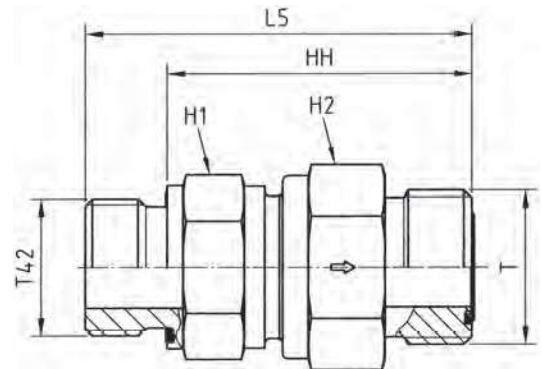
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHDMLOSCF	NBR

RHV42EDMLOS Non return valve

Male BSPP thread – ED-seal (ISO 1179) / O-Lok® ORFS end



Tube O.D.		BSPP thread	ORFS (UN/UNF)					DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch	T42	T	H1	H2	L5	HH				CF
6	1/4	G 1/8	9/16-18 UNF	19	19	44.5	36.5	3.5	92	4RHV42EDMLOS	420
8, 10	5/16, 3/8	G 1/4	11/16-16 UNF	24	27	56.5	44.5	6.5	165	6RHV42EDMLOS	420
12	1/2	G 3/8	13/16-16 UNF	24	27	61.5	49.5	7.5	191	8RHV42EDMLOS	420
14, 15, 16	5/8	G 1/2	1-14 UNF	32	36	70.0	56.0	11.5	366	10RHV42EDMLOS	420
18, 20	3/4	G 3/4	1 3/16-12 UNF	41	46	77.5	63.5	15.0	631	12RHV42EDMLOS	420
22, 25	1	G 1	1 7/16-12 UNF	46	50	84.0	66.0	19.0	863	16RHV42EDMLOS	420
28, 30, 32	1 1/4	G 1 1/4	1 11/16-12 UNF	60	60	95.0	75.0	24.0	1403	20RHV42EDMLOS	250
35, 38	1 1/2	G 1 1/2	2-12 UNF	65	70	105.0	83.0	29.0	1969	24RHV42EDMLOS	250

¹⁾ Pressure shown = item deliverable

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

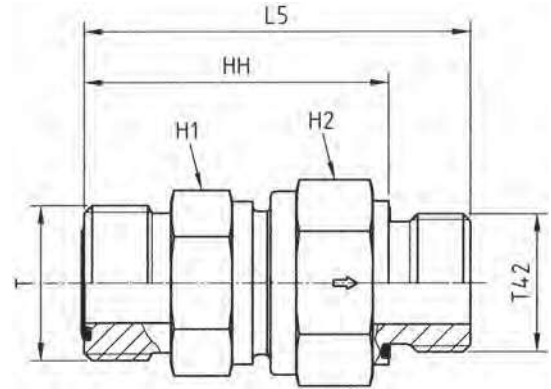
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHV42EDMLOSCF	NBR

RHZ42EDMLOS Non return valve

O-Lok® ORFS end / Male BSPP thread – ED-seal (ISO 1179)



Tube O.D.		BSPP thread	ORFS (UN/UNF) thread	H1	H2	L5	HH	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch	T42	T								CF
6	1/4	G 1/8	9/16-18 UNF	19	19	44.5	36.5	3.5	91	4RHZ42EDMLOS	420
8, 10	5/16, 3/8	G 1/4	11/16-16 UNF	24	27	56.5	44.5	6.5	161	6RHZ42EDMLOS	420
12	1/2	G 3/8	13/16-16 UNF	24	27	61.5	49.5	7.5	190	8RHZ42EDMLOS	420
14, 15, 16	5/8	G 1/2	1-14 UNF	32	36	70.0	56.0	11.5	348	10RHZ42EDMLOS	420
18, 20	3/4	G 3/4	1 3/16-12 UNF	41	46	77.5	53.5	15.0	634	12RHZ42EDMLOS	420
22, 25	1	G 1	1 7/16-12 UNF	46	50	84.0	66.0	19.0	863	16RHZ42EDMLOS	420
28, 30, 32	1 1/4	G 1 1/4	1 11/16-12 UNF	60	60	95.0	75.0	24.0	1397	20RHZ42EDMLOS	250
35, 38	1 1/2	G 1 1/2	2-12 UNF	65	70	105.0	83.0	29.0	2001	24RHZ42EDMLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

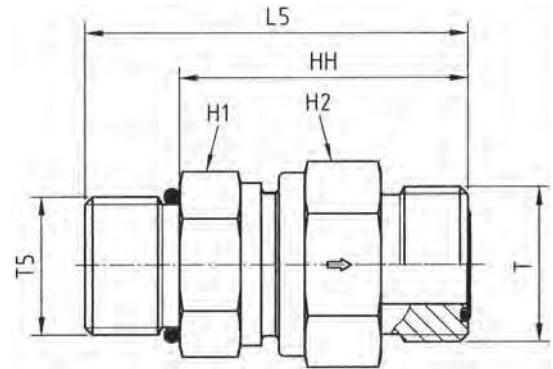
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHZ42EDMLOSCF	NBR

RHV50MLOS Non return valve

Male UN/UNF thread – O-ring (ISO 11926) / O-Lok® ORFS end



Tube O.D.		UNF male thread T5	ORFS (UN/UNF) thread T	H1	H2	L5	HH	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	7/16-20 UNF	9/16-18 UNF	19	19	45.5	34.5	3.5	92	4RHV50MLOS	420
8, 10	5/16, 3/8	9/16-18 UNF	11/16-16 UNF	22	24	54.5	42.5	5.5	165	6RHV50MLOS	420
12	1/2	3/4-16 UNF	13/16-16 UNF	24	27	60.5	46.5	5.5	165	8RHV50MLOS	420
14, 15, 16	5/8	7/8-14 UNF	1-14 UNF	32	36	71.0	55.0	11.5	366	10RHV50MLOS	420
18, 20	3/4	1 1/16-12 UN	1 3/16-12 UNF	41	46	79.0	60.5	15.0	631	12RHV50MLOS	420
22, 25	1	1 5/16-12 UN	1 7/16-12 UNF	46	50	82.5	64.0	19.0	863	16RHV50MLOS	420
28, 30, 32	1 1/4	1 5/8-12 UN	1 11/16-12 UNF	60	60	92.5	74.0	24.0	1403	20RHV50MLOS	250
35, 38	1 1/2	1 7/8-12 UN	2-12 UNF	65	70	99.5	81.0	29.0	1969	24RHV50MLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

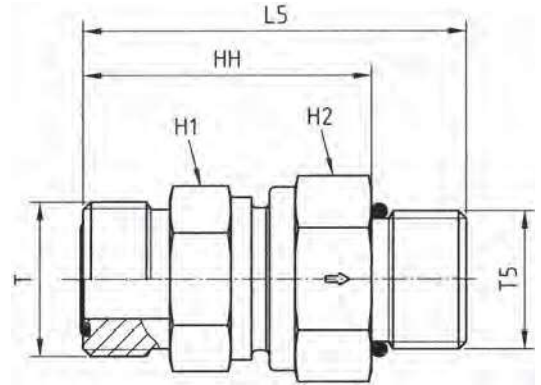
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHV50MLOSCF	NBR

RHZ50MLOS Non return valve

O-Lok® ORFS end / Male UN/UNF thread – O-ring (ISO 11926)



Tube O.D.		UNF male thread T5	ORFS (UN/UNF) thread T	H1	H2	L5	HH	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	7/16-20 UNF	9/16-18 UNF	19	19	45.5	34.5	3.5	91	4RHZ50MLOS	420
8, 10	5/16, 3/8	9/16-18 UNF	11/16-16 UNF	22	24	54.5	42.5	5.5	161	6RHZ50MLOS	420
12	1/2	3/4-16 UNF	13/16-16 UNF	24	27	60.5	46.5	5.5	161	8RHZ50MLOS	420
14, 15, 16	5/8	7/8-14 UNF	1-14 UNF	32	36	71.0	55.0	11.5	348	10RHZ50MLOS	420
18, 20	3/4	1 1/16-12 UN	1 3/16-12 UNF	41	46	79.0	60.5	15.0	634	12RHZ50MLOS	420
22, 25	1	1 5/16-12 UN	1 7/16-12 UNF	46	50	82.5	64.0	19.0	863	16RHZ50MLOS	420
28, 30, 32	1 1/4	1 5/8-12 UN	1 11/16-12 UNF	60	60	92.5	74.0	24.0	1397	20RHZ50MLOS	250
35, 38	1 1/2	1 7/8-12 UN	2-12 UNF	65	70	99.5	81.0	29.0	2001	24RHZ50MLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

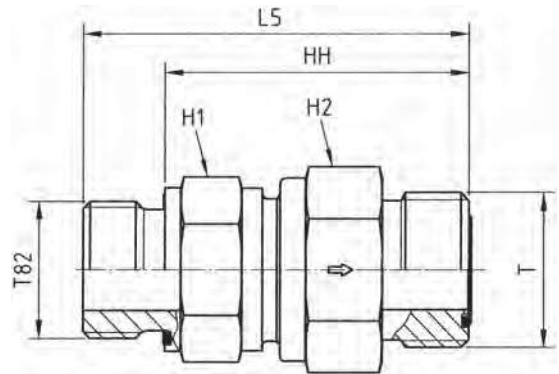
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHZ50MLOSCF	NBR

RHV82EDMLOS Non return valve

Male metric thread – ED-seal (ISO 9974) / O-Lok® ORFS end



Tube O.D.		metric thread T82	ORFS (UN/UNF) thread T	H1	H2	L5	HH	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	M 12×1.5	9/16-18 UNF	19	19	48.5	36.5	3.5	89	4M12RHV82EDMLOS	420
8, 10	5/16, 3/8	M 16×1.5	11/16-16 UNF	22	24	56.5	44.5	5.5	157	6M16RHV82EDMLOS	420
12	1/2	M 18×1.5	13/16-16 UNF	24	27	61.5	49.5	7.5	195	8M18RHV82EDMLOS	420
14, 15, 16	5/8	M 22×1.5	1-14 UNF	32	36	72.0	58.0	11.5	369	10M22RHV82EDMLOS	420
18, 20	3/4	M 27×2.0	1 3/16-12 UNF	41	46	79.5	63.5	15.0	628	12M27RHV82EDMLOS	420
22, 25	1	M 33×2.0	1 7/16-12 UNF	46	50	84.0	66.0	19.0	867	16M33RHV82EDMLOS	420
28, 30, 32	1 1/4	M 42×2.0	1 11/16-12 UNF	60	60	95.0	75.0	24.0	1409	20M42RHV82EDMLOS	250
35, 38	1 1/2	M 48×2.0	2-12 UNF	65	70	103.0	81.0	29.0	1970	24M48RHV82EDMLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

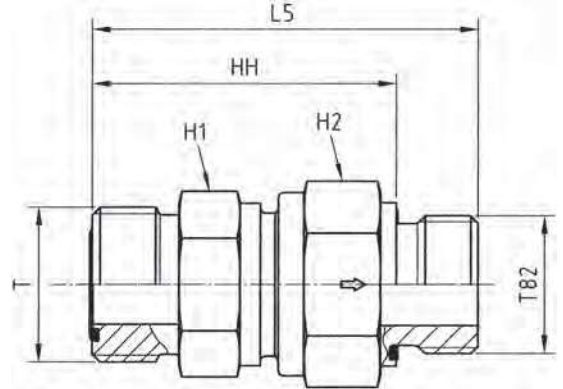
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4M12RHV82EDMLOSCF	NBR

RHZ82EDMLOS Non return valve

O-Lok® ORFS end / Male metric thread – ED-seal (ISO 9974)



Tube O.D.		metric thread T82	ORFS (UN/UNF) thread T	H1	H2	L5	HH	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	M 12×1.5	9/16-18 UNF	19	19	48.5	36.5	3.5	89	4M12RHZ82EDMLOS	420
8, 10	5/16, 3/8	M 16×1.5	11/16-16 UNF	24	27	59.1	47.1	7.5	156	6M16RHZ82EDMLOS	420
12	1/2	M 18×1.5	13/16-16 UNF	24	27	61.5	49.5	7.5	195	8M18RHZ82EDMLOS	420
14, 15, 16	5/8	M 22×1.5	1-14 UNF	32	36	70.0	56.0	11.5	352	10M22RHZ82EDMLOS	420
18, 20	3/4	M 27×2.0	1 3/16-12 UNF	41	46	77.5	61.5	15.0	608	12M27RHZ82EDMLOS	420
22, 25	1	M 33×2.0	1 7/16-12 UNF	46	50	84.0	66.0	19.0	965	16M33RHZ82EDMLOS	420
28, 30, 32	1 1/4	M 42×2.0	1 11/16-12 UNF	60	60	95.0	75.0	24.0	1396	20M42RHZ82EDMLOS	250
35, 38	1 1/2	M 48×2.0	2-12 UNF	65	70	115.0	93.0	29.0	1978	24M48RHZ82EDMLOS	250

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

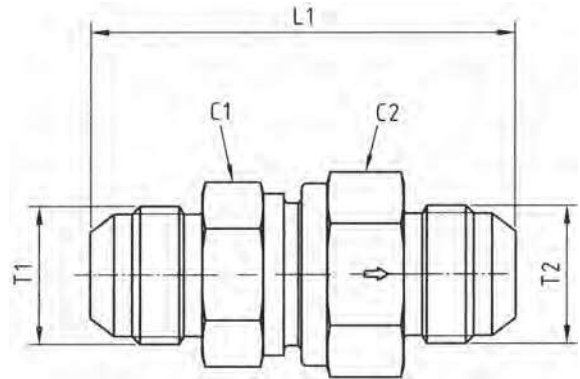
Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4M12RHZ82EDMLOSCF	NBR

RHDMTXS Non return valve

Triple-Lok® 37° flare end / Triple-Lok® 37° flare end



Tube 1 O.D.		Tube 2 O.D.		Thread JIC SAE T1	Thread JIC SAE T2	C1	C2	L1	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch	mm	Inch									CF
6	1/4	6	1/4	7/16-20 UNF	7/16-20 UNF	19	19	52.5	3.5	108	4RHDMTXS	420
8	5/16	8	5/16	1/2-20 UNF	1/2-20 UNF	22	24	59.5	5.5	188	5RHDMTXS	420
10	3/8	10	3/8	9/16-18 UNF	9/16-18 UNF	24	27	61.5	7.5	223	6RHDMTXS	420
12	1/2	12	1/2	3/4-16 UNF	3/4-16 UNF	27	32	69.5	9.5	324	8RHDMTXS	420
14, 15, 16	5/8	14, 15, 16	5/8	7/8-14 UNF	7/8-14 UNF	32	36	78.5	11.5	428	10RHDMTXS	350
18, 20	3/4	18, 20	3/4	1 1/16-12 UN	1 1/16-12 UN	41	46	87.5	15.0	731	12RHDMTXS	350
25	1	25	1	1 5/16-12 UN	1 5/16-12 UN	46	50	92.5	19.0	1076	16RHDMTXS	280
28, 30, 32	1 1/4	28, 30, 32	1 1/4	1 5/8-12 UN	1 5/8-12 UN	60	60	105.5	24.0	1630	20RHDMTXS	250
35, 38	1 1/2	35, 38	1 1/2	1 7/8-12 UN	1 7/8-12 UN	65	70	118.5	29.0	2362	24RHDMTXS	210

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

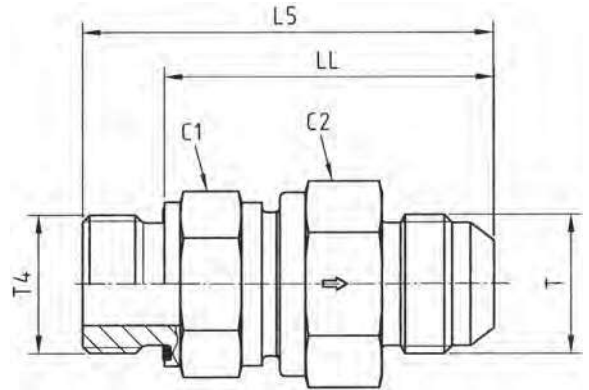
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHDMTXSCF	NBR

RHV42EDMXS Non return valve

Male BSPP thread – ED-seal (ISO 1179) / Triple-Lok® 37° flare end



Tube O.D.		BSPP thread T4	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	G 1/8	7/16-20 UNF	19	19	48.0	40.0	3.5	92	4RHV42EDMXS	420
8	5/16	G 1/4	1/2-20 UNF	22	24	59.5	47.5	5.5	165	5-4RHV42EDMXS	420
10	3/8	G 1/4	9/16-18 UNF	24	27	62.0	50.0	7.5	191	6RHV42EDMXS	420
12	1/2	G 3/8	3/4-16 UNF	27	32	67.0	55.0	9.5	277	8RHV42EDMXS	420
14, 15, 16	5/8	G 1/2	7/8-14 UNF	32	36	76.0	62.0	11.5	366	10RHV42EDMXS	350
18, 20	3/4	G 3/4	1 1/16-12 UN	41	46	84.5	68.5	15.0	631	12RHV42EDMXS	350
25	1	G 1	1 5/16-12 UN	46	50	89.5	71.5	19.0	863	16RHV42EDMXS	280
28, 30, 32	1 1/4	G 1 1/4	1 5/8-12 UN	60	60	102.0	82.0	24.0	1403	20RHV42EDMXS	250
35, 38	1 1/2	G 1 1/2	1 7/8-12 UN	65	70	113.0	91.0	29.0	1969	24RHV42EDMXS	210

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

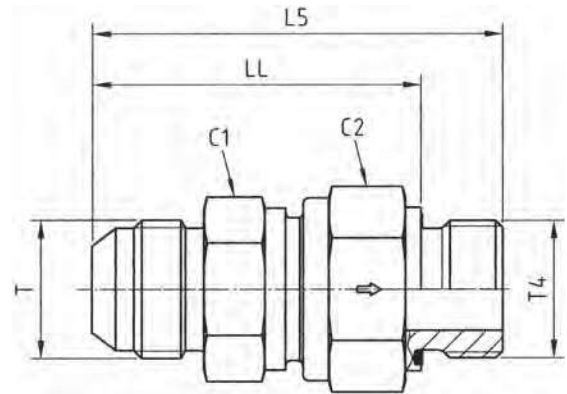
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHV42EDMXSCF	NBR

RHZ42EDMXS Non return valve

Triple-Lok® 37° flare end / Male BSPP thread – ED-seal (ISO 1179)



Tube O.D.		BSPP thread T4	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	G 1/8	7/16-20 UNF	19	19	48.0	40.0	3.5	89	4RHZ42EDMXS	420
8	5/16	G 1/4	1/2-20 UNF	22	24	59.0	47.0	5.5	156	5-4RHZ42EDMXS	420
10	3/8	G 1/4	9/16-18 UNF	24	27	62.0	50.0	7.5	190	6RHZ42EDMXS	420
12	1/2	G 3/8	3/4-16 UNF	27	32	66.0	54.0	9.5	278	8RHZ42EDMXS	420
14, 15, 16	5/8	G 1/2	7/8-14 UNF	32	36	74.0	60.0	11.5	348	10RHZ42EDMXS	350
18, 20	3/4	G 3/4	1 1/16-12 UN	41	46	82.5	66.5	15.0	634	12RHZ42EDMXS	350
25	1	G 1	1 5/16-12 UN	46	50	89.5	71.5	19.0	863	16RHZ42EDMXS	280
28, 30, 32	1 1/4	G 1 1/4	1 5/8-12 UN	60	60	102.0	82.0	24.0	1397	20RHZ42EDMXS	250
35, 38	1 1/2	G 1 1/2	1 7/8-12 UN	65	70	115.0	93.0	29.0	2001	24RHZ42EDMXS	210

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

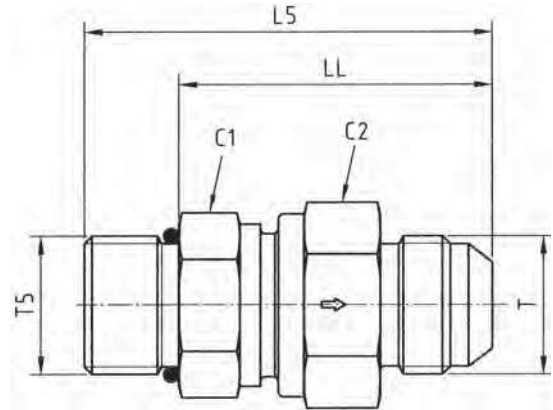
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHZ42EDMXSCF	NBR

RHV50MXS Non return valve

Male UN/UNF thread – O-ring (ISO 11926) / Triple-Lok® 37° flare end



Tube O.D.		Thread UNF T5	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	7/16-20 UNF	7/16-20 UNF	19	19	49.5	38.5	3.5	92	4RHV50MXS	420
8	5/16	1/2-20 UNF	1/2-20 UNF	22	24	56.5	45.5	5.5	165	5RHV50MXS	420
10	3/8	9/16-18 UNF	9/16-18 UNF	24	27	59.5	47.5	7.5	191	6RHV50MXS	420
12	1/2	3/4-16 UNF	3/4-16 UNF	27	32	66.5	52.5	9.5	277	8RHV50MXS	420
14, 15, 16	5/8	7/8-14 UNF	7/8-14 UNF	32	36	75.0	59.0	11.5	366	10RHV50MXS	350
18, 20	3/4	1 1/16-12 UN	1 1/16-12 UN	41	46	84.0	65.5	15.0	631	12RHV50MXS	350
25	1	1 5/16-12 UN	1 5/16-12 UN	46	50	88.0	69.5	19.0	863	16RHV50MXS	280
28, 30, 32	1 1/4	1 5/8-12 UN	1 5/8-12 UN	60	60	99.5	81.0	24.0	1403	20RHV50MXS	250
35, 38	1 1/2	1 7/8-12 UN	1 7/8-12 UN	65	70	109.5	91.0	29.0	1969	24RHV50MXS	210

¹⁾Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

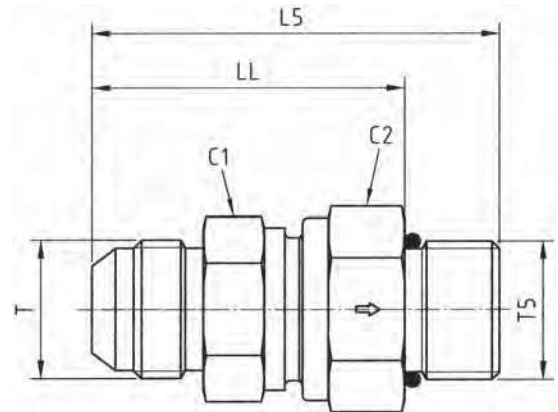
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RHV50MXSCF	NBR

RHZ50MXS Non return valve

Triple-Lok® 37° flare end / Male UN/UNF thread – O-ring (ISO 11926)



Tube O.D.		Thread UNF T5	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	7/16-20 UNF	7/16-18 UNF	19	19	49.5	38.5	3.5	91	4RHZ50MXS	420
8	5/16	1/2-20 UNF	1/2-20 UNF	22	24	56.5	45.5	5.5	161	5RHZ50MXS	420
10	3/8	9/16-18 UNF	9/16-18 UNF	24	27	59.5	47.5	7.5	190	6RHZ50MXS	420
12	1/2	3/4-16 UNF	3/4-16 UNF	27	32	66.5	52.5	9.5	278	8RHZ50MXS	420
14, 15, 16	5/8	7/8-14 UNF	7/8-14 UNF	32	36	75.0	59.0	11.5	348	10RHZ50MXS	350
18, 20	3/4	1 1/16-12 UN	1 1/16-12 UN	41	46	84.0	65.5	15.0	634	12RHZ50MXS	350
25	1	1 5/16-12 UN	1 5/16-12 UN	46	50	88.0	69.5	19.0	863	16RHZ50MXS	280
28, 30, 32	1 1/4	1 5/8-12 UN	1 5/8-12 UN	60	60	107.0	81.0	24.0	1397	20RHZ50MXS	250
35, 38	1 1/2	1 7/8-12 UN	1 7/8-12 UN	65	70	109.5	91.0	29.0	2001	24RHZ50MXS	210

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

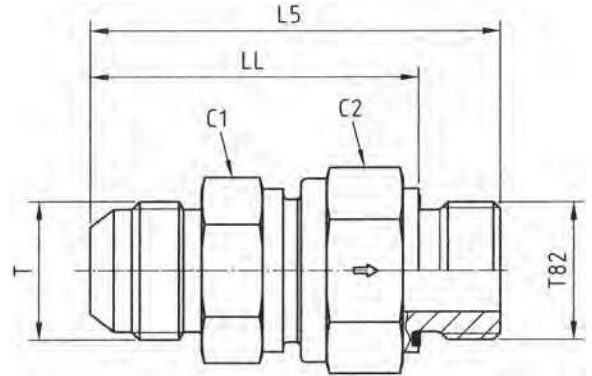
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4RHZ50MXSCF	NBR

RHV82EDMXS Non return valve

Male metric thread – ED-seal (ISO 9974) / Triple-Lok® 37° flare end



Tube O.D.		Metric thread T82	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	M 10×1.0	7/16-20 UNF	19	19	48.0	40.0	3.5	89	4M10RHV82EDMXS	420
8	5/16	M 12×1.5	1/2-20 UNF	22	24	59.5	47.5	5.5	157	5M12RHV82EDMXS	420
10	3/8	M 14×1.5	9/16-18 UNF	24	27	62.0	50.0	7.5	195	6M14RHV82EDMXS	420
12	1/2	M 16×1.5	3/4-16 UNF	27	32	67.0	55.0	9.5	274	8M16RHV82EDMXS	420
14, 15, 16	5/8	M 18×1.5	7/8-14 UNF	32	36	73.5	61.5	11.5	369	10M18RHV82EDMXS	350
18, 20	3/4	M 27×2.0	1 1/16-12 UN	41	46	84.5	68.5	15.0	628	12M27RHV82EDMXS	350
25	1	M 33×2.0	1 5/16-12 UN	46	50	89.5	71.5	19.0	867	16M33RHV82EDMXS	280
28, 30, 32	1 1/4	M 42×2.0	1 5/8-12 UN	60	60	102.0	82.0	24.0	1409	20M42RHV82EDMXS	250
35, 38	1 1/2	M 48×2.0	1 7/8-12 UN	65	70	113.0	91.0	29.0	1970	24M48RHV82EDMXS	210

¹⁾Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

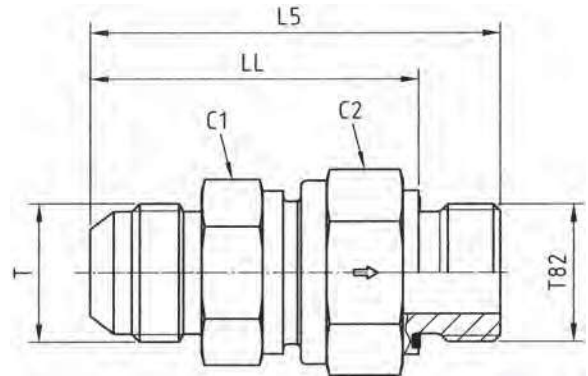
Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4M10RHV82EDMXSCF	NBR

RHZ82EDMXS Non return valve

Triple-Lok® 37° flare end / Male metric thread – ED-seal (ISO 9974)



Tube O.D.		Metric thread T82	Thread JIC SAE T	C1	C2	L5	LL	DN (Nom. diam.)	Weight g/1 piece	Order code*	PN (bar) ¹⁾
mm	Inch										CF
6	1/4	M 10×1.0	7/16-20 UNF	19	19	48.0	40.0	3.5	89	4M10RHZ82EDMXS	420
8	5/16	M 12×1.5	1/2-20 UNF	22	24	59.5	47.5	5.5	156	5M12RHZ82EDMXS	420
10	3/8	M 14×1.5	9/16-18 UNF	24	27	62.0	50.0	7.5	195	6M14RHZ82EDMXS	420
12	1/2	M 16×1.5	3/4-16 UNF	27	32	66.0	54.0	9.5	272	8M16RHZ82EDMXS	420
14, 15, 16	5/8	M 18×1.5	7/8-14 UNF	32	36	71.5	59.5	11.5	352	10M18RHZ82EDMXS	350
18, 20	3/4	M 27×2.0	1 1/16-12 UN	41	46	82.5	66.5	15.0	608	12M27RHZ82EDMXS	350
25	1	M 33×2.0	1 5/16-12 UN	46	50	89.5	71.5	19.0	965	16M33RHZ82EDMXS	280
28, 30, 32	1 1/4	M 42×2.0	1 5/8-12 UN	60	60	102.0	82.0	24.0	1396	20M42RHZ82EDMXS	250
35, 38	1 1/2	M 48×2.0	1 7/8-12 UN	65	70	115.0	93.0	29.0	1807	24M48RHZ82EDMXS	210

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	4M10RHZ82EDMXSCF	NBR

Ball valves

Technical data ball valves

Leakage rate

0 drops/bubbles per min. (DIN EN 12266 and ISO 5208)

The pressure ratings PN for ball- and shut off- valves include design factor 1.5 for the body and 1.1 for the ball seat (according DIN EN 12266 and ISO 5208).

Steel Ball Valves

Materials:

Body: Steel, Cr(VI)-free plated

Ball: Hardchrome plated carbon steel

Stem: Steel, Cr(VI)-free plated

Seals:

Ball seat: POM

Stem seal: NBR

According to application, different seal combinations are available.

Temperature range:*

-10 up to +100 °C.

Stainless Steel Ball Valves

Materials:

Body: Stainless steel

Ball: Stainless steel

Connectors: Stainless steel

Seals:

Ball seat: POM

Stem seal: NBR

According to application, different seal combinations are available.

Temperature range:

-30 up to +100°C.

(Caution: reduced pressure ratings, see pages P37ff).

Applications:

Suitable for petroleum based hydraulic fluid, lubricants and fuel oil.

Different media and applications on request*

Caution!

Please note the admissible pressure ratings for the tube connection. Ball valves are not suitable for use as flow restriction.

*Remarks:

For clarification of the suitability of the ball valves for different media and applications please provide the following data: system pressure, medium, temperature, possible pressure peaks (including pressure and frequency) and possible operation with full differential pressure.

Certifications and approvals

On demand

3.1 Material certificate (DIN EN 10204)

3.1 Pressure test (DIN EN 10204)

3.2 Certificate (DIN EN 10204)

DNV/GL

ABS

BV

Other certificates on request

Additional components and custom designs

on request

Locking devices (P51)

Levers

Actuators

Limit switches

Ball valves for gas applications

Ball valve combinations

High pressure/High temperature ball valves

Fire safe/ATEX

Custom made special blocks

Material properties

Material of body, connections, ball and stem

	Pressure reduction in % in relation to permitted system temperature in °C													
	-60°	-50°	-40°	-30°	-20°	-10°	0°	+20°	+80°	+100°	+120°	+130°	+150°	+200°
Steel	0%													
Low alloy steel	25%					0%								
Stainless steel	0%										11%			
Duplex			0%							20%				

Sealing material ball seat

	Pressure reduction in % in relation to permitted system temperature in °C													
	-60°	-50°	-40°	-30°	-20°	-10°	0°	+20°	+80°	+100°	+120°	+130°	+150°	+200°
POM	0%													
PEEK natural (unfilled)	see separate table on page P38													
PEEK (graphite filled)	see separate table on page P38													
PTFE	see separate table on page P38													

Sealing material stem and adapter

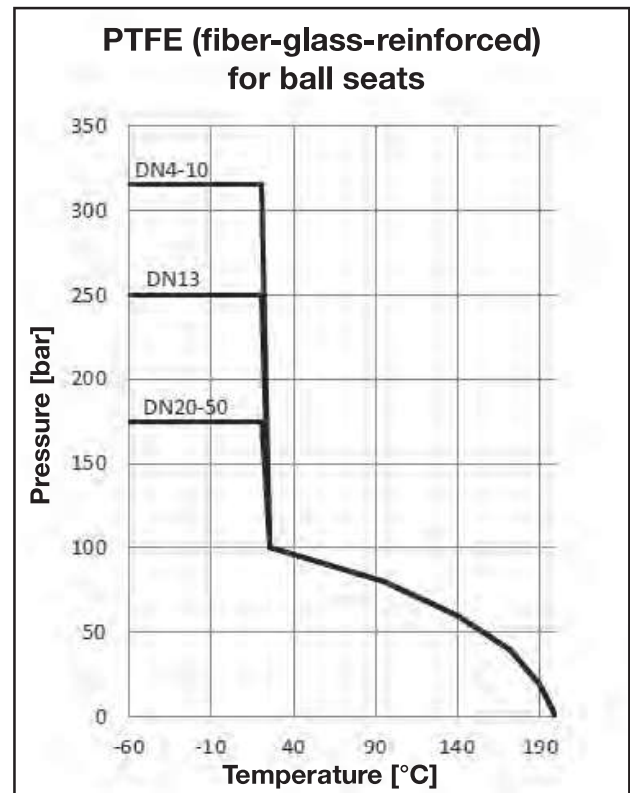
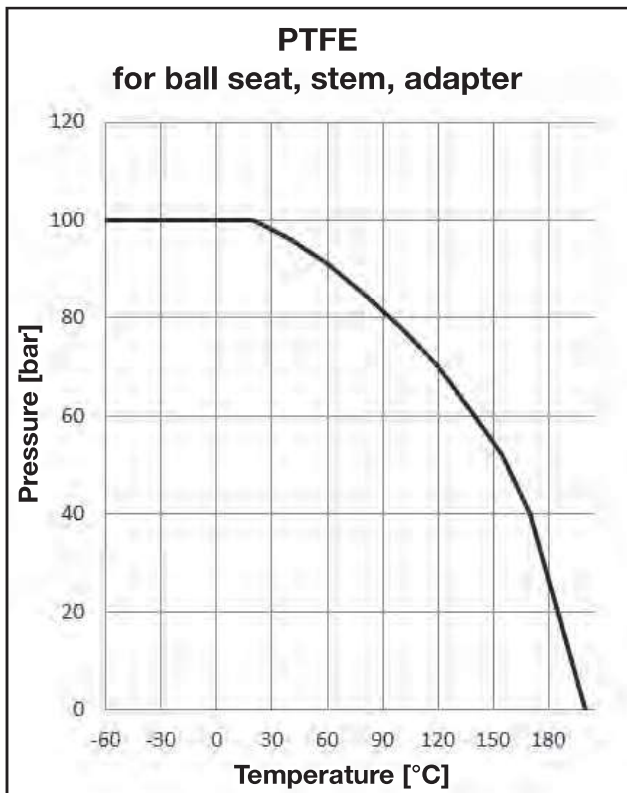
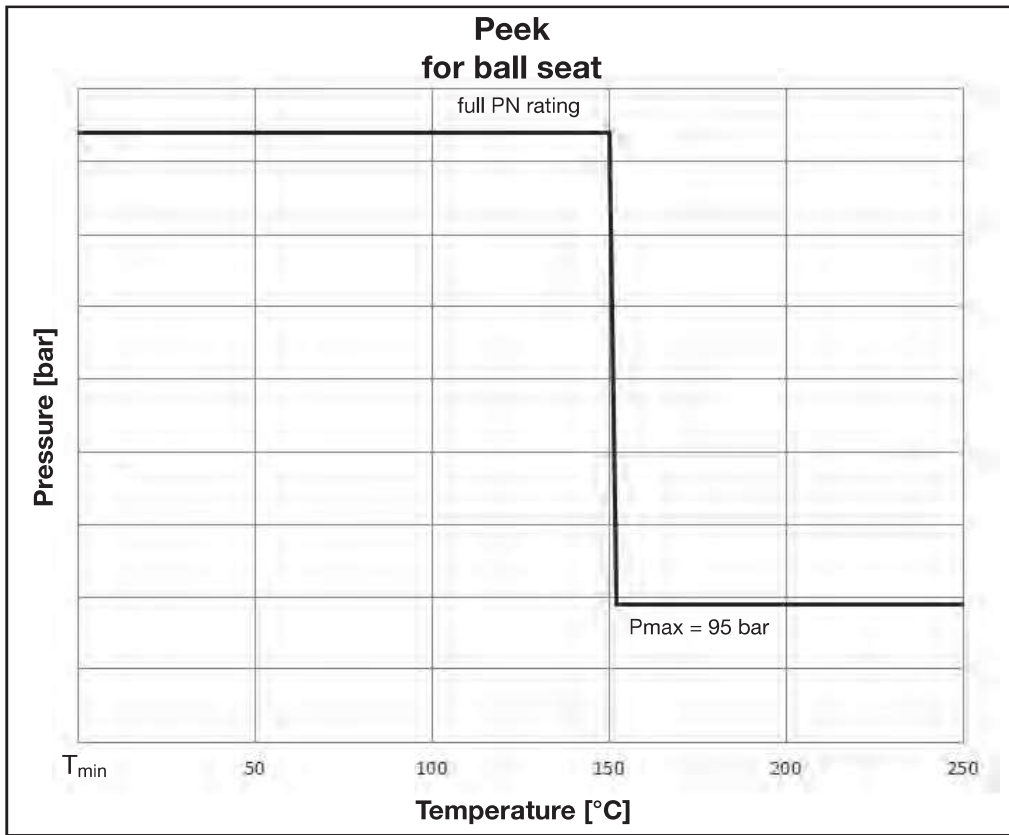
	Pressure reduction in % in relation to permitted system temperature in °C													
	-60°	-50°	-40°	-30°	-20°	-10°	0°	+20°	+80°	+100°	+120°	+130°	+150°	+200°
NBR	0%													
FKM	0%													
EPDM	0%													
PTFE	see separate table on page P38													

permitted system temperature
 system temperature not permitted

Example

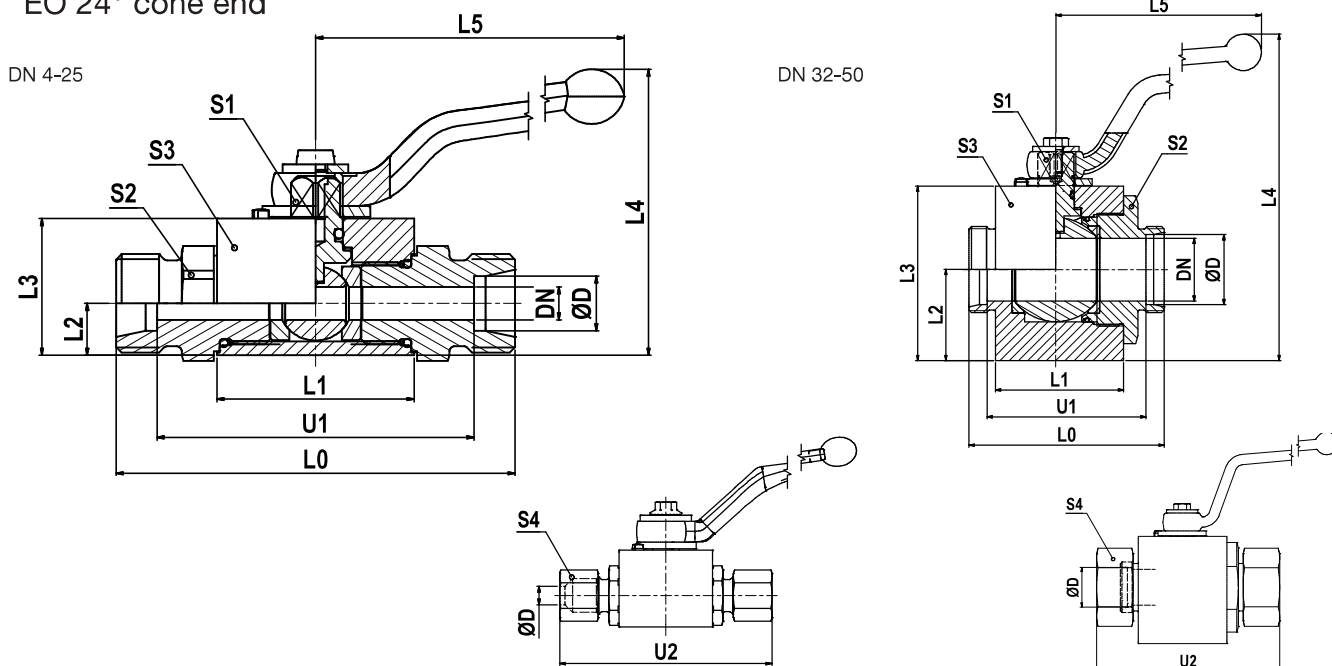
KH18LPEEK/FKM71X	Application temperature: max. 180 °C	Formula:
PN = 420 bar		$P_{max}(180^{\circ}C) = 95\text{bar}$
Body: 1.4571	Pressure reduction body: 11%	
Ball Seat: PEEK (graphite filled)	Pressure ball seat: 95 bar	
O-ring: FKM	Pressure reduction O-ring: 0%	

PEEK/PTFE Pressure / Temperature Diagram



KH 2-way ball valve steel

EO 24° cone end



Series	D	DN	L0	L1	L2	L3	L4	L5	U1	U2	S1	S2	S3	S4	Weight g/1 piece	Order code	PN (bar)	
L ¹⁾	06	4	67	36.0	9.5	25	54.5	76	53	82	7	19	20	14	195	KH06LCFX	500	
	08	6	67	36.0	9.5	25	54.5	76	53	82	7	19	20	17	190	KH08LCFX	500	
	10	8	75	45.0	14.5	35	67.5	100	61	90	8	24	30	19	420	KH10LCFX	500	
	12	10	75	45.0	14.5	35	67.5	100	61	90	8	24	30	22	410	KH12LCFX	500	
	15	13	83	51.0	17.0	40	93.0	113	69	99	10	30	35	27	631	KH15LCFX	500	
	18	16	82	50.0	20.0	45	98.0	113	67	99	10	36	45	32	850	KH18LCFX	420	
	22	20	99	60.0	24.0	55	120.0	171	84	116	14	41	45	36	1210	KH22LCFX	420	
	28	25	108	70.0	26.0	60	125.0	171	93	126	14	50	55	41	1750	KH28LCFX	420	
	35	32/25	116	70.0	26.0	60	125.0	171	95	138	14	50	55	50	1820	KH35LDN25CFX	420	
	35	32	121	79.0	49.5	95	188.0	228	100	143	17	60	Ø99	50	4888	KH35LCFX	420	
	42	40/25	121	70.0	26.0	60	125.0	171	99	144	14	55	55	60	1940	KH42LDN25CFX	420	
	42	40	118	77.5	54.5	105	198.0	228	96	141	17	75	Ø109	60	5590	KH42LCFX	420	
	S ²⁾	08	5	73	36.0	9.5	25	54.5	76	59	88	7	19	20	19	214	KH08SCFX	500
		10	6	73	36.0	9.5	25	54.5	76	58	90	7	19	20	22	220	KH10SCFX	500
12		8	77	45.0	14.5	35	67.5	100	62	94	8	24	30	24	430	KH12SCFX	500	
14		10	81	45.0	14.5	35	67.5	100	65	100	8	24	30	27	440	KH14SCFX	500	
16		13	87	51.0	17.0	40	93.0	113	70	106	10	30	35	30	649	KH16SCFX	500	
20		16	90	50.0	20.0	45	98.0	113	69	112	10	36	45	36	900	KH20SCFX	420	
25		20	107	60.0	24.0	55	120.0	171	83	131	14	41	45	46	1290	KH25SCFX	420	
30		25	120	70.0	26.0	60	125.0	171	93	146	14	50	55	50	1880	KH30SCFX	420	
38		32/25	134	70.0	26.0	60	125.0	171	102	163	14	55	55	60	1950	KH38SDN25CFX	420	
38		32	127	73.0	49.5	95	188.0	228	95	156	17	60	Ø99	60	4740	KH38SCFX	420	

¹⁾L = light series; ²⁾S = heavy series

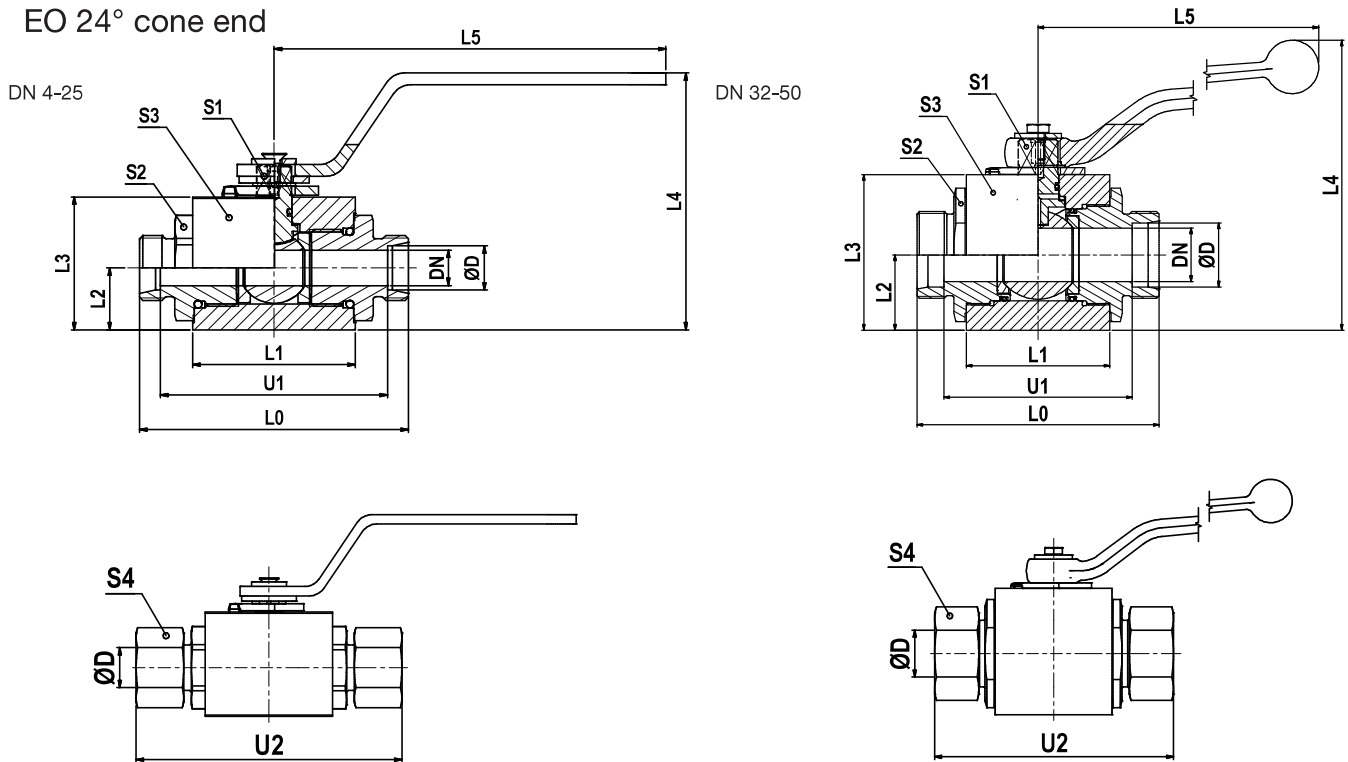
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH06LCFX	POM / NBR

KH 2-way ball valve stainless steel

EO 24° cone end



Series	D ⊕	DN	L0	L1	L2	L3	L4	L5	U1	U2	S1	S2	S3	S4	Weight g/1 piece	Order code	PN (bar)
L ¹⁾	06	4	73	41.5	13.5	30.0	54	80.0	58.5	88	7	22	30	14	391	KH06L71X	500
	08	6	73	41.5	13.5	30.0	54	80.0	58.5	88	7	22	30	17	392	KH08L71X	500
	10	8	87	53.0	18.0	40.0	82	132.5	73.0	102	8	30	40	19	833	KH10L71X	500
	12	10	87	53.0	18.0	40.0	82	132.5	73.0	102	8	30	40	22	812	KH12L71X	500
	15	12	91	55.0	21.0	45.0	87	132.5	76.5	107	10	32	45	27	1018	KH15L71X	500
	18	12	91	55.0	21.0	45.0	87	132.5	75.5	108	10	32	45	32	1059	KH18L71X	500
	22	20	105	65.0	31.0	65.0	118	190.0	89.5	122	14	46	65	36	2427	KH22L71X	400
	28	25	112	71.0	38.0	75.0	128	190.0	96.5	130	14	50	75	41	3313	KH28L71X	400
	35	32	145	86.0	45.0	93.0	174	320.0	123.5	167	19	70	Ø100	50	6230	KH35L71X	400
	42	40	150	92.0	52.0	104.5	185	320.0	127.5	173	19	80	Ø110	60	7706	KH42L71X	400
S ²⁾	08	4	76	41.5	13.5	30.0	54	80.0	61.5	91	7	22	30	19	390	KH08S71X	500
	10	6	76	41.5	13.5	30.0	54	80.0	60.5	91	7	22	30	22	406	KH10S71X	500
	12	8	89	53.0	18.0	40.0	82	132.5	74.0	106	8	30	40	24	855	KH12S71X	500
	14	10	93	53.0	18.0	40.0	82	132.5	77.0	112	8	30	40	27	850	KH14S71X	500
	16	12	96	55.0	21.0	45.0	87	132.5	78.5	115	10	32	45	30	1050	KH16S71X	500
	20	12	99	55.0	21.0	45.0	87	132.5	77.5	121	10	32	45	36	1090	KH20S71X	500
	25	20	113	65.0	31.0	65.0	118	190.0	88.5	137	14	46	65	46	2490	KH25S71X	400
	30	25	124	71.0	38.0	75.0	128	190.0	96.5	150	14	50	75	50	3430	KH30S71X	400
	38	32	145	86.0	45.0	93.0	174	320.0	112.5	174	19	70	Ø100	60	5881	KH38S71X	400

1) L = light series; 2) S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

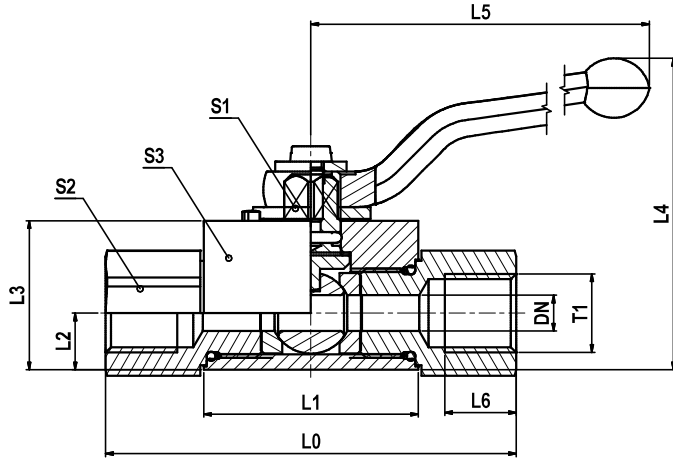
Delivery without nut and ring.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	KH06L71X	POM / NBR

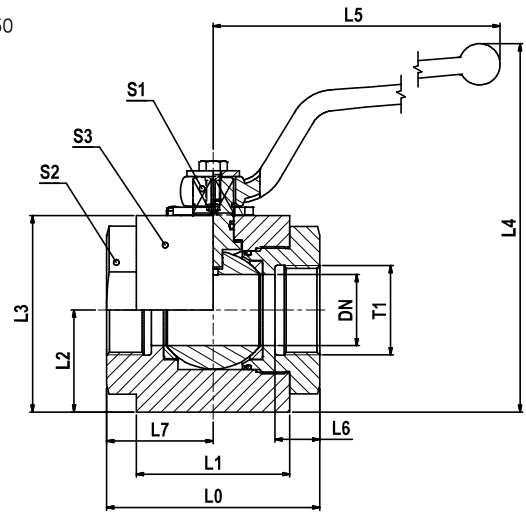
KH 2-way BSPP ball valve steel

Female BSPP thread (ISO 1179-1)

DN 4-25



DN 32-50



T1	DN	L0	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
G 1/8	5	69	36	9.5	25	54.5	76	12	-	7	19	20	220	KH1/8CFX	500
G 1/4	6	69	36	9.5	25	54.5	76	12	-	7	19	20	210	KH1/4CFX	500
G 3/8	10	73	45	14.5	35	67.5	100	14	-	8	24	30	430	KH3/8CFX	500
G 1/2	13	82	51	17.0	40	93.0	113	15	-	10	30	35	670	KH1/2CFX	500
G 5/8	16	88	50	20.0	45	98.0	113	18	-	10	36	45	973	KH5/8CFX	420
G 3/4	20	93	60	24.0	55	120.0	171	18	-	14	41	45	1280	KH3/4CFX	420
G 1	25	115	70	26.0	60	125.0	171	20	-	14	50	55	1982	KH1CFX	420
G 1 1/4	32	110	80	49.5	95	188.0	228	22	55	17	60	Ø99	4888	KH11/4CFX	420
G 1 1/4	32/25	134	70	26.0	60	125.0	171	22	-	14	50	55	2066	KH11/4DN25CFX	420
G 1 1/2	40	114	82	54.5	105	198.0	228	24	57	17	75	Ø109	6330	KH11/2CFX	420
G 1 1/2	40/25	139	70	26.0	60	125.0	171	24	-	14	55	55	2200	KH11/2DN25CFX	420
G 2	50	133	100	62.0	120	212.0	306	26	65	17	85	Ø124	9220	KH2CFX	420

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

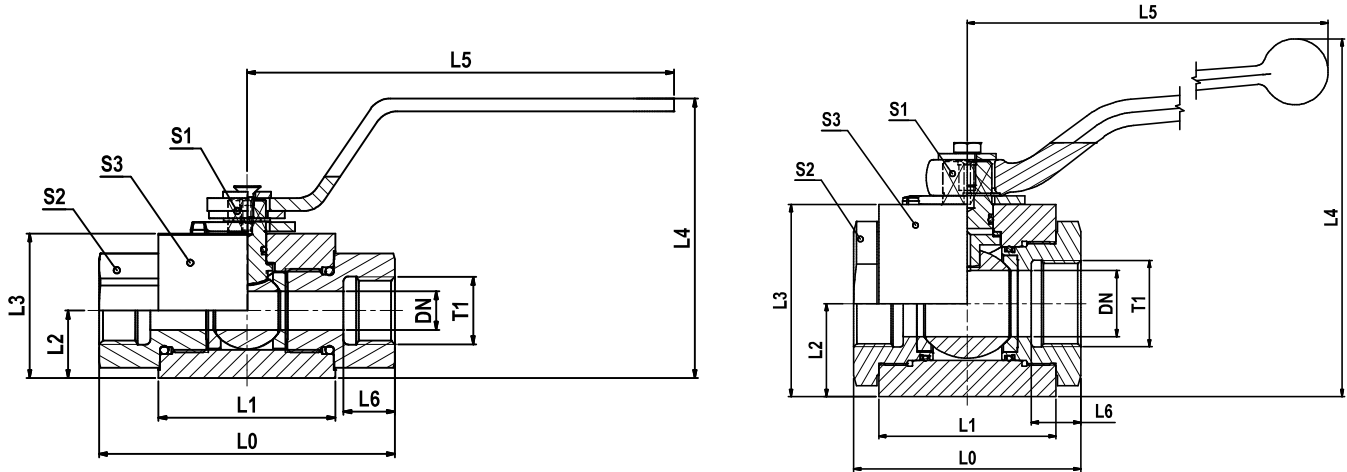
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH1/8CFX	POM / NBR

KH 2-way BSPP ball valve stainless steel

Female BSPP thread (ISO 1179-1)

DN 4-25

DN 32-50



T1	DN	L0	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
G 1/8	4	69	41.5	13.5	30.0	54	80.0	11.0	7	22	30	420	KH1/871X	500
G 1/4	6	75	41.5	13.5	30.0	54	80.0	14.0	7	22	30	427	KH1/471X	500
G 3/8	10	86	53.0	18.0	40.0	82	132.5	14.0	8	30	40	902	KH3/871X	500
G 1/2	12	92	55.0	21.0	45.0	87	132.5	16.0	10	32	45	1100	KH1/271X	500
G 3/4	20	111	65.0	31.0	65.0	118	190.0	18.0	14	46	65	2699	KH3/471X	400
G 1	25	122	71.0	38.0	75.0	128	190.0	20.0	14	50	75	3620	KH171X	400
G 1 1/4	32	110	86.0	45.0	93.0	174	320.0	24.0	19	70	Ø100	5688	KH11/471X	400
G 1 1/2	40	120	92.0	52.0	104.5	185	320.0	26.0	19	80	Ø110	7379	KH11/271X	400
G 2	50	140	97.0	59.5	119.5	201	320.0	27.5	19	95	Ø125	10086	KH271X	400

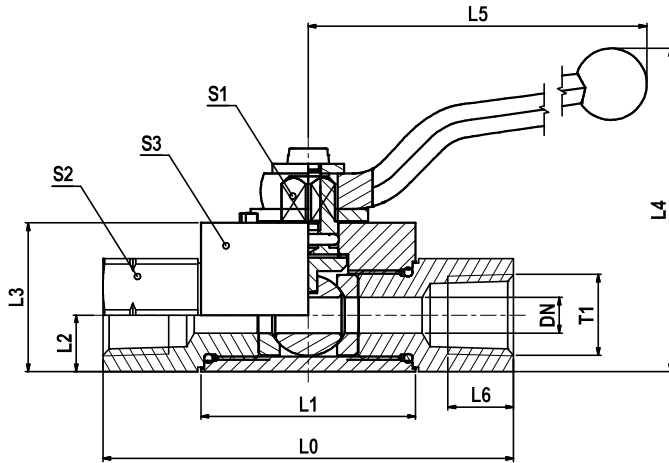
$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	KH1/871X	POM / NBR

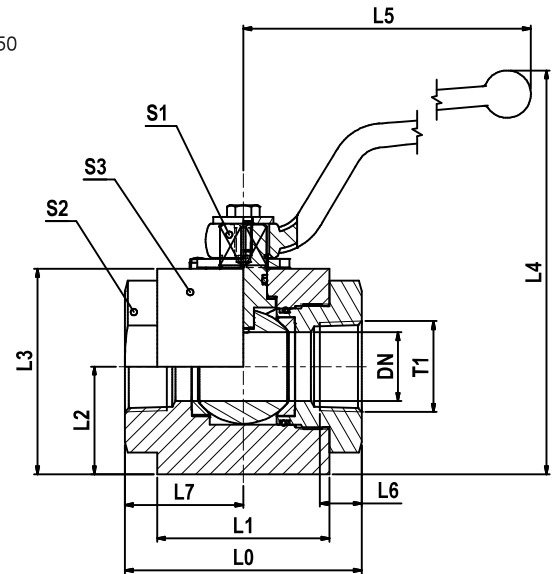
KH 2-way NPT ball valve steel

Female NPT thread (SAE 476)

DN 4-25



DN 32-50



T1	DN	L0	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
1/8-27 NPT	5	69	36	9.5	25	55	76	7.0	-	7	19	20	225	KH1/8NPTCFX	500
1/4-18 NPT	6	69	36	9.5	25	55	76	11.0	-	7	19	20	210	KH1/4NPTCFX	500
3/8-18 NPT	10	73	45	14.5	35	68	100	11.5	-	8	24	30	430	KH3/8NPTCFX	500
1/2-14 NPT	13	82	51	17.0	40	93	113	15.0	-	10	30	35	670	KH1/2NPTCFX	500
3/4-14 NPT	20	93	60	24.0	55	120	171	16.0	-	14	41	45	1300	KH3/4NPTCFX	420
1-11.5 NPT	25	115	70	26.0	60	125	171	19.0	-	14	50	55	2000	KH1NPTCFX	420
1 1/4-11.5 NPT	32	110	80	49.5	95	188	228	19.5	55	17	60	Ø99	4888	KH11/4NPTCFX	420
1 1/2-11.5 NPT	40	114	82	54.5	105	198	228	19.5	57	17	75	Ø109	5590	KH11/2NPTCFX	420
2-11.5 NPT	50	133	100	62.0	120	212	306	22.0	65	17	85	Ø124	9220	KH2NPTCFX	420

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

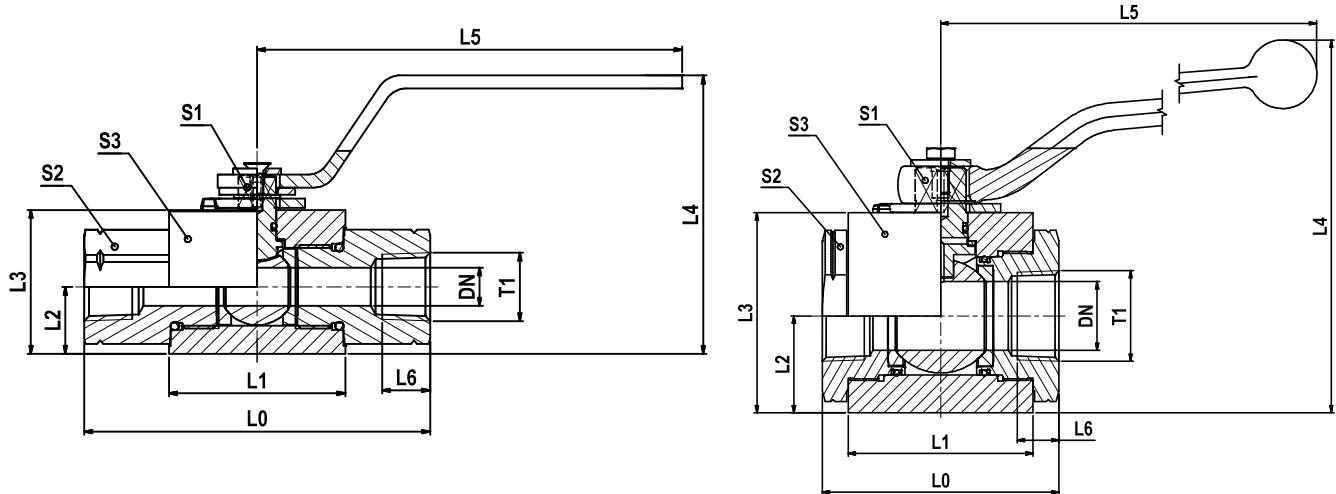
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH1/8NPTCFX	POM / NBR

KH 2-way NPT ball valve stainless steel

Female NPT thread (SAE 476)

DN 4-25

DN 32-50



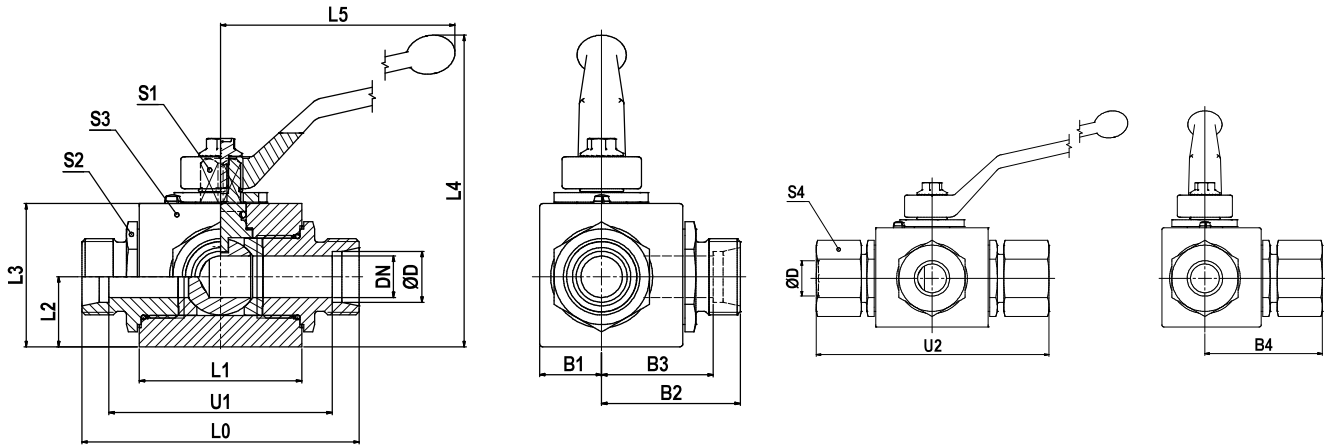
T1	DN	L0	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
1/8-27 NPT	4	82	41.5	13.5	30.0	54	80.0	8.0	7	22	30	431	KH1/8NPT71X	500
1/4-18 NPT	6	82	41.5	13.5	30.0	54	80.0	11.5	7	22	30	436	KH1/4NPT71X	500
3/8-18 NPT	10	95	53.0	18.0	40.0	82	132.5	11.5	8	30	40	956	KH3/8NPT71X	500
1/2-14 NPT	12	108	55.0	21.0	45.0	87	132.5	15.0	10	32	45	1204	KH1/2NPT71X	500
3/4-14 NPT	20	111	65.0	31.0	65.0	118	190.0	16.0	14	46	65	2723	KH3/4NPT71X	400
1-11.5 NPT	25	122	71.0	38.0	75.0	128	190.0	19.0	14	50	75	3646	KH1NPT71X	400
1 1/4-11.5 NPT	32	110	86.0	45.0	93.0	174	320.0	19.5	19	70	Ø100	5887	KH1 1/4NPT71X	400
1 1/2-11.5 NPT	40	120	92.0	52.0	104.5	185	320.0	19.5	19	80	Ø110	7430	KH1 1/2NPT71X	400
2-11.5 NPT	50	140	97.0	59.5	119.5	201	320.0	25.0	19	95	Ø125	10100	KH2NPT71X	400

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

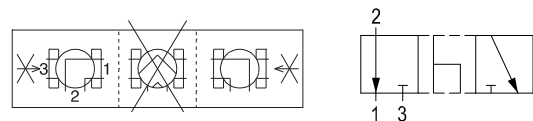
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless steel	71	KH1/8NPT71X	POM / NBR

KH 3-way compact ball valve steel

EO 24° cone end



By default 3-way ball valves are manufactured as L-Bore version. Alternative design on request. Pressure inlet only from center port (connector 2).



Series	D	DN	L0	L1	L2	L3	L4	L5	U1	U2	B1	B2	B3	B4	S1	S2	S3	S4	Weight g/1 piece	Order code	PN (bar)
L ¹⁾	06	4	67	36	14.5	30	59.5	76	53	82	12.0	33.5	26.5	41.0	7	19	30	14	320	KH3/2-06LCFX	500
	08	6	67	36	14.5	30	59.5	76	53	82	12.0	33.5	26.5	41.0	7	19	30	17	320	KH3/2-08LCFX	500
	10	8	75	45	14.5	35	67.5	100	61	90	17.5	37.5	30.5	45.0	8	24	40	19	550	KH3/2-10LCFX	500
	12	10	75	45	14.5	35	67.5	100	61	90	17.5	37.5	30.5	45.0	8	24	40	22	550	KH3/2-12LCFX	500
	15	13	83	51	22.0	45	98.0	113	69	99	19.5	41.5	34.5	49.5	10	30	45	27	890	KH3/2-15LCFX	500
	18	16	82	50	25.0	50	103.0	113	67	99	25.0	41.0	33.5	49.5	10	36	50	32	1050	KH3/2-18LCFX	400
	22	20	99	60	29.0	60	125.0	171	84	116	23.5	51.0	43.5	58.0	14	41	55	36	1610	KH3/2-22LCFX	400
	28	25	108	70	31.0	65	130.0	171	93	126	30.0	54.0	46.5	63.0	14	50	65	41	2270	KH3/2-28LCFX	400
	35	32/25	116	70	31.0	65	130.0	171	95	138	30.0	58.0	47.5	69.5	14	50	65	50	2480	KH3/2-35LDN25CFX	400
	42	40/25	121	70	31.0	65	130.0	171	99	144	30.0	60.5	49.5	71.5	14	55	65	60	2600	KH3/2-42LDN25CFX	400
S ²⁾	08	5	73	36	14.5	30	54.5	76	59	88	12.0	36.5	29.5	44.0	7	19	30	19	350	KH3/2-08SCFX	500
	10	6	73	36	14.5	30	54.5	76	58	90	12.0	36.5	29.0	45.0	7	19	30	22	350	KH3/2-10SCFX	500
	12	8	77	45	14.5	35	67.5	100	62	94	17.5	38.5	31.0	47.0	8	24	40	24	570	KH3/2-12SCFX	500
	14	10	81	45	14.5	35	67.5	100	65	100	17.5	40.5	32.5	50.0	8	24	40	27	570	KH3/2-14SCFX	500
	16	13	87	51	22.0	45	98.0	113	70	106	19.5	43.5	35.0	53.0	10	30	45	30	910	KH3/2-16SCFX	500
	20	16	90	50	25.0	50	103.0	113	69	112	25.0	45.0	34.5	56.0	10	36	50	36	1120	KH3/2-20SCFX	400
	25	20	107	60	29.0	60	125.0	171	83	131	23.5	55.0	43.0	65.5	14	41	55	46	1720	KH3/2-25SCFX	400
	30	25	120	70	31.0	65	130.0	171	93	146	30.0	60.0	46.5	73.0	14	50	65	50	2440	KH3/2-30SCFX	400
	38	32/25	134	70	31.0	65	130.0	171	102	163	30.0	67.0	51.0	81.5	14	55	65	60	2950	KH3/2-38SDN25CFX	400

¹⁾L = light series; ²⁾S = heavy series

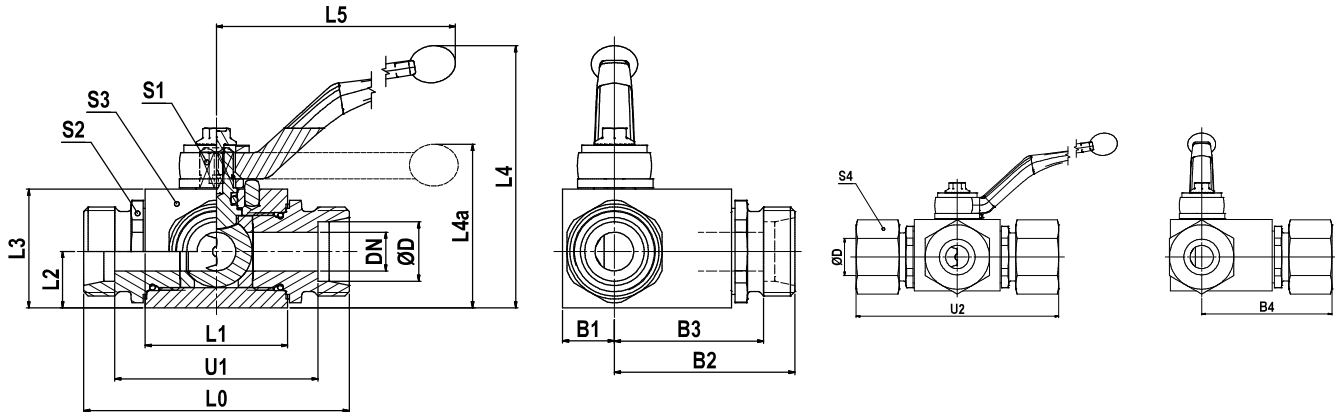
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring.

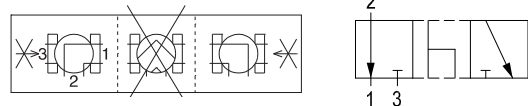
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH3/2-06LCFX	POM / NBR

KH 3-way compact ball valve stainless steel

EO 24° cone end



By default 3-way ball valves are manufactured as L-Bore version. Alternative design on request. Pressure inlet only from center port (connector 2).



Series	D	DN	L0	L1	L2	L3	L4	L4a	L5	U1	B1	B2	B3	B4	S1	S2	S3	S4	Weight g/1 piece	Order code	PN (bar)
L ¹⁾	06	4	67	40	13.5	33	82		115	53	13.0	50.0	43.0	57.5	9	22	47.5	14	500	KH3/2-06L71X	500
	08	6	67	40	13.5	33	82		115	53	13.0	51.5	44.5	59.5	9	22	47.5	17	520	KH3/2-08L71X	500
	10	8	74	40	13.5	33	82		115	60	13.0	52.5	45.5	60.5	9	22	47.5	19	540	KH3/2-10L71X	500
	12	10	74	43	17.5	38	86		115	60	16.0	55.5	48.5	63.0	9	27	52.0	22	730	KH3/2-12L71X	500
	15	13	82	48	19.0	40	89		115	68	17.5	60.5	53.5	68.5	9	30	57.0	27	850	KH3/2-15L71X	500
	18	16	82	48	19.0	40	89		115	67	17.5	61.5	54.0	70.5	9	30	57.0	32	890	KH3/2-18L71X	500
	22	20	101	62	24.5	57		79	200	86	24.5	71.5	64.0	80.5	14	41	72.0	36	1870	KH3/2-22L71X	315
28	25	108	66	29.5	65		87	200	93	29.0	81.5	74.0	90.5	14	50	85.5	41	2450	KH3/2-28L71X	315	
35	25	112	66	29.5	65		87	200	91	29.0	85.0	74.5	96.0	14	50	86.0	50	2900	KH3/2-35L71X	315	
S ²⁾	08	4	73	40	13.5	33	82		115	59	13.0	56.5	49.5	64.5	9	22	47.5	19	520	KH3/2-08S71X	500
	10	6	73	40	13.5	33	82		115	58	13.0	56.5	49.0	65.5	9	22	47.5	22	540	KH3/2-10S71X	500
	12	8	76	40	13.5	33	82		115	61	13.0	58.5	51.0	67.5	9	22	47.5	24	560	KH3/2-12S71X	500
	14	10	80	43	17.5	38	86		115	64	16.0	62.5	54.5	72.0	9	27	52.0	27	730	KH3/2-14S71X	500
	16	13	86	48	19.0	40	89		115	69	17.5	66.5	58.0	76.5	9	30	57.0	30	860	KH3/2-16S71X	500
	20	13	90	48	19.0	40	89		115	69	17.5	70.5	60.0	81.5	9	32	57.0	36	940	KH3/2-20S71X	500
	25	20	109	62	24.5	57		79	200	85	24.5	82.5	70.5	94.5	14	41	72.0	46	1950	KH3/2-25S71X	315
	30	25	120	66	29.5	65		87	200	93	29.0	93.5	80.0	106.5	14	50	85.5	50	2650	KH3/2-30S71X	315
38	32/25	124	66	29.5	65		87	200	92	29.0	99.0	83.0	114.0	14	55	86.0	60	3100	KH3/2-38SDN2571X	315	

¹⁾L = light series; ²⁾S = heavy series

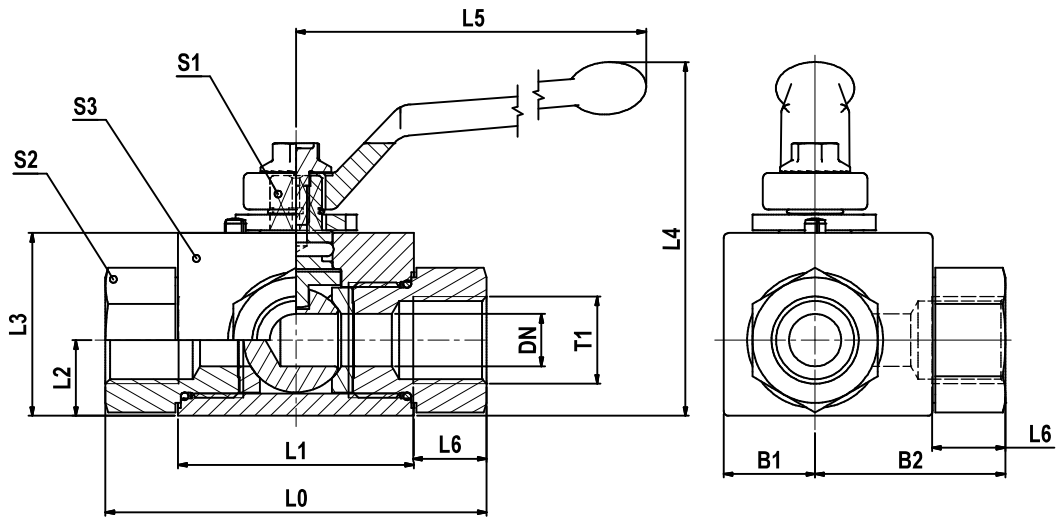
$\frac{PN(\text{bar})}{10} = PN(\text{MPa})$

Delivery without nut and ring.

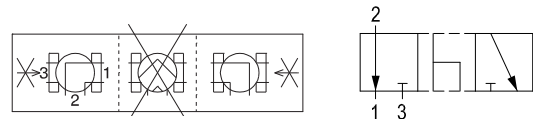
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless steel	71	KH3/2-06L71X	POM / NBR

KH 3-way compact BSPP ball valve steel

Female BSPP thread (ISO 1179-1)



By default 3-way ball valves are manufactured as L-Bore version. Alternative design on request. Pressure inlet only from center port (connector 2).



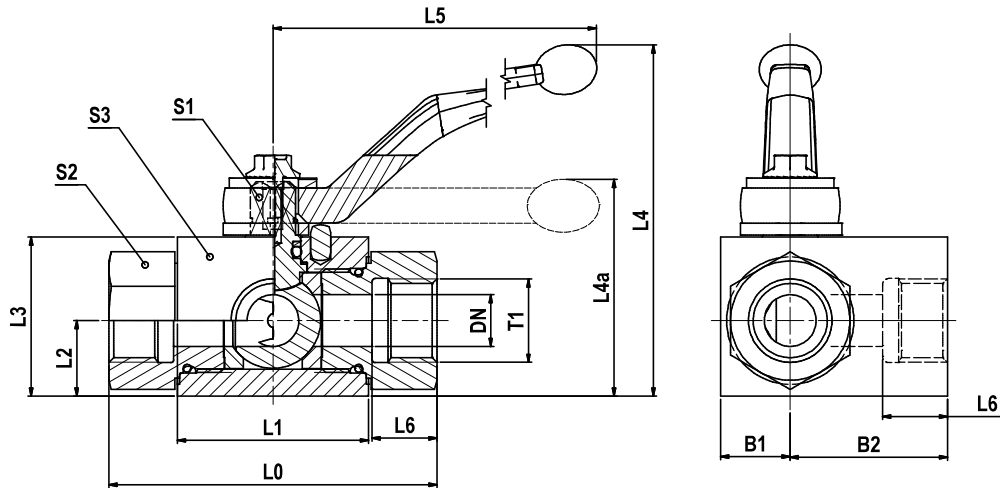
T1	DN	L0	L1	L2	L3	L4	L5	L6	B1	B2	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
G 1/8	5	69	36	14.5	30	59.5	76	12	12.0	34.5	7	19	30	370	KH3/2-1/8CFX	500
G 1/4	6	69	36	14.5	30	59.5	76	12	12.0	34.5	7	19	30	340	KH3/2-1/4CFX	500
G 3/8	10	73	45	14.5	35	67.5	100	14	17.5	36.5	8	24	40	570	KH3/2-3/8CFX	500
G 1/2	13	82	51	22.0	45	98.0	113	15	19.5	41.0	10	30	45	940	KH3/2-1/2CFX	500
G 5/8	16	88	50	25.0	50	103.0	113	18	25.0	44.0	10	36	50	1240	KH3/2-5/8CFX	400
G 3/4	20	93	60	29.0	60	125.0	171	18	23.5	48.0	14	41	55	1720	KH3/2-3/4CFX	400
G 1	25	115	70	31.0	65	130.0	171	20	30.0	57.5	14	50	65	2650	KH3/2-1CFX	400
G 1 1/4	32/25	134	70	31.0	65	130.0	171	22	30.0	67.0	14	50	65	2710	KH3/2-11/4DN25CFX	400
G 1 1/2	40/25	139	70	31.0	65	130.0	171	24	30.0	69.5	14	55	65	2910	KH3/2-11/2DN25CFX	400

PN (bar) = PN (MPa) / 10

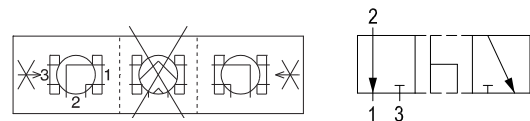
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH3/2-1/8CFX	POM / NBR

KH 3-way compact BSPP ball valve stainless steel

Female BSPP thread (ISO 1179-1)



By default 3-way ball valves are manufactured as L-Bore version. Alternative design on request. Pressure inlet only from center port (connector 2).



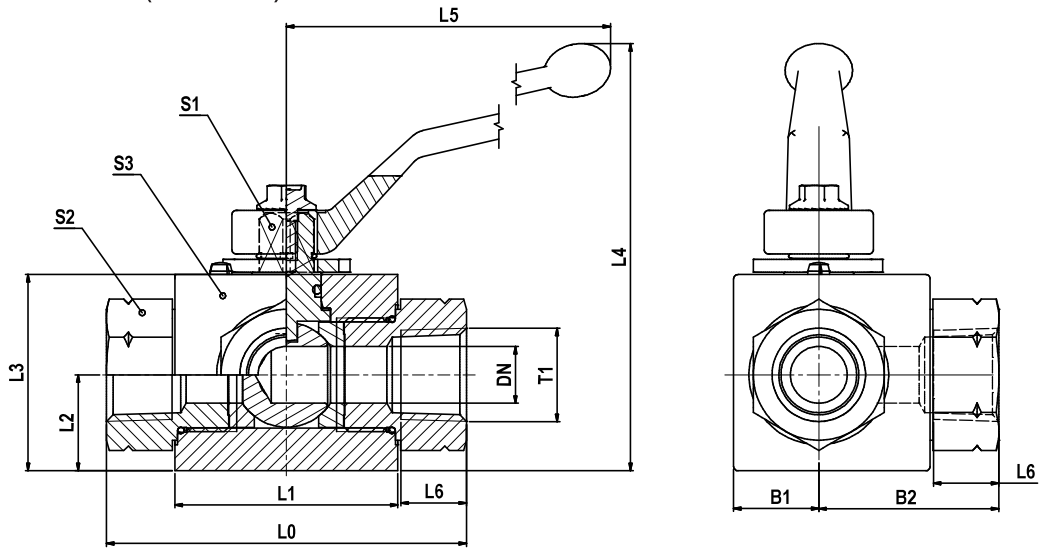
T1	DN	L0	L1	L2	L3	L4	L4a	L5	L6	B1	B2	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
G 1/8	5	69	40	13.5	33.0	82		115	10.0	13.0	34.5	9	22	47.5	550	KH3/2-1/871X	500
G 1/4	6	69	40	13.5	33.0	82		115	14.0	13.0	34.5	9	22	47.5	550	KH3/2-1/471X	500
G 3/8	10	72	43	17.5	38.0	86		115	14.0	16.0	36.0	9	27	52.0	770	KH3/2-3/871X	500
G 1/2	13	83	48	19.0	40.0	89		115	16.5	17.5	39.5	9	30	57.0	900	KH3/2-1/271X	500
G 3/4	20	95	62	24.5	57.0		79	200	18.0	24.5	47.5	14	41	72.0	1950	KH3/2-3/471X	315
G 1	25	113	66	29.5	65.0		87	200	20.0	29.0	56.5	14	50	85.5	2400	KH3/2-171X	315
G 1 1/4	30	111	81	39.0	84.5		115	320	22.0	39.0	55.0	17	60	94.0	5400	KH3/2-11/471X	350
G 1 1/2	38	130	104	53.0	106.0		136	320	24.0	53.0	65.0	17	75	118.0	9400	KH3/2-11/271X	350
G 2	48	150	118	58.0	116.0		146	320	26.0	58.0	75.0	17	95	133.0	13000	KH3/2-271X	350

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

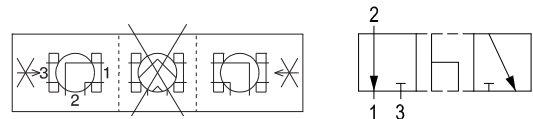
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless steel	71	KH3/2-1/871X	POM / NBR

KH 3-way compact NPT ball valve steel

Female NPT thread (SAE 476)



By default 3-way ball valves are manufactured as L-Bore version. Alternative design on request. Pressure inlet only from center port (connector 2).



T1	DN	L0	L1	L2	L3	L4	L5	L6	B1	B2	S1	S2	S3	Weight g/1 piece	Order code	PN (bar)
1/8-27 NPT	5	69	36	14.5	30	59.5	76	7.0	12.0	34.5	7	19	30	370	KH3/2-1/8NPTCFX	500
1/4-18 NPT	6	69	36	14.5	30	59.5	76	10.0	12.0	34.5	7	19	30	340	KH3/2-1/4NPTCFX	500
3/8-18 NPT	10	73	45	14.5	35	67.5	100	11.5	17.5	36.5	8	24	40	570	KH3/2-3/8NPTCFX	500
1/2-14 NPT	13	82	51	22.0	45	98.0	113	15.0	19.5	41.0	10	30	45	940	KH3/2-1/2NPTCFX	500
3/4-14 NPT	20	93	60	29.0	60	125.0	171	16.0	23.5	48.0	14	41	55	1720	KH3/2-3/4NPTCFX	400
1-11.5 NPT	25	115	70	31.0	65	130.0	171	19.0	30.0	57.5	14	50	65	2650	KH3/2-1NPTCFX	400
1 1/4-11.5 NPT	32/25	134	70	31.0	65	130.0	171	19.5	30.0	67.0	14	50	65	2710	KH3/2-11/4NPTDN25CFX	400
1 1/2-11.5 NPT	40/25	139	70	31.0	65	130.0	171	19.5	30.0	69.5	14	55	65	2910	KH3/2-11/2NPTDN25CFX	400

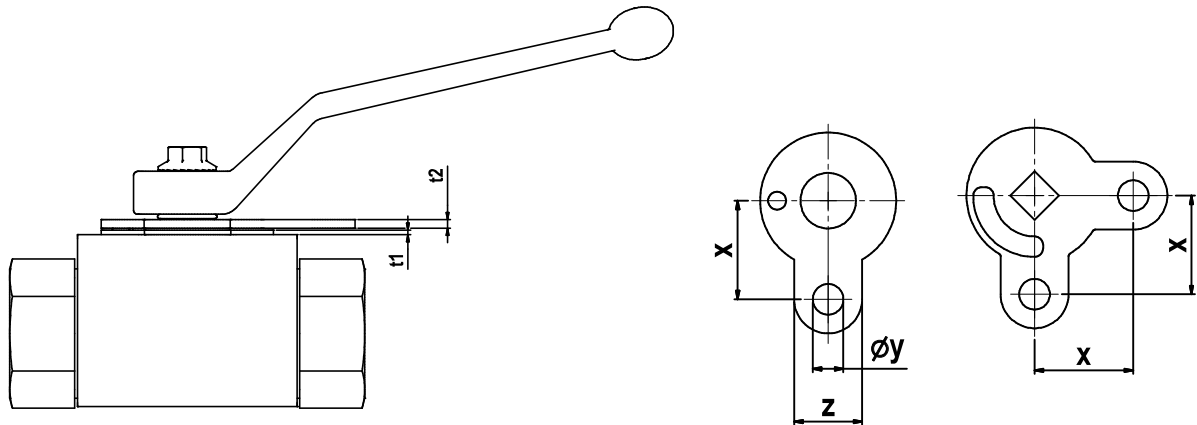
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Also available in stainless steel with different dimensions, e.g. KH3/2-1/8NPT71X

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH3/2-1/8NPTCFX	POM / NBR

KH – Locking Devices for Two Way and Multiway ball valves

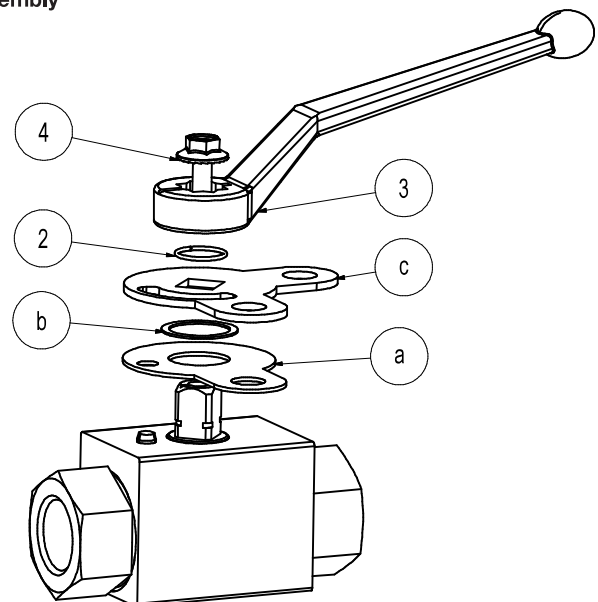
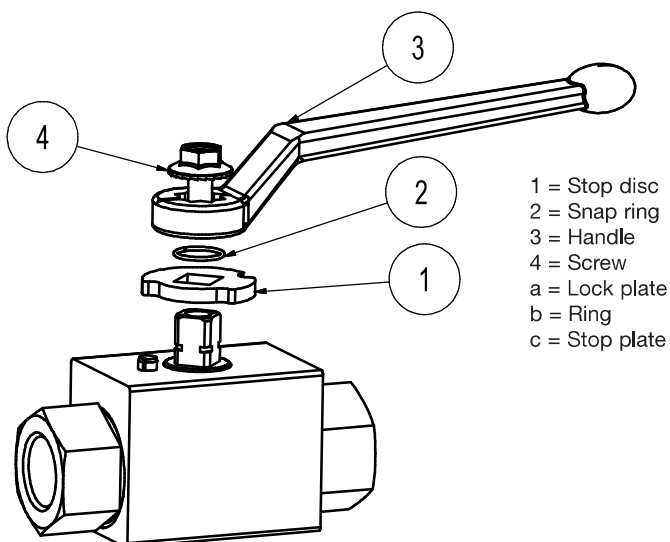
with floating ball – steel and stainless steel



DN	t1	t2	z	y	X	Order code Steel	Order code Stainless steel
4/6	0,5	1,5	20	9	21,5	KHLOCKINGD.SIZE1X	KHLOCKINGD.SIZE171X
8/10	1,0	2,0	20	9	26,5	KHLOCKINGD.SIZE2X	KHLOCKINGD.SIZE271X
12	1,0	2,0	20	9	29,0	KHLOCKINGD.SIZE3X	KHLOCKINGD.SIZE371X
20/25	1,5	2,0	20	9	44,0	KHLOCKINGD.SIZE5X	KHLOCKINGD.SIZE571X
32/40/50	1,5	2,0	20	9	54,0	KHLOCKINGD.SIZE6X	-
32/40/50	1,5	1,5	20	9	54,0	-	KHLOCKINGD.SIZE671X

Disassembly

Assembly



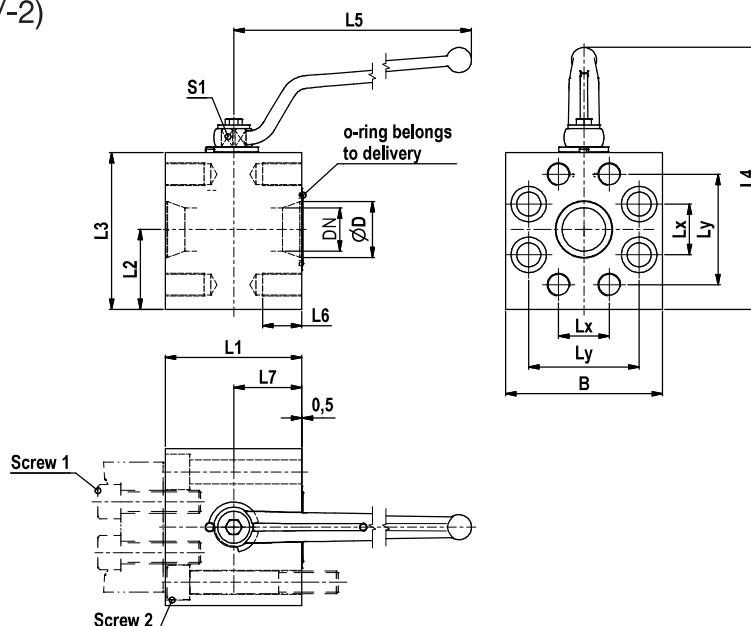
- 1 = Stop disc
- 2 = Snap ring
- 3 = Handle
- 4 = Screw

- a = Lock plate
- b = Ring
- c = Stop plate

*Locking Devices are not suitable for 3/2 Way stainless steel ball valves. Alternative version on request.

KH-B Ball valve - SAE Flange connection (3000/6000 PSI)

SAE Flange connection (ISO 6162-1/-2)



Pressure applications only with connected flanges!
Screws and flanges not included

3000 PSI Series

SAE Inch	DN	D	L1	L2	L3	L4	L5	L6	L7	Lx	Ly	B	S1	M	Screw 1	Screw 2	O-ring	Weight (Steel) kg	Order code Steel	PN (bar)
1/2	13	13	68	30.0	58.0	109	115	15	34.0	17.5	38.1	58.0	9	M08	M8x30-10.9	M8x70-10.9	18.64x3.53	1.57	KH12B1V32CF	350
3/4	20	20	70	37.5	75.0	146	171	17	35.0	22.2	47.6	75.0	14	M10	M10x30-10.9	M10x80-10.9	24.99x3.53	2.76	KH20B1V33CF	350
1	25	25	78	44.0	84.5	155	171	17	39.0	26.2	52.4	84.5	14	M10	M10x30-10.9	M10x80-10.9	32.92x3.53	3.85	KH25B1V34CF	320
1 1/4	25	32	90	50.0	100.0	171	171	21	45.0	30.2	58.7	100.0	14	M10	M10x30-10.9	M10x90-10.9	37.96x3.53	6.35	KH32B1V35CF	280
1 1/2	32	38	99	60.0	120.0	214	306	21	49.5	35.7	69.9	120.0	17	M12	M12x35-10.9	M12x100-10.9	47.22x3.53	10.40	KH40B1V36CF	210
2	38	49	120	70.0	137.5	232	306	21	60.0	42.9	77.8	137.5	17	M12	M12x35-10.9	M12x120-10.9	56.74x3.53	16.00	KH50B1V38CF	210

6000 PSI Series

SAE Inch	DN	D	L1	L2	L3	L4	L5	L6	L7	Lx	Ly	B	S1	M	Screw 1	Screw 2	O-ring	Weight (Steel) kg	Order code Steel	PN (bar)
1/2	13	13	68	30.0	58.0	109	115	15	34.0	18.2	40.5	58.0	9	M08	M8x30-10.9	M8x70-10.9	18.64x3.53	1.57	KH12B1V62CF	420
3/4	20	20	70	37.5	75.0	146	171	17	35.0	23.8	50.8	75.0	14	M10	M10x35-10.9	M10x80-10.9	24.99x3.53	2.73	KH20B1V63CF	420
1	25	25	78	44.0	84.5	155	171	21	39.0	27.8	57.2	84.5	14	M12	M12x45-10.9	M12x80-10.9	32.92x3.53	3.63	KH25B1V64CF	420
1 1/4	25	32	90	50.0	100.0	171	171	20	45.0	31.8	66.7	100.0	14	M12	M12x45-10.9	M12x90-10.9	37.96x3.53	6.25	KH32B1V65CF	420
1 1/2	32	38	99	60.0	120.0	214	306	27	49.5	36.5	79.4	120.0	17	M16	M16x55-10.9	M16x100-10.9	47.22x3.53	9.76	KH40B1V66CF	420
2	38	49	120	70.0	137.5	232	306	34	60.0	44.5	96.8	137.5	17	M20	M20x70-10.9	M20x130-10.9	56.74x3.53	14.74	KH50B1V68CF	420

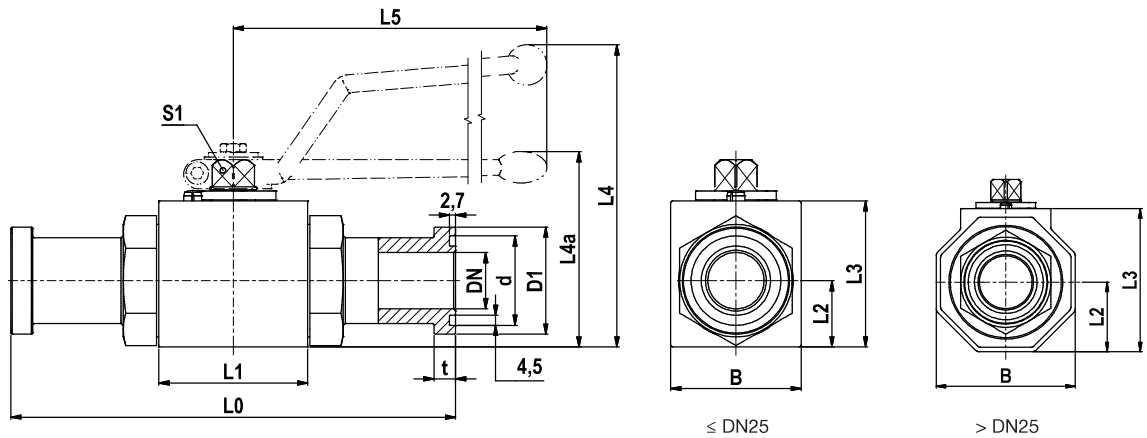
PN (bar) = PN (MPa)
10

More flange ball valves see catalogue 4162.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH12B1V62CF	POM / NBR
Stainless steel	71	KH12B1V6271	POM / NBR

KH-A Ball valve - SAE Flange adapter connection

SAE Flange adapter (ISO 6162-1/-2)



3000 PSI Series

SAE Inch	DN	L0	L1	L2	L3	L4	L4a	L5	B	D1	d	t	S1	Weight (steel)/kg	Order code	PN (bar)
1/2	13	151	48	19.0	40	89		115	35	30.2	25.5	6.8	9	0.85	KH12A32CF	350
3/4	20	162	62	24.5	57		79	200	49	38.1	31.9	6.8	14	1.87	KH20A33CF	350
1	25	178	66	29.5	65		87	200	58	44.4	39.8	8.1	14	2.70	KH25A34CF	315
1 1/4	32	191	80	40.5	86		107	320	81	50.8	44.6	8.1	17	4.22	KH32A35CF	280
1 1/2	38	231	85	50.0	103		124	320	100	60.3	54.1	8.1	17	6.54	KH40A36CF	210
2	48	232	100	59.0	117		138	320	118	71.4	63.6	9.6	17	9.29	KH50A38CF	210

6000 PSI Series

SAE Inch	DN	L0	L1	L2	L3	L4	L4a	L5	B	D1	d	t	S1	Weight (steel)/kg	Order code	PN (bar)
1/2	13	151	48	19.0	40	89		115	35	31.8	25.5	7.9	9	0.90	KH12A62CF	420
3/4	20	174	62	24.5	57		79	200	49	41.3	31.9	8.9	14	1.99	KH20A63CF	420
1	25	206	74	34.5	70		92	200	70	47.6	39.8	9.6	14	3.66	KH25A64CF	420
1 1/4	32	223	80	40.5	86		107	320	81	54.0	44.6	10.4	17	4.72	KH32A65CF	420
1 1/2	40	281	85	50.0	103		124	320	100	63.5	54.1	12.7	17	7.49	KH40A66CF	420
2	48	316	100	59.0	117		138	320	118	79.4	63.6	12.7	17	11.39	KH50A68CF	420

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

Also available in stainless steel with different dimensions, e.g. KH12A3271

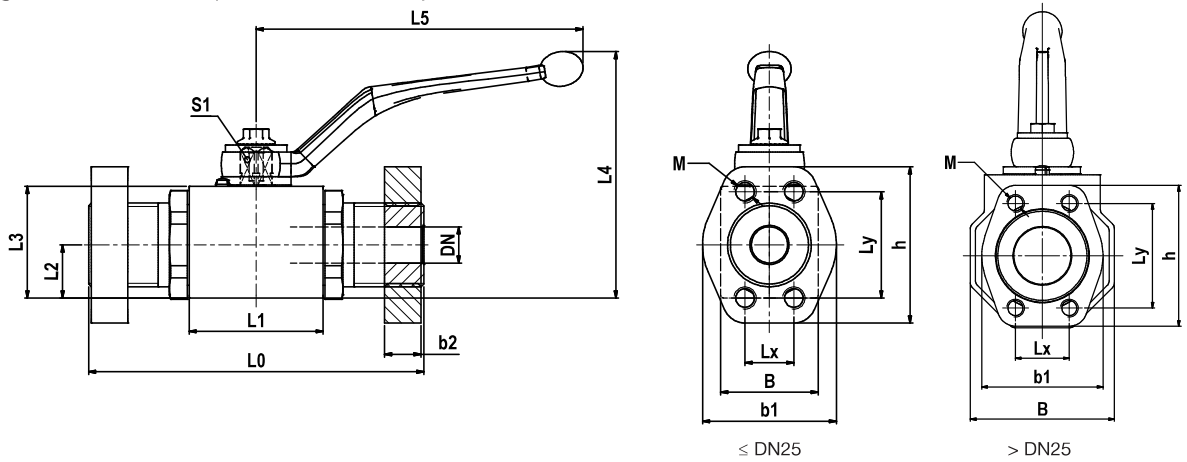
Handles are part of the delivery.
O-rings are part of the delivery.

More flange ball valves see catalogue 4162.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH12A62CF	POM / NBR

KH-T Ball valve - SAE Flange connection ISO 6162 (1/2)

SAE Flange connection (ISO 6162-1/-2)



3000 PSI series

SAE Inch	DN	L0	L1	L2	L3	L4	L5	B	Lx	Ly	b1	b2	h	M	S1	O-ring	Weight (Steel) kg	Order code	PN (bar)
1/2	13	120	48	19.0	40	89	115	35	17.5	38.1	48	13	56	M08	9	18.64x3.53	1.5	KH-T-308-13CF	350
3/4	20	136	62	24.5	57	127	171	49	22.2	47.6	50	14	65	M10	14	24.99x3.53	3.0	KH-T-312-20CF	315
1	25	148	66	29.5	65	135	171	58	26.2	52.4	60	16	70	M10	14	32.92x3.53	4.5	KH-T-316-25CF	315
1 1/4	32	172	80	40.5	86	180	306	81	30.2	58.7	68	16	79	M10	17	37.69x3.53	7.5	KH-T-320-32CF	280
1 1/4	32	172	80	40.5	86	180	306	81	30.2	58.7	68	16	79	M12	17	37.69x3.53	7.5	KH-T-320-32TM12CF	210
1 1/2	40	177	85	50.0	103	197	306	100	35.7	69.9	78	16	93	M12	17	47.22x3.53	11.1	KH-T-324-40CF	210
2	50	196	100	59.0	117	211	306	118	42.9	77.8	90	16	102	M12	17	56.74x3.53	19.3	KH-T-332-50CF	210
2 1/2	50/65	196	100	59.0	117	211	306	118	50.8	88.9	105	19	114	M12	17	69.44x3.53	19.9	KH-T-340-50CF	175

6000 PSI series

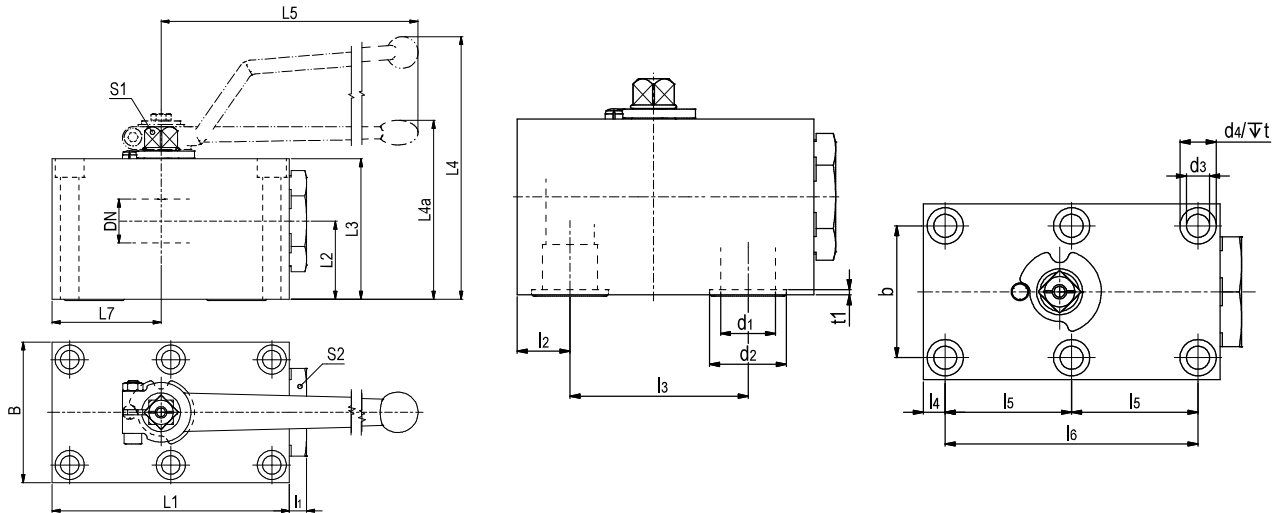
SAE Inch	DN	L0	L1	L2	L3	L4	L5	B	Lx	Ly	b1	b2	h	M	S1	O-ring	Weight kg	Order code	PN (bar)
1/2	13	120	48	19.0	40	89	115	35	18.2	40.5	48	16	56	M08	9	18.64x3.53	1.6	KH-T-608-13CF	420
3/4	20	136	62	24.5	57	127	171	49	23.8	50.8	60	19	71	M10	14	24.99x3.53	3.3	KH-T-612-20CF	420
1	25	156	74	34.5	70	140	171	70	27.8	57.2	70	24	81	M12	14	32.92x3.53	5.0	KH-T-616-25CF	420
1 1/4	32	172	80	40.5	86	180	306	81	31.8	66.7	78	27	95	M12	17	37.69x3.53	8.5	KH-T-620-32CF	420
1 1/4	32	172	80	40.5	86	180	306	81	31.8	66.7	78	27	95	M14	17	37.69x3.53	8.5	KH-T-620-32TM14CF	420
1 1/2	40	177	85	50.0	103	197	306	100	36.5	79.4	94	30	112	M16	17	47.22x3.53	12.2	KH-T-624-40CF	420
2	50	196	100	59.0	117	211	306	118	44.5	96.8	114	35	134	M20	17	56.74x3.53	21.5	KH-T-632-50CF	420

Also available in stainless steel with different dimensions, e.g. KH-T-308-13SS

More flange ball valves see catalogue 4162.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KH-T-308-13CF	POM / NBR

KHBLOCK 2-way manifold ball valve



DN	L1	L2	L3	L4	L4a	L5	L7	l1	l2	l3	l4	l5	l6	b	B	d1	d2	d3	d4	t	t1
6	57	19.5	35	67		80	26.0	6	8.5	35	8.5	17.5	35	27	40	6.0	11.8	6.5	10.5	7.0	2.0
10	70	24.5	45	96		115	29.0	10	10.0	44	7.5	27.5	55	40	55	9.5	14.9	8.4	13.5	8.5	2.0
12	98	34.0	55	104		115	42.5	10	16.0	58	7.5	41.5	83	45	60	13.0	24.9	8.4	13.5	7.0	2.0
20	117	37.5	70	on request	92	200	51.0	10	20.0	69	10.0	48.5	97	51	70	20.0	29.0	10.5	16.5	10.5	2.0
25	135	44.5	80		102	200	62.0	10	24.0	81	10.0	57.5	115	60	80	25.0	34.9	10.5	16.5	10.5	2.5
32	165	54.5	100		130	320	75.0	11	29.0	96	12.0	68.0	136	78	100	32.0	40.0	13.0	19.0	12.0	2.0
40	200	57.0	110		140	320	84.5	17	28.5	112	28.5	56.0	112	95	130	38.0	47.7	16.5	25.0	19.0	2.5
50	240	71.0	129		159	320	106.0	15	38.0	136	38.0	68.0	136	112	150	48.0	59.8	21.0	31.0	21.5	2.5

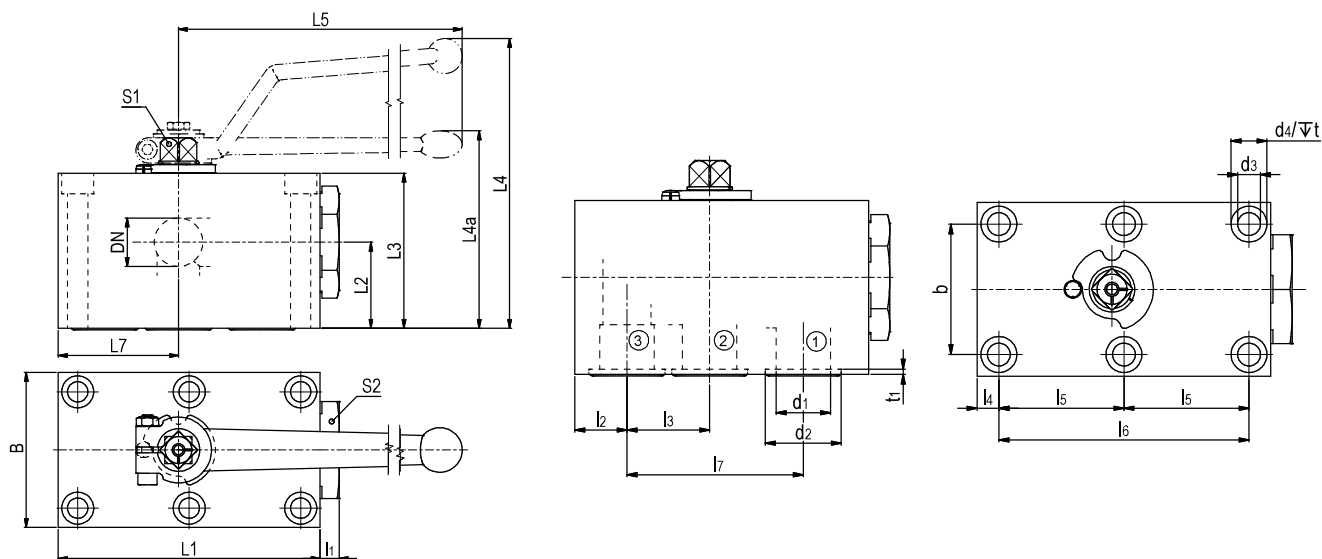
DN	S1	S2	Hexagon Screws	Torque for screws	O-ring	Weight kg	Order code steel	PN (bar)
6	7	19	6x M6x40 - 12.9	14	7x2.5	0.60	KHBLOCKDN6CF	500
10	9	30	6x M8x40 - 12.9	35	10x2.5	1.30	KHBLOCKDN10CF	500
12	9	32	6x M8x60 - 12.9	35	20x2.5	2.30	KHBLOCKDN12CF	420
20	14	46	6x M10x80 - 12.9	70	23.47x2.62	3.92	KHBLOCKDN20CF	420
25	14	50	6x M10x90 - 12.9	70	29x3	5.68	KHBLOCKDN25CF	420
32	17	70	6x M12x110 - 12.9	110	34.59x2.62	11.00	KHBLOCKDN32CF	420
40	17	80	6x M16x120 - 12.9	300	42x3	18.78	KHBLOCKDN40CF	420
50	17	90	6x M20x140 - 12.9	600	54x3	29.70	KHBLOCKDN50CF	420

Tmin/Tmax Steel -20°C / 100°C
 Tmin/Tmax Stainless steel -30°C / 100°C

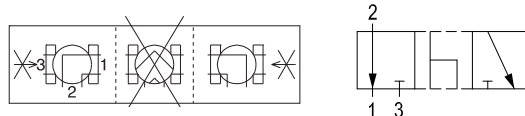
Handles are part of the delivery.
 O-ring are part of the delivery.
 Screws are not part of the delivery.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KHBLOCKDN10CF	POM / NBR
Stainless steel	71	KHBLOCKDN1071	POM / NBR

KHBLOCK 3-way manifold ball valve



Pressure inlet only from center port (connector 2)



DN	L1	L2	L3	L4	L4*	L5	L7	l1	l2	l3	l4	l5	l6	l7	b	B	d1	d2	d3	d4
6	57	19.5	35	67		80	26.0	6	8.5	17.5	8.5		35	35	27	40	6.0	12.0	6.5	10.5
10	70	24.5	45	93		115	29.0	10	10.0	19.0	7.5		55	44	40	55	9.5	15.0	8.5	13.5
12	98	34.0	55	104		115	42.5	10	16.0	26.5	7.5	41.5	83	58	45	60	13.0	25.0	8.5	13.5
20	117	37.5	70	on request	92	200	51.0	10	20.0	31.0	10.0	48.5	97	69	51	70	20.0	29.0	10.5	16.5
25	135	44.5	80		102	200	62.0	10	24.0	38.0	10.0	57.5	115	81	60	80	25.0	35.0	10.5	16.5
32	165	54.5	100		130	320	75.0	11	29.0	46.0	12.0	68.0	136	96	78	100	32.0	40.0	13.0	19.0
40	200	57.0	110		140	320	84.5	17	28.5	56.0	28.5	56.0	112	112	95	130	38.0	47.5	16.5	25.0
50	240	71.0	129		159	320	106.0	15	38.0	68.0	38.0	68.0	136	136	112	150	48.0	60.0	21.0	31.0

DN	t	t1	S1	S2	Hexagon screws	Torque for screws	O-ring	Weight kg	Order code steel	PN (bar)
6	7.0	2.0	7	19	4x M6x40 - 12.9	14	7x2.5	0.60	KHBLOCK3/2DN6CF	500
10	8.5	2.0	9	30	4x M8x40 - 12.9	35	10x2.5	1.30	KHBLOCK3/2DN10CF	500
12	7.0	2.0	9	32	6x M8x60 - 12.9	35	20x2.5	2.32	KHBLOCK3/2DN12CF	420
20	10.5	2.0	14	46	6x M10x80 - 12.9	70	23.47x2.62	3.90	KHBLOCK3/2DN20CF	420
25	10.5	2.5	14	50	6x M10x90 - 12.9	70	29x3	5.68	KHBLOCK3/2DN25CF	420
32	12.0	2.0	17	70	6x M12x110 - 12.9	110	34.59x2.62	11.00	KHBLOCK3/2DN32CF	420
40	19.0	2.5	17	80	6x M16x120 - 12.9	300	42x3	18.70	KHBLOCK3/2DN40CF	420
50	21.5	2.5	17	90	6x M20x140 - 12.9	600	54x3	28.80	KHBLOCK3/2DN50CF	420

Tmin/Tmax Steel -20°C / 100°C
 Tmin/Tmax Stainless steel -30°C / 100°C

Handles are part of the delivery.
 O-ring are part of the delivery.
 Screws are not part of the delivery.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	KHBLOCK3/2DN6CF	POM / NBR
Stainless steel	71	KHBLOCK3/2DN671	POM / NBR

Technical data flow control valves

Leakage rate

Flow control valves: Max. $0.01 \times \text{DN mm}^3/\text{sec}$ - Test medium water (DIN EN 12266)

Check valves: Max. $1.0 \times \text{DN mm}^3/\text{sec}$ - Test medium water (DIN EN 12266)

Flow control valves can not be used as shut off devices. Small leakage rates are possible in closed position.

The pressure ratings PN for flow control valves include design factor 1.5 (according DIN 3230 T5 and ISO 5208).

Steel Flow control valves

Material:

Body: Steel, Cr(VI)-free plated

Seals:

O-ring: NBR

According to application, different seal combinations are available*

Temperature range:

-20 up to +100 °C.

Cracking pressure:

0.5 bar (optional 4.5 bar)

Stainless Steel Flow control valves

Material:

Body: Stainless steel

Seals:

O-ring: NBR

According to application, different seal combinations are available.*

Temperature range:

-30 up to +100 °C.

Cracking pressure:

0.5 bar (optional 4.5 bar)

Caution!

Please note the admissible pressure ratings of connection components!

*Remarks:

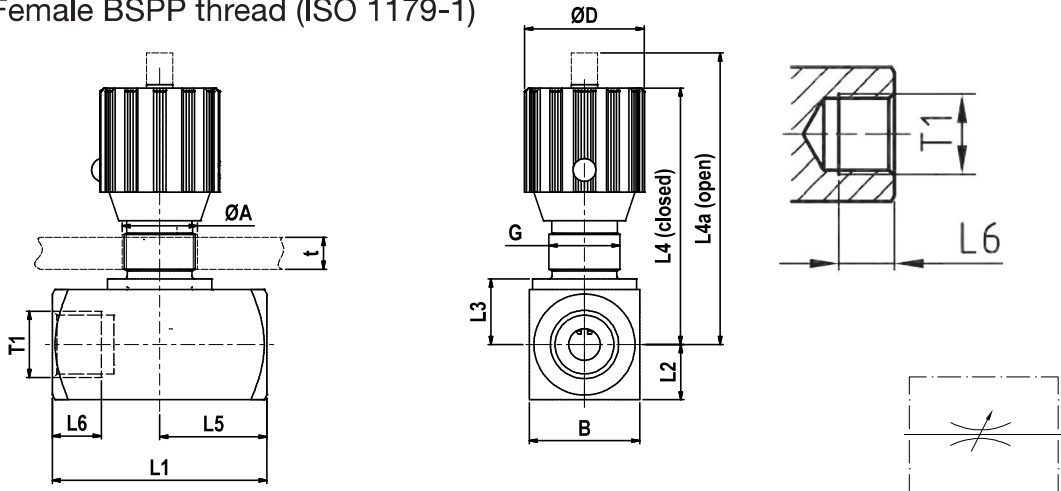
For clarification of the suitability of the restriction valves for different media and applications please provide the following data: system pressure, medium, temperature, possible pressure peaks (including pressure and frequency) and possible operation with full differential pressure.

Pressure drop curves:

On demand

RDV Flow Control Valve

Female BSPP thread (ISO 1179-1)



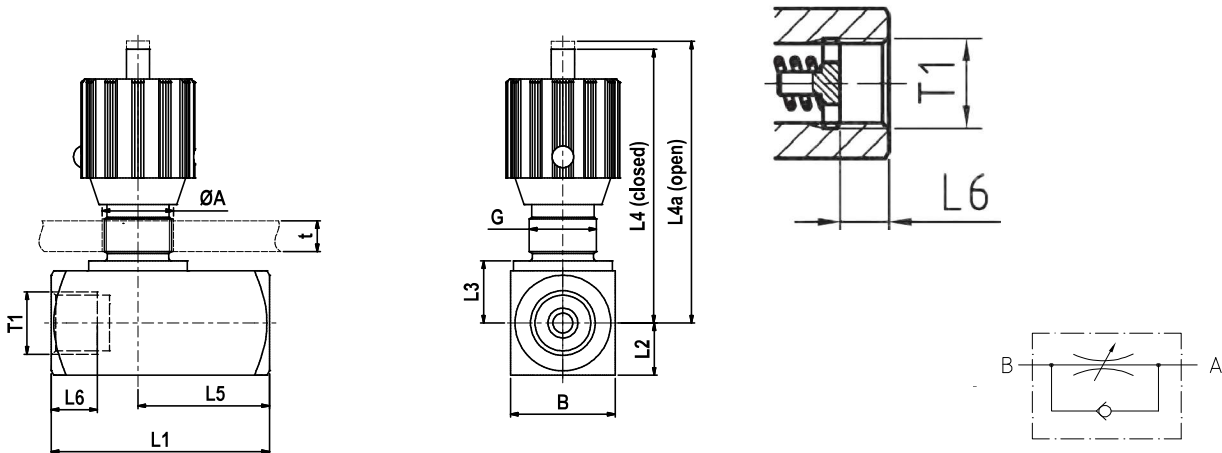
T1	L1	L2	L3	L4	L4a	L5	L6	B	D	A	G	tmax	Order code steel	PN (bar)
G 1/8	38	8.0	10.0	51	56	19	9.0	16	24	13	Pg7	4	RDV1/8CFX	350
G 1/4	48	12.5	14.5	65	71	24	12.0	25	29	19	Pg11	7	RDV1/4CFX	350
G 3/8	58	15.0	17.0	68	75	29	13.5	30	29	19	Pg11	7	RDV3/8CFX	350
G 1/2	68	17.5	21.0	82	92	34	14.5	35	38	23	Pg16	7	RDV1/2CFX	350
G 3/4	78	22.5	26.0	96	106	39	17.5	45	38	23	Pg16	7	RDV3/4CFX	350
G 1	108	25.0	30.0	121	134	54	19.5	50	49	38	Pg29	10	RDV1CFX	350
G 1 1/4	108	30.0	35.0	126	139	54	21.5	60	49	38	Pg29	10	RDV11/4CFX	350
G 1 1/2	108	35.0	40.0	131	144	54	23.5	70	49	38	Pg29	10	RDV11/2CFX	350
G 2	120	45.0	50.0	141	154	60	25.5	90	49	38	Pg29	10	RDV2CFX	350

Flow control valves should not be used as shut-off device.
NPT and UNF connections on request.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RDV1/8CFX	POM / NBR
Stainless steel	71	RDV1/871X	POM / NBR

RDVR Flow Control Check Valve

Female BSPP thread (ISO 1179-1)



T1	L1	L2	L3	L4	L4a	L5	L6	B	D	A	G	tmax	Order code steel	PN (bar)
G 1/8	45	8.0	10.0	51	56	26.0	9.5	16	24	13	Pg7	4	RDVR1/8CFX	350
G 1/4	55	12.5	14.5	65	71	33.5	13.5	25	29	19	Pg11	7	RDVR1/4CFX	350
G 3/8	65	15.0	17.0	68	75	41.0	13.5	30	29	19	Pg11	7	RDVR3/8CFX	350
G 1/2	73	17.5	21.0	82	92	44.0	15.5	35	38	23	Pg16	7	RDVR1/2CFX	350
G 3/4	88	22.5	26.0	96	106	57.0	17.5	45	38	23	Pg16	7	RDVR3/4CFX	350
G 1	127	25.0	30.0	121	134	77.0	19.5	50	49	38	Pg29	10	RDVR1CFX	350
G 1 1/4	143	30.0	35.0	126	139	93.0	21.5	60	49	38	Pg29	10	RDVR11/4CFX	350
G 1 1/2	143	35.0	40.0	131	144	91.0	23.5	70	49	38	Pg29	10	RDVR11/2CFX	350
G 2	165	45.0	50.0	141	154	111.0	25.5	90	49	38	Pg29	10	RDVR2CFX	350

Flow control valves should not be used as shut-off device.
NPT and UNF connections on request.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	RDVR1/8CFX	POM / NBR
Stainless steel	71	RDVR1/871X	POM / NBR

DV Shut-off valve PN 10 – Casing DIN 3512

EO 24° cone end / EO 24° cone end

(with internal threaded spindle)

For cold and warm water* up to 80°C, compressed air, mineral oils and fuel oils types EL and L, 6 bar and up to 80°C.

The pressure specification PN for hand-operated

shut-off valves applies to the design

factor 1,5 (according DIN 3230 T5

and ISO 5208).

Caution!

Please note the admissible pressure ratings for the EO-tube ends.

DVAE

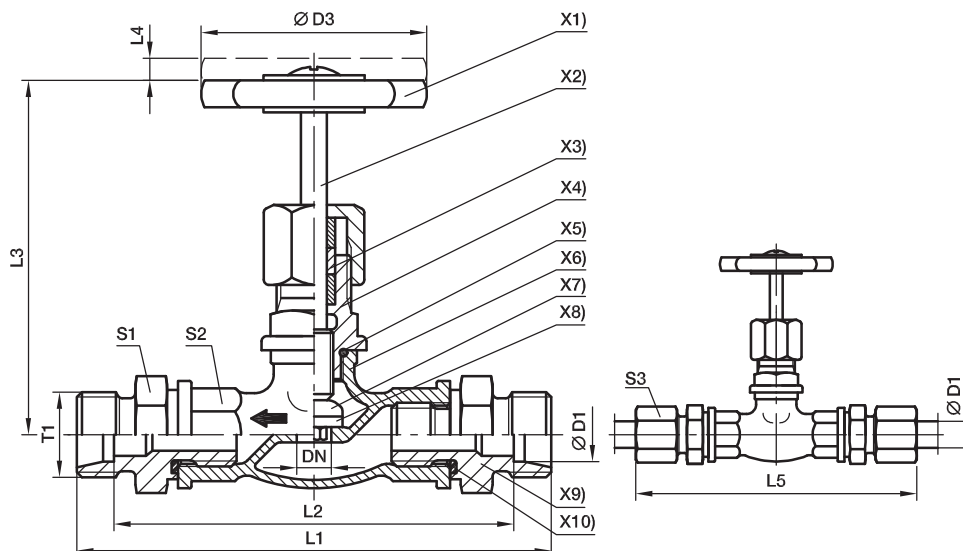
EO tube end ⇒ male BSPP

DVAA

male BSPP ⇐ EO tube end

DV-valves with male BSPP thread on request.

*Indicate type of water or additive if any



- X1) **Hand wheel:** material: Polyamid
- X2) **Spindle:** material: Brass 2.0401
- X3) **Stuffing boxpacking:** PTFE Compound
- X4) **Haed piece:** material: Brass 2.0401
- X5) **Sealing:** O-ring NBR (e.g. Perbunan)
- X6) **Casing:** material: Brass 2.0340.02
- X7) **Valve cone:** material: Brass 2.0401
- X8) **Shut-off sealing:** NBR (e.g. Perbunan)
- X9) **Male stud fitting:** material: Brass 2.0540
- X10) **Sealing:** Eolastic-sealing NBR (e.g. Perbunan)

Series	D1	T1	DN	D3	L1	L2	L3	L4	L5	S1	S2	S3	Weight g/1 piece	Order code*	PN (bar) ¹⁾ without surface
L ³⁾	06	M 12×1.5	5	50	102	88	63	7	117	22	21	14	313	DV06LX	10
	08	M 14×1.5	6	50	102	88	63	7	117	22	21	17	305	DV08LX	10
	10	M 16×1.5	8	50	104	90	63	7	119	22	21	19	308	DV10LX	10
	12	M 18×1.5	10	50	104	90	63	7	119	22	21	22	304	DV12LX	10
	15	M 22×1.5	12	50	107	93	65	8	123	27	25	27	426	DV15LX	10
	18	M 26×1.5	16	50	109	94	67	8	126	27	25	32	434	DV18LX	10
	22	M 30×2.0	20	60	123	108	67	8	140	32	32	36	670	DV22LX	10
	28	M 36×2.0	25	60	140	125	95	10	158	41	38	41	1030	DV28LX	10
	35	M 45×2.0	32	70	166	145	102	10	188	50	47	50	1640	DV35LX	10

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the suffixes below according to the material/surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Brass 2.0340.02	without	DV06LX	PTFE / NBR

LD Shut-off valve PN 40

EO 24° cone end / EO 24° cone end

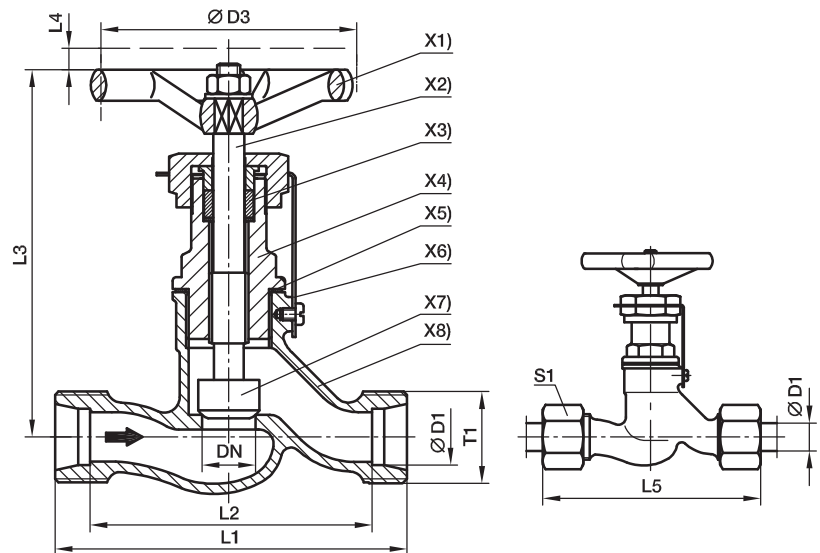
(with internal threaded spindle)

For hydraulic oil, mineral, oil, fuel oil, Diesel, water* etc. Temperature up to 150°C. For steam up to 10 bar.
For compressed air up to 35 bar on request. CS DIN 86501 Rg.-N.

The pressure specification PN for hand-operated shut-off valves applies to the design factor 1,5 (according DIN 3230 T5 and ISO 5208).

Caution!

Please note the admissible pressure ratings for the EO-tube ends.



- X1) **Hand wheel:** Plastic material typ 74 according to DIN 388 Form C
- X2) **Spindle:** with internal thread. Material: Cu Zn 35 Ni 2
- X3) **Stuffing box packing:** Graphite
- X4) **Head piece:** material: Cu Zn 39 Pb 3
- X5) **Sealing:** Copper ring
- X6) **Locking plates:** material: St. 37/zinc plated
- X7) **Valve cone:** loose tip material: Cu Zn 35 Ni 2
- X8) **Casing:** material: G-Cu Sn 5Zn Pb (Rg 5 according to DIN 1705)

EO-tube connection:

for **copper** tubes nuts, cutting and locking rings of brass

Attention:

for **steel** tubes: nuts, progressive rings of steel **specify when ordering**

We recommend pre-installation in hardened pre-installation body (see assembly instructions)

Series	D1	T1	DN	D3	L1	L2	L3	L4	L5	S1	Weight g/1 piece	Order code*	PN (bar) ¹⁾ without surface
S ⁴⁾	10	M 18×1,5	6	63	60	45	98	7	77	22	383	LD10SX	40
	12	M 20×1,5	8	63	64	49	98	7	81	24	401	LD12SX	40
	14	M 22×1,5	10	63	70	54	98	7	89	27	417	LD14SX	40
	16	M 24×1,5	12	80	84	67	110	9	103	30	631	LD16SX	40
	20	M 30×2,0	16	80	90	69	110	9	112	36	688	LD20SX	40
	25	M 36×2,0	20	100	110	86	129	12	134	46	1191	LD25SX	40
	30	M 42×2,0	25	100	120	93	129	12	146	50	1322	LD30SX	40
	38	M 52×2,0	32	100	140	108	158	12	169	60	2268	LD38SX	40

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

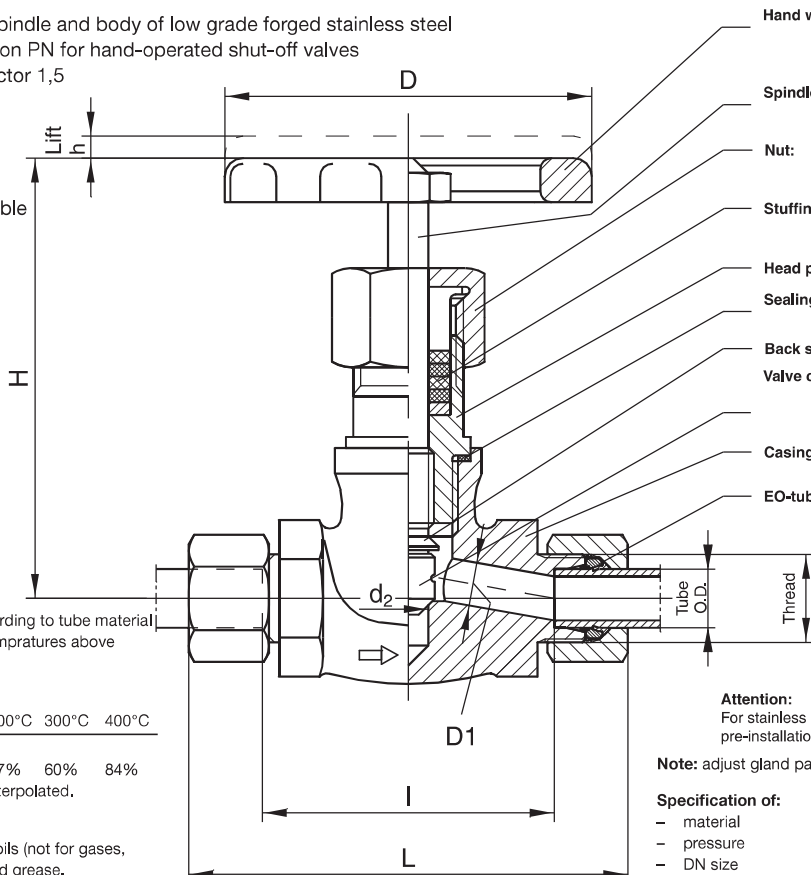
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Gunmetal (Rg 5) 2,1096	without	LD10SX	Graphit / Metal

VDHA High pressure valve

EO tube end / EO tube end

with internal threaded spindle and body of low grade forged stainless steel
 The pressure specification PN for hand-operated shut-off valves applies to the design factor 1,5 (according DIN 3230 T5 and ISO 5208).

Caution!
 Please note the admissible pressure ratings for the EO-tube ends.



- Hand wheel:** Aluminium die casting GD-AL Si 8 Cu 3
Operating position: completely opened or closed.
- Spindle:** with internal thread. Material 1.4021
- Nut:** Material 1.0718
- Stuffing box packing:** GA 24 (Graphit)
- Head piece:** Material 1.0460
- Sealing:** between casing and head piece, material-no. 2.4066
- Back sealing:** against head piece
- Valve cone:** hardened loose tip material 1.4122. For VDHA 30-PS and 38-PS material 1.0460 forged with Cr 17
- Casing:** forged. Material No. 1.4104
- EO-tube connection:** Nuts and progressive rings of steel for the assembly of steel tubes. For stainless steel tubes material no. 1.4571 or 1.4541 and temperatures above 120°C progressive rings and nuts of 1.4571 are to used. (Please specify when ordering)

Temperatures up to 400°C according to tube material (consider pressure drop with temperatures above 50°C)

Required pressure reductions

temperature	50°C	100°C	200°C	300°C	400°C
pressure reductions	6%	15%	37%	60%	84%

Intermediate values are to be interpolated.

Applications:
 For water, steam, hot and cold oils (not for gases, oxygen etc.) on mineral oil based grease.
 For compressed air up to 50°C. For corrosive media, acids, fire resistant fluid etc.

Attention:
 For stainless steel tubes always pre-assembly in hardened pre-installation body (see assembly instructions)

Note: adjust gland packing prior to initial working period.

- Specification of:**
- material
 - pressure
 - DN size
 - identification mark on hand wheel.

Series	D1	PN (bar)	DN	Thread	d2	H	L	I	h	D	Weight g/1 piece	With Nut and Ring	
												Dry Technology EO-2	PSR steel
S ⁴⁾	06	630	4	M 14×1.5	9.5	120	95	66	6	100	891	VDHA06ZS	VDHA06S
	08	630	5	M 16×1.5	9.5	120	95	66	6	100	917	VDHA08ZS	VDHA08S
	10	630	7	M 18×1.5	9.5	120	97	65	6	100	937	VDHA10ZS	VDHA10S
	12	630	8	M 20×1.5	9.5	120	97	65	6	100	940	VDHA12ZS	VDHA12S
	14	630	10	M 22×1.5	9.5	120	119	84	6	100	1194	VDHA14ZS	VDHA14S
	16	400	11	M 24×1.5	9.5	120	119	83	6	100	1209	VDHA16ZS	VDHA16S
	20	400	13	M 30×2.0	11.0	120	122	79	6	100	1292	VDHA20ZS	VDHA20S
	25	400	17	M 36×2.0	12.0	143	154	106	9	125	2013	VDHA25ZS	VDHA25S
	30	250	19	M 42×2.0	22.5	164	156	103	12	125	2596	VDHA30ZS	VDHA30S
	38	250	25	M 52×2.0	26.5	198	179	118	12	180	4972	VDHA38ZS	VDHA38S

¹⁾ Pressure shown = item deliverable

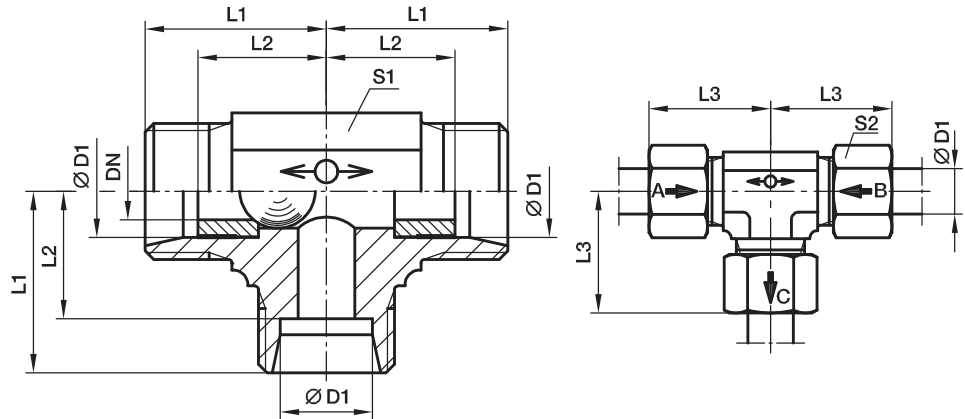
⁴⁾ S = heavy series

$$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$$

WV Alternating valve

EO 24° cone end / EO 24° cone end / EQ 24° cone end

These valves permit the passage of flow from either inlet 1 or 2 to the outlet port whilst shutting of the inlet port not in use. The shutting off, of an inlet is achieved by a floating ball bearing which moves by the pressure of the flow.



Material: steel
Surface finish: Cr(VI)-free.

Valves are not recommended for compressed air and gases.
WV-valves are not to be used in connection with weld nipples, swivel nuts etc. where there is no contact with a shoulder stop in the inner cone.

Temperature range without pressure reductions: -40°C up to +120°C.

Recommended fitting position as shown in the picture.

Leakage rate for alternating valves hydraulic test with test pressure = P_{max} : approx. 20 drops (test period of 1 minute).

Directions of flow:

$D_1 \rightarrow D_3 = D_2$ closed
 $D_2 \rightarrow D_3 = D_1$ closed

Series	D1	T1	DN	L1	L2	L3	S1	S2	Weight g/1 piece	Order code*	PN (bar) ¹⁾ CF
L ³⁾	8	M 14x1,5	4,5	21	14	29	14	17	53	WV08LOMD	160
	10	M 16x1,5	6,0	22	15	30	17	19	73	WV10LOMD	160
	12	M 18x1,5	7,5	24	17	32	19	22	96	WV12LOMD	160
	15	M 22x1,5	10,0	28	21	36	19	27	134	WV15LOMD	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page I7.

*Please add the **suffixes** below according to the material/surface required.

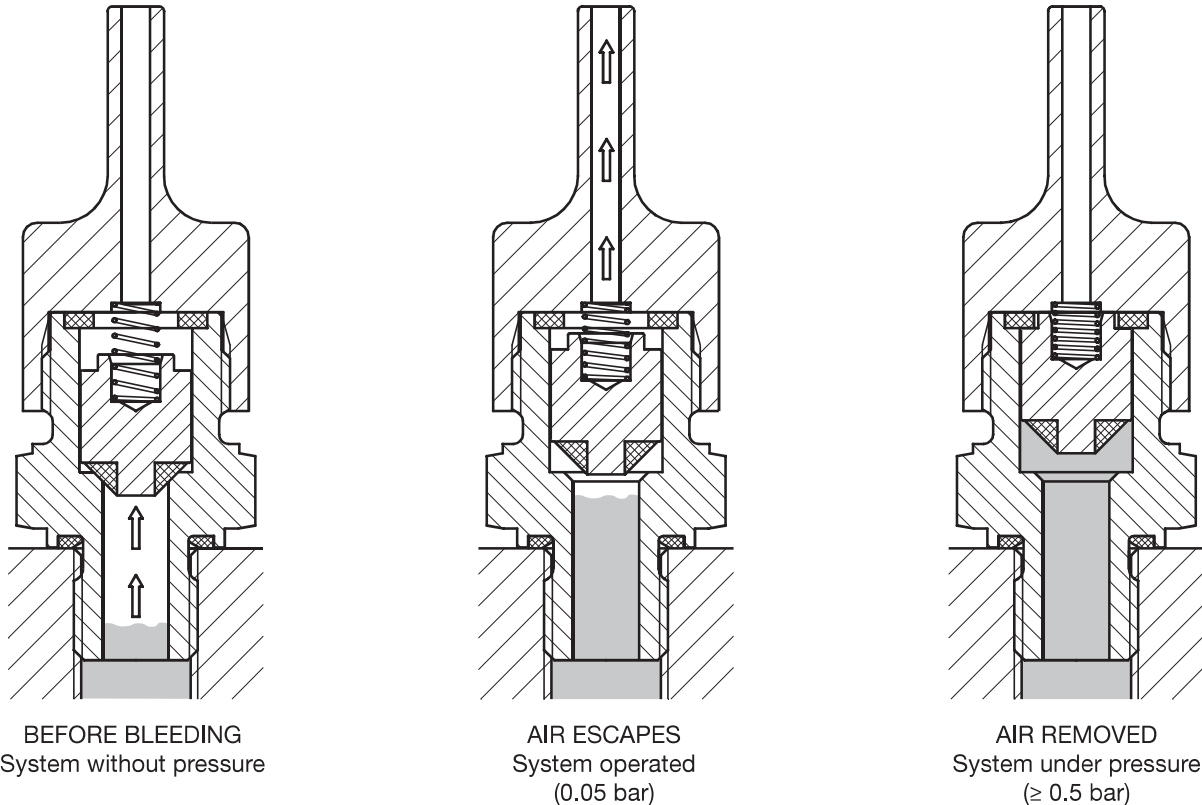
Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	CF	WV08LOMDCF	Steel ball

ELA air-bleed valves

Hydraulic systems can effectively be bled with ELA air-bleed valves.

Easily installed – maintenance-free – almost unlimited service life – simple – safe – reliable – efficient.
The system can be operated immediately. No control irregularities due to air contamination of the pressure medium.
Cost saving, as non-productive de-aeration time is saved.

Air bleed between: – opening pressure 0.05 bar
– closing pressure $\geq 0,5$ bar



The principle of the air-bleed valve is based on the difference in behaviour of gases and liquids under pressure because of their dependence on viscosity. A piston, housed in the bore of the body with defined clearance, effects the opening and closing of the valve on start-up or shut-down of the system. On setting the system in operation, the accumulated air escapes until the liquid column of the pressure medium reaches the piston. The pressure of the liquid lifts the piston against the upper, high pressure seal, securely closing the air-vent (slight oil discharge may occur). When pressure is released the spring releases the piston reopening the air-vent, whereupon the procedure may be repeated. The special piston design prevents any intake of air in case of partial vacuum.

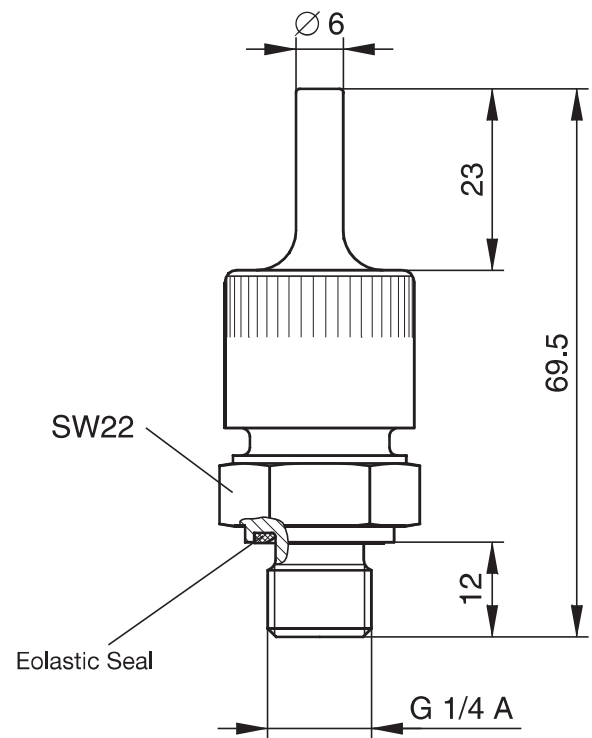
The air bleed valve should be connected vertical, at the highest point of the hydraulic system or in places where air accumulation may occur.

ELA air-bleed valves are available only for mineral oil based fluids, and within the temperature limits of -20°C to $+90^{\circ}\text{C}$.

ELA Air-bleed valves

Male BSPP thread with Eolastic seal

PN (bar)	Dry Technology Steel	Weight g/1 piece
400	ELA1/4EDCF	109



EO Swivel

PN (bar)	Dry Technology Steel	Weight g/1 piece
315	ELAE10LCF	125

