

Machined stop pin assures positive closing / opening, eliminates seat degradation due to ball misalignment.

Machined slot indicates ball bore position.

Blow out proof stem design. Bottom loaded for safety.

Secondary stem seals made of FPM (Viton®) are standard. NBR (Buna-N®) and EPDM sealings available.

Primary stem seals made of Delrin® (POM), also acting as a bearing surface between body and stem.

Ball seats made of Delrin® (POM) to assure low operating torque. Special ball seat materials available.

Micro smooth Carbon Steel (hard-chrome plated) or Stainless Steel ball.

Heavy-duty body.

NPT, SAE, BSP, ORFS, Metric and SAE flanged connectors are available.

O-rings made of FPM (Viton®) are standard. NBR (Buna-N®) and EPDM sealings available.

Main Features

- "Floating Ball" design insures a positive, leak-free seal and automatically compensates for any seat wear or misalignment.
- Available in Carbon Steel and Stainless Steel.
- 1/4 turn positive operation.
- Hard-chrome plated micro-smooth ball greatly reduces friction and seat wear.
- Ball seats are available in a variety of materials to suit your special applications.
- Depending on size and materials, working pressures up to 800 bar / 12000 PSI and temperatures up to +500 °C / +930 °F can be accommodated.
- Full size ports on most two-way valves virtually eliminates pressure drop.
- STAUFF Ball Valves offer completely bidirectional operation, eliminating any chance of incorrect installation.
- No lubrication or maintenance required for the life of the valve.
- STAUFF Valves are easily and completely repairable.
- Long seal life.
- No threads in fluid service to contaminate flow or cause turbulence.

Options

- Alternative lever designs and materials
- Special ball seat and O-ring materials for lower/higher temperatures and more aggressive media
- Special threads and connections

Accessories

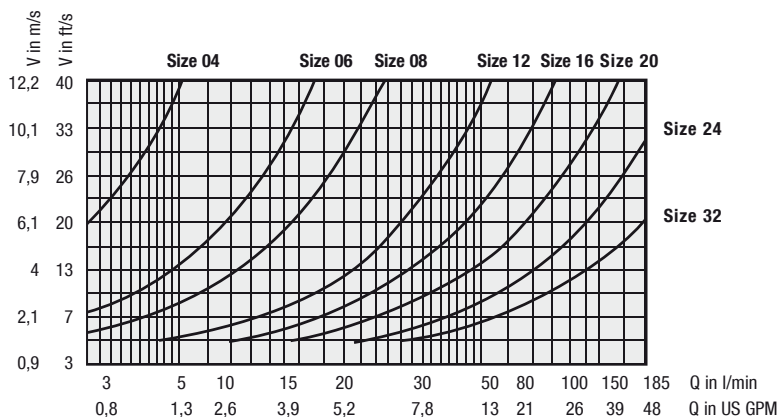
- Locking devices
- Actuator packages
- Limit switches

Special Versions

- Highest-pressure ball valves
- High-temperature ball valves
- Ball valves for gas, paints, lacquers and Isocyanate
- Ball valves with fire-safe approval
- Custom-designed ball valves

Contact STAUFF with your special requirements.

Ball Valve Selection Chart



Please note:

STAUFF Ball Valves are designed for use as on/off devices and must not be used to throttle fluid flow. Use in any position other than fully open or fully closed can lead to rapid deterioration of valve components and possible product failure.

When operated from the fully closed position at rated operating pressure, manual operation may prove difficult due to opening torque requirements.

Please consult factory prior to field application.

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Multi-Way Ball Valves

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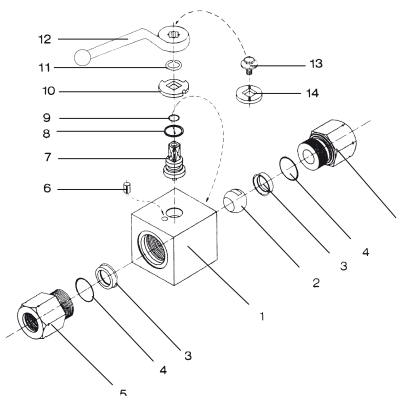
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High-Pressure Block Body Ball Valve ■ Type BBV



List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Lever
13	1	Stem Screw
14	1	Flow Indicator

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Aluminium (STAUFF Size 10)
Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1) >1-1/2–11-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-7/8–12 UN (1-1/2" SAE)
- Male O-Ring Face Seal Connection >1-11/16–12 UN
- 24° cone connection (DIN 2353); Light Series >42L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure Range

- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

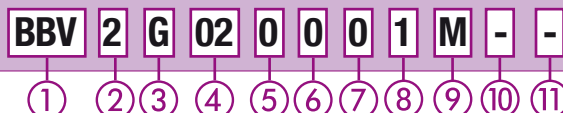
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F85)

Order Codes



① Type

High-Pressure Block Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 Male O-Ring Face Seal Connection **B**
 24° Cone Connection (Light / Heavy Series)
DN04 DN06 DN08 DN10 DN12 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0, 1 and B:
02 04 06 08 10 12 16 20 24
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series):
06L 08L 10L 12L 15L 18L 22L 28L 35L 42L
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
06S 08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**
 EPDM **3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread) **M**
 Manufacturing code (only for Female NPT Thread) **K**
 Manufacturing code for high-pressure version of connection styles 0 and 1 (STAUFF Size 16) **H**

⑩ Lever Options

Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

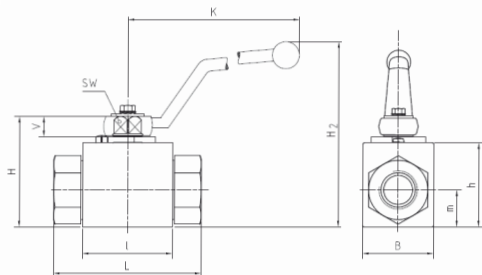
Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

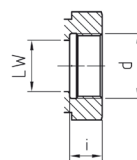
Supplied without accessories **-**
 Supplied with Locking Device LD1 **-LD1**
 Supplied with Locking Device LD2 **-LD2**
 Supplied with Locking Device LD3 **-LD3**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Double-Acting Pneumatic Actuator (Please add size ***) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size ***) **-ESA****

Please see page F81 - F85 for further information and options.

High-Pressure Block Body Ball Valve ■ Type BBV Female BSP Thread (DIN ISO 228)



Female BSP Thread (DIN ISO 228)



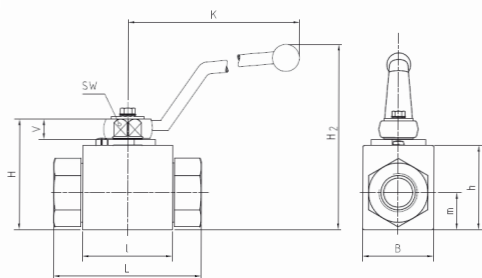
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Aluminium (STAUFF Size 10)
Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

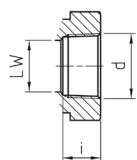
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5 .20	69 2.70	40 1.57	26 1.02	47 1.84	33 1.29	13,5 .53	11 .43	9 .35	115 4.50	10 .39	82 3.23	500 7250	0,41 .90	BBV2G020001M
04	G 1/4 BSP	6	6 .23	69 2.70	40 1.57	26 1.02	47 1.84	33 1.29	13,5 .53	11 .43	9 .35	115 4.50	14 .55	82 3.23	500 7250	0,40 .88	BBV2G040001M
06	G 3/8 BSP	10	10 .39	72 2.82	43 1.68	32 1.25	52 2.04	38 1.49	17,5 .69	11 .43	9 .35	115 4.50	14 .55	87 3.43	500 7250	0,54 1.19	BBV2G060001M
08	G 1/2 BSP	13	13 .51	83 3.25	48 1.88	35 1.37	54 2.11	40 1.57	19 .74	11 .43	9 .35	115 4.50	16,3 .64	89 3.50	500 7250	0,65 1.43	BBV2G080001M
10	G 5/8 BSP	16	15 .59	83 3.25	48 1.88	38 1.49	63 2.47	46 1.80	19 .74	13 .51	12 .47	160 6.26	16 .63	106 4.17	420 6000	0,70 1.54	BBV2G100001M
12	G 3/4 BSP	20	20 .78	95 3.72	62 2.43	49 1.92	75 2.94	57 2.23	24,5 .96	14 .55	14 .55	170 6.69	18 .70	126 4.96	420 6000	1,50 3.31	BBV2G120001M
16	G 1 BSP	25	25 .98	113 4.42	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	20 .78	134 5.28	315 4500	2,20 4.85	BBV2G160001M
20	G 1-1/4 BSP	25/32	25 .98	120 4.70	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	22 .86	134 5.28	315 4500	2,30 5.07	BBV2G200001M
24	G 1-1/2 BSP	25/40	25 .98	130 5.09	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	24 .94	134 5.28	315 4500	2,60 5.73	BBV2G240001M

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type BBV Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8-27 NPT	4	5 .20	69 2.70	40 1.57	26 1.02	47 1.84	33 1.29	13,5 .53	11 .43	9 .35	115 4.50	10,5 .41	82 3.23	500 7250	0,30 .66	BBV20020001K
04	1/4-18 NPT	6	6 .23	69 2.70	40 1.57	26 1.02	47 1.84	33 1.29	13,5 .53	11 .43	9 .35	115 4.50	13,7 .54	82 3.23	500 7250	0,40 .88	BBV20040001K
06	3/8-18 NPT	10	10 .39	72 2.82	43 1.68	32 1.25	52 2.04	38 1.49	17,5 .69	11 .43	9 .35	115 4.50	13,5 .53	87 3.43	500 7250	0,50 1.10	BBV20060001K
08	1/2-14 NPT	13	13 .51	83 3.25	48 1.88	35 1.37	54 2.11	40 1.57	19 .74	11 .43	9 .35	115 4.50	17 .67	89 3.50	500 7250	0,75 1.65	BBV20080001K
12	3/4-14 NPT	20	20 .78	95 3.72	62 2.43	49 1.92	75 2.94	57 2.23	24,5 .96	14 .55	14 .55	170 6.69	18,3 .72	126 4.96	420 6000	1,63 3.57	BBV20120001K
16	1-11-1/2 NPT	25	25 .98	113 4.42	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	21,6 .85	134 5.28	315 4500	2,30 5.06	BBV20160001K
16	1-11-1/2 NPT	25	25 .98	113 4.42	74 2.91	70 2.76	88 3.46	70 2.76	34,5 1.36	14 .55	14 .55	170 6.69	20 .78	139 5.47	420 6000	2,20 4.85	BBV20160001H
20	1-1/4-11-1/2 NPT	25/32	25 .98	120 4.70	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	22,1 .87	134 5.28	315 4500	2,51 5.52	BBV20200001K
24	1-1/2-11-1/2 NPT	25/40	25 .98	130 5.09	66 2.58	58 2.27	83 3.25	65 2.55	29,5 1.16	14 .55	14 .55	170 6.69	22,1 .87	134 5.28	250 3625	2,70 5.94	BBV20240001K

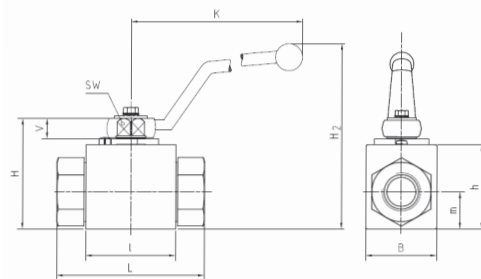
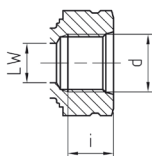
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type BBV Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16-20 UNF (1/4" SAE)	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500 7250	0,40 .88	BBV21040001M
06	9/16-18 UNF (3/8" SAE)	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500 7250	0,50 1.10	BBV21060001M
08	3/4-16 UNF (1/2" SAE)	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500 7250	0,70 1.54	BBV21080001M
12	1-1/16-12 UN (3/4" SAE)	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420 6000	1,50 3.31	BBV21120001M
16	1-5/16-12 UN (1" SAE)	25	25	113	66	58	83	65	29,5	14	14	170	20	134	315 4500	2,20 4.85	BBV21160001M
16	1-5/16-12 UN (1" SAE)	25	25	121	74	70	88	70	34,5	14	14	170	20	139	420 6000	2,20 4.85	BBV21160001H
20	1-5/8-12 UN (1-1/4" SAE)	25/32	25	120	66	58	83	65	29,5	14	14	170	20	134	315 4500	2,50 5.50	BBV21200001M
24	1-7/8-12 UN (1-1/2" SAE)	25/40	25	130	66	58	83	65	29,5	14	14	170	20	134	315 4500	2,61 5.74	BBV21240001M

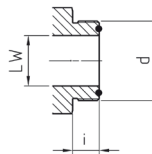
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type BBV O-Ring Face Seal Connection ■ Male Thread (ISO 8434-3)

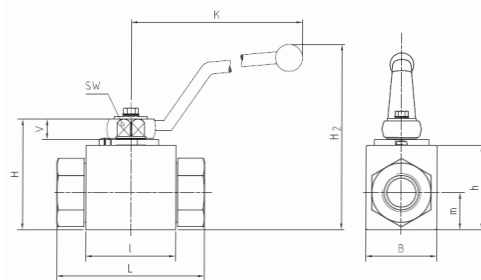
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
Aluminium (STAUFF Size 10)
Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

ORFS Connection (ISO 8434-3)



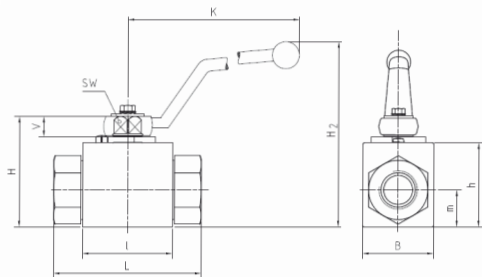
O-ring included in delivery.



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	9/16-18 UNF	6	4,5	73	40	26	47	33	13,5	11	9	115	10	82	500 7250	0,37 .81	BBV2B040001M
05	11/16-16 UN	8	6,5	73	40	26	47	33	13,5	11	9	115	11	82	500 7250	0,38 .83	BBV2B050001M
06	13/16-16 UN	10	9,5	78	43	32	52	38	17,5	11	9	115	13	87	500 7250	0,50 1.10	BBV2B060001M
08	1-14 UNS	13	12,5	90	48	35	54	40	19	11	9	115	15,5	89	420 6000	0,61 1.34	BBV2B080001M
10	1-3/16-12 UN	16	15,5	98	48	35	63	40	19	13	12	160	17	106	420 6000	0,80 1.76	BBV2B100001M
12	1-7/16-12 UN	20	20,5	111	62	49	75	57	24,5	14	14	170	17,5	126	315 4500	1,55 3.41	BBV2B120001M
16	1-11/16-12 UN	25	26	120	66	58	83	65	29,5	14	14	170	17,5	134	315 4500	2,10 4.63	BBV2B160001M

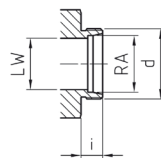
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV 24° Cone Connection ▪ Light Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



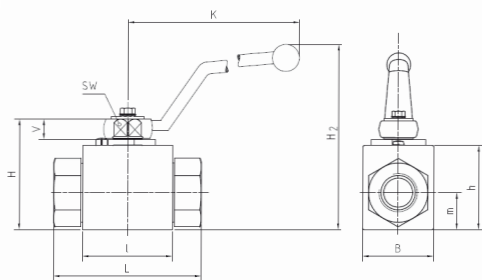
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)														Nom. Pressure (bar/psi)	Weight (kg/lbs)	Order Codes (Standard Option)
			RA	LW	L	I	B	H	h	m	V	SW	K	i	H2				
02	06L / M12 x 1,5	4	6 .24	5 .20	67 2.64	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,36 .79	BBV2DN0406L0001M	
04	08L / M14 x 1,5	6	8 .31	6 .24	67 2.64	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,37 .81	BBV2DN0608L0001M	
05	10L / M16 x 1,5	8	10 .39	8 .31	74 2.91	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	11 .43	82 3.23	500 7250	0,38 .83	BBV2DN0810L0001M	
06	12L / M18 x 1,5	10	12 .47	10 .39	74 2.91	43 1.69	32 1.26	52 2.05	38 1.50	17,5 .69	11 .43	9 .35	115 4.53	11 .43	87 3.43	500 7250	0,50 1.10	BBV2DN1012L0001M	
08	15L / M22 x 1,5	13	15 .59	13 .51	82 3.23	48 1.89	35 1.38	54 2.13	40 1.57	19 .75	11 .43	9 .35	115 4.53	12 .47	89 3.50	500 7250	0,61 1.34	BBV2DN1315L0001M	
08	18L / M26 x 1,5	13	18 .71	13 .51	82 3.23	48 1.89	35 1.38	54 2.13	40 1.57	19 .75	11 .43	9 .35	115 4.53	12 .47	89 3.50	500 7250	0,60 1.32	BBV2DN1318L0001M	
12	22L / M30 x 2	20	22 .87	20 .79	101 3.98	62 2.44	49 1.93	75 2.95	57 2.24	24,5 .96	14 .55	14 .55	170 6.69	14 .55	126 4.96	420 6000	1,49 3.33	BBV2DN2022L0001M	
16	28L / M36 x 2	25	28 1.10	25 .98	108 4.25	66 2.60	58 2.28	83 3.27	65 2.56	29,5 1.16	14 .55	14 .55	170 6.69	14 .55	134 5.28	315 4500	2,00 4.41	BBV2DN2528L0001M	
20	35L / M45 x 2	25/32	35 1.38	25 .98	112 4.41	66 2.60	58 2.28	83 3.27	65 2.56	29,5 1.16	14 .55	14 .55	170 6.69	16 .63	134 5.28	315 4500	2,12 4.66	BBV2DN2535L0001M	
24	42L / M52 x 2	25/40	42 1.65	25 .98	112 4.41	66 2.60	58 2.28	83 3.27	65 2.56	29,5 1.16	14 .55	14 .55	170 6.69	16 .63	134 5.28	315 4500	2,27 4.99	BBV2DN2542L0001M	

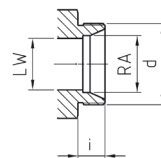
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV 24° Cone Connection ▪ Heavy Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



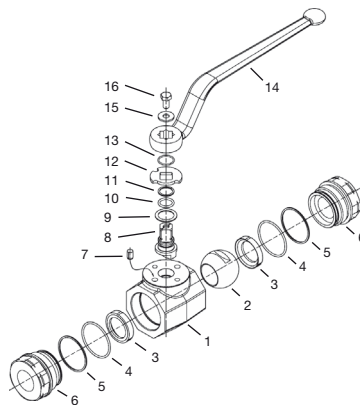
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Aluminium (STAUFF Size 10)
Carbon Steel (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)														Nom. Pressure (bar/psi)	Weight (kg/lbs)	Order Codes (Standard Option)
			RA	LW	L	I	B	H	h	m	V	SW	K	i	H2				
02	08S / M16 x 1,5	4	8 .31	5 .20	73 2.87	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,38 .84	BBV2DN0408S0001M	
04	10S / M18 x 1,5	6	10 .39	6 .24	73 2.87	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,39 .86	BBV2DN0610S0001M	
05	12S / M20 x 1,5	8	12 .47	8 .31	76 2.99	40 1.57	26 1.02	47 1.85	33 1.30	13,5 .53	11 .43	9 .35	115 4.53	11 .43	82 3.23	500 7250	0,39 .86	BBV2DN0812S0001M	
06	14S / M22 x 1,5	10	14 .55	10 .39	80 3.15	43 1.69	32 1.26	52 2.05	38 1.50	17,5 .69	11 .43	9 .35	115 4.53	11 .43	87 3.43	500 7250	0,50 1.10	BBV2DN1014S0001M	
08	16S / M24 x 1,5	13	16 .63	13 .51	86 3.39	48 1.89	35 1.38	54 2.13	40 1.57	19 .75	11 .43	9 .35	115 4.53	12 .47	89 3.50	500 7250	0,60 1.32	BBV2DN1316S0001M	
08	20S / M30 x 2	13	20 .79	15 .59	90 3,54	48 1.89	38 1,50	54 2,13	46 1,81	19 .75	11 .43	9 .35	115 4,53	12 .47	89 3,50	500 7250	0,60 1,32	BBV2DN1320S0001M	
10	20S / M30 x 2	16	20 .79	13 .51	90 3,54	48 1,89	35 1,38	54 2,13	40 1,57	19 .75	13 .51	12 .47	160 6,26	16 .63	106 4,17	420 6000	0,80 1,76	BBV2DN1620S0001M	
12	25S / M36 x 2	20	25 .98	20 .79	109 4,29	62 2,44	49 1,93	75 2,95	57 2,24	24,5 .96	14 .55	14 .55	170 6,69	18 .71	126 4,96	420 6000	1,55 3,41	BBV2DN2025S0001M	
16	30S / M42 x 2	25	30 1,18	25 .98	120 4,72	66 2,60	58 2,28	75 2,95	65 2,56	29,5 1,16	14 .55	14 .55	170 6,69	20 .79	134 5,28	315 4500	2,10 4,63	BBV2DN2530S0001M	
20	38S / M52 x 2	25/32	38 1,50	25 .98	124 4,88	66 2,60	58 2,28	83 3,27	65 2,56	29,5 1,16	14 .55	14 .55	170 6,69	22 .87	134 5,28	315 4500	2,30 5,07	BBV2DN2538S0001M	

Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

* Included in seal kit

Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female NPT thread (ANSI B1.20.1) >2-11-1/2 NPT
- Female UN/UNF thread (SAE J 514) >2-1/2-12 UN (2" SAE)
- Male O-Ring Face Seal Connection >2-12 UN
- 24° cone connection (DIN 2353); Light Series >42L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

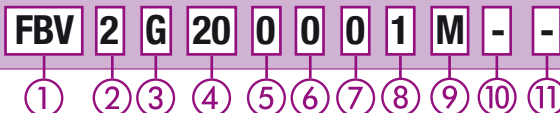
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Order Codes



① Type

High-Pressure Forged Body Ball Valve **FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 Male O-Ring Face Seal Connection **B**
 24° Cone Connection (Light / Heavy Series) **DN32**
 24° Cone Connection (only Light Series) **DN40**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0, 1 and B:

20	24	32
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Tube Size (according to dimension table)
for 24° Cone Connection (Light Series): **35L**
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series): **42L**
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series): **38S**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel **0**
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

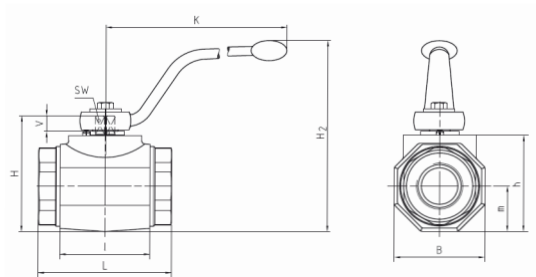
Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

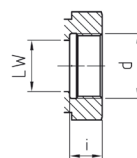
Supplied without accessories **-**
 Supplied with Locking Device LD1 **-LD1**
 Supplied with Locking Device LD2 **-LD2**
 Supplied with Locking Device LD3 **-LD3**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Locking Device LD6 **-LD6**
 Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.

High-Pressure Forged Body Ball Valve - Type FBV Female BSP Thread (DIN ISO 228)



Female BSP Thread (DIN ISO 228)



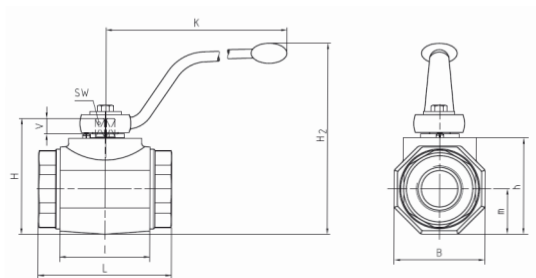
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

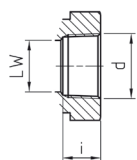
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	G 1-1/4 BSP	32	32	111	80	81	107	86	40,5	16,5	17	320	22	171	420	3,47	FBV2G200001M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	7.63	
24	G 1-1/2 BSP	40	38	130	85	100	124	103	50	16,5	17	320	24	188	420	5,67	FBV2G240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.94	7.40	6000	12.47	
32	G 2 BSP	50	48	140	100	118	138	117	59	16,5	17	320	26	202	420	8,14	FBV2G320001M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	1.02	7.96	6000	17.91	

Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve - Type FBV Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4-11-1/2 NPT	32	32	111	80	81	107	86	40,5	16,5	17	320	22	171	420	3,47	FBV20200001M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	7.63	
24	1-1/2-11-1/2 NPT	40	38	130	85	100	124	103	50	16,5	17	320	24	188	420	5,67	FBV20240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.94	7.40	6000	12.47	
32	2-11-1/2 NPT	50	48	140	100	118	138	117	59	16,5	17	320	26	202	420	8,14	FBV20320001M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	1.02	7.96	6000	17.91	

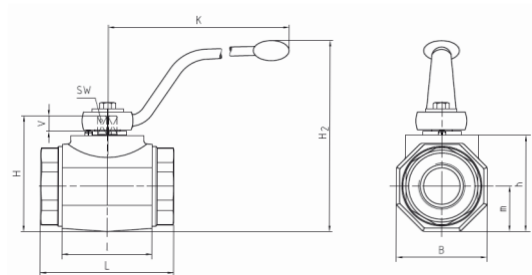
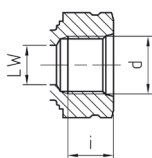
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

**Female UN/UNF Thread
(SAE J 514)**



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-5/8-12 UN (1-1/4" SAE)	32	30	111	80	81	107	86	40,5	16,5	17	320	20	171	420	3,52	FBV21200001M
			1.18	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.79	6.73	6000	7.75	
24	1-7/8-12 UN (1-1/2" SAE)	40	38	130	85	100	124	103	50	16,5	17	320	20	188	420	5,69	FBV21240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.79	7.40	6000	12.52	
32	2-1/2-12 UN (2" SAE)	50	45	140	100	118	138	117	59	16,5	17	320	20	202	420	8,14	FBV21320001M
			1.79	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	.79	7.96	6000	17.91	

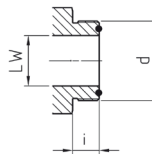
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV O-Ring Face Seal Connection ▪ Male Thread (ISO 8434-3)

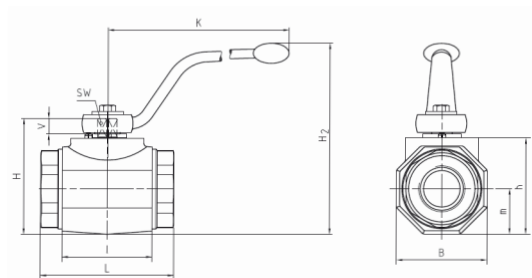
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

**ORFS Connection
(ISO 8434-3)**



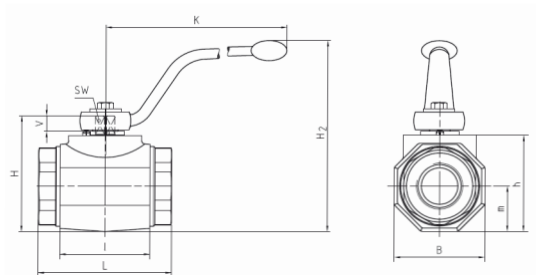
O-ring included in delivery.



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	2-12 UN	32	32	139	80	81	107	86	40,5	16,5	17	320	17,5	171	320	3,52	FBV2B200001M
			1.26	5.47	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.69	6.73	4640	7.75	

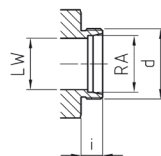
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV 24° Cone Connection ▪ Light Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



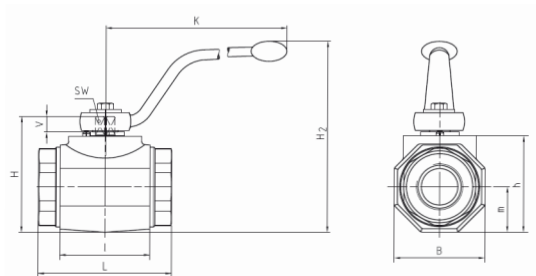
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	35L / M45 x 2	32	35	32	136	80	81	107	86	40,5	16,5	17	320	16	171	420	3,58	FBV2DN3235L0001M
			1.38	1.26	5.35	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.63	6.73	6000	7.88	
24	42L / M52 x 2	40	42	38	147	85	100	124	103	50	16,5	17	320	16	188	420	5,54	FBV2DN4042L0001M
			1.65	1.50	5.79	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.63	7.40	6000	12.19	

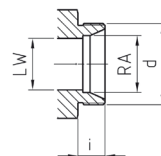
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV 24° Cone Connection ▪ Heavy Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



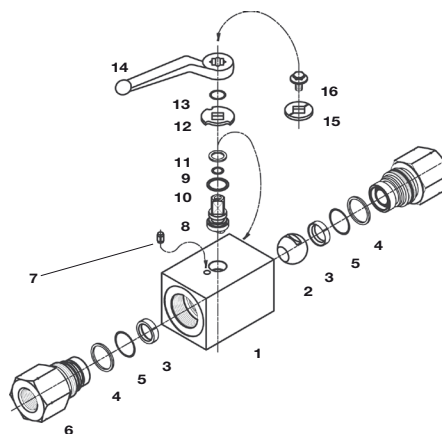
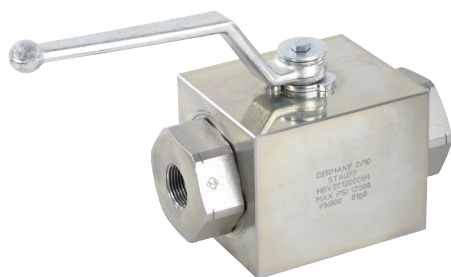
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	38S / M52 x 2	32	38	32	148	80	81	107	86	40,5	16,5	17	320	22	171	420	3,77	FBV2DN3238S0001M
			1.50	1.26	5.83	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	8,29	

Please note the pressure ratings of the tube connections.

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve - Type HBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Pipe Back-up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Pipe Back-up
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Flow Indicator
16	1	Stem Screw

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications (for pressures up to 800 bar / 12000 PSI)

Standard Construction

- Block body design for in-line assembly
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: POM encased
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female NPT thread (ANSI B1.20.1) >1-11-1/2 NPT
- 24° cone connection (DIN 2353); Heavy Series >30S

Pressure Range

- Pressure range: up to 800 bar / 12000 PSI (depending on size and material combination of the ball valve)

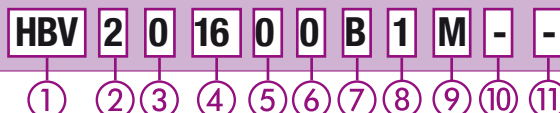
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Order Codes



① Type

High-Pressure Block Body Ball Valve **HBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1) **0**
24° Cone Connection (Heavy Series)
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, O, 1 and B:
04 06 08 12 16
Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
08S 10S 12S 14S 16S 20S 25S 30S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
Stem: Carbon Steel **0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

POM encased **B**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
FPM (Viton®) **1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

Supplied with standard lever (according to table) **-**
Supplied without lever **-0**

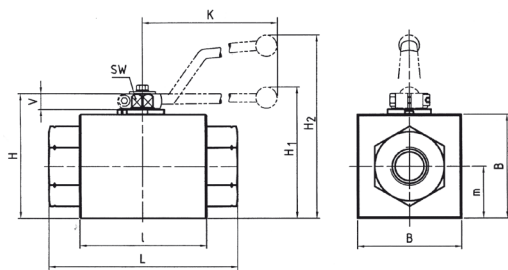
Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

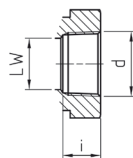
Supplied without accessories **-**
Supplied with Locking Device LD1 **-LD1**
Supplied with Locking Device LD4 **-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve ▪ Type HBV Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



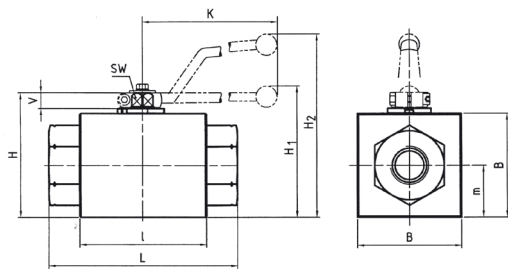
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: POM encased
- O-rings: FPM (Viton®)

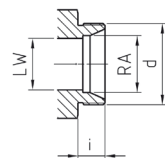
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)												Nom. Pressure (^{bar} /psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	B	H	m	V	SW	K	i	H1	H2			
04	1/4–18 NPT	6	6	130	76	50	64	25	11	9	115	13,7		99	800	1,92	HBV200400B1M
			.39	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	0.89		6.43	12000	4.22	
06	3/8–18 NPT	10	13	130	76	50	64	25	11	9	115	13,5		99	800	1,85	HBV200600B1M
			.84	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	0.88		6.43	12000	4.07	
08	1/2–14 NPT	13	13	130	76	50	64	25	11	9	115	17		99	800	1,79	HBV200800B1M
			.84	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	1.10		6.43	12000	3.93	
12	3/4–14 NPT	20	20	161	111	90	108	45	14	14	200	18,3	112		800	7,83	HBV201200B1M
			1.30	10.45	7.21	5.84	7.01	2.92	.91	.91	12.99	1.19	7.27		12000	17.23	
16	1–11-1/2 NPT	25	25	164	111	90	108	45	14	14	200	21,6	112		800	7,68	HBV201600B1M
			1.62	10.65	7.21	5.84	7.01	2.92	.91	.91	12.99	1.40	7.27		12000	16.90	

Please note the pressure ratings of the tube connections.

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve ▪ Type HBV 24° Cone Connection ▪ Heavy Series (DIN 2353 / ISO 8434-1)



24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

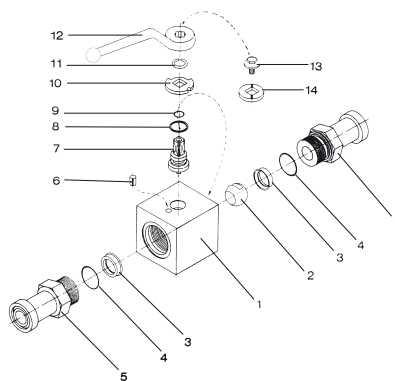
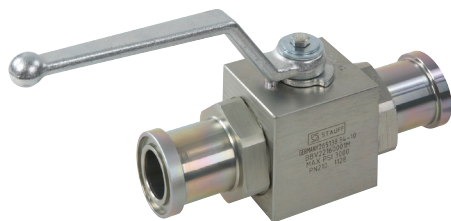
- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: POM encased
- O-rings: FPM (Viton®)

Hex nuts and cutting rings are not included in delivery.

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	110	76	50	64	25	11	9	115	12	99	800	1,60	HBV2DN0408S00B1M
			.31	.20	4.33	2.99	1.97	2.52	.98	.43	.35	4.53	.47	6.43	12000	3.52	
04	10S / M18 x 1,5	6	10	6	114	76	50	64	25	11	9	115	12	99	800	1,60	HBV2DN0610S00B1M
			.39	.24	4.49	2.99	1.97	2.52	.98	.43	.35	4.53	.47	6.43	12000	3.52	
05	12S / M20 x 1,5	8	12	8	114	76	50	64	25	11	9	115	12	99	800	1,64	HBV2DN0812S00B1M
			.47	.31	4.49	2.99	1.97	2.52	.98	.43	.35	4.53	.47	6.43	12000	3.61	
06	14S / M22 x 1,5	10	14	13	114	76	50	64	25	11	9	115	14	99	800	1,56	HBV2DN1014S00B1M
			.55	.51	4.49	2.99	1.97	2.52	.98	.43	.35	4.53	.55	6.43	12000	3.43	
08	16S / M24 x 1,5	13	16	13	114	76	50	64	25	11	9	115	14	99	800	1,58	HBV2DN1316S00B1M
			.63	.51	4.49	2.99	1.97	2.52	.98	.43	.35	4.53	.55	6.43	12000	3.48	
08	20S / M30 x 2	13	20	13	118	76	50	64	25	11	9	115	16	99	800	1,63	HBV2DN1320S00B1M
			.79	.51	4.65	2.99	1.97	2.52	.98	.43	.35	4.53	.63	6.43	12000	3.59	
12	25S / M36 x 2	20	25	20	162	111	90	108	45	14	14	200	18	112	800	7,31	HBV2DN2025S00B1M
			.98	.79	6.38	4.37	3.54	4.25	1.77	.55	.55	7.87	.71	7.27	12000	16.08	
16	30S / M42 x 2	25	30	25	166	111	90	108	45	14	14	200	20	112	800	7,40	HBV2DN2530S00B1M
			1.18	.98	6.54	4.37	3.54	4.25	1.77	.55	.55	7.87	.79	7.27	12000	16.28	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV22/23



List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Handle
13	1	Stem Screw
14	1	Flow Indicator

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors
- Standard and extended adaptor lengths

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

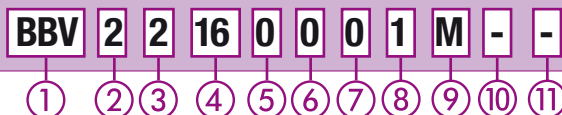
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F85)

Order Codes



① Type

High-Pressure Block Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adaptor Length)	2
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adaptor Length)	2X
6000 PSI (code 62) SAE Split Flange Connectors (Standard Adaptor Length)	3
6000 PSI (code 62) SAE Split Flange Connectors (Extended Adaptor Length)	3X

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
08	12	16

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M
Manufacturing code for high-pressure version of 6000 PSI Series (STAUFF Size 16)	H

⑩ Lever Options

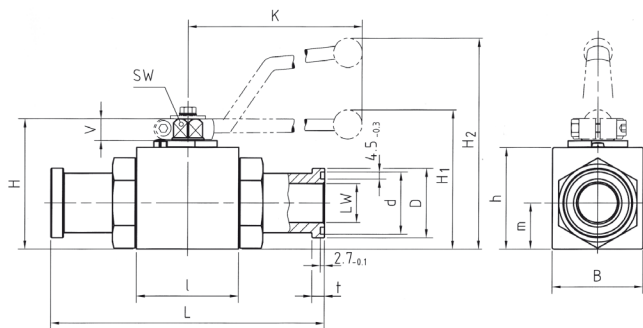
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD2	-LD2
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve ■ Type BBV22/23 3000 PSI SAE Split Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61) ■ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions ^(mm/in)															Nom. Pressure	Weight	Order Codes
			LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³	H1	H2	(bar/ Psi)	(kg/ lbs)	(Standard Option)
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	30,2	6,8	3.50	89	210	0,85	BBV22080001M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27		3000	1.87		
12	3/4	20	19	162	62	49	75	57	24,5	14	14	200	31,9	38,1	6,8	79	210	1,87	BBV22120001M	
			.75	6.38	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.50	.27	3.11	3000	4.11		
16	1	25	25	178	66	58	83	65	29,5	14	14	200	39,8	44,4	8,1	87	210	2,70	BBV22160001M	
			.98	7.01	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.57	1.75	.32	3.43	3000	5.94		

3000 PSI Series (Code 61) ■ Extended Adaptor Length

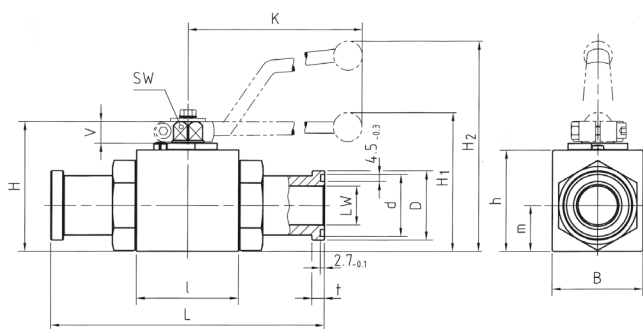
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	d¹	D²	t³	H1	H2			
08	1/2	13	13	170	48	35	54	40	19	11	9	115	25,5	30,2	6,8	89 3.50	210	0,89	BBV22X080001M	
			.51	6.69	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27		3000	1.96		
12	3/4	20	19	200	62	49	75	57	24,5	14	14	200	31,9	38,1	6,8	79	210	2,00	BBV22X120001M	
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.50	.27	3.11	3000	4.40		
16	1	25	25	215	66	58	83	65	29,5	14	14	200	39,8	44,4	8,1	87	210	2,85	BBV22X160001M	
			.98	8.46	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.57	1.75	.32	3.43	3000	6.27		

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

¹ Dimension d: ±0,1 mm / .004 in

² Dimension D: -0,2 mm / .008 in

³ Dimension t: -0,2 mm / .008 in



High-Pressure Block Body Ball Valve ■ Type BBV22/23 6000 PSI SAE Split Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ■ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (bar/psi)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³	H1	H2			
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	31,8	7,9		89	420	0,90	BBV23080001M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.33		3.50	6000	1.98	
12	3/4	20	19	174	62	49	75	57	24,5	14	14	200	31,9	41,3	8,9	79		420	1,95	BBV23120001M
			.75	6.85	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.63	.38	3.11		6000	4.29	
16	1	25	25	198	66	58	83	65	29,5	14	14	200	39,8	47,6	9,6	87		315	3,00	BBV23160001M
			.98	7.80	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.7	1.87	3.78	3.43		4500	6.60	
16	1	25	25	206	74	70	88	70	34,5	14	14	200	39,8	47,6	6,9	92		420	3,00	BBV23160001H
			.98	8.11	2.91	2.76	3.46	2.76	1.36	.55	.55	7.87	1.7	1.87	3.78	3.43		6000	6.60	

6000 PSI Series (Code 62) ■ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (bar/psi)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³	H1	H2			
08	1/2	13	13	180	48	35	54	40	19	11	9	115	25,5	31,8	7,9		89	420	1,00	BBV23X080001M
			.51	7.09	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.33		3.50	6000	2.20	
12	3/4	20	19	200	62	49	75	57	24,5	14	14	200	31,9	41,3	8,9	79		420	2,10	BBV23X120001M
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.63	.38	3.11		6000	4.62	
16	1	25	25	250	66	58	83	65	29,5	14	14	200	39,8	47,6	9,6	87		315	3,15	BBV23X160001M
			.98	9.84	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.7	1.87	3.78	3.43		4500	6.93	
16	1	25	25	250	74	70	88	70	34,5	14	14	200	39,8	47,6	6,9	92		420	3,15	BBV23X160001H
			.98	9.84	2.91	2.76	3.46	2.76	1.36	.55	.55	7.87	1.7	1.87	3.78	3.43		6000	6.93	

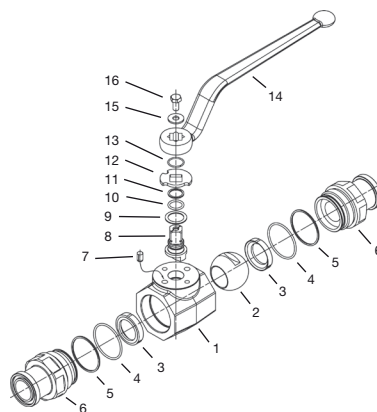
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

¹ Dimension d: ±0,1 mm / .004 in

² Dimension D: -0,2 mm / .008 in

³ Dimension t: -0,2 mm / .008 in

High-Pressure Forged Body Ball Valve ▪ Type FBV22/23



List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

* Included in seal kit

Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Forged body design for in-line assembly
- Supplied with straight lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors
- Standard and extended adaptor lengths

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

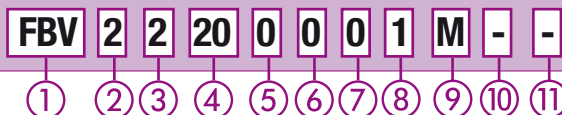
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Order Codes



① Type

High-Pressure Forged Body Ball Valve **FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adaptor Length)	2
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adaptor Length)	2X
6000 PSI (code 62) SAE Split Flange Connectors (Standard Adaptor Length)	3
6000 PSI (code 62) SAE Split Flange Connectors (Extended Adaptor Length)	3X

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
20	24	32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

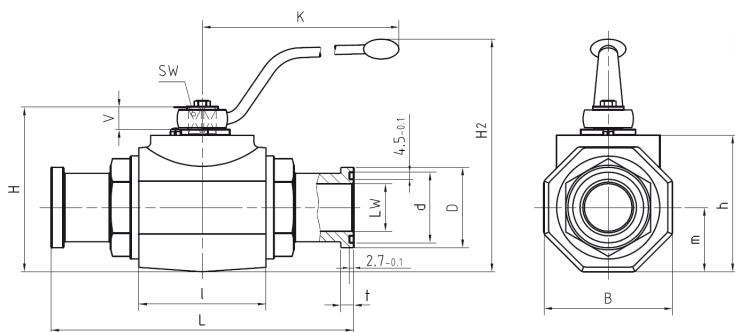
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD2	-LD2
Supplied with Locking Device LD6	-LD6
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Forged Body Ball Valve ■ Type FBV22/23 3000 PSI SAE Split Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61) ■ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³						
20	1-1/4	32	30 1.18	191 7.52	80 3.15	81 3.19	107 4.21	86 3.39	40,5 1.59	16,5 .65	17 .67	320 12.60	44,6 1.76	50,8 2.00	8,1 .32	210 3000	4,22 9.28	FBV22200001M
24	1-1/2	40	38 1.50	231 9.09	85 3.35	100 3.94	124 4.88	103 4.06	50 1.97	16,5 .65	17 .67	320 12.60	54,1 2.13	60,3 2.37	8,1 .32	210 3000	6,54 14.39	FBV22240001M
32	2	50	48 1.89	232 9.13	100 3.94	118 4.65	138 5.43	117 4.61	59 2.32	16,5 .65	17 .67	320 12.60	63,6 2.50	71,4 2.81	9,6 .38	210 3000	9,29 20.44	FBV22320001M

3000 PSI Series (Code 61) ■ Extended Adaptor Length

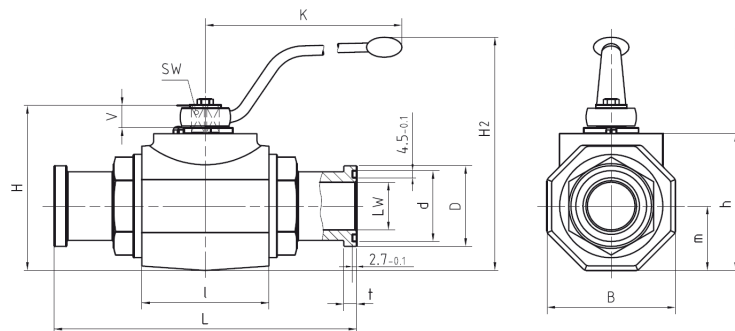
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³						
20	1-1/4	32	30 1.18	275 10.83	80 3.15	81 3.19	107 4.21	86 3.39	40,5 1.59	16,5 .65	17 .67	320 12.60	44,6 1.76	50,8 2.00	8,1 .32	210 3000	5,15 11.33	FBV22X200001M
24	1-1/2	40	38 1.50	320 12.60	85 3.35	100 3.94	124 4.88	103 4.06	50 1.97	16,5 .65	17 .67	320 12.60	54,1 2.13	60,3 2.37	8,1 .32	210 3000	7,20 15.84	FBV22X240001M
32	2	50	48 1.89	323 12.72	100 3.94	118 4.65	138 5.43	117 4.61	59 2.32	16,5 .65	17 .67	320 12.60	63,6 2.50	71,4 2.81	9,6 .38	210 3000	11,50 25.30	FBV22X320001M

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

¹ Dimension d: ±0,1 mm / .004 in

² Dimension D: -0,2 mm / .008 in

³ Dimension t: -0,2 mm / .008 in



High-Pressure Forged Body Ball Valve ■ Type FBV22/23 6000 PSI SAE Split Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ■ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³						
20	1-1/4	32	30 1.18	223 8.78	80 3.15	81 3.19	107 4.21	86 3.39	40,5 1.59	16,5 .65	17 .67	320 12.60	44,6 1.76	54 2.13	10,4 .41	420 6000	4,72 10.38	FBV23200001M
24	1-1/2	40	38 1.50	281 11.06	85 3.35	100 3.94	124 4.88	103 4.06	50 1.97	16,5 .65	17 .67	320 12.60	54,1 2.13	63,5 2.50	12,7 .50	420 6000	7,49 16.48	FBV23240001M
32	2	50	48 1.89	316 12.44	100 3.94	118 4.65	138 5.43	117 4.61	59 2.32	16,5 .65	17 .67	320 12.60	63,6 2.50	79,4 3.13	12,7 .50	420 6000	11,39 25.06	FBV23320001M

6000 PSI Series (Code 62) ■ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	d ¹	D ²	t ³						
20	1-1/4	32	30 1.18	322 12.68	80 3.15	81 3.19	107 4.21	86 3.39	40,5 1.59	16,5 .65	17 .67	320 12.60	44,6 1.76	54 2.13	10,4 .41	420 6000	5,55 12.21	FBV23X200001M
24	1-1/2	40	38 1.50	380 14.96	85 3.35	100 3.94	124 4.88	103 4.06	50 1.97	16,5 .65	17 .67	320 12.60	54,1 2.13	63,5 2.50	12,7 .50	420 6000	7,65 16.83	FBV23X240001M
32	2	50	48 1.89	385 15.16	100 3.94	118 4.65	138 5.43	117 4.61	59 2.32	16,5 .65	17 .67	320 12.60	63,6 2.50	79,4 3.13	12,7 .50	420 6000	12,00 26.40	FBV23X320001M

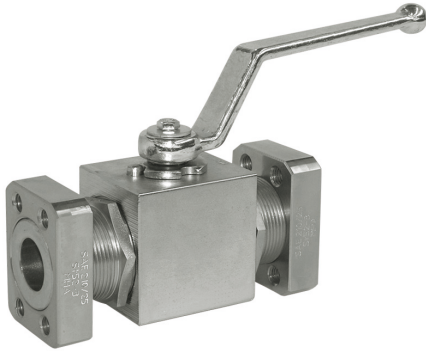
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

¹ Dimension d: ±0,1 mm / .004 in

² Dimension D: -0,2 mm / .008 in

³ Dimension t: -0,2 mm / .008 in

High-Pressure Block Body Ball Valve ▪ Type BBV



Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
- Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE mating flange connectors
- 6000 PSI (code 62) SAE mating flange connectors
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

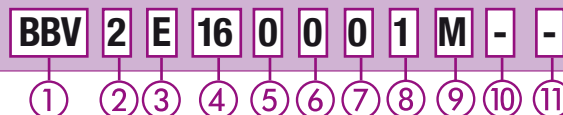
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F85)

Order Codes



① Type

High-Pressure Block Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (Code 61) SAE Mating Flange Connectors with Metric ISO Threads	EM
3000 PSI (Code 61) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	E
6000 PSI (Code 62) SAE Mating Flange Connectors with Metric ISO Threads	SM
6000 PSI (Code 62) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	S

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
08	12	16

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M
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⑩ Lever Options

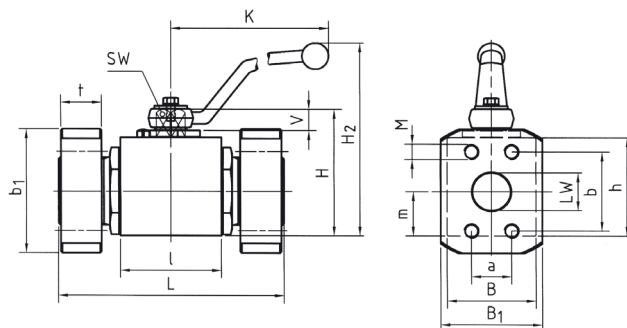
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve ▪ Type BBV 3000 PSI SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

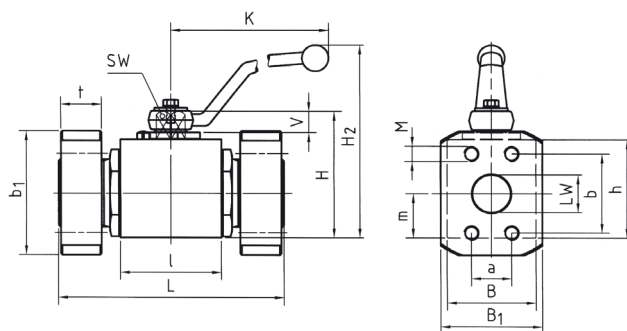
3000 PSI Series (Code 61) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	13	17,5	38,1	M8	89	210	1,50	BBV2EM080001M
			0,51	4,72	1,89	1,38	2,13	1,57	0,75	0,43	0,35	4,53	1,89	2,20	0,51	0,69	1,50		3,50	3000	3,30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	50	65	14	22,2	47,6	M10	127	210	3,00	BBV2EM120001M
			0,79	5,35	2,44	1,93	2,95	2,24	0,96	0,55	0,55	6,69	1,97	2,56	0,55	0,87	1,87		5,00	3000	6,60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	60	70	16	26,2	52,4	M10	135	210	4,50	BBV2EM160001M
			0,98	5,83	2,60	2,28	3,27	2,56	1,16	0,55	0,55	6,69	2,36	2,76	0,63	1,03	2,06		5,31	3000	9,90	

3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	13	17,5	38,1	5/16-18 UNC	89	210	1,50	BBV2E080001M
			0,51	4,72	1,89	1,38	2,13	1,57	0,75	0,43	0,35	4,53	1,89	2,20	0,51	0,69	1,50		3,50	3000	3,30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	50	65	14	22,2	47,6	3/8-16 UNC	127	210	3,00	BBV2E120001M
			0,79	5,35	2,44	1,93	2,95	2,24	0,96	0,55	0,55	6,69	1,97	2,56	0,55	0,87	1,87		5,00	3000	6,60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	60	70	16	26,2	52,4	3/8-16 UNC	135	210	4,50	BBV2E160001M
			0,98	5,83	2,60	2,28	3,27	2,56	1,16	0,55	0,55	6,69	2,36	2,76	0,63	1,03	2,06		5,31	3000	9,90	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Block Body Ball Valve ▪ Type BBV 6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	16	18,2	40,5	M8	89	420	1,50	BBV2SM080001M
			.51	4,72	1,89	1,38	2,13	1,57	.75	.43	.35	4,53	1,89	2,20	.63	.72	1,59		3,50	6000	3,30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	60	71	19	23,8	50,8	M10	127	420	3,00	BBV2SM120001M
			.79	5,35	2,44	1,93	2,95	2,24	.96	.55	.55	6,69	2,36	2,80	.75	.94	2,00		5,00	6000	6,60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	70	81	24	27,8	57,2	M12	135	315	4,50	BBV2SM160001M
			.98	5,83	2,60	2,28	3,27	2,56	1,16	.55	.55	6,69	2,76	3,19	.94	1,09	2,25		5,31	4500	9,90	

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	16	18,2	40,5	5/16-18 UNC	89	420	1,50	BBV2S080001M
			.51	4,72	1,89	1,38	2,13	1,57	.75	.43	.35	4,53	1,89	2,20	.63	.72	1,59		3,50	6000	3,30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	60	71	19	23,8	50,8	3/8-16 UNC	127	420	3,00	BBV2S120001M
			.79	5,35	2,44	1,93	2,95	2,24	.96	.55	.55	6,69	2,36	2,80	.75	.94	2,00		5,00	6000	6,60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	70	81	24	27,8	57,2	7/16-14 UNC	135	315	4,50	BBV2S160001M
			.98	5,83	2,60	2,28	3,27	2,56	1,16	.55	.55	6,69	2,76	3,19	.94	1,09	2,25		5,31	4500	9,90	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Forged Body Ball Valve ▪ Type FBV



Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE mating flange connectors
- 6000 PSI (code 62) SAE mating flange connectors
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

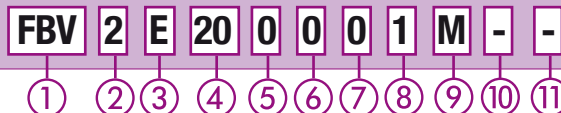
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Order Codes



① Type

High-Pressure Forged Body Ball Valve **FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (Code 61) SAE Mating Flange Connectors with Metric ISO Threads	EM
3000 PSI (Code 61) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	E
6000 PSI (Code 62) SAE Mating Flange Connectors with Metric ISO Threads	SM
6000 PSI (Code 62) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	S

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)	
20	24 32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M
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⑩ Lever Options

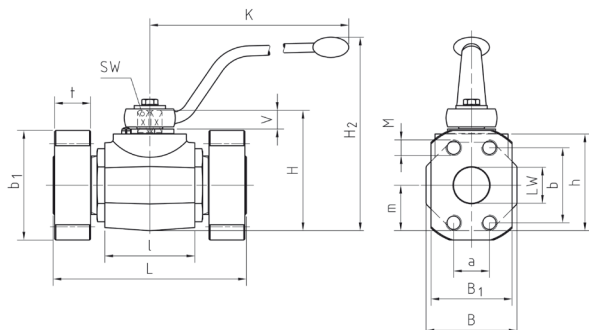
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD6	-LD6
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Forged Body Ball Valve - Type FBV 3000 PSI SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

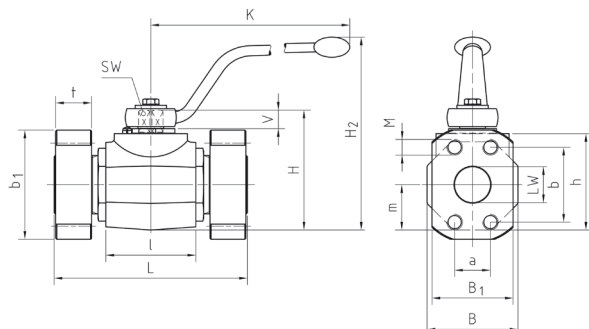
3000 PSI Series (Code 61) - Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2			
20	1-1/4	32	32	172	80	81	107	86	40.5	16.5	17	306	68	79	16	30,2	58,7	M10	171	210	7,52	FBV2EM200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	2.68	3.11	.63	1.19	2.31		6.73	3000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	78	93	16	35,7	69,8	M12	188	210	11,09	FBV2EM240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.07	3.66	.63	1.41	2.75		7.40	3000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	90	102	16	42,9	77,8	M12	202	210	19,29	FBV2EM320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	3.54	4.02	.63	1.69	3.06		7.95	3000	42.44	
40	2-1/2	50/65	48	196	100	118	138	117	59	16,5	17	306	105	114	19	50,8	88,9	M12	202	210	19,29	FBV2EM400001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.13	4.49	.75	2.00	3.50		7.95	3000	42.44	

3000 PSI Series (Code 61) - Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2						
20	1-1/4	32	32	172	80	81	107	86	40.5	16.5	17	306	68	79	16	30,2	58,7	7/16-14	171	210	7,52	FBV2E200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	2.68	3.11	.63	1.19	2.31	UNC	6.73	3000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	78	93	16	35,7	69,8	1/2-13	188	210	11,09	FBV2E240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.07	3.66	.63	1.41	2.75	UNC	7.40	3000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	90	102	16	42,9	77,8	1/2-13	202	210	19,29	FBV2E320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	3.54	4.02	.63	1.69	3.06	UNC	7.95	3000	42.44	
40	2-1/2	50/65	48	196	100	118	138	117	59	16,5	17	306	105	114	19	50,8	88,9	1/2-13	202	210	19,29	FBV2E400001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.13	4.49	.75	2.00	3.50	UNC	7.95	3000	42.44	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Forged Body Ball Valve - Type FBV 6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) - Metric ISO Threads

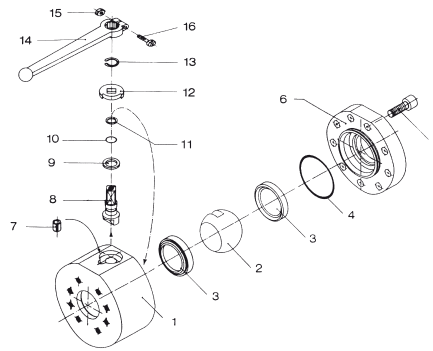
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2						
20	1-1/4	32	32	172	80	81	107	86	40.5	16.5	17	306	78	95	27	31,8	66,6	M12	171	420	7,52	FBV2SM200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	3.07	3.74	1.06	1.25	2.62		6.73	6000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	94	112	30	36,5	79,4	M16	188	420	11,09	FBV2SM240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.70	4.41	1.18	1.44	3.13		7.40	6000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	114	134	35	44,5	96,8	M20	202	420	19,29	FBV2SM320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.49	5.28	1.38	1.75	3.81		7.95	6000	42.44	

6000 PSI Series (Code 62) - Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	I	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2						
20	1-1/4	32	32	172	80	81	107	86	40.5	16.5	17	306	78	95	27	31,8	66,7	1/2-13	171	420	7,52	FBV2S200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	3.07	3.74	1.06	1.25	2.63	UNC	6.73	6000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	94	112	30	36,5	79,4	5/8-11	188	420	11,09	FBV2S240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.70	4.41	1.18	1.44	3.13	UNC	7.40	6000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	114	134	35	44,5	96,8	3/4-10	202	420	19,29	FBV2S320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.49	5.28	1.38	1.75	3.81	UNC	7.95	6000	42.44	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Round Body Ball Valve ▪ Type BBV29



List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	1	Cover O-Ring
5	7-9**	Cover Screws
6	1	Cover
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Back-up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Nut
16	1	Screw

* Included in seal kit
** Depending on valve size

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
Zinc (STAUFF Sizes 12 and 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) direct SAE flange connection
- 6000 PSI (code 62) direct SAE flange connection
- Dual pattern: 3000 PSI (code 61) arranged horizontally and 6000 PSI (code 62) arranged vertically
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

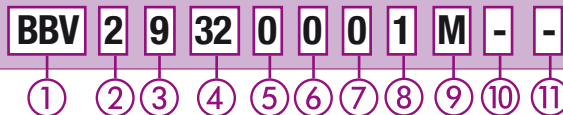
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes



① Type

High-Pressure Round Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000/6000 PSI (Code 61/62) SAE Direct Flange Connection with Metric ISO Threads **9M**
3000/6000 PSI (Code 61/62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads **9**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):
08 12 16 20 24 32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
Stem: Carbon Steel **0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
FPM (Viton®) **1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

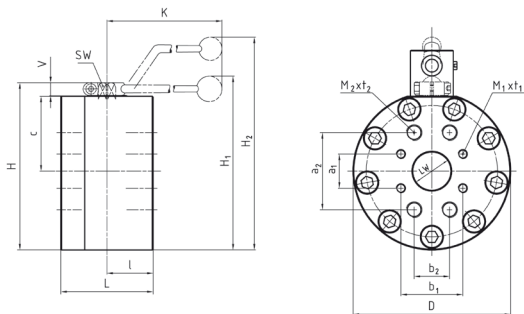
Supplied with standard lever (according to table) **-**
Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories **-**
Supplied with Locking Device LD4 **-LD4**
Supplied with Locking Device LD5A **-LD5A**
Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.

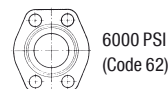


High-Pressure Round Body Ball Valve - Type BBV29 3000/6000 PSI Flange Connection (ISO 6162-1/2)

Flange Position



3000 PSI
(Code 61)



6000 PSI
(Code 62)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
Zinc (STAUFF Sizes 12 and 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Dual Pattern - 3000/6000 PSI Series (Code 61/62) - Metric ISO Threads

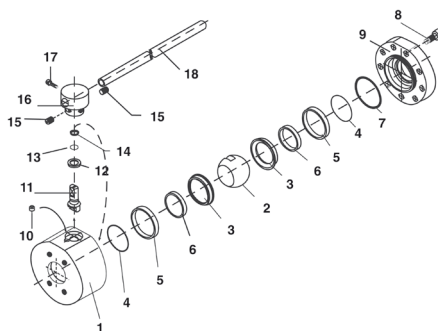
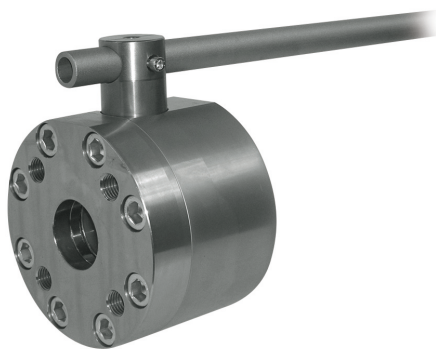
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/psi)	Weight (kg/lbs)	Order Codes (Standard Option)		
			LW	L	I	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2				t2	H1
08	1/2	15	15	75	35	88	88	31	13	160	12	17.5	38.1	M8	18	40.5	18.2	M8	18	132	420	2,96	BBV29M080001M
			.59	2.95	1.38	3.46	3.46	1.22	.51	6.30	.47	.69	1.50		.71	1.59	.72		.71		5.20	6000	
12	3/4	20	20	80	35	98	100	36.5	14	200	14	22.2	47.6	M10	18	50.8	23.8	M10	18	103	420	4,20	BBV29M120001M
			.79	3.15	1.38	3.86	3.94	1.44	.55	7.87	.55	.87	1.87		.71	2.00	.94		.71	4.06	6000	9.24	
16	1	25	25	88	38	118	113	39.5	14	200	14	27.8	57.2	M12	20	52.4	26.2	M10	20	116	420	6,00	BBV29M160001M
			.98	3.46	1.50	4.65	4.45	1.56	.55	7.87	.55	1.09	2.25		.79	2.06	1.03		.79	4.57	6000	13.20	
20	1-1/4	32	32	100	50	145	158	68	17	320	17	30.2	58.7	M10	20	66.6	31.8	M12	22	167	420	11,71	BBV29M200001M
			1.26	3.94	1.97	5.71	6.22	2.68	.67	12.60	.67	1.19	2.31		.79	2.62	1.25		.87	6.57	6000	25.76	
24	1-1/2	40	38	110	55	165	178	78	17	320	17	35.7	69.8	M12	20	79.4	36.5	M16	27	187	420	17,10	BBV29M240001M
			1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	1.41	2.75		.79	3.13	1.44		1.06	7.36	6000	37.62	
32	2	50	48	116	58	198	210	94	17	320	17	42.9	77.8	M12	20	96.8	44.5	M20	28	203	420	24,60	BBV29M320001M
			1.89	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	1.69	3.06		.79	3.81	1.75		1.10	7.99	6000	54.12	

Dual Pattern - 3000/6000 PSI Series (Code 61/62) - Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)																		Nom. Pressure		Weight	Order Codes
			LW	L	I	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2	t2	H1	H2	(bar/Psi)	(kg/lbs)	(Standard Option)
08	1/2	15	15 .59	75 2.95	35 1.38	88 3.46	88 3.46	31 1.22	13 .51	160 6.30	12 .47	17.5 .69	38.1 1.50	5/16-18 UNC	18 .71	40.5 1.59	18.2 .72	5/16-18 UNC	18 .71		132 5.20	420 6000	2.96 6.51	BBV29080001M
12	3/4	20	20 .79	80 3.15	35 1.38	98 3.86	100 3.94	14 1.44	200 7.87	14 .55	22.2 .87	47.6 1.87	3/8-16 UNC	18 .71	50.8 2.00	23.8 .94	3/8-16 UNC	18 .71	103 4.06		420 6000	4.20 9.24	BBV29120001M	
16	1	25	25 .98	88 3.46	38 1.50	118 4.65	113 4.45	14 1.56	200 7.87	14 .55	27.8 .55	57.2 2.25	7/16-14 UNC	20 .79	52.4 2.06	26.2 1.03	3/8-16 UNC	20 .79	116 4.57		420 6000	6.00 13.20	BBV29160001M	
20	1-1/4	32	32 1.26	100 3.94	50 1.97	145 5.71	158 6.22	17 2.68	320 12.60	17 .67	30.2 .67	58.7 2.31	7/16-14 UNC	20 .79	66.6 2.62	31.8 1.25	1/2-13 UNC	22 .87	167 6.57		420 6000	11.71 25.76	BBV29200001M	
24	1-1/2	40	38 1.50	110 4.33	55 2.17	165 6.50	178 7.01	17 3.07	320 12.60	17 .67	35.7 .67	69.8 2.75	1/2-13 UNC	20 .79	79.4 3.13	36.5 1.44	5/8-11 UNC	27 1.06	187 7.36		420 6000	17.10 37.62	BBV29240001M	
32	2	50	48 1.89	116 4.57	58 2.28	198 7.80	210 8.27	14 3.70	320 12.60	17 .67	42.9 .67	77.8 3.06	1/2-13 UNC	20 .79	96.8 3.81	44.5 1.75	3/4-10 UNC	28 1.10	203 7.99		420 6000	24.60 54.12	BBV29320001M	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Round Body Ball Valve ■ Type BBV27/28



List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	O-Ring
5	2	Outer S/S Support Ring
6	2	Inner S/S Support Ring
7*	1	Cover O-Ring
8	9	Cover Bolts
9	1	Cover
10	1	Stop Screw
11	1	Stem
12*	1	Thrust Ring
13*	1	Stem O-Ring
14*	1	Back-up Ring
15	2	Set Screws
16	1	Stem/Handle Adaptor
17	1	Screw
18	1	Steel Handle

* Included in seal kit

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with removable, adjustable lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated (for BBV27)
Stainless Steel (for BBV28)
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) direct SAE flange connection
- 6000 PSI (code 62) direct SAE flange connection
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 170 bar / 2500 PSI (depending on size and material combination of the ball valve)

Please note: The pressure range is limited to the SAE flange ratings. Higher pressures can be accommodated by using special flange connectors, type BBVF (see page F26).

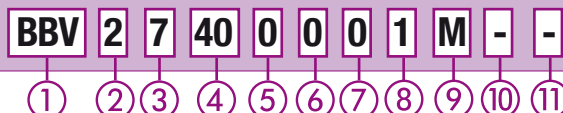
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes



① Type

High-Pressure Round Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (Code 61) SAE Direct Flange Connection with Metric ISO Threads	7M
3000 PSI (Code 61) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	7
6000 PSI (Code 62) SAE Direct Flange Connection with Metric ISO Threads	8M
6000 PSI (Code 62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	8

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):			
40	48	64	80

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

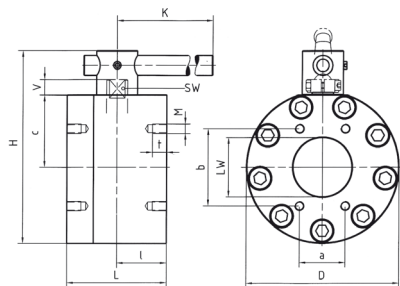
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

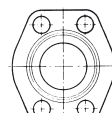
Supplied without accessories	-
Supplied with Locking Device LD5A	-LD5A
Supplied with Locking Device LD5B	-LD5B
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Round Body Ball Valve ■ Type BBV27/28 3000 PSI Flange Connection (ISO 6162-1)

Flange Position



3000 PSI
(Code 61)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61) ■ Metric ISO Threads

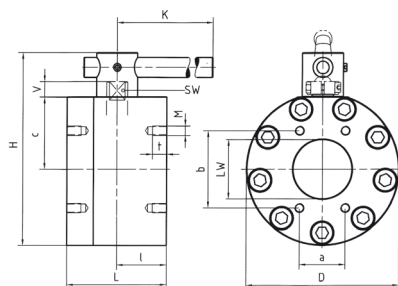
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	D	H	c	V	K	SW	a	b	M	t			
40	2-1/2	65	63 2.48	150 5.91	75 2.95	198 7.80	259 10.20	94 3.70	20 .79	600 23.62	16 .63	50,8 2.00	88,9 3.50	M12	19 .75	170 2500	33,50 73.70	BBV27M400001M
48	3	80	76 2.99	140 5.51	70 2.76	210 8.27	277 10.91	100 3.94	26 1.02	600 23.62	19 .75	61,9 2.44	106,4 4.19	M16	24 .95	138 2000	33,50 73.70	BBV27M480001M
64	4	100	100 3.94	170 6.69	85 3.35	258 10.16	326 12.83	122 4.80	27 1.06	900 35.43	24 .94	77,8 3.06	130,2 5.13	M16	24 .95	35 500	60,50 133.10	BBV27M640001M
80	5	125	118 4.65	210 8.27	105 4.13	295 11.61	377 14.84	140 5.51	33 1.30	900 35.43	36 1.42	92,1 3.63	152,4 6.00	M16	30 1.18	35 500	95,50 210.10	BBV27M800001M

3000 PSI Series (Code 61) ■ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	D	H	c	V	K	SW	a	b	M	t			
40	2-1/2	65	63 2.48	150 5.91	75 2.95	198 7.80	259 10.20	94 3.70	20 .79	600 23.62	16 .63	50,8 2.00	88,9 3.50	1/2-13 UNC	19 .75	170 2500	33,50 73.70	BBV27400001M
48	3	80	76 2.99	140 5.51	70 2.76	210 8.27	277 10.91	100 3.94	26 1.02	600 23.62	19 .75	61,9 2.44	106,4 4.19	5/8-11 UNC	24 .95	138 2000	33,50 73.70	BBV27480001M
64	4	100	100 3.94	170 6.69	85 3.35	258 10.16	326 12.83	122 4.80	27 1.06	900 35.43	24 .94	77,8 3.06	130,2 5.13	5/8-11 UNC	24 .95	35 500	60,50 133.10	BBV27640001M
80	5	125	118 4.65	210 8.27	105 4.13	295 11.61	377 14.84	140 5.51	33 1.30	900 35.43	36 1.42	92,1 3.63	152,4 6.00	5/8-11 UNC	30 1.18	35 500	95,50 210.10	BBV27800001M

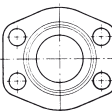
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.



High-Pressure Round Body Ball Valve ■ Type BBV27/28 6000 PSI Flange Connection (ISO 6162-2)

Flange Position



6000 PSI
(Code 62)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Stainless Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ■ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	D	H	c	V	K	SW	a	b	M	t			
40	2-1/2	65	63 2.48	170 6.69	75 2.95	218 8.58	275 10.83	100 3.94	20 .79	600 23.62	16 .63	123,8 4.87	58,8 2.31	M24	41 1.61	420 6000	44,50 97.90	BBV28M401001M
48	3	80	76 2.99	170 6.69	70 2.76	248 9.76	307 12.09	111 4.37	21 .83	600 23.62	19 .75	152,4 6.00	71,4 2.81	M30	47 1.85	420 6000	55,00 121.00	BBV28M481001M

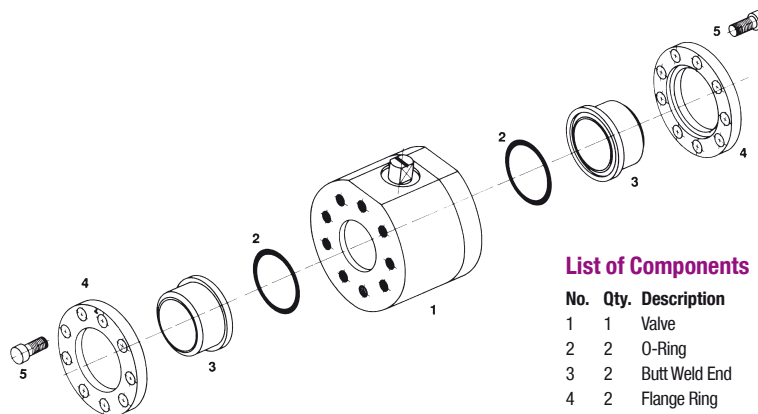
6000 PSI Series (Code 62) ■ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	I	D	H	c	V	K	SW	a	b	M	t			
40	2-1/2	65	63 2.48	170 6.69	75 2.95	218 8.58	275 10.83	100 3.94	20 .79	600 23.62	16 .63	123,8 4.87	58,8 2.31	7/8-9 UNC	41 1.61	420 6000	44,50 97.90	BBV28401001M
48	3	80	76 2.99	170 6.69	70 2.76	248 9.76	307 12.09	111 4.37	21 .83	600 23.62	19 .75	152,4 6.00	71,4 2.81	1-1/8-7 UNC	47 1.85	420 6000	55,00 121.00	BBV28481001M

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

High-Pressure Round Body Ball Valve ▪ Type BBVF



List of Components

No.	Qty.	Description
1	1	Valve
2	2	O-Ring
3	2	Butt Weld End
4	2	Flange Ring
5	18	Flange Bolt

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- High-pressure DIN flange connection
- Supplied with removable, adjustable lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- DIN flange connection with butt weld ends

Pressure Range

- Pressure range: up to 345 bar / 5000 PSI (depending on size and material combination of the ball valve)

Working pressure at a 3:1 safety factor!

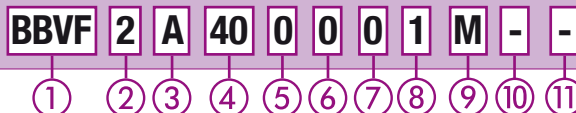
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes



① Type

High-Pressure Round Body Ball Valve **BBVF**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

DIN Flange Connection with Butt Weld Ends with Unified Coarse (UNC) Bolts **A**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

40	48	64	80
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Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

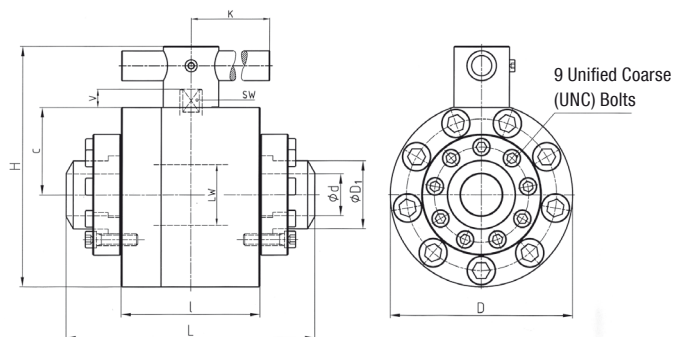
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD5A	-LD5A
Supplied with Locking Device LD5B	-LD5B
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Round Body Ball Valve ■ Type BBVF DIN Flange Connection with Butt Weld Ends

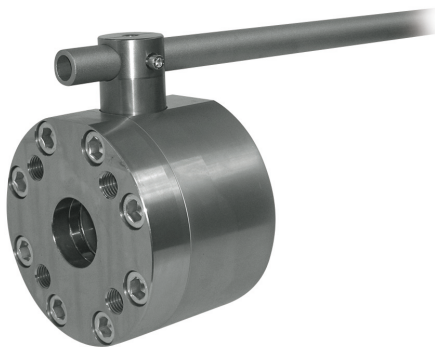
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	65	65	250	150	198	259	94	21	600	16	45	73	1/2-13 UNC x 1-3/4 (Grade 8)	475	40	BBVF2A400001M
		2.56	9.84	5.91	7.80	10.20	3.70	.83	23.62	.63	1.77	2.87		6800	88.00	
48	80	76	260	140	210	277	100	26	600	19	58,4	88,9	5/8-11 UNC x 1-3/4 (Grade 8)	420	45,5	BBVF2A480001M
		2.99	10.24	5.51	8.27	10.91	3.94	1.02	23.62	.75	2.30	3.50		6000	100.10	
64	100	100	330	170	260	327	122	27	900	24	80,1	114,3	5/8-11 UNC x 1-3/4 (Grade 8)	365	75	BBVF2A640001M
		3.94	12.99	6.69	10.24	12.87	4.80	1.06	35.43	0.94	3.15	4.50		5200	165.00	
80	125	118	370	210	300	380	140	33	900	36	103,2	141,3	3/4-10 UNC x 2-1/4 (Grade 8)	329	120	BBVF2A800001M
		4.65	14.57	8.27	11.81	14.96	5.51	1.30	35.43	1.42	4.06	5.56		4700	264.00	

Please note: Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

High-Pressure Round Body Ball Valve ▪ Type BBV



Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
Zinc (STAUFF Sizes 12 and 16)
Aluminium (STAUFF Sizes 20 to 40)
Carbon Steel (STAUFF Sizes 48 and 64)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 250 bar / 3600 PSI series ISO 6164 flange connection
- 400 bar / 5800 PSI series ISO 6164 flange connection
- Metric ISO threads

Pressure Range

- Pressure range: up to 400bar / 5800PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes

BBV 2 D2 48 0 0 0 1 M - -

1 2 3 4 5 6 7 8 9 10 11

① Type

High-Pressure Round Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

250 bar / 3600 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	D1
400 bar / 5800 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	D2
250 bar / 3600 PSI Series <u>and</u> 400 bar / 5800 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	D(1-2)

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

08	12	16	20	24	32	40	48	64
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Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M
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⑩ Lever Options

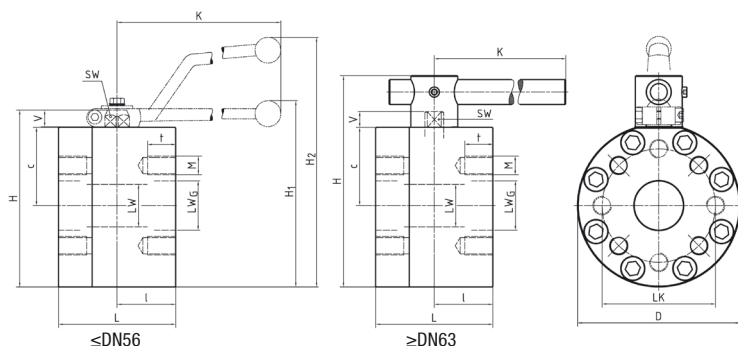
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD4	-LD4
Supplied with Locking Device LD5B	-LD5B
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Round Body Ball Valve ■ Type BBV ISO Flange Connection (ISO 6164)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
Zinc (STAUFF Sizes 12 and 16)
Aluminium (STAUFF Sizes 20 to 40)
Carbon Steel (STAUFF Sizes 48 and 64)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

250 bar / 3600 PSI Series (ISO 6164) ■ Metric ISO Threads

STAUFF Size	Nominal Size DN	Dimensions (mm/in)														Nom. Pressure (^{bar} /PSI)		Weight (^{kg} /lbs)	Order Codes (Standard Option)	
		LW	LWG	L	I	D	H	c	V	K	SW	LK	M	t	H1	H2				
08	13	15	15	85	45	78	83	31	13	160	12	42 ¹	4 x M8	16		127	250	400	2,90	BBV2D(1-2)080001M ²
		.59	.59	3.35	1.77	3.07	3.27	1.22	.51	6.30	.47	1.65 ¹		.63			3600	5800	4.84	
12	19	20	20	88	38	119	110	36.5	14	200	14	50	4 x M8	15	114		250	400	6,80	BBV2D(1-2)120001M ²
		.79	.79	3.46	1.50	4.69	4.33	1.44	.55	7.87	.55	1.97		.59	4.49		3600	5800	14.96	
16	25	25	25	88	38	126	117	39.5	14	200	14	62	4 x M10	20	120		250	400	7,20	BBV2D(1-2)160001M ²
		.98	.98	3.46	1.50	4.96	4.61	1.56	.55	7.87	.55	2.44		.79	4.72		3600	5800	15.84	
20	32	32	32	105	50	145	158	68	17	320	17	73	4 x M12	21	167		250	400	12,50	BBV2D(1-2)200001M ²
		1.26	1.26	4.13	1.97	5.71	6.22	2.68	.67	12.60	.67	2.87		.83	6.57		3600	5800	27.50	
24	38	38	38	110	55	165	178	78	17	320	17	85	4 x M16	24.5	187		250	400	16,60	BBV2D(1-2)240001M ²
		1.50	1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	3.35		.96	7.36		3600	5800	36.52	
32	51	48	47	116	58	198	210	94	17	320	17	98	4 x M16	25.5	219		250	400	24,90	BBV2D(1-2)320001M ²
		1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	3.86		1.00	8.62		3600	5800	54.78	
40	56	48	58	123	58	198	210	94	17	320	17	118	4 x M20	33	219		250	400	26,60	BBV2D(1-2)400001M ²
		1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	4.65		1.30	8.62		3600	5800	58.52	
48	63	63	70	150	75	208	270	100	20	600	16	145	4 x M20	33			250		36,90	BBV2D1480001M
		2.48	2.76	5.91	2.95	8.19	1.63	3.94	.79	23.62	.63	5.71		1.30			3600		81.18	

400 bar / 5800 PSI Series (ISO 6164) ■ Metric ISO Threads

STAUFF Size	Nominal Size DN	Dimensions (mm/in)														Nom. Pressure (^{bar} /PSI)		Weight (^{kg} /lbs)	Order Codes (Standard Option)
		LW	LWG	L	I	D	H	c	V	K	SW	LK	M	t	H1	H2			
08	13	15	15	85	45	78	83	31	13	160	12	42 ¹	4 x M8	16		127	400	2.90	BBV2D(1-2)080001M ²
		.59	.59	3.35	1.77	3.07	3.27	1.22	.51	6.30	.47	1.65 ¹			.63		5.00	5800	
12	19	20	20	88	38	119	110	36.5	14	200	14	50	4 x M8	15	114		400	6.80	BBV2D(1-2)120001M ²
		.79	.79	3.46	1.50	4.69	4.33	1.44	.55	7.87	.55	1.97			.59	4.49		5800	
16	25	25	25	88	38	126	117	39.5	14	200	14	62	4 x M10	20	120		400	7.20	BBV2D(1-2)160001M ²
		.98	.98	3.46	1.50	4.96	4.61	1.56	.55	7.87	.55	2.44			.79	4.72		5800	
20	32	32	32	105	50	145	158	68	17	320	17	73	4 x M12	21	167		400	12.50	BBV2D(1-2)200001M ²
		1.26	1.26	4.13	1.97	5.71	6.22	2.68	.67	12.60	.67	2.87			.83	6.57		5800	
24	38	38	38	110	55	165	178	78	17	320	17	85	4 x M16	24.5	187		400	16.60	BBV2D(1-2)240001M ²
		1.50	1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	3.35			.96	7.36		5800	
32	51	48	47	116	58	198	210	94	17	320	17	98	4 x M16	25.5	219		400	24.90	BBV2D(1-2)320001M ²
		1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	3.86			1.00	8.62		5800	
40	56	48	58	123	58	198	210	94	17	320	17	118	4 x M20	33	219		400	26.60	BBV2D(1-2)400001M ²
		1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	4.65			1.30	8.62		5800	
48	63	65	58	150	75	224	286	108	20	600	16	145	4 x M24	37.5			400	42.53	BBV2D2480001M
		2.56	2.28	5.91	2.95	8.82	11.26	4.25	.79	23.62	.63	5.71			1.47			5800	
64	80	76	74	140	70	228	293	107	25	600	19	175	4 x M30	35			400	51.00	BBV2D2640001M
		2.99	2.91	5.51	2.76	8.98	11.54	4.21	.98	23.62	.75	6.89			1.38			5800	

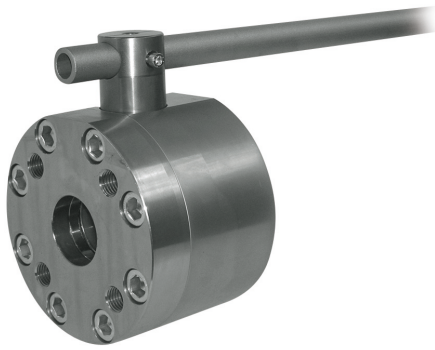
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

¹ Dimension LK turned by 45°.

² Suitable for 250 bar / 3600 PSI series and 400 bar / 5800 PSI series.

High-Pressure Round Body Ball Valve ▪ Type BBV



Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 250 bar / 3600 PSI series CETOP RP 63 H flange connection
- 400 bar / 5800 PSI series CETOP RP 63 H flange connection
- Metric ISO threads

Pressure Range

- Pressure range: up to 400bar / 5800PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes

BBV 2 Y1 48 0 0 0 1 M - -

1 2 3 4 5 6 7 8 9 10 11

① Type

High-Pressure Round Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

250 bar / 3600 PSI Series CETOP Flange Connection with Metric ISO Threads	Y1
400 bar / 5800 PSI Series CETOP Flange Connection with Metric ISO Threads	Y2
250 bar / 3600 PSI Series <u>and</u> 400 bar / 5800 PSI Series CETOP Flange Connection with Metric ISO Threads	Y(1-2)

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):
08 12 16 20 24 32 40 48 64

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M
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⑩ Lever Options

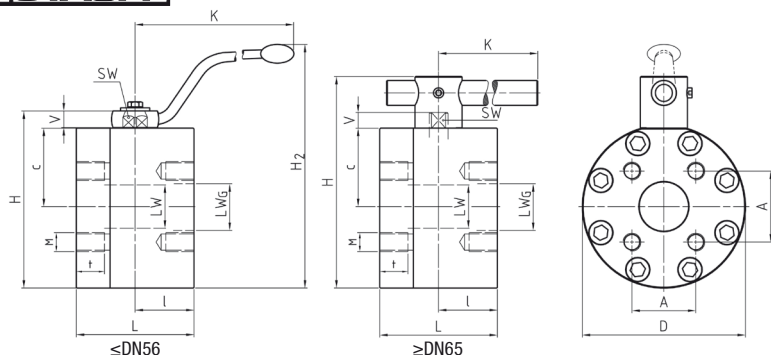
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD4	-LD4
Supplied with Locking Device LD5B	-LD5B
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Round Body Ball Valve - Type BBV CETOP Flange Connection (CETOP RP 63 H)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

250 bar / 3600 PSI Series (CETOP RP 63 H) - Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in)														Nom. Pressure		Weight (kg/lbs)	Order Codes (Standard Option)	
			LW	LWG	L	I	D	H	c	V	K	SW	A	M	t	H2	(^{bar} /PSI)				
32	2	51	48	47	116	58	198	210	94	17	320	17	69,4	M16	24,5	219	250	400	24,90	BBV2Y(1-2)320001M ¹	
			1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	2.73		.96	8.62	3600	5800	54.78		
40	2-1/2	56	48	58	123	58	198	210	94	17	320	17	83,4	M20	33	219	250	400	26,60		BBV2Y(1-2)400001M ¹
			1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	3.28		1.30	8.62	3600	5800	58.52		
48	3	65	63	70	150	75	208	270	100	20	600	16	102,5	M20	33		250		36,90	BBV2Y1480001M	
			2.48	2.76	5.91	2.95	8.19	1.63	3.94	.79	23.62	.63	4.04		1.30		3600	81.18			
64	4	100	100	90	200	100	258	326	122	26	900	24	113,2	M24	40		250		70,40		BBV2Y1640001M
			3.94	3.54	7.87	3.93	10.16	12.83	4.80	1.02	35.43	.94	4.46		1.57		3600	154.88			

400 bar / 5800 PSI Series (CETOP RP 63 H) - Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions ^(mm/in)														Nom. Pressure		Weight (kg/lbs)	Order Codes (Standard Option)
			LW	LWG	L	I	D	H	c	V	K	SW	A	M	t	H2	(^{bar} /PSI)			
32	2	51	48	47	116	58	198	210	94	17	320	17	69,4	M16	24,5	219	250	400	24,90	BBV2Y(1-2)320001M ¹
			1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	2.73		.96	8.62	3600	5800	54.78	
40	2-1/2	56	48	58	123	58	198	210	94	17	320	17	83,4	M20	33	219	250	400	26,60	BBV2Y(1-2)400001M ¹
			1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	3.28		1.30	8.62	3600	5800	58.52	
48	3	65	63	58	150	75	224	286	108	20	600	16	102,5	M20	37.5		400		42.53	BBV2Y2480001M ²
			2.56	2.28	5.91	2.95	8.82	11.26	4.25	.79	23.62	.63	4.04		1.47		5800	93.56		
64	4	80	76	74	140	70	228	293	107	25	600	19	113,2	M24	35		400		51.00	BBV2Y2640001M ²
			2.99	2.91	5.51	2.76	8.98	11.54	4.21	.98	23.62	.75	4.46		1.38		5800	112.20		

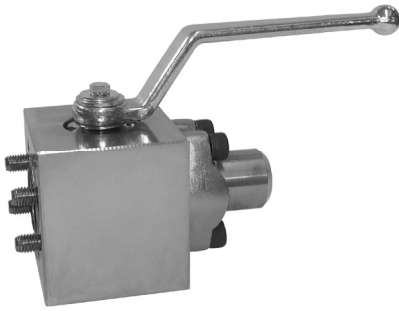
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

¹ Suitable for 250 bar / 3600 PSI series and 400 bar / 5800 PSI series.

² Available on request.

High-Pressure Block Body Ball Valve ▪ Type KHZ



Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Compact block body design for manifold mounting or in-line assembly
- Supplied with off-set lever

Please note: Manifold side of valve must be secured to manifold or flange prior to operation. Failure to comply could lead to serious injury or death.

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE flange bore patterns
- 6000 PSI (code 62) SAE flange bore patterns
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

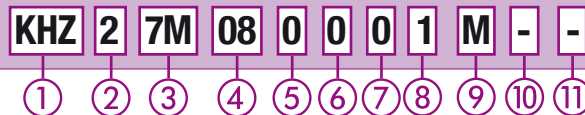
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes



① Type

High-Pressure Compact Block Body Ball Valve **KHZ**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

3000 PSI (code 61) SAE Flange Bore Patterns and Metric ISO Threads	7M
3000 PSI (code 61) SAE Flange Bore Patterns and Unified Coarse (UNC) Threads	7
6000 PSI (code 62) SAE Flange Bore Patterns and Metric ISO Threads	8M
6000 PSI (code 62) SAE Flange Bore Patterns and Unified Coarse (UNC) Threads	8

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

08	12	16	20	24	32
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Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated
Stem: Carbon Steel **0**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
FPM (Viton®) **1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

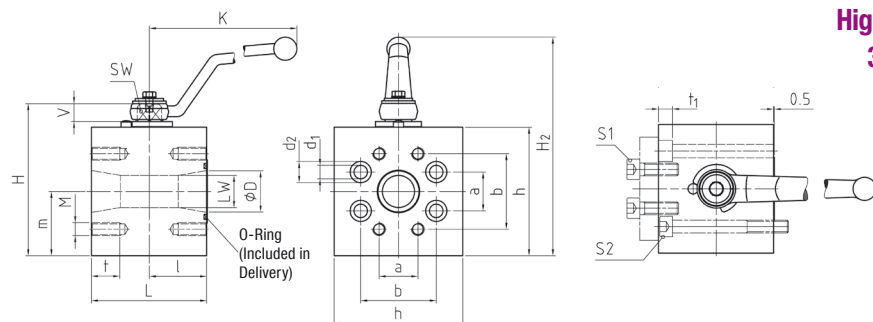
Supplied with standard lever (according to table) **-**
Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61) ■ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)		
			LW	D	L	I	H	h	m	K	SW	V	a	b	M	t	d1	d2				t1	H2
08	1/2	13	13	13	68	34	72	58	30	115	9	11	17.5	38.1	M8	15	8.5	13.5	9	109	210	1.80	KHZ27M080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.69	1.50		.59	.33	.53	.35	4.29	3000	3.96	
12	3/4	20	20	20	70	35	93	75	37.5	170	14	14	22.3	47.6	M10	17	10.5	16.5	11	146	210	2.80	KHZ27M120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.88	1.87		.67	.41	.65	.43	5.75	3000	6.16	
16	1	25	25	25	78	39	103	84.5	44	170	14	14	26.2	52.4	M10	17	10.5	16.5	11	155	210	3.90	KHZ27M160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.03	2.06		.67	.41	.65	.43	6.10	3000	8.58	
20	1-1/4	32	25	32	90	45	118.5	100	50	170	14	14	30.2	58.1	M10	21	10.5	16.5	11	171	210	6.50	KHZ27M200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.19	2.37		.83	.41	.65	.43	6.73	3000	14.30	
24	1-1/2	40	32	38	99	49.5	141.5	120	60	306	17	17	35.7	69.9	M12	21	13	19	13	206	210	10.50	KHZ27M240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.41	2.75		.83	.51	.75	.51	8.11	3000	23.10	
32	2	50	38	49	120	60	158.5	137.5	70	306	17	17	42.9	77.8	M12	21	13	19	13	223	210	16.50	KHZ27M320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.69	3.06		.83	.51	.75	.51	8.78	3000	36.30	

3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)		
			LW	D	L	I	H	h	m	K	SW	V	a	b	M	t	d1	d2				t1	H2
08	1/2	13	13	13	68	34	72	58	30	115	9	11	17.5	38.1	5/16-18 UNC	15	8.5	13.5	9	109	210	1.80	KHZ27080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.69	1.50			.59	.33	.53	.35	4.29	3000	
12	3/4	20	20	20	70	35	93	75	37.5	170	14	14	22.3	47.6	3/8-16 UNC	17	10.5	16.5	11	146	210	2.80	KHZ27120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.88	1.87			.67	.41	.65	.43	5.75	3000	
16	1	25	25	25	78	39	103	84.5	44	170	14	14	26.2	52.4	3/8-16 UNC	17	10.5	16.5	11	155	210	3.90	KHZ27160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.03	2.06			.67	.41	.65	.43	6.10	3000	
20	1-1/4	32	25	32	90	45	118.5	100	50	170	14	14	30.2	58.1	7/16-14 UNC	21	10.5	16.5	11	171	210	6.50	KHZ27200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.19	2.37			.83	.41	.65	.43	6.73	3000	
24	1-1/2	40	32	38	99	49.5	141.5	120	60	306	17	17	35.7	69.9	1/2-13 UNC	21	13	19	13	206	210	10.50	KHZ27240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.41	2.75			.83	.51	.75	.51	8.11	3000	
32	2	50	38	49	120	60	158.5	137.5	70	306	17	17	42.9	77.8	1/2-13 UNC	21	13	19	13	223	210	16.50	KHZ27320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.69	3.06			.83	.51	.75	.51	8.78	3000	

Recommended Bolts and O-Rings

STAUFF Size	Nominal Size DN	Recommendations		
		Bolt S1 (min)	Bolt S2 (min)	O-ring (Included in Delivery)
08	13	M8 x 30 - 10.9	M8 x 70 - 10.9	18,64 x 3,53
		5/16-18 UNC x 1-1/4 - Gr. 8	5/16-18 UNC x 2-3/4 - Gr. 8	
12	20	M10 x 30 - 10.9	M10 x 80 - 10.9	24,99 x 3,53
		3/8-16 UNC x 1-1/4 - Gr. 8	3/8-16 UNC x 3-1/4 - Gr. 8	
16	25	M10 x 30 - 10.9	M10 x 80 - 10.9	32,92 x 3,53
		3/8-16 UNC x 1-1/4 - Gr. 8	3/8-16UNC x 3-1/4 - Gr. 8	
20	32	M10 x 30 - 10.9	M10 x 90 - 10.9	37,69 x 3,53
		7/16-14 UNC x 1-1/4 - Gr. 8	7/16-14 UNC x 3-1/2 - Gr. 8	
24	40	M12 x 35 - 10.9	M12 x 100 - 10.9	47,22 x 3,53
		1/2-13 UNC x 1-1/2 - Gr. 8	1/2-13 UNC x 4 - Gr. 8	
32	50	M12 x 35 - 10.9	M12 x 120 - 10.9	56,74 x 3,53
		1/2-13 UNC x 1-1/2 - Gr. 8	1/2-13 UNC x 4-3/4 - Gr. 8	

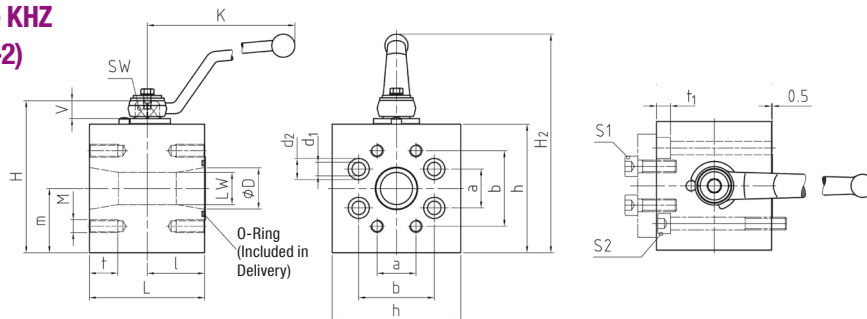
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Flanges and bolts are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type KHZ 6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)



6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/ᵐ)																				Nom. Pressure (ᵇᵃᵐ/ᵖᵖᵢ)	Weight (ᵇᵃᵐ/ᵇᵇᵖ)	Order Codes (Standard Option)
			LW	D	L	I	H	h	m	K	SW	V	a	b	M	t	d1	d2	t1	H2					
08	1/2	13	13	13	68	34	72	58	30	115	9	11	18,2	40,5	M8	15	8,5	13,5	9	109	420	1,80	KHZ28M080001M		
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.72	1.59		.59	.33	.53	.35	4.29	6000	3.96			
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	23,8	50,8	M10	17	10,5	16,5	11	146	420	2,80	KHZ28M120001M		
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.94	2.00		.67	.41	.65	.43	5.75	6000	6.16			
16	1	25	25	25	78	39	103	84,5	44	170	14	14	27,8	57,2	M12	21	13	19	13	155	420	3,90	KHZ28M160001M		
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.09	2.25		.83	.51	.75	.51	6.10	6000	8.58			
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	31,8	66,6	M12	20	13	19	13	171	420	6,50	KHZ28M200001M		
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.25	2.62		.79	.51	.75	.51	6.73	6000	14.30			
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	36,5	79,3	M16	26	17	25	17,5	206	420	10,50	KHZ28M240001M		
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.44	3.12		1.02	.67	.98	.69	8.11	6000	23.10			
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	44,5	96,8	M20	34	21	31	21,5	223	420	16,50	KHZ28M320001M		
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.75	3.81		1.34	.83	1.22	.85	8.78	6000	36.30			

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)			
			LW	D	L	I	H	h	m	K	SW	V	a	b	M	t	d1				d2	t1	H2
08	1/2	13	13	13	68	34	72	58	30	115	9	11	18,2	40,5	5/16–18 UNC	15	8,5	13,5	9	109	420	1,80	KHZ28080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.72	1.59		.59	.33	.53	.35	4.29	6000	3.96	
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	23,8	50,8	3/8–16 UNC	17	10,5	16,5	11	146	420	2,80	KHZ28120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.94	2.00		.67	.41	.65	.43	5.75	6000	6.16	
16	1	25	25	25	78	39	103	84,5	44	170	14	14	27,8	57,2	7/16–14 UNC	21	13	19	13	155	420	3,90	KHZ28160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.09	2.25		.83	.51	.75	.51	6.10	6000	8.58	
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	31,8	66,6	1/2–13 UNC	20	13	19	13	171	420	6,50	KHZ28200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.25	2.62		.79	.51	.75	.51	6.73	6000	14.30	
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	36,5	79,3	5/8–11 UNC	26	17	25	17,5	206	420	10,50	KHZ28240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.44	3.12		1.02	.67	.98	.69	8.11	6000	23.10	
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	44,5	96,8	3/4–10 UNC	34	21	31	21,5	223	420	16,50	KHZ28320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.75	3.81		1.34	.83	1.22	.85	8.78	6000	36.30	

Recommended Bolts and O-Rings

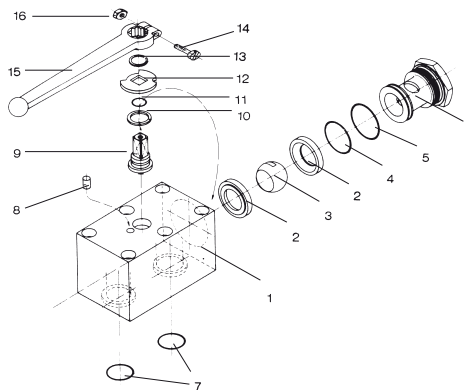
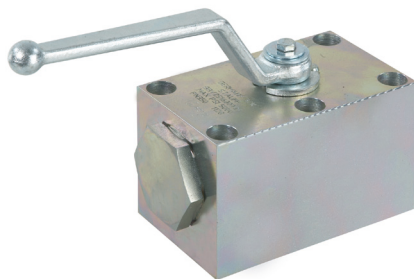
STAUFF Size	Nominal Size DN	Recommendations		
		Bolt S1 (min)	Bolt S2 (min)	O-ring (Included in Delivery)
08	13	M8 x 30 - 10.9	M8 x 70 - 10.9	18,64 x 3,53
		5/16-18 UNC x 1-1/4 - Gr. 8	5/16-18 UNC x 2-3/4 - Gr. 8	
12	20	M10 x 35 - 12.9	M10 x 80 - 12.9	24,99 x 3,53
		3/8-16UNC x 1-1/2 - Gr. 10	3/8-16UNC x 3-1/4 - Gr. 10	
16	25	M12 x 45 - 10.9	M12 x 80 - 10.9	32,92 x 3,53
		7/16-14 UNC x 1-3/4 - Gr. 8	7/16-14 UNC x 3-1/4 - Gr. 8	
20	32	M12 x 45 - 10.9	M12 x 90 - 10.9	37,69 x 3,53
		7/16-14 UNC x 1-3/4 - Gr. 8	7/16-14 UNC x 3-1/2 - Gr. 8	
24	40	M16 x 55 - 10.9	M16 x 100 - 10.9	47,22 x 3,53
		5/8-11 UNC x 2-1/4 - Gr. 8	5/8-11 UNC x 4 - Gr. 8	
32	50	M20 x 70 - 10.9	M20 x 130 - 10.9	56,74 x 3,53
		3/4-10 UNC x 2-3/4 - Gr. 8	3/4-10 UNC x 5-1/4 - Gr. 8	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Flanges and bolts are not included in delivery.

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High-Pressure Block Body Ball Valve ■ Type BBV25



List of Components

No.	Qty.	Description
1	1	Body
2*	1	Seats
3	2	Ball
4*	2	O-Ring
5*	2	O-Ring
6	2	Retainer Plug
7*	2	O-Ring
8	1	Stop Pin
9	1	Stem
10*	1	Thrust Ring
11	1	O-Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Clamping Screw
15	1	Handle
16	1	Clamping Nut

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure Range

- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

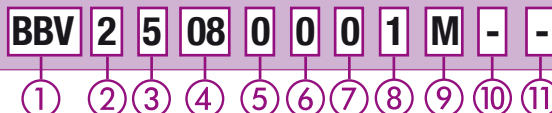
Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Options / Accessories

- Three-way version with 90° operation (see pages F38-F39)
- Three-way version with 180° operation (see pages F40-F41)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Order Codes



① Type

High-Pressure Block Body Ball Valve **BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve) **2**

③ Connection Style

Manifold Mounting **5**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):
04 06 08 12 16 20 24 32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
Stem: Carbon Steel **1**
Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**
PEEK **G**
Delrin® (POM) with Stainless Steel Inner Support Ring **H**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
FPM (Viton®) **1**
EPDM **3**
NBR (Buna-N®) for Low-Temperature Applications **X**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

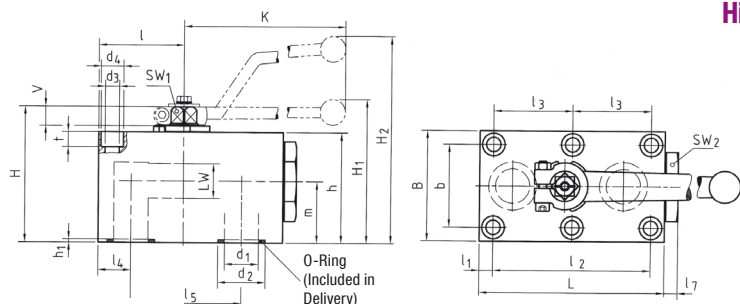
Supplied with standard lever (according to table) **-**
Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories **-**
Supplied with Locking Device LD1 **-LD1**
Supplied with Locking Device LD4 **-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve - Type BBV25 Manifold Mounting

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Nominal Size DN	Dimensions (mm/in)																				Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)			
		I	I1	I2	I3	I4	I5	I7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1	H2				d1	d2	h1
04	6	26	8,5	35		8,5	35	6	57	40	27	43	35	19,5	6	7	19	80	6		67	6	11,8	1,9	500	0,60	BBV25040001M
		1.02	.33	1.38		.33	1.38	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7,5	55		10	44	10	70	55	40	59	45	24,5	11	9	30	115	10		93	9,5	14,9	1,9	500	1,30	BBV25060001M
		1.14	.30	2.17		.39	1.73	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42,5	7,5	83	41,5	16	58	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24,9	1,9	400	2,20	BBV25080001M
		1.67	.30	3.27	1.63	.63	2.28	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48,5	20	69	10	116	70	51	88	70	37,5	14	14	46	200	20	92		20	29	2	315	3,90	BBV25120001M
		2.01	.39	3.82	1.91	.79	2.72	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57,5	24	81	10	135	80	60	98	80	44,5	14	14	50	200	25	102		25	34,9	2,3	315	5,65	BBV25160001M
		2.44	.39	4.53	2.26	.94	3.19	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	10	165	100	78	121	100	54,5	17	17	65	320	32	130		32	40	2	315	11,10	BBV25200001M
		2.95	.47	5.35	2.68	1.14	3.78	.39	6.50	3.94	3.07	4.76	3.94	2.15	.67	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84,5	28,5	112	56	28,5	112	17	200	130	95	131	110	57	17	17	80	320	38	140		38	47,7	2,3	420	19,00	BBV25240001M
		3.33	1.12	4.41	2.20	1.12	4.41	.67	7.87	5.12	3.74	5.16	4.33	2.24	.67	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	15	240	150	112	150	129	71	17	17	90	320	48	159		48	59,8	2,3	420	29,30	BBV25320001M
		4.17	1.50	5.35	2.68	1.50	5.35	.59	9.45	5.91	4.41	5.91	5.08	2.80	.67	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

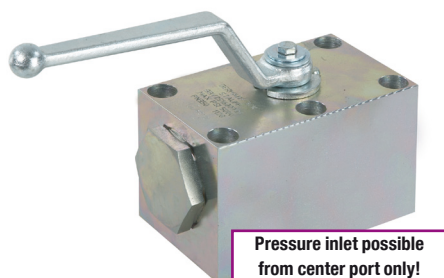
Recommended Bolts, Tightening Torques and O-Rings

STAUFF Size	Nominal Size DN	Recommendations	Dimensions (mm/in)			Tightening	O-Ring (Included in Delivery)
		Bolt (min)	d3	d4	t	Torque	
04	6	4 x M6 x 40 - 8.8	6,5	10,5	6,8	9 N·m	7x2,5
		4 x 1/4-20 x 1-1/2 UNC - Gr. 5	.26	.41	.27	10 ft·lb	
06	10	4 x M8 x 50 - 8.8	8,4	13,5	8,5	21 N·m	10x2,5
		4 x 1/4-20 x 2 UNC - Gr. 5	.33	.53	.33	10 ft·lb	
08	13	6 x M8 x 60 - 10.9	8,4	13,5	7	30 N·m	20x2,5
		6 x 5/16-18 x 2-1/2 UNC - Gr. 8	.33	.53	.28	29 ft·lb	
12	20	6 x M10 x 80 - 10.9	10,5	16,5	10,5	60 N·m	23,47x2,62
		6 x 3/8-16 x 3-1/4 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
16	25	6 x M10 x 90 - 12.9	10,5	16,5	10,5	70 N·m	29x3
		6 x 3/8-16 x 3-1/2 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
20	32	6 x M12 x 110 - 10.9	13	19	12	100 N·m	34,59x2,62
		6 x 7/16-14 x 4-1/2 UNC - Gr. 8	.51	.75	.47	70 ft·lb	
24	40	6 x M16 x 120 - 12.9	16,5	25	19	300 N·m	42x3
		6 x 5/8-11 x 5 UNC - Gr. 8	.65	.98	.75	170 ft·lb	
32	50	6 x M20 x 140 - 10.9	21	31	21,5	600 N·m	54x3
		6 x 3/4-10 x 5-1/2 UNC - Gr. 8	.83	1.22	.85	200 ft·lb	

Please note: Bolts are not included in delivery.

We recommend to use socket cap screws according to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ▪ Type BBV35



Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure inlet only from the center port!

Pressure Range

- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

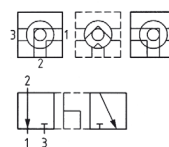
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol: LLU
- Overlap: negative
- Operating: 90°

58-BBV35



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes

BBV 3 5 08 0 0 0 1 M - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Type

High-Pressure Block Body Ball Valve **BBV**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Manifold Mounting **5**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

04	06	08	12	16	20	24	32
----	----	----	----	----	----	----	----

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	1
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
PEEK	G
Delrin® (POM) with Stainless Steel Inner Support Ring	H

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3
NBR (Buna-N®) for Low-Temperature Applications	X

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

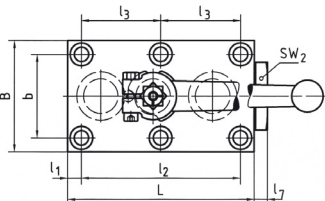
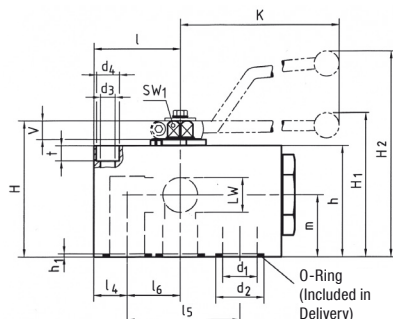
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD4	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve • Type BBV35 L-Bore Three-Way Selector for Manifold Mounting

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port • 90° Operation

STAUFF Size	Nominal Size DN	Dimensions (mm/in)																				Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)				
		I	I1	I2	I3	I4	I5	I6	I7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1				H2	d1	d2	h1
04	6	26	8.5	35		8.5	35	17.5	6	57	40	27	43	35	19.5	6	7	19	80	6		67	6	11.8	1.9	500	0.60	BBV35040001M
		1.02	.33	1.38		.33	1.38	.69	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7.5	55		10	44	19	10	70	55	40	59	45	24.5	11	9	30	115	14		93	9.5	14.9	1.9	500	1.30	BBV35060001M
		1.14	.30	2.17		.39	1.73	.75	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42.5	7.5	83	41.5	16	58	26.5	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24.9	1.9	400	2.20	BBV35080001M
		1.67	.30	3.27	1.63	.63	2.28	1.04	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48.5	20	69	31.5	10	117	70	51	88	70	37.5	14	14	46	200	20	92		20	29	2	315	3.90	BBV35120001M
		2.01	.39	3.82	1.91	.79	2.72	1.24	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57.5	24	81	38	10	135	80	60	98	80	44.5	14	14	50	200	25	102		25	34.9	2.3	315	5.65	BBV35160001M
		2.44	.39	4.53	2.26	.94	3.19	1.50	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	46	10	165	100	78	121	100	54.5	16.5	17	65	320	32	130		32	40	2	315	11,10	BBV35200001M
		2.95	.47	5.35	2.68	1.14	3.78	1.81	.39	6.50	3.94	3.07	4.76	3.94	2.15	.65	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84.5	28.5	112	56	28.5	112	56	17	200	130	95	131	110	57	16.5	17	80	320	38	140		38	47.7	2.3	420	19,00	BBV35240001M
		3.33	1.12	4.41	2.20	1.12	4.41	2.20	.67	7.87	5.12	3.74	5.16	4.33	2.24	.65	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	68	15	240	150	112	150	129	71	16.5	17	90	320	48	159		48	59.8	2.3	420	29,30	BBV35320001M
		4.17	1.50	5.35	2.68	1.50	5.35	2.68	.59	9.45	5.91	4.41	5.91	5.08	2.80	.65	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

Recommended Bolts, Tightening Torques and O-Rings

STAUFF Size	Nominal Size DN	Recommendations	Dimensions (mm/in)			Tightening	O-Ring (Included in Delivery)
		Bolt (min)	d3	d4	t	Torque	
04	6	4 x M6 x 40 - 8.8 4 x 1/4-20 x 1-1/2 UNC - Gr. 5	6,5 .26	10,5 .41	6,8 .27	9 N·m 10 ft·lb	7x2,5
06	10	4 x M8 x 50 - 8.8 4 x 1/4-20 x 2 UNC - Gr. 5	8,4 .33	13,5 .53	8,5 .33	21 N·m 10 ft·lb	10x2,5
08	13	6 x M8 x 60 - 10.9 6 x 5/16-18 x 2-1/2 UNC - Gr. 8	8,4 .33	13,5 .53	7 .28	30 N·m 29 ft·lb	20x2,5
12	20	6 x M10 x 80 - 10.9 6 x 3/8-16 x 3-1/4 UNC - Gr. 10	10,5 .41	16,5 .65	10,5 .41	60 N·m 58 ft·lb	23,47x2,62
16	25	6 x M10 x 90 - 12.9 6 x 3/8-16 x 3-1/2 UNC - Gr. 10	10,5 .41	16,5 .65	10,5 .41	70 N·m 58 ft·lb	29x3
20	32	6 x M12 x 110 - 10.9 6 x 7/16-14 x 4-1/2 UNC - Gr. 8	13 .51	19 .75	12 .47	100 N·m 70 ft·lb	34,59x2,62
24	40	6 x M16 x 120 - 12.9 6 x 5/8-11 x 5 UNC - Gr. 8	16,5 .65	25 .98	19 .75	300 N·m 170 ft·lb	42x3
32	50	6 x M20 x 140 - 10.9 6 x 3/4-10 x 5-1/2 UNC - Gr. 8	21 .83	31 1.22	21,5 .85	600 N·m 200 ft·lb	54x3

Pressure inlet only from the center port!

Please note: Bolts are not included in delivery.
We recommend to use socket cap screws according
to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ▪ Type BBVS35



Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 180° operation) for hydraulic applications

Standard Construction

- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure inlet possible from all ports!
Must be operated without pressure!

Pressure Range

- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

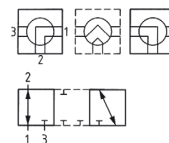
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol: LU
- Overlap: positive
- Operating: 180°

57-BBVS35



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes

BBVS 3 5 08 0 0 0 1 M - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Type

High-Pressure Block Body Ball Valve with Pressure Inlet Possible from all Ports **BBVS**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Manifold Mounting **5**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):
04 06 08 12 16 20 24 32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
Stem: Carbon Steel **1**
Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**
PEEK **G**
Delrin® (POM) with Stainless Steel Inner Support Ring **H**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
FPM (Viton®) **1**
EPDM **3**
NBR (Buna-N®) for Low-Temperature Applications **X**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

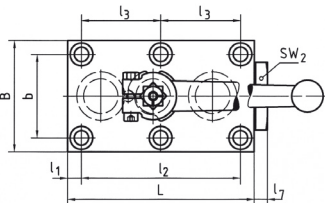
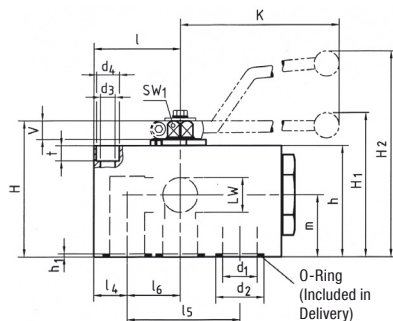
Supplied with standard lever (according to table) **-**
Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories **-**
Supplied with Locking Device LD1 **-LD1**
Supplied with Locking Device LD4 **-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve ▪ Type BBVS35 L-Bore Three-Way Selector for Manifold Mounting

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports ▪ 180° Operation

STAUFF Size	Nominal Size DN	Dimensions (mm/in)																								Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
		I	I1	I2	I3	I4	I5	I6	I7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1	H2	d1	d2	h1			
04	6	26	8.5	35		8.5	35	17.5	6	57	40	27	43	35	19.5	6	7	19	80	6		67	6	11.8	1.9	500	0.60	BBVS35040001M
		1.02	.33	1.38		.33	1.38	.69	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7.5	55		10	44	29	10	70	55	40	59	45	24.5	11	9	30	115	14		93	9.5	14.9	1.9	500	1.30	BBVS35060001M
		1.14	.30	2.17		.39	1.73	.75	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42.5	7.5	83	41.5	16	58	26.5	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24.9	1.9	400	2.20	BBVS35080001M
		1.67	.30	3.27	1.63	.63	2.28	1.04	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48.5	20	69	31.5	10	117	70	51	88	70	37.5	14	14	46	200	20	92		20	29	2	315	3.90	BBVS35120001M
		2.01	.39	3.82	1.91	.79	2.72	1.24	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57.5	24	81	38	10	135	80	60	98	80	44.5	14	14	50	200	25	102		25	34.9	2.3	315	5.65	BBVS35160001M
		2.44	.39	4.53	2.26	.94	3.19	1.50	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	46	10	165	100	78	121	100	54.5	16.5	17	65	320	32	130		32	40	2	315	11,10	BBVS35200001M
		2.95	.47	5.35	2.68	1.14	3.78	1.81	.39	6.50	3.94	3.07	4.76	3.94	2.15	.65	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84.5	28.5	112	56	28.5	112	56	17	200	130	95	131	110	57	16.5	17	80	320	38	140		38	47.7	2.3	420	19,00	BBVS35240001M
		3.33	1.12	4.41	2.20	1.12	4.41	2.20	.67	7.87	5.12	3.74	5.16	4.33	2.24	.65	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	68	15	240	150	112	150	129	71	16.5	17	90	320	48	159		48	59.8	2.3	420	29,30	BBVS35320001M
		4.17	1.50	5.35	2.68	1.50	5.35	2.68	.59	9.45	5.91	4.41	5.91	5.08	2.80	.65	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

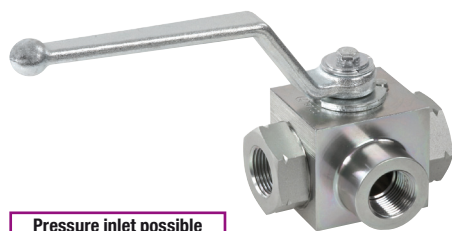
Recommended Bolts, Tightening Torques and O-Rings

STAUFF Size	Nominal Size DN	Recommendations	Dimensions (mm/in)			Tightening	O-Ring (Included in Delivery)
		Bolt (min)	d3	d4	t	Torque	
04	6	4 x M6 x 40 - 8.8 4 x 1/4-20 x 1-1/2 UNC - Gr. 5	6,5 .26	10,5 .41	6,8 .27	9 N·m 10 ft·lb	7x2,5
06	10	4 x M8 x 50 - 8.8 4 x 1/4-20 x 2 UNC - Gr. 5	8,4 .33	13,5 .53	8,5 .33	21 N·m 10 ft·lb	10x2,5
08	13	6 x M8 x 60 - 10.9 6 x 5/16-18 x 2-1/2 UNC - Gr. 8	8,4 .33	13,5 .53	7 .28	30 N·m 29 ft·lb	20x2,5
12	20	6 x M10 x 80 - 10.9 6 x 3/8-16 x 3-1/4 UNC - Gr. 10	10,5 .41	16,5 .65	10,5 .41	60 N·m 58 ft·lb	23,47x2,62
16	25	6 x M10 x 90 - 12.9 6 x 3/8-16 x 3-1/2 UNC - Gr. 10	10,5 .41	16,5 .65	10,5 .41	70 N·m 58 ft·lb	29x3
20	32	6 x M12 x 110 - 10.9 6 x 7/16-14 x 4-1/2 UNC - Gr. 8	13 .51	19 .75	12 .47	100 N·m 70 ft·lb	34,59x2,62
24	40	6 x M16 x 120 - 12.9 6 x 5/8-11 x 5 UNC - Gr. 8	16,5 .65	25 .98	19 .75	300 N·m 170 ft·lb	42x3
32	50	6 x M20 x 140 - 10.9 6 x 3/4-10 x 5-1/2 UNC - Gr. 8	21 .83	31 1.22	21,5 .85	600 N·m 200 ft·lb	54x3

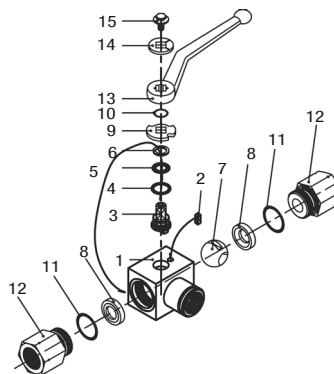
Pressure inlet possible from all ports!
Must be operated without pressure!

Please note: Bolts are not included in delivery.
We recommend to use socket cap screws according
to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ■ Type CBV



Pressure inlet possible
from center port!



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	1	Stem
4*	1	Thrust Ring
5*	1	Stem O-Ring
6*	1	Stem Back Up Ring
7	1	Ball
8*	2	Ball Seat
9	1	Cam Plate
10	1	Snap Ring
11	2	Connector O-Ring
12	2	Connector
13	1	Handle
14	1	Flow Indicator
15	1	Stem Bolt

* Included in seal kit

Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female NPT thread (ANSI B1.20.1) >2 NPT
- Female UN/UNF thread (SAE J 514) >2-1/2-12 UN (2" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure inlet only from the center port!

Pressure Range

- Pressure range: up to 500bar / 7250PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20°C ... +100°C / -4°F ... + 212°F

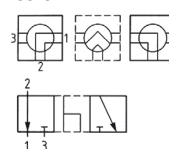
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Porting Pattern

- Symbol : L
- Overlap: negative
- Operating: 90°

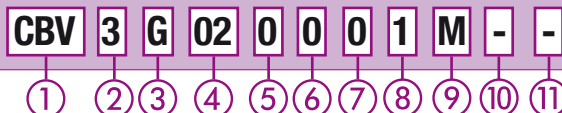
50-CBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Compact High-Pressure Block Body Ball Valve **CBV**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Female BSP Thread (DIN ISO 228)	G
Female NPT Thread (ANSI B1.20.1)	0
Female UN/UNF Thread (SAE J 514)	1
24° Cone Connection (Light / Heavy Series)	
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25	

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles G, 0 and 1:	02 04 06 08 10 12 16 20 24 32
Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	06L 08L 10L 12L 15L 18L 22L 28L 35L
Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):	08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
---------------	----------

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	M
Manufacturing code (only for Female NPT Thread)	K

⑩ Lever Options

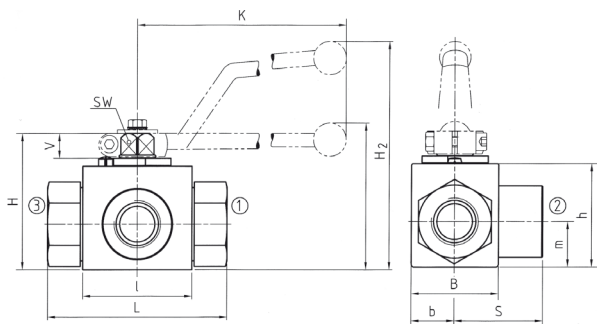
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

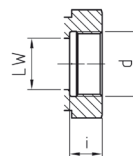
⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD2	-LD2
Supplied with Locking Device LD3	-LD3
Supplied with Locking Device LD4	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



Female BSP Thread (DIN ISO 228)



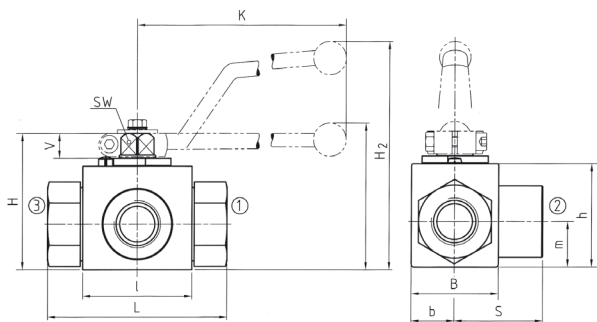
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

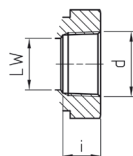
Pressure Inlet only from the Center Port

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2				
02	G 1/8 BSP	4	5 .20	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,40 .88	CBV3G020001M	
04	G 1/4 BSP	6	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	14 .55	82 3.23	500 7250	0,46 1.01	CBV3G040001M	
06	G 3/8 BSP	10	10 .39	72 2.83	43 1.69	16 .63	35 1.38	52 2.05	38 1.50	17,5 .69	36 1.42	11 .43	9 .35	115 4.53	14 .55	87 3.42	500 7250	0,60 1.32	CBV3G060001M	
08	G 1/2 BSP	13	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	16,3 .64	89 3.50	500 7250	0,70 1.54	CBV3G080001M	
12	G 3/4BSP	20	20 .79	95 3.74	62 2.44	24,5 .96	52 2.05	75 2.95	57 2.24	24,5 .96	47,5 1.87	14 .55	14 .55	170 6.69	18 .71	126 4.96	315 4567	1,80 3.96	CBV3G120001M	
16	G 1 BSP	25	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	20 .79	134 5.73	315 4567	2,40 5.28	CBV3G160001M	
20	G 1-1/4 BSP	32	30 1.18	111 4.37	81 3.19	39 1.54		106 4.17	84,5 3.33	39 1.54	55 2.17	16,5 .65	17 .67	320 12.60	22 .87	170 6.69	350 5075	3,80 8.36	CBV3G200001M	
24	G 1-1/2 BSP	40	38 1.50	130 5.12	104 4.09	53 2.09			127 5.00	106 4.17	53 2.09	65 2.56	16,5 .65	17 .67	320 12.60	24 .94	191 7.52	350 5075	6,20 13.64	CBV3G240001M
32	G 2 BSP	50	48 1.89	150 5.91	118 4.65	58 2.28	116 4.57		137 5.39	116 4.57	58 2.28	75 2.95	16,5 .65	17 .67	320 12.60	26 1.02	201 7.91	350 5075	7,80 17.16	CBV3G320001M

Please note the pressure ratings of the tube connections.



Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port

STAUFF Size	Thread Size d	NoKinal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	l	b	B	H	h	K	S	V	SW	K	i	H2				
02	1/8 NPT	4	5 .20	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10,5 .41	82 3.23	500 7250	0,40 .88	CBV30020001K	
04	1/4 NPT	6	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	13,7 .54	82 3.23	500 7250	0,46 1.01	CBV30040001K	
06	3/8 NPT	10	10 .39	72 2.83	43 1.69	16 .63	35 1.38	52 2.05	38 1.50	17,5 .69	36 1.42	11 .43	9 .35	115 4.53	13,5 .53	87 3.42	500 7250	0,60 1.32	CBV30060001K	
08	1/2 NPT	13	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	17 .67	89 3.50	500 7250	0,70 1.54	CBV30080001K	
12	3/4NPT	20	20 .79	95 3.74	62 2.44	24,5 .96	52 2.05	75 2.95	57 2.24	24,5 .96	47,5 1.87	14 .55	14 .55	170 6.69	18,3 .72	126 4.96	315 4567	1,80 3.96	CBV30120001K	
16	1 NPT	25	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	21,6 .85	134 5.73	315 4567	2,40 5.28	CBV30160001K	
20	1-1/4 NPT	32	30 1.18	120 4.72	81 3.19	39 1.54		106 4.17	84,5 3.33	39 1.54	55 2.17	16,5 .65	17 .67	320 12.60	22,1 .87	170 6.69	350 5075	3,80 8.36	CBV30200001K	
24	1-1/2 NPT	40	38 1.50	140 5.51	104 4.09	53 2.09			127 5.00	106 4.17	53 2.09	65 2.56	16,5 .65	17 .67	320 12.60	22,1 .87	191 7.52	350 5075	6,20 13.64	CBV30240001K
32	2 NPT	50	48 1.89	150 5.91	118 4.65	58 2.28	116 4.57		137 5.39	116 4.57	58 2.28	75 2.95	16,5 .65	17 .67	320 12.60	30,2 1.19	201 7.91	350 5075	7,80 17.16	CBV30320001K

Please note the pressure ratings of the tube connections.

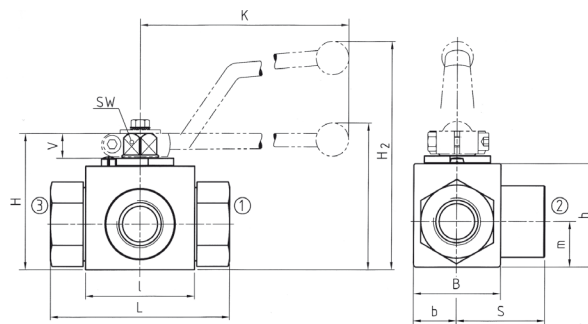
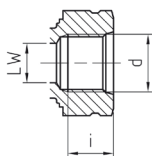
High-Pressure Block Body Ball Valve ▪ Type CBV

L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

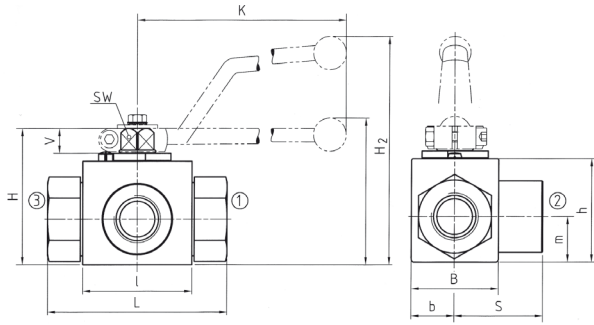
**Female UN/UNF Thread
(SAE J 514)**



Pressure Inlet only from the Center Port

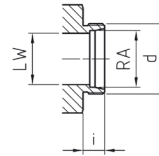
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	b	B	H	h	K	S	V	SW	K	i	H2				
04	7/16–20 UNF (1/4" SAE)	6	5.20 .20	69.272 2.72	40.157 1.57	13.51 .51	29.114 1.14	47.185 1.85	33.130 .53	13.5 1.36	11.36 .43	9.35 .35	115.453 4.53	12.47 .47	82.323 3.23	500.7250	0.46 1.01	CBV31040001M		
06	9/16–18 UNF (3/4" SAE)	10	10.39 .39	72.283 2.83	43.169 1.69	16.63 .63	35.138 1.38	52.205 2.05	38.150 1.50	17.36 1.42	11.43 .43	9.35 .35	115.453 4.53	13.51 .51	87.342 3.42	500.7250	0.60 1.32		CBV31060001M	
08	3/4–16 UNF (1/2" SAE)	13	13.51 .51	83.327 3.27	48.189 1.89	17.5.69 .69	38.150 1.50	54.213 2.13	40.157 .75	19.163 .63	11.43 .35	9.453 4.53	115.59 3.50	15.7250 7250	89.3.50 3.50	500.7250	0.70 1.54	CBV31080001M		
12	1-1/16–12 UN (3/4" SAE)	20	20.79 .79	95.374 3.74	62.244 2.44	24.5.96 .96	52.205 2.05	75.295 2.95	57.224 .96	24.5.96 1.87	47.5.55 .55	14.6.69 .79	14.6.69 .79	20.4.96 4.96	126.4567 4567	315.3.96 3.96	1.80 3.96	CBV31120001M		
16	1-5/16–12 UN (1" SAE)	25	25.98 .98	113.445 4.45	66.260 2.60	29.1.14 1.14	61.2.40 2.40	83.3.27 2.56	65.1.16 1.16	29.5.2.22 2.22	56.5.55 .55	14.6.69 .79	14.6.69 .79	20.5.73 5.73	134.4567 4567	315.5.28 5.28	2.40 5.28	CBV31160001M		
20	1-5/8–12 UN (1-1/4" SAE)	32	30.118 1.18	111.437 4.37	81.319 3.19	39.1.54 1.54	106.4.17 4.17	84.5.33 3.33	39.1.54 1.54	55.2.17 2.17	16.5.65 .65	17.6.67 .67	320.12.60 12.60	20.7.69 .79	170.6.69 6.69	350.5075 5075	3.80 8.36	CBV31200001M		
24	1-7/8–12 UN (1-1/2" SAE)	40	38.150 1.50	130.512 5.12	104.409 4.09	53.2.09 2.09		127.5.00 5.00	106.4.17 4.17	53.2.09 2.09	65.2.56 2.56	16.5.65 .65	17.6.67 .67	320.12.60 12.60	20.7.79 .79	191.7.52 7.52	350.5075 5075	6.20 13.64	CBV31240001M	
32	2-1/2–12 UN (2" SAE)	50	48.189 1.89	150.591 5.91	118.465 4.65	58.2.28 2.28	116.4.57 4.57	137.5.39 5.39	116.4.57 4.57	58.2.28 2.28	75.2.95 2.95	16.5.65 .65	17.6.67 .67	320.12.60 12.60	20.7.91 .79	201.7.91 7.91	350.5075 5075	7.80 17.16	CBV31320001M	

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



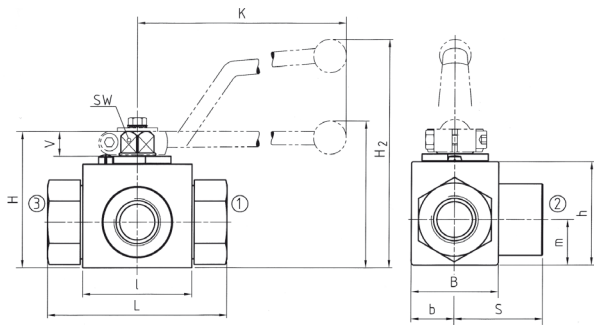
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port

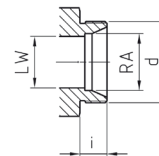
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2				
02	06L / M12 x 1,5	4	6 .24	5 .20	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,30 .66	CBV3DN0406L0001M	
04	08L / M14 x 1,5	6	8 .31	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,40 .88	CBV3DN0608L0001M	
05	10L / M16 x 1,5	8	10 .39	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	11 .43	82 3.23	500 7250	0,40 .88	CBV3DN0810L0001M	
06	12L / M18 x 1,5	10	12 .47	10 .39	72 2.83	43 1.69	16 .63	35 1.38	52 2.05	38 1.50	17,5 .69	36 1.42	11 .43	9 .35	115 4.53	11 .43	87 3.42	500 7250	0,50 1.10	CBV3DN1012L0001M	
08	15L / M22 x 1,5	13	15 .59	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	12 .47	89 3.50	500 7250	0,65 1.43	CBV3DN1315L0001M	
08	18L / M26 x 1,5	13	18 .71	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	12 .47	89 3.50	500 7250	0,69 1.52	CBV3DN1318L0001M	
12	22L / M30 x 2	20	22 .87	20 .79	95 3.74	62 2.44	24,5 .96	52 2.05	75 2.95	57 2.24	24,5 .96	47,5 1.87	14 .55	14 .55	170 6.69	14 .55	126 4.96	315 4567	1,50 3.30	CBV3DN2022L0001M	
16	28L / M36 x 2	25	28 1.10	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	14 .55	134 5.73	315 4567	2,10 4.62	CBV3DN2528L0001M	
16	35L / M45 x 2	25/32	35 1.38	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	16 .63	134 5.73	315 4567	2,50 5.50	CBV3DN2535L0001M	

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2				
02	08S / M16 x 1,5	4	8	5	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,42	CBV3DN0408S0001M	
			.31	.20	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.92		
04	10S / M18 x 1,5	6	10	6	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,43	CBV3DN0610S0001M	
			.39	.24	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.95		
05	12S / M20 x 1,5	8	12	6	76	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,44	CBV3DN0812S0001M	
			.47	.24	2.99	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.97		
06	14S / M22 x 1,5	10	14	10	80	43	16	35	52	38	17,5	36,5	11	9	115	14	87	500	0,50	CBV3DN1014S0001M	
			.55	.39	3.15	1.69	.63	1.38	2.05	1.50	.69	1.43	.43	.35	4.53	.55	3.42	7250	1.10		
08	16S / M24 x 1,5	13	16	13	86	48	17,5	38	54	40	19	43	11	9	115	14	89	500	0,65	CBV3DN1316S0001M	
			.63	.51	3.39	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.55	3.50	7250	1.43		
08	20S / M30 x 2	13	20	13	90	48	17,5	38	54	40	19	43	11	9	115	16	89	500	0,70	CBV3DN1320S0001M	
			.79	.51	3.54	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.63	3.50	7250	1.54		
12	25S / M36 x 2	20	25	20	109	62	24,5	52	75	57	24,5	48	14	14	170	18	126	315	1,70	CBV3DN2025S0001M	
			.98	.79	4.29	2.44	.96	2.05	2.95	2.24	.96	1.89	.55	.55	6.69	.71	4.96	4567	3.74		
16	30S / M42 x 2	25	30	25	120	66	29	61	83	65	29,5	57,5	14	14	170	20	134	315	2,40	CBV3DN2530S0001M	
			1.18	.98	4.72	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.79	5.73	4567	5.28		
16	38S / M52 x 2	25/32	38	25	124	66	29	61	83	65	29,5	57,5	14	14	170	22	134	315	2,80	CBV3DN2538S0001M	
			1.50	.98	4.88	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.87	5.73	4567	6.16		

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type CBV



Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- 6000 PSI (code 62) direct SAE flange connection
- Metric ISO and unified coarse (UNC) threads

Pressure inlet only from the center port!

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

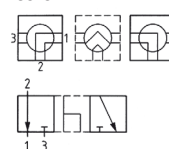
Options / Accessories

- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol : L
- Overlap: negative
- Operating: 90°

50-CBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes

CBV 3 8 08 0 0 0 1 M - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Type

Compact High-Pressure Block Body Ball Valve **CBV**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

6000 PSI (Code 62) SAE Direct Flange Connection with Metric ISO Threads **8M**
6000 PSI (Code 62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads **8**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

08	12	16	20	24	32
----	----	----	----	----	----

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	1
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
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Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

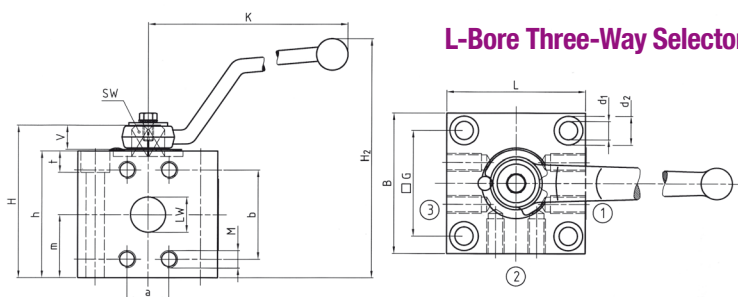
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD4	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve ▪ Type CBV L-Bore Three-Way Selector ▪ 6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Metric ISO Threads

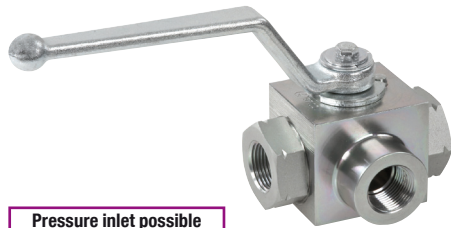
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions ^(mm/in)													M	Nom. Pressure					Weight ^(kg/lbs)	Order Codes (Standard Option)
			LW	L	B	H	h	m	V	SW	K	a	b	G	d1		d2	t	H2	^(bar/PSI)			
08	1/2	13	13	70	70	63	56	28	11	9	115	18,2	40,5	M8	43	8,5	13,5	9	101	420	2,00	CBV38M080001M	
			.51	2.76	2.76	2.48	2.20	1.10	.43	.35	4.53	.72	1.59		1.69	.33	.53	.35	3.98	6000	4.40		
12	3/4	20	20	80	80	87	72	36	14	14	170	23,8	50,8	M10	60	10,5	16,5	11	137	420	3,40	CBV38M120001M	
			.79	3.15	3.15	3.43	2.83	1.42	.55	.55	6.69	.94	2.00		2.36	.41	.65	.43	5.39	6000	7.48		
16	1	25	25	94	94	96	81	42	14	14	170	27,8	57,2	M12	70	10,5	16,5	11	147	420	5,40	CBV38M160001M	
			.98	3.70	3.70	3.78	3.19	1.65	.55	.55	6.69	1.09	2.25		2.76	.41	.65	.43	5.79	6000	11.88		
20	1-1/4	32	30	100	100	117	100	50,5	16,5	17	306	31,8	66,6	M12	76	13	19	13	181	420	6,80	CBV38M200001M	
			1.18	3.94	3.94	4.61	3.94	1.99	.65	.67	12.05	1.25	2.62		2.99	.51	.75	.51	7.13	6000	14.96		
24	1-1/2	40	38	110	110	129	112	55	16,5	17	306	36,5	79,4	M16	84	13	19	13	193	420	10,20	CBV38M240001M	
			1.50	4.33	4.33	5.08	4.41	2.17	.65	.67	12.05	1.44	3.13		3.31	.51	.75	.51	7.60	6000	22.44		
32	2	50	48	135	135	147	135	67,5	16,5	17	306	44,5	96,8	M20	108	13	19	13	211	420	18,50	CBV38M320001M	
			1.89	5.31	5.31	5.79	5.31	2.66	.65	.67	12.05	1.75	3.81		4.25	.51	.75	.51	8.31	6000	40.70		

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

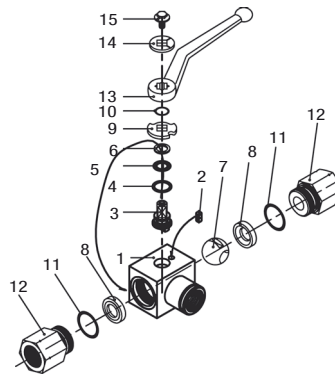
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (bar/PSI)					Weight (kg/lbs)	Order Codes (Standard Option)
LW	L	B	H	h	m	V	SW	K	a	b	M	G	d1	d2	t	H2								
08	1/2	13	13	70	70	63	56	28	11	9	115	18,2	40,5	5/16-18 UNC	43	8,5	13,5	9	101	420	2,00	CBV38080001M		
			.51	2.76	2.76	2.48	2.20	1.10	.43	.35	4.53	.72	1.59		1.69	.33	.53	.35	3.98	6000	4.40			
12	3/4	20	20	80	80	87	72	36	14	14	170	23,8	50,8	3/8-16 UNC	60	10,5	16,5	11	137	420	3,40	CBV38120001M		
			.79	3.15	3.15	3.43	2.83	1.42	.55	.55	6.69	.94	2.00		2.36	.41	.65	.43	5.39	6000	7.48			
16	1	25	25	94	94	96	81	42	14	14	170	27,8	57,2	7/16-14 UNC	70	10,5	16,5	11	147	420	5,40	CBV38160001M		
			.98	3.70	3.70	3.78	3.19	1.65	.55	.55	6.69	1.09	2.25		2.76	.41	.65	.43	5.79	6000	11.88			
20	1-1/4	32	30	100	100	117	100	50,5	16,5	17	306	31,8	66,6	1/2-13 UNC	76	13	19	13	181	420	6,80	CBV38200001M		
			1.18	3.94	3.94	4.61	3.94	1.99	.65	.67	12.05	1.25	2.62		2.99	.51	.75	.51	7.13	6000	14.96			
24	1-1/2	40	38	110	110	129	112	55	16,5	17	306	36,5	79,4	5/8-11 UNC	84	13	19	13	193	420	10,20	CBV38240001M		
			1.50	4.33	4.33	5.08	4.41	2.17	.65	.67	12.05	1.44	3.13		3.31	.51	.75	.51	7.60	6000	22.44			
32	2	50	48	135	135	147	135	67,5	16,5	17	306	44,5	96,8	3/4-10 UNC	108	13	19	13	211	420	18,50	CBV38320001M		
			1.89	5.31	5.31	5.79	5.31	2.66	.65	.67	12.05	1.75	3.81		4.25	.51	.75	.51	8.31	6000	40.70			

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Block Body Ball Valve ■ Type CBVS



Pressure inlet possible
from all ports!



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	1	Stem
4*	1	Thrust Ring
5*	1	Stem O-Ring
6*	1	Stem Back Up Ring
7	1	Ball
8*	2	Ball Seat
9	1	Cam Plate
10	1	Snap Ring
11	2	Connector O-Ring
12	2	Connector
13	1	Handle
14	1	Flow Indicator
15	1	Stem Bolt

* Included in seal kit

Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female NPT thread (ANSI B1.20.1) >2 NPT
- Female UN/UNF thread (SAE J 514) >2-1/2-12 UN (2" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure inlet possible from all ports!
Must be operated without pressure!

Pressure Range

- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

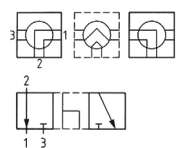
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F85)

Porting Pattern

- Symbol : L
- Overlap: negative
- Operating: 90°

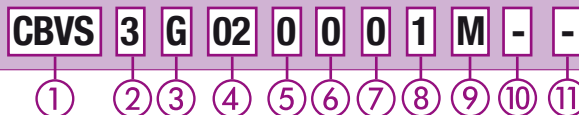
55-CBVS



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Compact High-Pressure Block Body Ball Valve with Pressure Inlet Possible from all Ports **CBVS**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Female BSP Thread (DIN ISO 228)	G
Female NPT Thread (ANSI B1.20.1)	0
Female UN/UNF Thread (SAE J 514)	1
24° Cone Connection (Light / Heavy Series)	
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25	

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles G, 0 and 1:	02 04 06 08 10 12 16 20 24 32
Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	06L 08L 10L 12L 15L 18L 22L 28L 35L
Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):	08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated	0
Stem: Carbon Steel	
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
---------------	----------

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	M
Manufacturing code (only for Female NPT Thread)	K

⑩ Lever Options

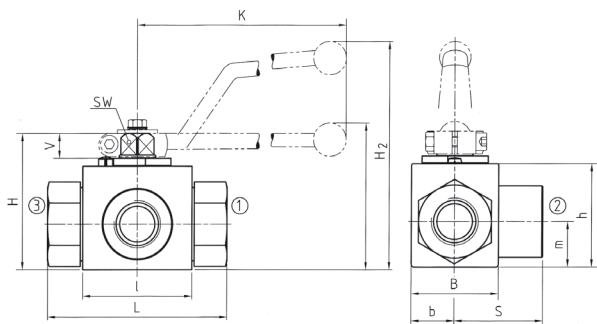
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

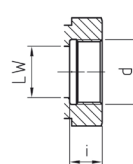
Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD4	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve ▪ Type CBVS L-Bore Three-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)



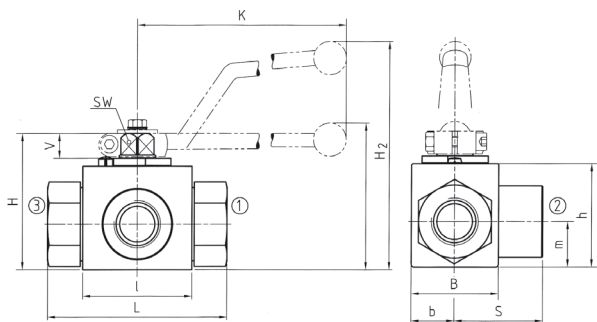
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

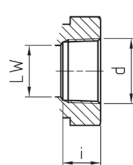
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	b	B	H	h	m	S	V	SW	K	i	H2				
02	G 1/8 BSP	4	5 .20	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10 .39	82 3.23	500 7250	0,40 .88	CBVS3G020001M	
04	G 1/4 BSP	6	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	14 .55	82 3.23	500 7250	0,46 1.01	CBVS3G040001M	
06	G 3/8 BSP	10	10 .39	72 2.83	43 1.69	16 .63	35 1.38	52 2.05	38 1.50	17,5 .69	36 1.42	11 .43	9 .35	115 4.53	14 .55	87 3.42	500 7250	0,60 1.32	CBVS3G060001M	
08	G 1/2 BSP	13	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	16,3 .64	89 3.50	500 7250	0,70 1.54	CBVS3G080001M	
12	G 3/4BSP	20	20 .79	95 3.74	62 2.44	24,5 .96	52 2.05	75 2.95	57 2.24	24,5 .96	47,5 1.87	14 .55	14 .55	170 6.69	18 .71	126 4.96	315 4567	1,80 3.96	CBVS3G120001M	
16	G 1 BSP	25	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	20 .79	134 5.73	315 4567	2,40 5.28	CBVS3G160001M	
20	G 1-1/4 BSP	32	30 1.18	111 4.37	81 3.19	39 1.54		106 4.17	84,5 3.33	39 1.54	55 2.17	16,5 .65	17 .67	320 12.60	22 .87	170 6.69	350 5075	3,80 8.36	CBVS3G200001M	
24	G 1-1/2 BSP	40	38 1.50	130 5.12	104 4.09	53 2.09			127 5.00	106 4.17	53 2.09	65 2.56	16,5 .65	17 .67	320 12.60	24 .94	191 7.52	350 5075	6,20 13.64	CBVS3G240001M
32	G 2 BSP	50	48 1.89	150 5.91	118 4.65	58 2.28	116 4.57		137 5.39	116 4.57	58 2.28	75 2.95	16,5 .65	17 .67	320 12.60	26 1.02	201 7.91	350 5075	7,80 17.16	CBVS3G320001M

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBVS L-Bore Three-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	b	B	H	h	K	S	V	SW	K	i	H2				
02	1/8 NPT	4	5 .20	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	10,5 .41	82 3.23	500 7250	0,40 .88	CBVS30020001K	
04	1/4 NPT	6	6 .24	69 2.72	40 1.57	13 .51	29 1.14	47 1.85	33 1.30	13,5 .53	34,5 1.36	11 .43	9 .35	115 4.53	13,7 .54	82 3.23	500 7250	0,46 1.01	CBVS30040001K	
06	3/8 NPT	10	10 .39	72 2.83	43 1.69	16 .63	35 1.38	52 2.05	38 1.50	17,5 .69	36 1.42	11 .43	9 .35	115 4.53	13,5 .53	87 3.42	500 7250	0,60 1.32	CBVS30060001K	
08	1/2 NPT	13	13 .51	83 3.27	48 1.89	17,5 .69	38 1.50	54 2.13	40 1.57	19 .75	41,5 1.63	11 .43	9 .35	115 4.53	17 .67	89 3.50	500 7250	0,70 1.54	CBVS30080001K	
12	3/4NPT	20	20 .79	95 3.74	62 2.44	24,5 .96	52 2.05	75 2.95	57 2.24	24,5 .96	47,5 1.87	14 .55	14 .55	170 6.69	18,3 .72	126 4.96	315 4567	1,80 3.96	CBVS30120001K	
16	1 NPT	25	25 .98	113 4.45	66 2.60	29 1.14	61 2.40	83 3.27	65 2.56	29,5 1.16	56,5 2.22	14 .55	14 .55	170 6.69	21,6 .85	134 5.73	315 4567	2,40 5.28	CBVS30160001K	
20	1-1/4 NPT	32	30 1.18	120 4.72	81 3.19	39 1.54		106 4.17	84,5 3.33	39 1.54	55 2.17	16,5 .65	17 .67	320 12.60	22,1 .87	170 6.69	350 5075	3,80 8.36	CBVS30200001K	
24	1-1/2 NPT	40	38 1.50	140 5.51	104 4.09	53 2.09			127 5.00	106 4.17	53 2.09	65 2.56	16,5 .65	17 .67	320 12.60	22,1 .87	191 7.52	350 5075	6,20 13.64	CBVS30240001K
32	2 NPT	50	48 1.89	150 5.91	118 4.65	58 2.28	116 4.57		137 5.39	116 4.57	58 2.28	75 2.95	16,5 .65	17 .67	320 12.60	30,2 1.19	201 7.91	350 5075	7,80 17.16	CBVS30320001K

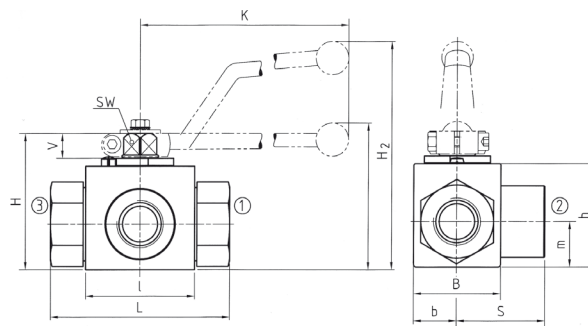
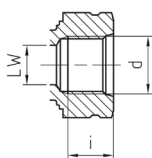
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type CBVS L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

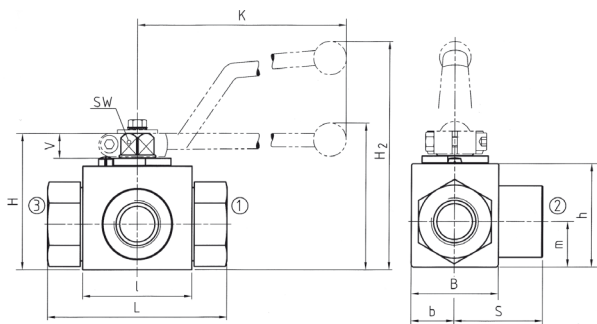
Female UN/UNF Thread (SAE J 514)



Pressure Inlet possible from all Ports

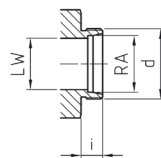
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)															Nom. Pressure (^{bar} /psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	I	b	B	H	h	K	S	V	SW	K	i	H2				
04	7/16–20 UNF (1/4" SAE)	6	5.20 .20	69.272 2.72	40.157 1.57	13.51 .51	29.114 1.14	47.185 1.85	33.130 .53	13.5 1.36	11.36 .43	9.35 .35	115.453 4.53	12.47 .47	82.323 3.23	500.7250	0,46 1.01	CBVS31040001M		
06	9/16–18 UNF (3/8" SAE)	10	10.39 .39	72.283 2.83	43.169 1.69	16.63 .63	35.138 1.38	52.205 2.05	38.150 1.50	17.36 1.42	11.43 .43	9.35 .35	115.453 4.53	13.51 .51	87.342 3.42	500.7250	0,60 1.32		CBVS31060001M	
08	3/4–16 UNF (1/2" SAE)	13	13.51 .51	83.327 3.27	48.189 1.89	17.5.69 .69	38.150 1.50	54.213 2.13	40.157 .75	19.163 .43	11.35 .35	9.453 4.53	115.59 .59	15.350 3.50	89.7250	500.7250	0,70 1.54	CBVS31080001M		
12	1-1/16–12 UN (3/4" SAE)	20	20.79 .79	95.374 3.74	62.244 2.44	24.5.96 .96	52.205 2.05	75.295 2.95	57.224 .96	24.5.96 1.87	47.5.55 .55	14.6.69 .79	14.6.69 .79	20.4.96 4.96	126.4567	315.4567	1,80 3.96	CBVS31120001M		
16	1-5/16–12 UN (1" SAE)	25	25.98 .98	113.445 4.45	66.260 2.60	29.1.14 1.14	61.2.40 2.40	83.3.27 3.27	65.2.56 2.56	29.5.1.16 1.16	56.5.2.22 2.22	14.5.55 .55	14.6.69 .79	20.5.73 5.73	134.4567	315.4567	2,40 5.28	CBVS31160001M		
20	1-5/8–12 UN (1-1/4" SAE)	32	30.118 1.18	111.437 4.37	81.319 3.19	39.1.54 1.54	106.4.17 4.17	84.5.3.33 3.33	39.1.54 1.54	55.2.17 2.17	16.5.65 .67	17.320 12.60	20.79 .79	170.6.69 6.69	350.5075	3,80 8.36	CBVS31200001M			
24	1-7/8–12 UN (1-1/2" SAE)	40	38.150 1.50	130.512 5.12	104.409 4.09	53.2.09 2.09		127.5.00 5.00	106.4.17 4.17	53.2.09 2.09	65.2.56 2.56	16.5.65 .67	17.320 12.60	20.79 .79	191.7.52 7.52	350.5075	6,20 13.64	CBVS31240001M		
32	2-1/2–12 UN (2" SAE)	50	48.189 1.89	150.591 5.91	118.465 4.65	58.2.28 2.28	116.4.57 4.57		137.5.39 5.39	116.5.28 2.28	58.2.95 2.95	16.5.65 .67	17.320 12.60	20.79 .79	201.7.91 7.91	350.5075	7,80 17.16	CBVS31320001M		

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



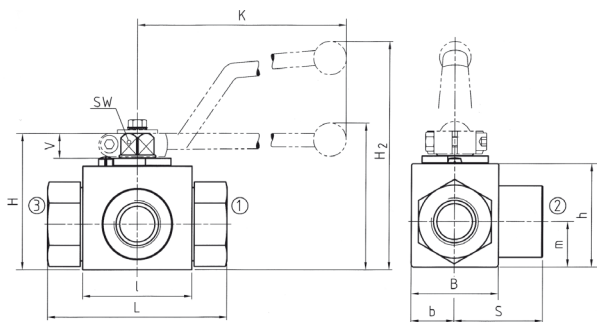
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

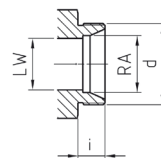
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /Psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2				
02	06L / M12 x 1,5	4	6	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,30	CBVS3DN0406L0001M	
			.24	.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.66		
04	08L / M14 x 1,5	6	8	6	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,40	CBVS3DN0608L0001M	
			.31	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.88		
05	10L / M16 x 1,5	8	10	6	69	40	13	29	47	33	13,5	34,5	11	9	115	11	82	500	0,40	CBVS3DN0810L0001M	
			.39	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.43	3.23	7250	.88		
06	12L / M18 x 1,5	10	12	10	72	43	16	35	52	38	17,5	36	11	9	115	11	87	500	0,50	CBVS3DN1012L0001M	
			.47	.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.43	3.42	7250	1.10		
08	15L / M22 x 1,5	13	15	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,65	CBVS3DN1315L0001M	
			.59	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.43		
08	18L / M26 x 1,5	13	18	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,69	CBVS3DN1318L0001M	
			.71	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.52		
12	22L / M30 x 2	20	22	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	14	126	315	1,50	CBVS3DN2022L0001M	
			.87	.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.55	4.96	4567	3.30		
16	28L / M36 x 2	25	28	25	113	66	29	61	83	65	29,5	56,5	14	14	170	14	134	315	2,10	CBVS3DN2528L0001M	
			1.10	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.55	5.73	4567	4.62		
16	35L / M45 x 2	25/32	35	25	113	66	29	61	83	65	29,5	56,5	14	14	170	16	134	315	2,50	CBVS3DN2535L0001M	
			1.38	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.63	5.73	4567	5.50		

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

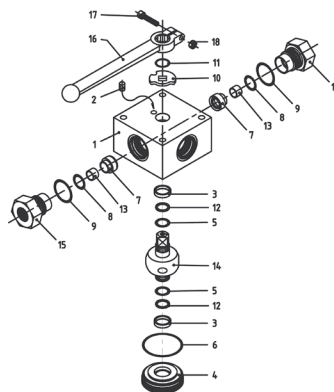
- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /Psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2				
02	08S / M16 x 1,5	4	8	5	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,42	CBVS3DN0408S0001M	
			.31	.20	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.92		
04	10S / M18 x 1,5	6	10	6	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,43	CBVS3DN0610S0001M	
			.39	.24	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.95		
05	12S / M20 x 1,5	8	12	6	76	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,44	CBVS3DN0812S0001M	
			.47	.24	2.99	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.97		
06	14S / M22 x 1,5	10	14	10	80	43	16	35	52	38	17,5	36,5	11	9	115	14	87	500	0,50	CBVS3DN1014S0001M	
			.55	.39	3.15	1.69	.63	1.38	2.05	1.50	.69	1.43	.43	.35	4.53	.55	3.42	7250	1.10		
08	16S / M24 x 1,5	13	16	13	86	48	17,5	38	54	40	19	43	11	9	115	14	89	500	0,65	CBVS3DN1316S0001M	
			.63	.51	3.39	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.55	3.50	7250	1.43		
08	20S / M30 x 2	13	20	13	90	48	17,5	38	54	40	19	43	11	9	115	16	89	500	0,70	CBVS3DN1320S0001M	
			.79	.51	3.54	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.63	3.50	7250	1.54		
12	25S / M36 x 2	20	25	20	109	62	24,5	52	75	57	24,5	48	14	14	170	18	126	315	1,70	CBVS3DN2025S0001M	
			.98	.79	4.29	2.44	.96	2.05	2.95	2.24	.96	1.89	.55	.55	6.69	.71	4.96	4567	3.74		
16	30S / M42 x 2	25	30	25	120	66	29	61	83	65	29,5	57,5	14	14	170	20	134	315	2,40	CBVS3DN2530S0001M	
			1.18	.98	4.72	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.79	5.73	4567	5.28		
16	38S / M52 x 2	25/32	38	25	124	66	29	61	83	65	29,5	57,5	14	14	170	22	134	315	2,80	CBVS3DN2538S0001M	
			1.50	.98	4.88	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.87	5.73	4567	6.16		

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type LBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	3	Ball Seat
8*	3	Seat O-Ring
9*	3	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	3	Seat Support
14	1	Trunnion Ball
15	3	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-5/16-12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure loaded seats at all ports!

Pressure Range

- Pressure range: up to 500bar / 7250PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20°C ... +100°C / -4°F ... + 212°F

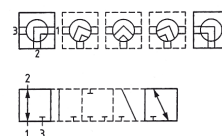
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol: L
- Overlap: positive
- Operating: 90°

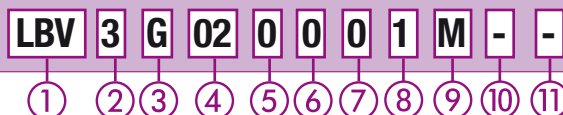
01-LBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Multi-Way L-Bore Ball Valve **LBV**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 24° Cone Connection (Light / Heavy Series)
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0 and 1:
02 04 06 08 10 12 16 20 24
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series):
06L 08L 10L 12L 15L 18L 22L 28L 35L
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**
 EPDM **3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

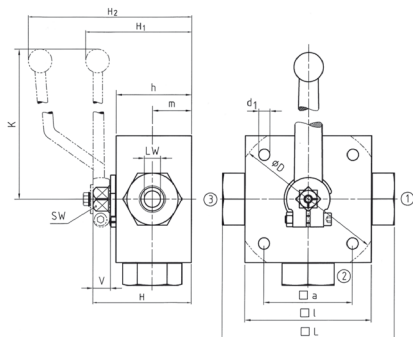
Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

Supplied without accessories **-**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

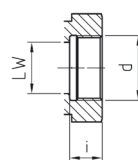
Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve - Type LBV

L-Bore Three-Way Selector - Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)

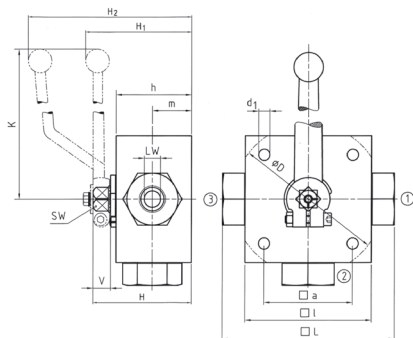


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure ^(bar/PSI)	Weight ^(kg/lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	G 1/8 BSP	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10 .39	6,5 .26		101 3.98	500 7250	1,60 3.52	LBV3G020001M	
04	G 1/4 BSP	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	14 .55	6,5 .26		101 3.98	500 7250	1,60 3.52	LBV3G040001M	
06	G 3/8 BSP	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	14 .55	6,5 .26	72 2.83		500 7250	2,70 5.94	LBV3G060001M	
08	G 1/2 BSP	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	16,3 .64	9 .35	82 3.23		400 5800	4,90 10.78	LBV3G080001M	
10	G 5/8 BSP	16	13 .51	139 5.47		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	18 .71	9 .35	82 3.23		400 5800	4,90 10.78	LBV3G100001M	
12	G 3/4 BSP	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18 .71	8,5 .33	96 3.78		315 4567	6,70 14.74	LBV3G120001M	
16	G 1 BSP	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	20 .79	8,5 .33	112 4.41		315 4567	8,30 18.26	LBV3G160001M	
20	G 1-1/4 BSP	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	106 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22 .87	8,5 .33	112 4.41		315 4567	8,50 18.70	LBV3G200001M	
24	G 1-1/2 BSP	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	24 .94	8,5 .33	112 4.41		250 3625	8,50 18.70	LBV3G240001M	

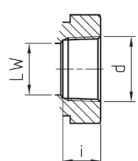
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve - Type LBV

L-Bore Three-Way Selector - Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	1/8 NPT	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10,5 .41	6,5 .26		101 3.98	500 7250	1,60 3.52	LBV30020001M	
04	1/4 NPT	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	13,7 .54	6,5 .26		101 3.98	500 7250	1,60 3.52	LBV30040001M	
06	3/8 NPT	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	13,5 .53	6,5 .26	72 2.83		500 7250	2,80 6.16	LBV30060001M	
08	1/2 NPT	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	17 .67	9 .35	82 3.23		400 5800	5,20 11.44	LBV30080001M	
12	3/4NPT	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18,3 .72	8,5 .33	96 3.78		315 4567	6,80 14.96	LBV30120001M	
16	1 NPT	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	21,6 .85	8,5 .33	112 4.41		315 4567	8,50 18.70	LBV30160001M	
20	1-1/4 NPT	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	LBV30200001M	
24	1-1/2 NPT	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		250 3625	8,80 19.36	LBV30240001M	

Please note the pressure ratings of the tube connections.

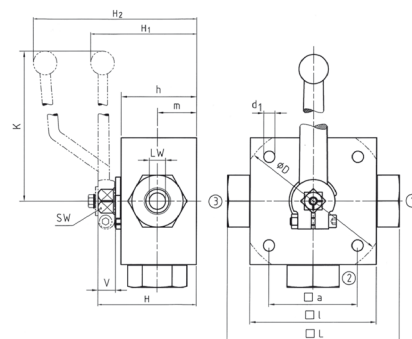
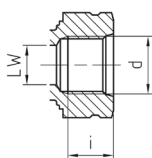
High-Pressure Block Body Ball Valve ▪ Type LBV

L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

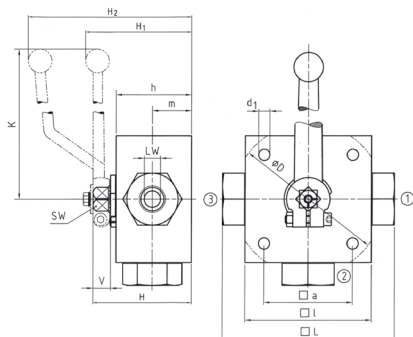
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
Zinc (STAUFF Sizes 06 and 08)
Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread
(SAE J 514)



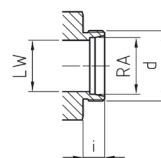
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2				
04	7/16–20 UNF (1/4" SAE)	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	14 .55	6,5 .26		101 3.98	500 7250	1,60 3.52	LBV31040001M	
06	9/16–18 UNF (3/4" SAE)	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	14 .55	6,5 .26	72 2.83	500 7250	2,80 6.16	LBV31060001M		
08	3/4–16 UNF (1/2" SAE)	13	13 .51	144 5.67		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	16,3 .64	9 .35	82 3.23	400 5800	5,20 11.44		LBV31080001M	
12	1-1/16–12 UN (3/4" SAE)	20	18 .71	164 6.46	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18 .71	8,5 .33	96 3.78	315 4567	6,80 14.96	LBV31120001M		
16	1-5/16–12 UN (1" SAE)	25	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	20 .79	8,5 .33	112 4.41	315 4567	8,50 18.70		LBV31160001M	

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

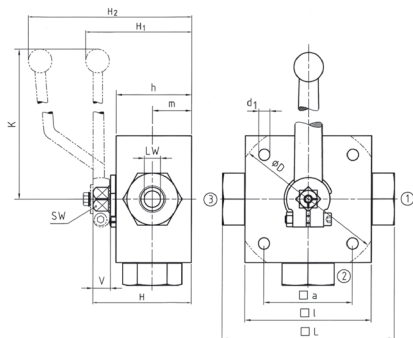


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

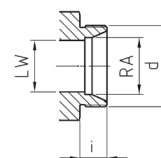
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	LBV3DN0406L0001M	
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52		
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	LBV3DN0608L0001M	
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96		
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	LBV3DN0810L0001M	
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72		
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	LBV3DN1012L0001M	
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72		
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	LBV3DN1315L0001M	
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34		
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	LBV3DN1618L0001M	
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34		
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	LBV3DN2022L0001M	
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52		
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	LBV3DN2528L0001M	
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60		
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	LBV3DN2535L0001M	
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86		

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



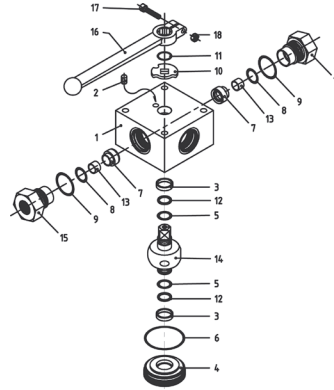
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																	Nom. Pressure ^(bar/PSI)	Weight ^(kg/lbs)	Order Codes (Standard Option)
RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	LBV3DN0408S0001M	
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52		
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	LBV3DN0610S0001M	
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96		
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	LBV3DN0812S0001M	
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72		
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	LBV3DN1014S0001M	
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72		
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	LBV3DN1316S0001M	
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34		
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	LBV3DN1620S0001M	
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34		
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	LBV3DN2025S0001M	
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52		
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	LBV3DN2530S0001M	
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60		
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	LBV3DN2538S0001M	
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86		

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type TBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	3	Ball Seat
8*	3	Seat O-Ring
9*	3	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	3	Seat Support
14	1	Trunnion Ball
15	3	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (T-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-5/16-12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure loaded seats at all ports!

Pressure Range

- Pressure range: up to 500bar / 7250PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20°C ... +100°C / -4°F ... + 212°F

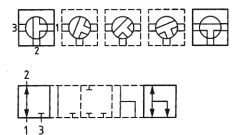
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol : T
- Overlap: positive
- Operating: 90°

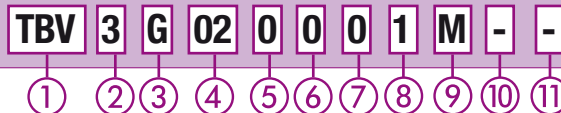
02-TBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Multi-Way T-Bore Ball Valve **TBV**

② Number of Ports

Three Ports (Three-Way Ball Valve) **3**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 24° Cone Connection (Light / Heavy Series)
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0 and 1:
02 04 06 08 10 12 16 20 24
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series):
06L 08L 10L 12L 15L 18L 22L 28L 35L
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**
 EPDM **3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

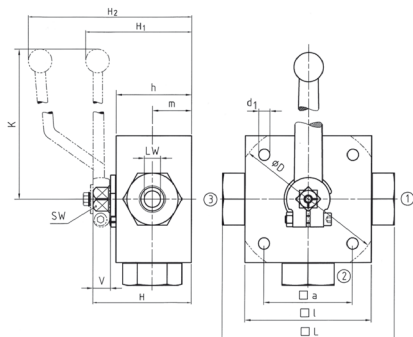
Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

⑪ Accessories / Options

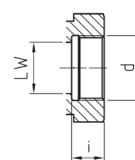
Supplied without accessories **-**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve - Type TBV T-Bore Three-Way Selector - Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)

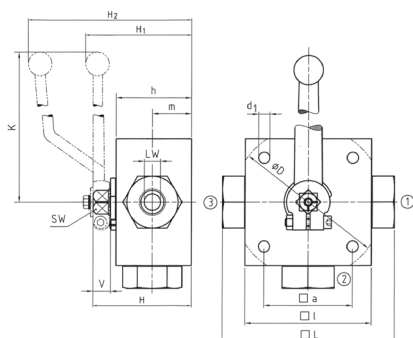


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

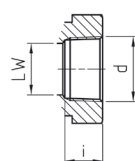
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure ^(bar/PSI)	Weight ^(kg/lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	G 1/8 BSP	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10 .39	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV3G020001M	
04	G 1/4 BSP	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	14 .55	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV3G040001M	
06	G 3/8 BSP	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	14 .55	6,5 .26	72 2.83		500 7250	2,70 5.94	TBV3G060001M	
08	G 1/2 BSP	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	16,3 .64	9 .35	82 3.23		400 5800	4,90 10.78	TBV3G080001M	
10	G 5/8 BSP	16	13 .51	139 5.47		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	18 .71	9 .35	82 3.23		400 5800	4,90 10.78	TBV3G100001M	
12	G 3/4 BSP	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18 .71	8,5 .33	96 3.78		315 4567	6,70 14.74	TBV3G120001M	
16	G 1 BSP	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	20 .79	8,5 .33	112 4.41		315 4567	8,30 18.26	TBV3G160001M	
20	G 1-1/4 BSP	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22 .87	8,5 .33	112 4.41		315 4567	8,50 18.70	TBV3G200001M	
24	G 1-1/2 BSP	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	24 .94	8,5 .33	112 4.41		250 3625	8,50 18.70	TBV3G240001M	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve - Type TBV T-Bore Three-Way Selector - Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure (^{bar} /PSi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	1/8 NPT	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10,5 .41	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV30020001M	
04	1/4 NPT	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	13,7 .54	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV30040001M	
06	3/8 NPT	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	13,5 .53	6,5 .26	72 2.83		500 7250	2,80 6.16	TBV30060001M	
08	1/2 NPT	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	17 .67	9 .35	82 3.23		400 5800	5,20 11.44	TBV30080001M	
12	3/4NPT	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18,3 .72	8,5 .33	96 3.78		315 4567	6,80 14.96	TBV30120001M	
16	1 NPT	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	21,6 .85	8,5 .33	112 4.41		315 4567	8,50 18.70	TBV30160001M	
20	1-1/4 NPT	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	TBV30200001M	
24	1-1/2 NPT	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		250 3625	8,80 19.36	TBV30240001M	

Please note the pressure ratings of the tube connections.

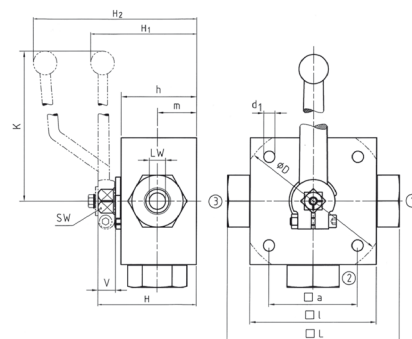
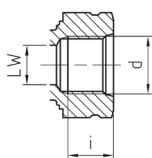
High-Pressure Block Body Ball Valve ▪ Type TBV

T-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

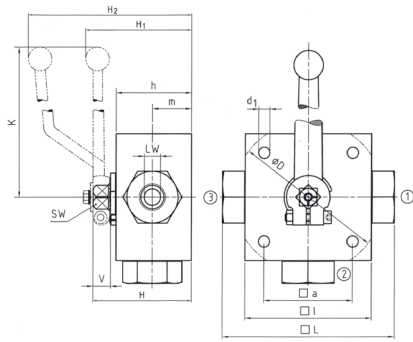
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
Zinc (STAUFF Sizes 06 and 08)
Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread
(SAE J 514)



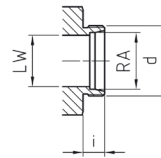
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2				
04	7/16–20 UNF (1/4" SAE)	6	5 0,20	100 3,94		70 2,76	55 2,17	58 2,28	40 1,57	22 0,87	160 6,30	14 0,55	12 0,47	14 0,55	6,5 0,26		101 3,98	500 7250	1,60 3,52	TBV31040001M	
06	9/16–18 UNF (3/8" SAE)	10	8 0,31	115 4,53		80 3,15	65 2,56	68 2,68	50 1,97	27 1,06	200 7,87	14 0,55	14 0,55	6,5 0,55	72 0,26	2,83	500 7250	2,80 6,16	TBV31060001M		
08	3/4–16 UNF (1/2" SAE)	13	13 0,51	144 5,67		100 3,94	80 3,15	78 3,07	60 2,36	31 1,22	200 7,87	14 0,55	14 0,55	16,3 0,64	9 0,35	82 3,23	400 5800	5,20 11,44	TBV31080001M		
12	1-1/16–12 UN (3/4" SAE)	20	18 0,71	164 6,46	138 5,43	113 4,45	85 3,35	88 3,46	67 2,64	36,5 1,44	320 12,60	16,5 0,65	17 0,67	18 0,71	8,5 0,33	96 3,78	315 4567	6,80 14,96	TBV31120001M		
16	1-5/16–12 UN (1" SAE)	25	23 0,91	180 7,09	138 5,43	119 4,69	85 3,35	103 4,06	82 3,23	47,5 1,87	320 12,60	16,5 0,65	17 0,67	20 0,79	8,5 0,33	112 4,41	315 4567	8,50 18,70	TBV31160001M		

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

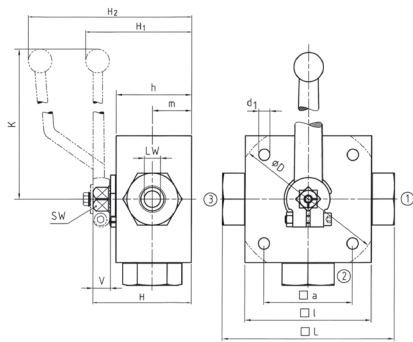


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

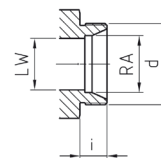
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)	
			RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2				
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV3DN0406L0001M	
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52		
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	TBV3DN0608L0001M	
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96		
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV3DN0810L0001M	
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83	7250	5.72			
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV3DN1012L0001M	
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83	7250	5.72			
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	TBV3DN1315L0001M	
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23	5800	10.34			
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	TBV3DN1618L0001M	
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23	5800	10.34			
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	TBV3DN2022L0001M	
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78	4567	14.52			
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	TBV3DN2528L0001M	
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41	4567	17.60			
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	TBV3DN2535L0001M	
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41	4567	17.86			

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



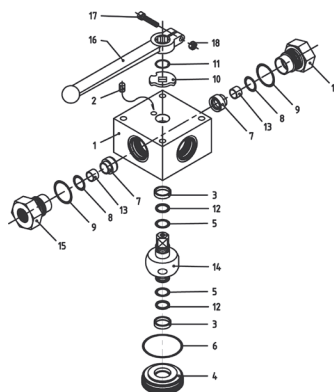
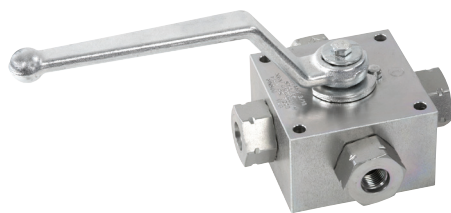
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)	
			RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2				
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	TBV3DN0408S0001M	
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52		
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	TBV3DN0610S0001M	
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96		
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	TBV3DN0812S0001M	
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72		
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	TBV3DN1014S0001M	
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72		
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	TBV3DN1316S0001M	
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34		
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	TBV3DN1620S0001M	
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34		
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	TBV3DN2025S0001M	
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52		
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	TBV3DN2530S0001M	
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60		
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	TBV3DN2538S0001M	
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86		

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ■ Type TBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	4	Ball Seat
8*	4	Seat O-Ring
9*	4	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	4	Seat Support
14	1	Trunnion Ball
15	4	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Four-way high-pressure block body ball valves designed for use as 4-way selectors (T-bore, 90° operation) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-5/16-12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure loaded seats at all ports!

Pressure Range

- Pressure range: up to 500bar / 7250PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20°C ... +100°C / -4°F ... + 212°F

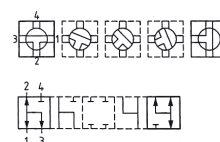
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol: T
- Overlap: positive
- Operating: 90°

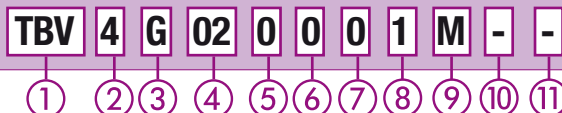
13-TBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Multi-Way T-Bore Ball Valve **TBV**

② Number of Ports

Four Ports (Four-Way Ball Valve) **4**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 24° Cone Connection (Light / Heavy Series)
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0 and 1:
02 04 06 08 10 12 16 20 24
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series):
06L 08L 10L 12L 15L 18L 22L 28L 35L
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**
 EPDM **3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

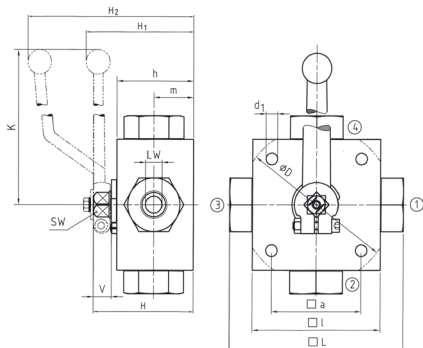
Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

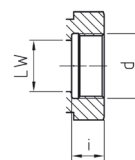
⑪ Accessories / Options

Supplied without accessories **-**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Double-Acting Pneumatic Actuator (Please add size **) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size **) **-ESA****

Please see page F81 - F85 for further information and options.



Female BSP Thread (DIN ISO 228)

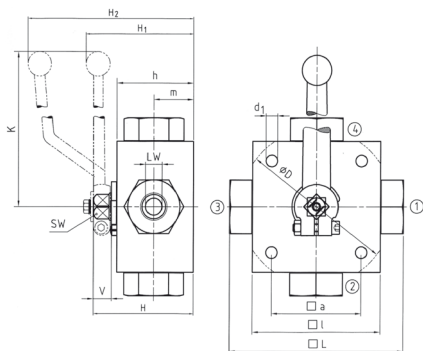


When ordering the standard option as indicated in the table below, the following materials will be supplied:

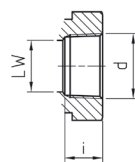
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2				
02	G 1/8 BSP	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10 .39	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV4G020001M	
04	G 1/4 BSP	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	14 .55	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV4G040001M	
06	G 3/8 BSP	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	14 .55	6,5 .26	72 2.83		500 7250	2,80 6.16	TBV4G060001M	
08	G 1/2 BSP	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	16,3 .64	9 .35	82 3.23		400 5800	4,90 10.78	TBV4G080001M	
10	G 5/8 BSP	16	13 .51	139 5.47		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	18 .71	9 .35	82 3.23		400 5800	4,90 10.78	TBV4G100001M	
12	G 3/4 BSP	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18 .71	8,5 .33	96 3.78		315 4567	6,80 14.96	TBV4G120001M	
16	G 1 BSP	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	20 .79	8,5 .33	112 4.41		315 4567	8,50 18.70	TBV4G160001M	
20	G 1-1/4 BSP	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	TBV4G200001M	
24	G 1-1/2 BSP	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	24 .94	8,5 .33	112 4.41		250 3625	8,80 19.36	TBV4G240001M	

Please note the pressure ratings of the tube connections.



Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (^{bar} /Psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	1/8 NPT	4	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10,5 .41	6,5 .26		101 3.98	500 7250	1,60 3.52	TBV40020001M	
04	1/4 NPT	6	5 .20	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	13,7 .54	6,5 .26		101 3.98	500 7250	1,60 3.52		TBV40040001M
06	3/8 NPT	10	8 .31	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	13,5 .53	6,5 .26	72 2.83		500 7250	2,80 6.16	TBV40060001M	
08	1/2 NPT	13	13 .51	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	17 .67	9 .35	82 3.23		400 5800	4,90 10.78	TBV40080001M	
12	3/4NPT	20	18 .71	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18,3 .72	8,5 .33	96 3.78		315 4567	6,80 14.96	TBV40120001M	
16	1 NPT	25	23 .91	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	21,6 .85	8,5 .33	112 4.41		315 4567	8,50 18.70	TBV40160001M	
20	1-1/4 NPT	25/32	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	TBV40200001M	
24	1-1/2 NPT	25/40	23 .91	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		250 3625	8,80 19.36	TBV40240001M	

Please note the pressure ratings of the tube connections.

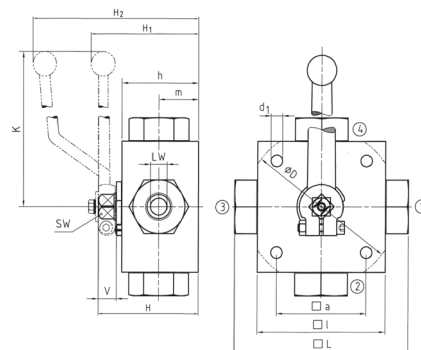
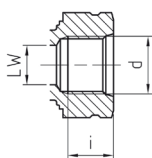
High-Pressure Block Body Ball Valve - Type TBV

T-Bore Four-Way Selector - Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

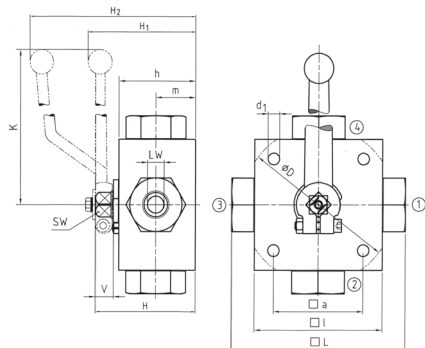
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
Zinc (STAUFF Sizes 06 and 08)
Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread
(SAE J 514)



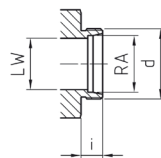
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2				
04	7/16–20 UNF (1/4" SAE)	6	5 0,20	100 3,94		70 2,76	55 2,17	58 2,28	40 1,57	22 0,87	160 6,30	14 0,55	12 0,47	14 0,55	6,5 0,26		101 3,98	500 7250	1,60 3,52	TBV41040001M	
06	9/16–18 UNF (3/8" SAE)	10	8 0,31	115 4,53		80 3,15	65 2,56	68 2,68	50 1,97	27 1,06	200 7,87	14 0,55	14 0,55	6,5 0,55	72 0,26	2,83	500 7250	2,80 6,16	TBV41060001M		
08	3/4–16 UNF (1/2" SAE)	13	13 0,51	144 5,67		100 3,94	80 3,15	78 3,07	60 2,36	31 1,22	200 7,87	14 0,55	14 0,55	16,3 0,64	9 0,35	82 3,23	400 5800	5,20 11,44		TBV41080001M	
12	1-1/16–12 UN (3/4" SAE)	20	18 0,71	164 6,46	138 5,43	113 4,45	85 3,35	88 3,46	67 2,64	36,5 1,44	320 12,60	16,5 0,65	17 0,67	18 0,71	8,5 0,33	96 3,78	315 4567	6,80 14,96	TBV41120001M		
16	1-5/16–12 UN (1" SAE)	25	23 0,91	180 7,09	138 5,43	119 4,69	85 3,35	103 4,06	82 3,23	47,5 1,87	320 12,60	16,5 0,65	17 0,67	20 0,79	8,5 0,33	112 4,41	315 4567	8,50 18,70		TBV41160001M	

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

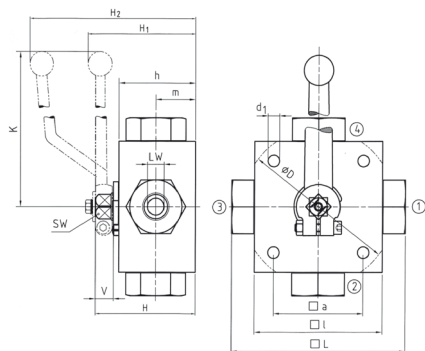


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
Delrin® (POM)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

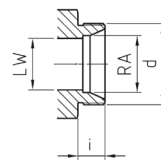
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																		Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2					
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV4DN0406L0001M		
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52			
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	TBV4DN0608L0001M		
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96			
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV4DN0810L0001M		
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72			
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV4DN1012L0001M		
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72			
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	TBV4DN1315L0001M		
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34			
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	TBV4DN1618L0001M		
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34			
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	TBV4DN2022L0001M		
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52			
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	TBV4DN2528L0001M		
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60			
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	TBV4DN2535L0001M		
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86			

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



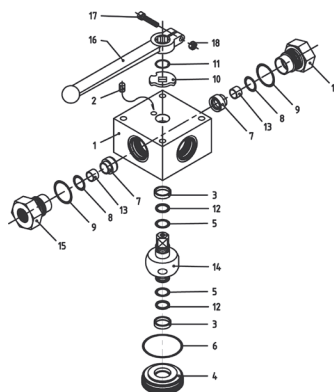
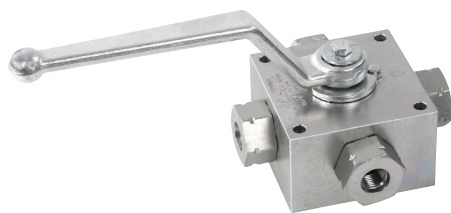
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
Delrin® (POM)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																		Nom. Pressure (bar/Psi)	Weight (kg/lbs)	Order Codes (Standard Option)
			RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2					
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	TBV4DN0408S0001M		
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52			
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	TBV4DN0610S0001M		
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96			
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	TBV4DN0812S0001M		
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72			
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	TBV4DN1014S0001M		
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72			
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	TBV4DN1316S0001M		
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34			
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	TBV4DN1620S0001M		
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34			
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	TBV4DN2025S0001M		
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52			
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	TBV4DN2530S0001M		
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60			
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	TBV4DN2538S0001M		
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86			

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type XBV



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	4	Ball Seat
8*	4	Seat O-Ring
9*	4	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	4	Seat Support
14	1	Trunnion Ball
15	4	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Four-way high-pressure block body ball valves designed for use as 4-way selectors (double L-bore, 90° operation with closed position) for hydraulic applications

Standard Construction

- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials

- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes

- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-5/16-12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure loaded seats at all ports!

Pressure Range

- Pressure range: up to 500bar / 7250PSI (depending on size and material combination of the ball valve)

Temperature Range

- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... + 212 °F

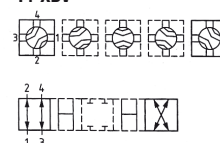
Options / Accessories

- Alternative lever designs/materials (see page F80)
- Locking devices (see pages F81-83)
- Actuator packages (see page F84)
- Limit switches (see page F84)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

- Symbol : X
- Overlap: negative
- Operating: 90° with closed position

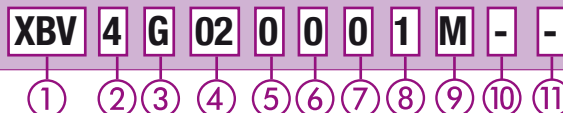
14-XBV



- Stop of end position:

Please see pages F86-F87 for alternative porting patterns.

Order Codes



① Type

Multi-Way Double L-Bore Ball Valve **XBV**

② Number of Ports

Four Ports (Four-Way Ball Valve) **4**

③ Connection Style

Female BSP Thread (DIN ISO 228) **G**
 Female NPT Thread (ANSI B1.20.1) **0**
 Female UN/UNF Thread (SAE J 514) **1**
 24° Cone Connection (Light / Heavy Series)
DN04 DN06 DN08 DN10 DN13 DN16 DN20 DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)
for connection styles G, 0 and 1:
02 04 06 08 10 12 16 20 24
 Tube Size (according to dimension table)
for 24° Cone Connection (Light Series):
06L 08L 10L 12L 15L 18L 22L 28L 35L
 Tube Size (according to dimension table)
for 24° Cone Connection (Heavy Series):
08S 10S 12S 14S 16S 20S 25S 30S 38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated **0**
 Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated **0**
 Stem: Carbon Steel
 Ball / Stem: Stainless Steel V4A (AISI 316Ti) **1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM) **0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®) **0**
 FPM (Viton®) **1**
 EPDM **3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles **M**

⑩ Lever Options

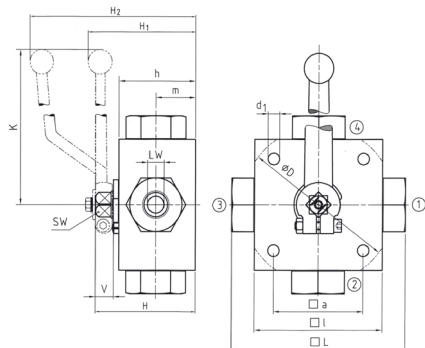
Supplied with standard lever (according to table) **-**
 Supplied without lever **-0**

Alternative levers can be ordered separately. Please see page F80 for further information.

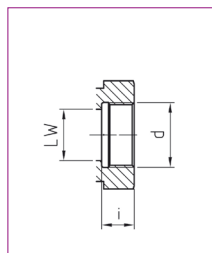
⑪ Accessories / Options

Supplied without accessories **-**
 Supplied with Locking Device LD4 **-LD4**
 Supplied with Double-Acting Pneumatic Actuator (Please add size ***) **-EDA****
 Supplied with Single-Acting Pneumatic Actuator (Please add size ***) **-ESA****

Please see page F81 - F85 for further information and options.



High-Pressure Block Body Ball Valve - Type XBV Double L-Bore Four-Way Selector - Female BSP Thread (DIN ISO 228)

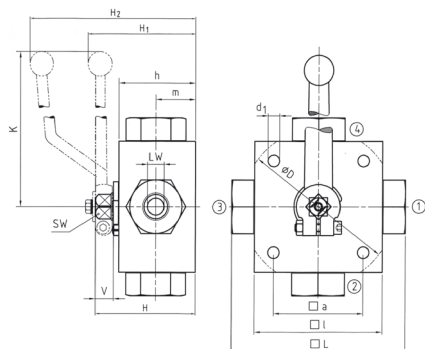


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

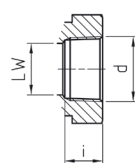
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure ^(bar/PSI)	Weight ^(kg/lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	G 1/8 BSP	4	4 .16	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10 .39	6,5 .26		101 3.98	500 7250	1,60 3.52	XBV4G020001M	
04	G 1/4 BSP	6	4 .16	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	14 .55	6,5 .26		101 3.98	500 7250	1,60 3.52	XBV4G040001M	
06	G 3/8 BSP	10	7 .28	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	14 .55	6,5 .26	72 2.83		500 7250	2,80 6.16	XBV4G060001M	
08	G 1/2 BSP	13	10 .39	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	16,3 .64	9 .35	82 3.23		400 5800	4,90 10.78	XBV4G080001M	
10	G 5/8 BSP	16	10 .39	139 5.47		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	18 .71	9 .35	82 3.23		400 5800	4,90 10.78	XBV4G100001M	
12	G 3/4 BSP	20	14 .55	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18 .71	8,5 .33	96 3.78		315 4567	6,80 14.96	XBV4G120001M	
16	G 1 BSP	25	17 .67	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	20 .79	8,5 .33	112 4.41		315 4567	8,50 18.70	XBV4G160001M	
20	G 1-1/4 BSP	25/32	17 .67	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	XBV4G200001M	
24	G 1-1/2 BSP	25/40	17 .67	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	24 .94	8,5 .33	112 4.41		250 3625	8,80 19.36	XBV4G240001M	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve - Type XBV Double L-Bore Four-Way Selector - Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 06 to 10)
Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions ^(mm/in)																Nom. Pressure ^(bar/PSi)	Weight ^(kg/lbs)	Order Codes (Standard Option)
LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2							
02	1/8 NPT	4	4 .16	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	10,5 .41	6,5 .26		101 3.98	500 7250	1,60 3.52	XBV40020001M	
04	1/4 NPT	6	4 .16	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 .87	160 6.30	14 .55	12 .47	13,7 .54	6,5 .26		101 3.98	500 7250	1,60 3.52		XBV40040001M
06	3/8 NPT	10	7 .28	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 .55	14 .55	13,5 .53	6,5 .26	72 2.83		500 7250	2,80 6.16	XBV40060001M	
08	1/2 NPT	13	10 .39	136 5.35		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 .55	14 .55	17 .67	9 .35	82 3.23		400 5800	4,90 10.78		XBV40080001M
12	3/4NPT	20	14 .55	154 6.06	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36,5 1.44	320 12.60	16,5 .65	17 .67	18,3 .72	8,5 .33	96 3.78		315 4567	6,80 14.96	XBV40120001M	
16	1 NPT	25	17 .67	172 6.77	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	21,6 .85	8,5 .33	112 4.41		315 4567	8,50 18.70		XBV40160001M
20	1-1/4 NPT	25/32	17 .67	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		315 4567	8,80 19.36	XBV40200001M	
24	1-1/2 NPT	25/40	17 .67	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47,5 1.87	320 12.60	16,5 .65	17 .67	22,1 .87	8,5 .33	112 4.41		250 3625	8,80 19.36	XBV40240001M	

Please note the pressure ratings of the tube connections.

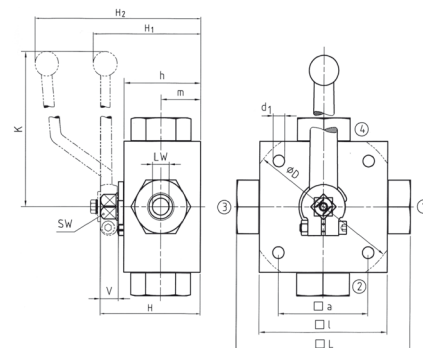
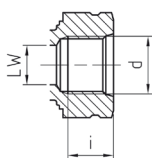
High-Pressure Block Body Ball Valve ▪ Type XBV

Double L-Bore Four-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

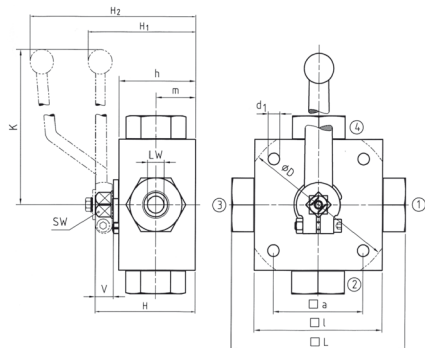
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
Zinc (STAUFF Sizes 06 and 08)
Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread
(SAE J 514)



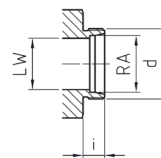
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
			LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2				
04	7/16–20 UNF (1/4" SAE)	6	4 .16	100 3.94		70 2.76	55 2.17	58 2.28	40 1.57	22 0.87	160 6.30	14 0.55	12 0.47	14 0.55	6.5 0.26		101 3.98	500 7250	1.60 3.52	XBV41040001M	
06	9/16–18 UNF (3/8" SAE)	10	7 .28	115 4.53		80 3.15	65 2.56	68 2.68	50 1.97	27 1.06	200 7.87	14 0.55	14 0.55	6.5 0.55	72 0.26	72 2.83	500 7250	2.80 6.16	XBV41060001M		
08	3/4–16 UNF (1/2" SAE)	13	10 .39	144 5.67		100 3.94	80 3.15	78 3.07	60 2.36	31 1.22	200 7.87	14 0.55	14 0.55	16.3 0.64	9 0.35	82 3.23	400 5800	5.20 11.44		XBV41080001M	
12	1-1/16–12 UN (3/4" SAE)	20	14 .55	164 6.46	138 5.43	113 4.45	85 3.35	88 3.46	67 2.64	36.5 1.44	320 12.60	16.5 0.65	17 0.67	18 0.71	8.5 0.33	96 3.78	315 4567	6.80 14.96	XBV41120001M		
16	1-5/16–12 UN (1" SAE)	25	17 .67	180 7.09	138 5.43	119 4.69	85 3.35	103 4.06	82 3.23	47.5 1.87	320 12.60	16.5 0.65	17 0.67	20 0.79	8.5 0.33	112 4.41	315 4567	8.50 18.70		XBV41160001M	

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

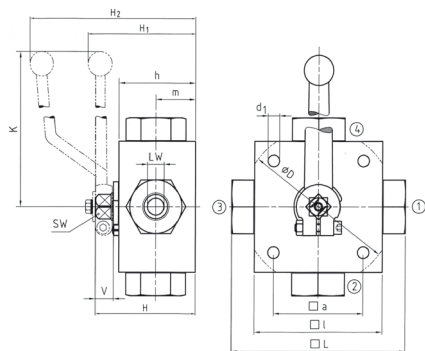


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
Delrin® (POM)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

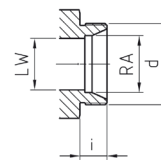
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in)																		Nom. Pressure (^{bar} /PSI)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2					
02	06L / M12 x 1,5	4	6	4	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	XBV4DN0406L0001M		
			.24	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52			
04	08L / M14 x 1,5	6	8	4	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	XBV4DN0608L0001M		
			.31	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96			
05	10L / M16 x 1,5	8	10	7	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	XBV4DN0810L0001M		
			.39	.28	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72			
06	12L / M18 x 1,5	10	12	7	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	XBV4DN1012L0001M		
			.47	.28	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72			
08	15L / M22 x 1,5	13	15	10	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	XBV4DN1315L0001M		
			.59	.39	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34			
10	18L / M26 x 1,5	16	18	10	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	XBV4DN1618L0001M		
			.71	.39	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34			
12	22L / M30 x 2	20	22	14	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	XBV4DN2022L0001M		
			.87	.55	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52			
16	28L / M36 x 2	25	28	17	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	XBV4DN2528L0001M		
			1.10	.67	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60			
20	35L / M45 x 2	25/32	35	17	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	XBV4DN2535L0001M		
			1.38	.67	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86			

Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings
are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



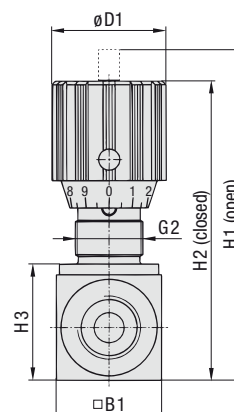
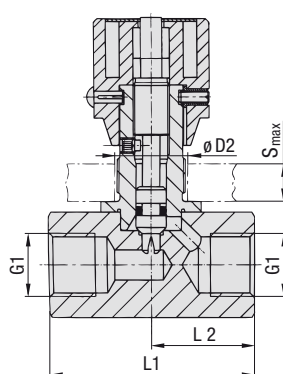
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
Zinc (STAUFF Sizes 05 to 10)
Aluminium (STAUFF Sizes 12 to 20)
Delrin® (POM)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)																		Nom. Pressure (^{bar} /Psi)	Weight (^{kg} /lbs)	Order Codes (Standard Option)
			RA	LW	L	D	I	a	H	h	m	K	V	SW	i	d1	H1	H2					
02	08S / M16 x 1,5	4	8	4	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	XBV4DN0408S0001M		
			.31	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52			
04	10S / M18 x 1,5	6	10	4	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	XBV4DN0610S0001M		
			.39	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96			
05	12S / M20 x 1,5	8	12	7	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	XBV4DN0812S0001M		
			.47	.28	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72			
06	14S / M22 x 1,5	10	14	7	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	XBV4DN1014S0001M		
			.55	.28	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72			
08	16S / M24 x 1,5	13	16	10	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	XBV4DN1316S0001M		
			.63	.39	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34			
10	20S / M30 x 2	16	20	10	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	XBV4DN1620S0001M		
			.79	.39	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34			
12	25S / M36 x 2	20	25	14	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	XBV4DN2025S0001M		
			.98	.55	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52			
16	30S / M42 x 2	25	30	17	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	XBV4DN2530S0001M		
			1.18	.67	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60			
20	38S / M52 x 2	25/32	38	17	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	XBV4DN2538S0001M		
			1.50	.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86			

Please note the pressure ratings of the tube connections.

Throttle and Shut-Off Valve ■ Type DV (In-Line Assembly)



Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features

- Designed for in-line assembly with female BSP, NPT and SAE threaded connections
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of NBR (Buna-N®); FPM (Viton®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data

- Maximum working pressure:
350 bar / 5000 PSI (for all sizes)
- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F76 for detailed flow characteristics.

Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in)										Weight (kg/lbs)
		G2	H1	H2	H3	B1	ØD1	ØD2	S (Max.)	L1	L2	
DV-06	G1/8 BSP 1/8 NPT	PG 7	64	59	18	16	24	13	3	38	19	0,12
			2.52	2.32	.71	.63	.94	.51	.12	1.50	.75	.26
DV-08	G1/4 BSP 1/4 NPT 7/16-20 UNF (1/4" SAE)	PG 11	83,5	77,5	27	25	29	19	7	48	24	0,25
			3.29	3.05	1.06	.98	1.14	.75	.28	1.89	.94	.55
DV-10	G3/8 BSP 3/8 NPT 9/16-18 UNF (3/4" SAE)	PG 11	90	83	32	30	29	19	7	58	29	0,40
			3.54	3.27	1.26	1.18	1.14	.75	.28	2.28	1.14	.88
DV-12	G1/2 BSP 1/2 NPT 3/4-16 UNF (1/2" SAE)	PG 11	109,5	99,5	38	35	38	23	7	68	34	0,60
			4.31	3.92	1.50	1.38	1.50	.91	.28	2.68	1.34	1.32
DV-16	G3/4 BSP 3/4 NPT 1-1/16-12 UN (3/4" SAE)	PG 16	128,5	118,5	48	45	38	23	7	78	39	1,10
			5.06	4.67	1.89	1.77	1.50	.91	.28	3.07	1.54	2.43
DV-20	G1 BSP 1 NPT 1-5/16-12 UN (1" SAE)	PG 16	159	146	55	50	49	38	10	108	54	2,40
			6.26	5.75	2.17	1.97	1.93	1.50	.39	4.25	2.13	5.29
DV-25	G1-1/4 BSP 1-1/4 NPT 1-5/8-12 UN (1-1/4" SAE)	PG 29	169	156	65	60	49	38	10	108	54	2,80
			6.65	6.14	2.56	2.36	1.93	1.50	.39	4.25	2.13	6.17
DV-30	G1-1/2 BSP 1-1/2 NPT 1-7/8-12 UN (1-1/2" SAE)	PG 29	175	166	75	70	49	38	10	108	54	3,50
			6.89	6.54	2.95	2.76	1.93	1.50	.39	4.25	2.13	7.72
DV-40	G2 BSP 2 NPT 2-1/2-12 UN (2" SAE)	PG 29	199	186	95	90	49	38	10	120	60	6,30
			7.83	7.32	3.74	3.54	1.93	1.50	.39	4.72	2.36	13.89

Order Codes

DV	-	25	-	P	-	B	-	PM	-	SS
①		②		③		④		⑤		⑥

① Type

Throttle and Shut-Off Valve (In-Line Assembly) **DV**

② Nominal Size DN

06 08 10 12 16 20 25 30 40

③ Sealing Material

NBR (Buna-N®) (standard option) **P**
FPM (Viton®) **V**
EPDM **E**

④ Connection

Female BSP threads (ISO 228) **B**
Female NPT threads (ANSI B1.20.1) **N**
Female UN/UNF thread (SAE J514) **S**

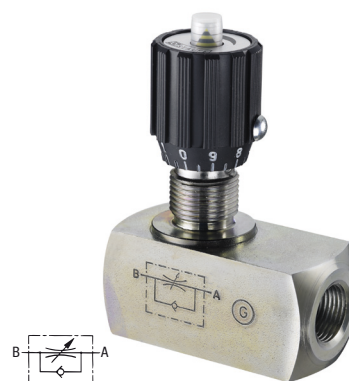
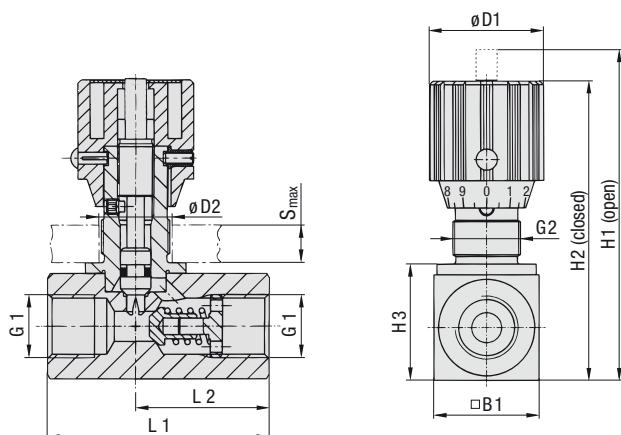
⑤ Panel Mounting Nut

Without panel mounting nut (standard option) **-**
With panel mounting nut **PM**

⑥ Body / Spindle Material

Steel (standard option) **-**
Stainless Steel **SS**

Flow Control Valve ■ Type DRV (In-Line Assembly)



Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in)										Weight (kg/lbs)
		G2	H1	H2	H3	B1	ØD1	ØD2	S (Max.)	L1	L2	
DRV-06	G1/8 BSP 1/8 NPT	PG 7	64	59	18	16	24	13	3	45	26	0,10
			2.52	2.32	.71	.63	.94	.51	.12	1.77	1.02	.22
DRV-08	G1/4 BSP 1/4 NPT 7/16-20 UNF (1/4" SAE)	PG 11	83,5	77,5	27	25	29	19	7	55	34	0,30
			3.29	3.05	1.06	.98	1.14	.75	.28	2.17	1.32	.66
DRV-10	G3/8 BSP 3/8 NPT 9/16-18 UNF (3/4" SAE)	PG 11	90	83	32	30	29	19	7	65	41	0,45
			3.54	3.27	1.26	1.18	1.14	.75	.28	2.56	1.61	.99
DRV-12	G1/2 BSP 1/2 NPT 3/4-16 UNF (1/2" SAE)	PG 11	109,5	99,5	38	35	38	23	7	73	44	0,70
			4.31	3.92	1.50	1.38	1.50	.91	.28	2.87	1.73	1.54
DRV-16	G3/4 BSP 3/4 NPT 1-1/16-12 UN (3/4" SAE)	PG 16	128,5	118,5	48	45	38	23	7	88	57	1,26
			5.06	4.67	1.89	1.77	1.50	.91	.28	3.46	2.24	2.78
DRV-20	G1 BSP 1 NPT 1-5/16-12 UN (1" SAE)	PG 16	159	146	55	50	49	38	10	127	77	2,60
			6.26	5.75	2.17	1.97	1.93	1.50	.39	5.00	3.03	5.73
DRV-25	G1-1/4 BSP 1-1/4 NPT 1-5/8-12 UN (1-1/4" SAE)	PG 29	169	156	65	60	49	38	10	143	93	3,70
			6.65	6.14	2.56	2.36	1.93	1.50	.39	5.63	3.66	8.16
DRV-30	G1-1/2 BSP 1-1/2 NPT 1-7/8-12 UN (1-1/2" SAE)	PG 29	175	166	75	70	49	38	10	143	91	4,76
			6.89	6.54	2.95	2.76	1.93	1.50	.39	5.63	3.58	10.49
DRV-40	G2 BSP 2 NPT 2-1/2-12 UN (2" SAE)	PG 29	199	186	95	90	49	38	10	165	111	8,52
			7.83	7.32	3.74	3.54	1.93	1.50	.39	6.50	4.37	18.78

Order Codes

DRV	-	25	-	P	-	B	-	PM	-	SS
①		②		③		④		⑤		⑥

① Type

Flow Control Valve (In-Line Assembly) **DRV**

② Nominal Size DN

06 08 10 12 16 20 25 30 40

③ Sealing Material

NBR (Buna-N®) (standard option) **P**
FPM (Viton®) **V**
EPDM **E**

④ Connection

Female BSP threads (ISO 228) **B**
Female NPT threads (ANSI B1.20.1) **N**
Female UN/UNF thread (SAE J514) **S**

⑤ Panel Mounting Nut

Without panel mounting nut (standard option) **-**
With panel mounting nut **PM**

⑥ Body / Spindle Material

Steel (standard option) **-**
Stainless Steel **SS**

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction)

Features

- Designed for in-line assembly with female BSP, NPT and SAE threaded connections
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of NBR (Buna-N®); FPM (Viton®) and EPDM sealed version available

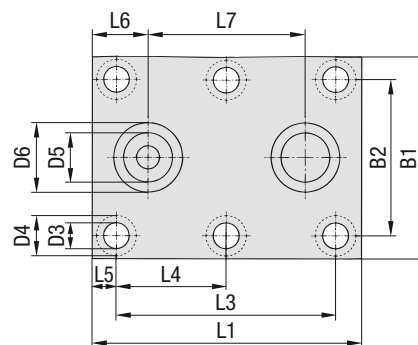
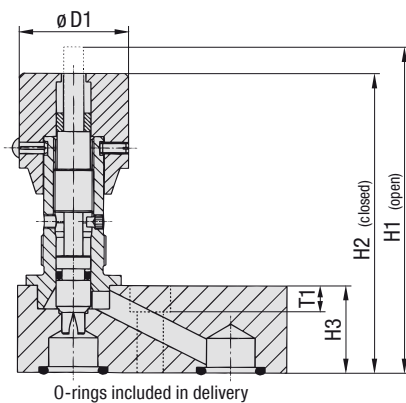
Consult STAUFF for alternative materials.

Technical Data

- Opening pressure: 0,5 bar / 7 PSI (4,5 bar / 65 PSI available on request)
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F76 for detailed flow characteristics.

Throttle and Shut-Off Valve ■ Type DVP (Manifold Assembly)



Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features

- Designed for manifold mounting
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of FPM (Viton®); NBR (Buna-N®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data

- Maximum working pressure:
350 bar / 5000 PSI (for all sizes)
- Operating temperature range:
-20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F76 for detailed flow characteristics.

Recommended Bolts / Tightening Torques

- Socket cap screws according to ISO 4762 or ANSI / ASME B18.3 recommended for installation (not included in delivery):

DVP-06	M6 x 20 - 8.8 (9 N-m) 1/4-20 UNC x 3/4 - Gr. 5 (10 ft-lb)
DVP-08	M6 x 25 - 8.8 (9 N-m) 1/4-20 UNC x 1 - Gr. 5 (10 ft-lb)
DVP-10	M6 x 30 - 10.9 (12 N-m) 1/4-20 UNC x 1-1/4 - Gr. 8 (12 ft-lb)
DVP-12	M6 x 30 - 12.9 (15 N-m) 1/4-20 UNC x 1-1/4 - Gr. 10 (14 ft-lb)
DVP-16	M8 x 35 - 10.9 (30 N-m) 5/16-18 UNC x 1-1/2 - Gr. 8 (24 ft-lb)
DVP-20	M8 x 50 - 12.9 (35 N-m) 5/16-18 UNC x 2 - Gr. 10 (29 ft-lb)
DVP-25	M10 x 50 - 12.9 (70 N-m) 3/8-16 UNC x 2 - Gr. 10 (58 ft-lb)
DVP-30	M12 x 60 - 10.9 (100 N-m) 7/16-14 UNC x 2-1/2 - Gr. 8 (63 ft-lb)

Dimensions

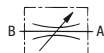
For panel mounting, please see dimensions G2, D2 and S (Max.) on page F68.

Type + Nom. Size	Dimensions (mm/in)																		Weight (kg/lbs)
	ØD1	ØD3	ØD4	ØD5	ØD6	L1	L3	L4	L5	L6	L7	B1	B2	T1	H1	H2	H3	O-ring	
DVP-06	24	6,5	10,5	5	9,8	35	19		8	9,5	16	41,5	28,5	6,8	64	59	16	6,35 x 1,78	0,20
	.94	.26	.41	.20	.39	1.38	.75		.31	.37	.63	1.63	1.12	.27	2.52	2.32	.63		.44
DVP-08	29	6,5	10,5	7	12,4	47,5	35		6,5	11	25,5	46	33,5	6,8	79	72	20	8,5 x 2	0,40
	1.14	.26	.41	.28	.49	1.87	1.38		.26	.43	1.00	1.81	1.32	.27	3.11	2.83	.79		.88
DVP-10	29	6,5	10,5	10	15,7	51	33,5		8,5	12,7	25,5	51	38	6,8	84	78	25	12 x 2	0,60
	1.14	.26	.41	.39	.62	2.01	1.32		.33	.50	1.00	2.01	1.50	.27	3.31	3.07	.98		1.32
DVP-12	38	6,5	10,5	13	18,7	75	38		18,5	22,5	30	57,5	44,5	6,8	100	89	25	15 x 2	1,00
	1.50	.26	.41	.51	.74	2.95	1.50		.73	.89	1.18	2.26	1.75	.27	3.94	3.50	.98		2.20
DVP-16	38	8,5	13,5	17	23,9	93,5	76	38	8,5	19,5	54	70	54	9	113	103	30	19 x 2,5	1,50
	1.50	.33	.53	.67	.94	3.68	2.99	1.50	.33	.77	2.13	2.76	2.13	.35	4.45	4.06	1.18		3.31
DVP-20	49	8,5	13,5	22	30,5	111	95	47,5	8	27	57	76,5	60	9	154	142	45	25 x 3	3,40
	1.93	.33	.53	.87	1.20	4.37	3.74	1.87	.31	1.06	2.24	3.01	2.36	.35	6.06	5.59	1.77		7.50
DVP-25	49	10,5	16,5	28,5	37,5	143	120	60	11	32	79,5	100	76	11	154	142	45	32 x 3	5,15
	1.93	.41	.65	1.12	1.48	5.63	4.72	2.36	.43	1.26	3.13	3.94	2.99	.43	6.06	5.59	1.77		11.35
DVP-30	49	13	19	35	43,5	171	143	71,5	15	39	95	115	92	13	159	147	50	38 x 3	7,50
	1.93	.51	.75	1.38	1.71	6.73	5.63	2.81	.59	1.54	3.74	4.53	3.62	.51	6.26	5.79	1.97		16.53

Order Codes

DVP	-	25	-	P	-	PM	-	SS
①		②		③		④		⑤
① Type Throttle and Shut-Off Valve (Manifold Assembly) DVP								
② Nominal Size DN 06 08 10 12 16 20 25 30								
③ Sealing Material FPM (Viton®) (standard option) V NBR (Buna-N®) P EPDM E								
④ Panel Mounting Nut Without panel mounting nut (standard option) - With panel mounting nut PM								
⑤ Body / Spindle Material Steel (standard option) - Stainless Steel SS								

Throttle and Shut-Off Valve ■ Type DVE (Cartridge Assembly)



Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features

- Designed for direct installation into hydraulic manifolds with male BSP threaded stud
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

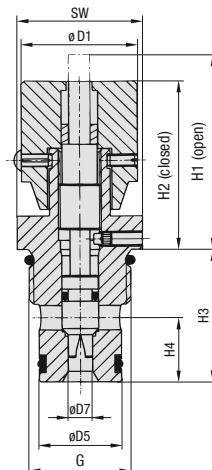
- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of NBR (Buna-N®); FPM (Viton®) and EPDM sealed version available

Consult STAUFF for alternative materials.

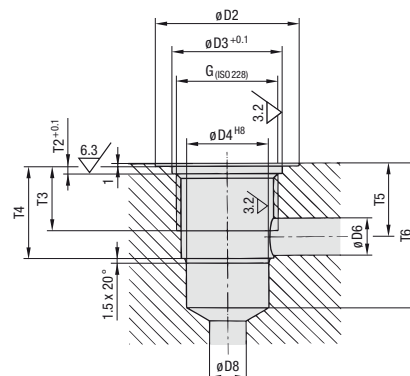
Technical Data

- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F76 for detailed flow characteristics.



Installation Details



Dimensions

Type + Nom. Size	Thread Options G	Dimensions (mm/in)																		Weight (kg/lbs)
		H1	H2	H3	H4	ØD1	ØD2	ØD3	ØD4	ØD5	ØD6	ØD7	ØD8	SW	T2	T3	T4	T5	T6	
DVE-08	G1/2 BSP	47	41	28	12,0	29	32	24	14	14	5	5	5	27	1,9	14	17,5	15	29	0,15
		1.85	1.61	1.08	.47	1.14	1.26	.94	.55	.55	.20	.20	.20	1.06	.07	.55	.69	.59	1.14	.33
DVE-10	G1/2 BSP	64	54	31	14,5	38	32	24	16	16	8	6	8	27	1,9	14	20,5	17	33	0,25
		2.52	2.13	1.21	.57	1.50	1.26	.94	.63	.63	.31	.24	.31	1.06	.07	.55	.81	.67	1.30	.55
DVE-12	G3/4 BSP	65	55	40	17,5	38	37	30	19	19	10	8	10	32	1,9	21	29,0	24	43	0,50
		2.56	2.17	1.57	.69	1.50	1.46	1.18	.75	.75	.39	.31	.39	1.26	.07	.83	1.14	.94	1.69	1.10
DVE-16	G1 BSP	65	55	44	21,1	38	47	36	27	27	12	8	12	41	1,9	21	30,0	24	47	0,70
		2.56	2.17	1.71	.83	1.50	1.85	1.42	1.06	1.06	.47	.31	.47	1.61	.07	.83	1.18	.94	1.85	1.54

Order Codes

DVE	-	16	-	P	-	B	-	SS
①		②		③		④		⑤

① Type

Throttle and Shut-Off Valve (Cartridge Assembly) **DVE**

② Nominal Size DN

08 **10** **12** **16**

③ Sealing Material

NBR (Buna-N®) (standard option) **P**
FPM (Viton®) **V**
EPDM **E**

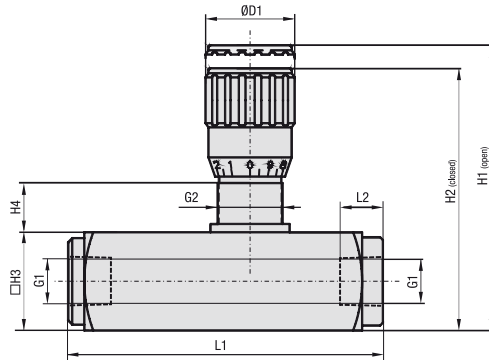
④ Connection

Male BSP thread (ISO 228) **B**

⑤ Body / Spindle Material

Steel (standard option) **-**
Stainless Steel **SS**

Pressure Compensated Flow Control Valve ■ Type PNDRV (In-Line Assembly)

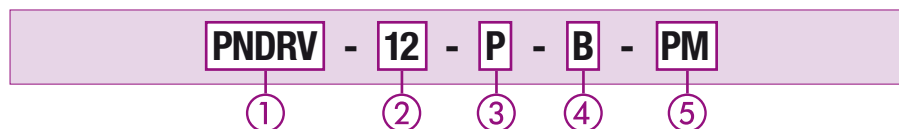


Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in)		L1	L2	H1	H2	H3	H4	G2	Weight (kg/lbs)
PNDRV-08	G1/4 BSP			94	12,5	88,5	81,5	30	15	M20 x 1	0,58
	1/4 NPT										
	7/16-20 UNF (1/4" SAE)			3.70	.49	3.48	3.21	1.18	.59		.77
PNDRV-10	G3/8 BSP			110,5	13	103	94,5	35	17	M25 x 1,5	0,94
	3/8 NPT										
	9/16-18 UNF (3/4" SAE)			4.35	.51	4.06	3.72	1.38	.67		2.09
PNDRV-12	G1/2 BSP			137	15,5	122	112	45	18	M30 x 1,5*	1,83
	1/2 NPT										
	3/4-16 UNF (1/2" SAE)			5.39	.61	4.80	4.41	1.77	.71		4.07
PNDRV-16	3/4 NPT			163	17	150	138	55	24	M40 x 1,5	3,35
	G3/4 BSP										
	1-1/16-12 UN (3/4" SAE)			6.42	.67	5.91	5.43	2.17	.94		7.44

* M25 x 1,5 for version with female UN/UNF thread (SAE J514)

Order Codes



① Type

Pressure Compensated Flow Control Valve (In-Line Assembly) **PNDRV**

② Nominal Size DN

08 10 12 16

③ Sealing Material

NBR (Buna-N®) (standard option) **P**
FPM (Viton®) **V**
EPDM **E**

④ Connection

Female BSP thread (ISO 228) **B**
Female NPT thread (ANSI B1.20.1) **N**
Female UN/UNF thread (SAE J514) **S**

⑤ Panel Mounting Nut

Without panel mounting nut (standard option) **-**
With panel mounting nut **PM**

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction) with pressure compensating feature via built-in compensating piston

Features

- Designed for in-line assembly with female BSP, NPT and SAE threaded connections
- Panel mounting nuts available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

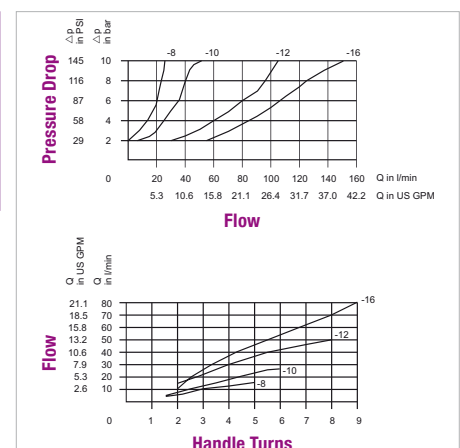
- Body made of Steel, phosphated
- Internal components made of Stainless Steel
- Turning knob made of Aluminium
- O-rings made of NBR (Buna-N®)
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

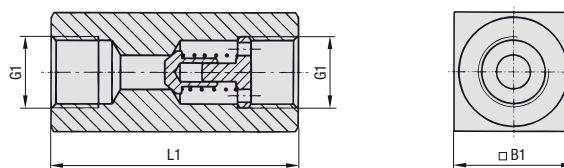
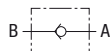
Technical Data

- Maximum working pressure: 210 bar / 3000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +120 °C / -4 °F ... +248 °F
- Minimum filtration grade: 25 µm (absolute) to ensure the correct functioning, reduce wear and tear and increase the service life of the valve

Flow Characteristics



Heavy-Duty Check Valve ■ Type RV (In-Line Assembly)



Characteristics

Allows a single-directional flow only

Features

- Designed for in-line assembly with female BSP, NPT and SAE threaded connections
- Metal-to-metal seat

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available

Technical Data

- Opening pressure: 0,5 bar / 7 PSI (4,5 bar / 65 PSI available on request)
- Maximum working pressure: 500 bar / 7250 PSI (depending on size)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F76 for detailed flow characteristics.

Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in)		Working Pressure PN (bar/PSI)	Weight (kg/lbs)
		L1	B1		
RV-06	G1/8 BSP 1/8 NPT	45	16	500	0,10
		1.77	.63	7250	.22
RV-08	G1/4 BSP 1/4 NPT 7/16-20 UNF (1/4" SAE)	55	25	500	0,20
		2.17	.98	7250	.44
RV-10	G3/8 BSP 3/8 NPT 9/16-18 UNF (3/4" SAE)	65	30	500	0,40
		2.56	1.18	7250	.88
RV-12	G1/2 BSP 1/2 NPT 3/4-16 UNF (1/2" SAE)	73	35	500	0,70
		2.87	1.38	7250	1.54
RV-16	G3/4 BSP 3/4 NPT 1-1/16-12 UN (3/4" SAE)	88	45	500	1,20
		3.46	1.77	7250	2.64
RV-20	G1 BSP 1 NPT 1-5/16-12 UN (1" SAE)	127	50	500	2,00
		5.00	1.97	7250	4.40
RV-25	G1-1/4 BSP 1-1/4 NPT 1-5/8-12 UN (1-1/4" SAE)	143	60	400	3,30
		5.63	2.36	5800	7.26
RV-30	G1-1/2 BSP 1-1/2 NPT 1-7/8-12 UN (1-1/2" SAE)	143	70	315	4,20
		5.63	2.75	4500	9.24
RV-40	G2 BSP 2 NPT 2-1/2-12 UN (2" SAE)	165	90	315	7,20
		6.49	3.54	4500	15.84

Order Codes

RV	-	25	-	07	-	B	-	SS
①		②		③		④		⑤

① Type

Heavy-Duty Check Valve (In-Line Assembly) **RV**

② Nominal Size DN

06 08 10 12 16 20 25 30 40

③ Opening Pressure

0,5 bar / 7 PSI (standard option) **07**
4,5 bar / 65 PSI **65**

Consult STAUFF for alternative opening pressures.

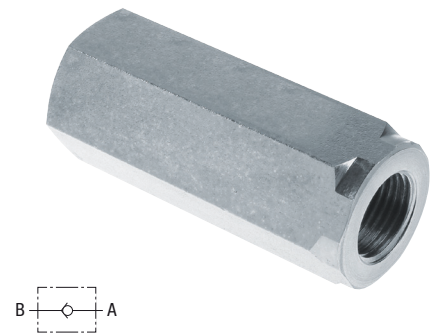
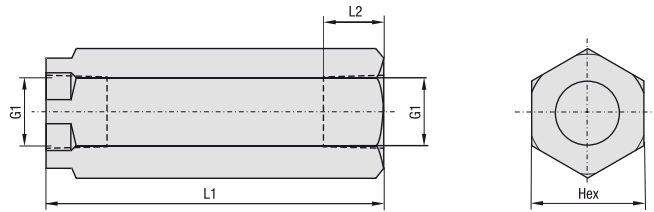
④ Connection

Female BSP thread (ISO 228) **B**
Female NPT thread (ANSI B1.20.1) **N**
Female UN/UNF thread (SAE J514) **S**

⑤ Body Material

Steel (standard option) **-**
Stainless Steel **SS**

Medium-Duty Check Valve ▪ Type RVM (In-Line Assembly)



Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in)			Working Pressure PN (bar/PSI)	Weight (kg/lbs)
		L1	L2	Hex		
RVM-08	G1/4 BSP 1/4 NPT	63,0	12,5	22	400	0,17
		2.48	.49	.87	5800	.38
RVM-10	G3/8 BSP 3/8 NPT	69,0	12,5	27	400	0,26
		2.72	.49	1.06	5800	.58
RVM-12	G1/2 BSP 1/2 NPT	80,5	15,5	32	400	0,42
		3.17	.61	1.26	5800	.93
RVM-16	G3/4 BSP 3/4 NPT	99,5	17,0	36	400	0,61
		3.92	.67	1.42	5800	1.36

Characteristics

Allows a single-directional flow only

Features

- Designed for in-line assembly with female BSP and NPT threaded connections
- Ideal for medium-duty applications
- Metal-to-metal seat

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

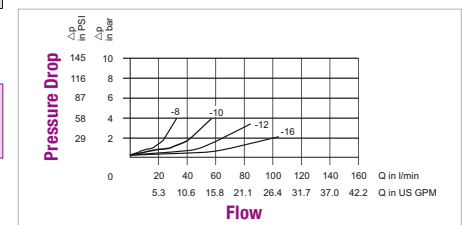
Materials

- Body made of Steel, zinc/nickel-coated (free of hexavalent chromium CrVI)
- Ball made of Stainless Steel

Technical Data

- Opening pressure: 0,5 bar / 7 PSI
- Field replaceable springs with a pressure setting of 2 bar / 30 PSI or 4 bar / 60 PSI
- Maximum working pressure: 400 bar / 5800 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Flow Characteristics



Order Codes

RVM	-	12	-	07	-	B
①		②		③		④

① Type

Medium-Duty Check Valve (In-Line Assembly) **RVM**

② Nominal Size DN

08 **10** **12** **16**

③ Opening Pressure

0,5 bar / 7 PSI (standard option) **07**
2 bar / 30 PSI **30**
4 bar / 60 PSI **60**

Consult STAUFF for alternative opening pressures.

④ Connection

Female BSP thread (ISO 228) **B**
Female NPT thread (ANSI B1.20.1) **N**

Accessories / Spare Parts

Field replaceable springs

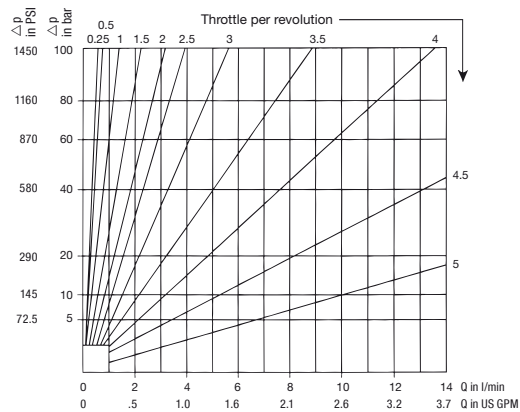
- for RVM-08 (setting of 2 bar / 30 PSI): **RVM-08-30**
- for RVM-08 (setting of 4 bar / 60 PSI): **RVM-08-60**
- for RVM-10 (setting of 2 bar / 30 PSI): **RVM-10-30**
- for RVM-10 (setting of 4 bar / 60 PSI): **RVM-10-60**
- for RVM-12 (setting of 2 bar / 30 PSI): **RVM-12-30**
- for RVM-12 (setting of 4 bar / 60 PSI): **RVM-12-60**
- for RVM-16 (setting of 2 bar / 30 PSI): **RVM-16-30**
- for RVM-16 (setting of 4 bar / 60 PSI): **RVM-16-60**

Consult STAUFF for alternative pressure settings.

Nominal Flow Rate vs. Pressure Drop

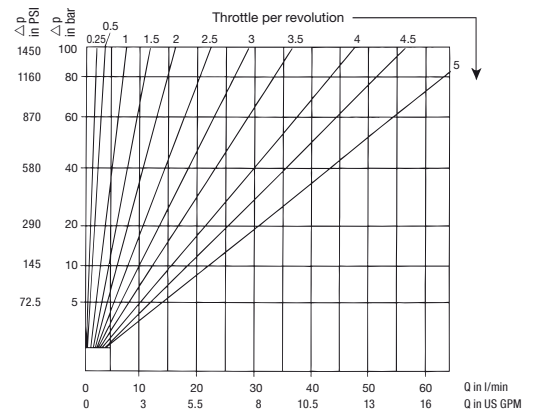
DV
DRV
DVP
DRVP
DVE

DN 06



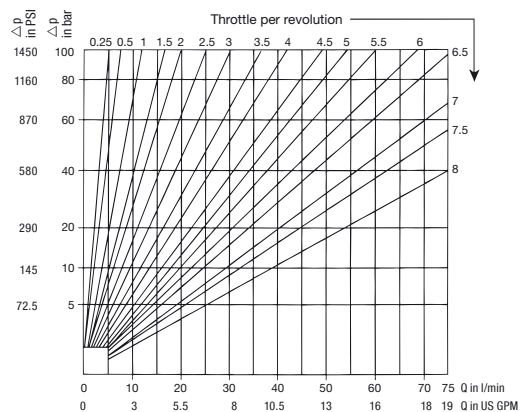
DV
DRV
DVP
DRVP
DVE

DN 08



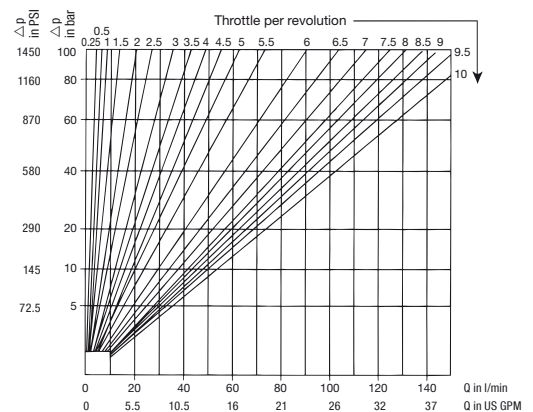
DV
DRV
DVP
DRVP
DVE

DN 10



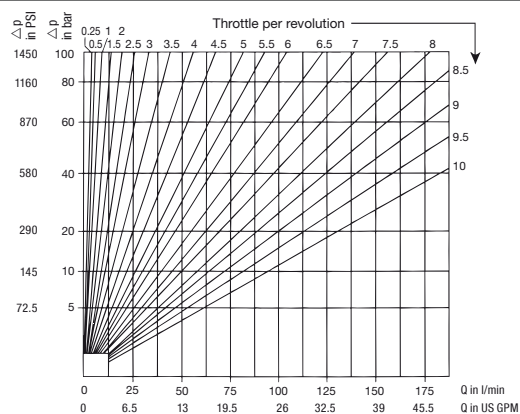
DV
DRV
DVP
DRVP
DVE

DN 12



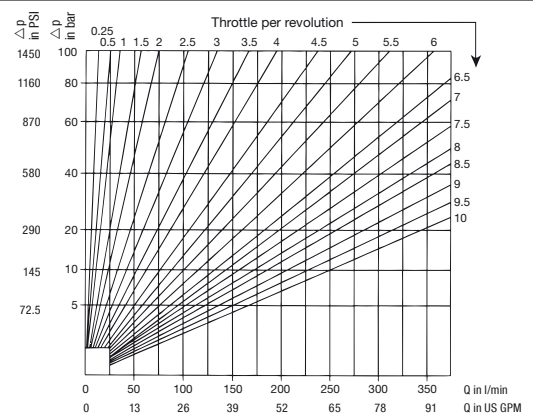
DV
DRV
DVP
DRVP
DVE

DN 16



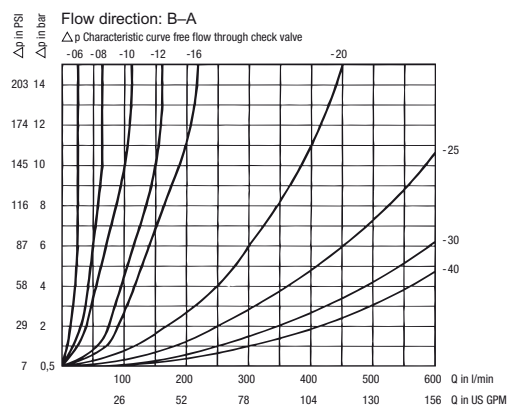
DV
DRV
DVP
DRVP
DVE

DN 20-40

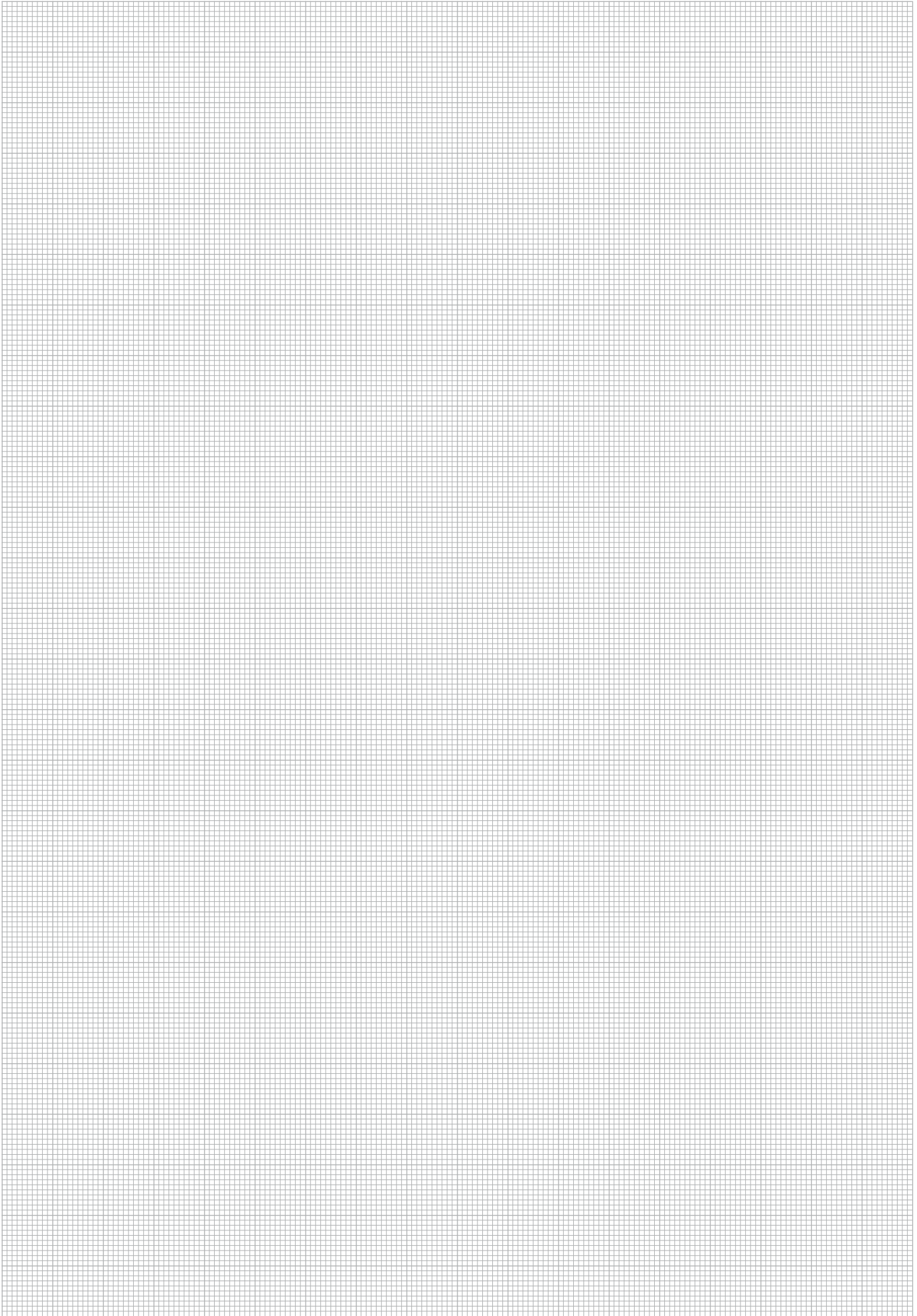


DRV
DRVP
RV

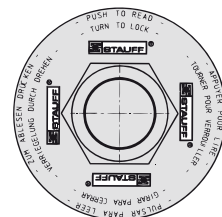
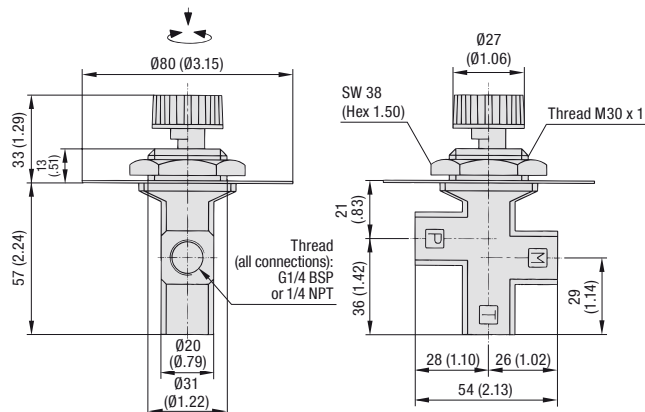
DN 06-40



Please note: The flow characteristics mentioned on this page are valid for mineral oils with a density of 0,86 kg/dm³ and the kinematic viscosity of 35 mm²/s (35 cSt). The characteristics have been determined in accordance to ISO 3968.



Gauge Isolator Valve ▪ Type SWS-S1 (Single Station)



Characteristics

Effective protection of pressure gauges against overload caused by pressure peaks

Features

- Suitable for panel installation
- Max. panel thickness of 5 mm / .20 in
- Fixed with hexagonal nut
- Push button to read and turn to lock
- Multilingual instructions printed on face plate

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body made of Cast Iron
- Spindle made of Steel
- Push / turn button made of Polyamide (PA)
- Face plate made of Aluminium
- O-rings made of NBR (Buna-N®)

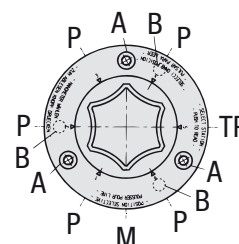
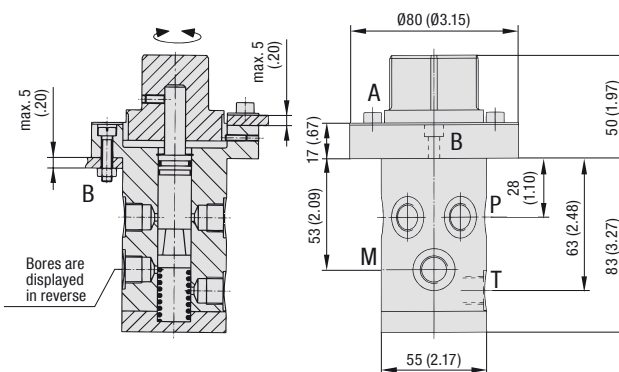
Technical Data

- Maximum working pressure: 400 bar / 5800 PSI
- Operating temperature range: -30 °C ... +115 °C / -22 °F ... +239 °F

Order Codes

①	②	③
SWS	B04	S1
① Type	Gauge Isolator Valve SWS	
② Connection Thread	G1/4 BSP (for all connections) B04 1/4 NPT (for all connections) N04	
③ Style	Single station S1	

Gauge Isolator Valve ▪ Type SWS-M (Multi Station)



Mounting Bores (ø6 mm / .24 in)

A 3 bores, equally spaced (120°), BCD ø65 mm / 2.56 in

B 3 bores, equally spaced (120°), BCD ø65 mm / 2.56 in

Connections (G1/4 BSP or 7/16-20 UNF)

P 6 bores, equally spaced (60°)

M 1 bore

T 1 bore

Characteristics

Pressure measurement on six positions in the hydraulic circuit with only one pressure gauge

Features

- Suitable for bulkhead installation
- Max. panel thickness of 5 mm / .20 in
- Fixed with connection flange and screws: 3 hexagon head bolts M5 x 10 (DIN 933) for mounting the printed panel and 3 socket cap screws M5 x 25 (DIN 912) with washers (DIN 127) and nut (DIN 934) for panel installation included in delivery
- Turn button to select position of measurement
- Multilingual instructions printed on panel

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body made of Cast Iron
- Spindle made of Steel
- Push / turn button made of Polyamide (PA)
- Face plate and end cover made of Aluminium
- O-rings made of NBR (Buna-N®)

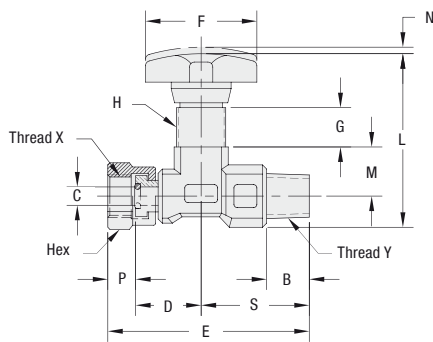
Technical Data

- Maximum working pressure: 400 bar / 5800 PSI
- Operating temperature range: -30 °C ... +115 °C / -22 °F ... +239 °F

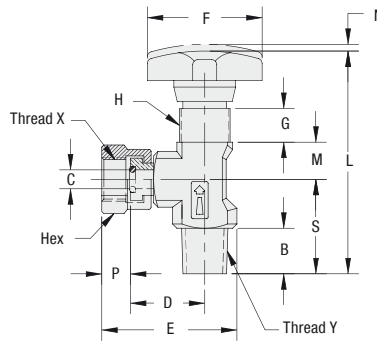
Order Codes

①	②	③
SWS	B04	M
① Type	Gauge Isolator Valve SWS	
② Connection Thread	G1/4 BSP for all connections B04 7/16-20 UNF (1/4" SAE) for all connections U04	
③ Style	Multi station M	

Gauge Isolator Needle Valve - Types SWS-A1/A2 (Single Station)



In-Line Version



90° Version



Dimensions

Type	Thread X (Female)	Thread Y (Male)	Dimensions (mm/in)														Weight (kg/lbs)
			B	C	D	E	F	G	H	L	M	N	P	S	Hex		
SWS-A1	G1/4 BSP 1/4 NPT	1/4 BSPT 1/4 NPT 7/16–20 UNF (1/4" SAE)	13	5,6	20	61,5	34	12	M15x1	53	15	2	8,5	33	18	0,13	
			.51	.22	.78	2.42	1.34	.47		2.09	.59	.08	.33	1.30	.71	.22	
SWS-A2	G1/4 BSP 1/4 NPT	1/4 BSPT 1/4 NPT	13,5	5,6	22	40	34	10	M15x1	66	11	2	8,5	28	18	0,11	
			.53	.22	.87	1.57	1.34	.39		2.60	.43	.08	.33	1.10	.71	.44	

Order Codes

SWS - **B04** - **A1** - **PM**

① ② ③ ④

① Type

Gauge Isolator Valve **SWS**

② Connection Threads

Female G1/4 BSP and Male 1/4 BSPT **B04**
 Female 1/4 NPT and Male 1/4 NPT **N04**
 Female 1/4 NPT and Male 7/16-20 UNF (1/4" SAE) **S04**
 (only available for in-line version)

③ Style

Single station, in-line version **A1**
 Single station, 90° version **A2**

④ Panel Mounting Kit

Without panel mounting kit (standard option) **-**
 With panel mounting kit **PM**

Characteristics

Effective protection of pressure gauges against overload caused by pressure peaks

Features

- Designed for in-line assembly (type A1) or 90° assembly (type A2) with female BSP / male BSPT, female NPT / male NPT or female NPT / male SAE threaded connections
- Panel mounting nuts available on request
- Rotating swivel nut allows for accurate orientation of the pressure gauge

Materials

- Body made of Steel, zinc/nickel-coated (free of hexavalent chromium CrVI)
- Spindle made of Steel
- Hand-wheel made of Polyamide (PA)
- O-rings made of NBR (Buna-N®)
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data

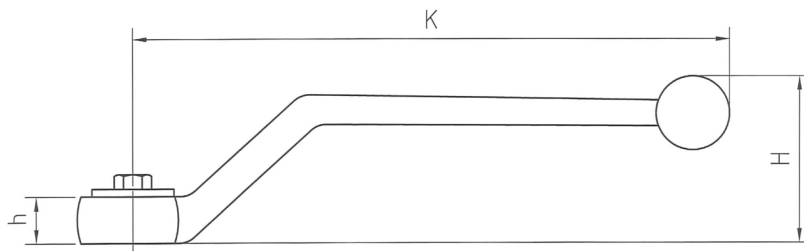
- Maximum working pressure: 400 bar / 5800 PSI (for all sizes)
- Operating temperature range: -20°C ... +100°C / -4°F ... +212°F

Pressure Gauges

Please see pages **D4** to **D11** of the **Diagtronics** section of this product catalogue for details on our full range of analog and digital pressure measurement equipment.



Levers



Zinc ▪ Off-Set Design

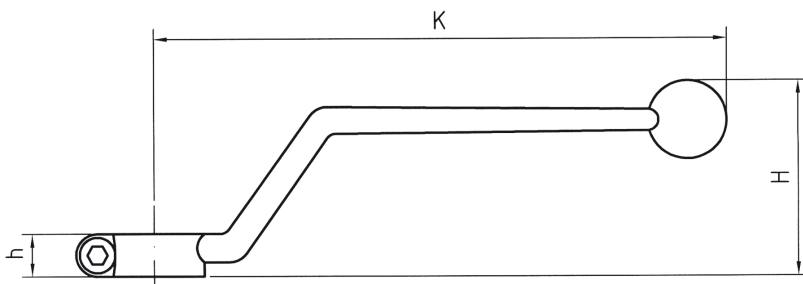
SW	Dimensions (mm/in)			Weight (kg/lbs)	Order Codes
7	80	6,5	30	0,03	SW7/OS-ZN
	3.15	.26	1.18	.07	
9	115	8,7	45	0,09	SW9/OS-ZN
	4.52	.34	1.77	.20	

Steel ▪ Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/lbs)	Order Codes
7	80	6,5	30	0,05	SW7/OS-S
	3.15	.26	1.18	.11	
9	115	9	47	0,09	SW9/OS-S
	4.52	.35	1.85	.20	
14	117	12	64	0,23	SW14/OS-S
	4.61	.47	2.52	.51	
17	306	17	80	0,66	SW17/OS-S
	12.04	.69	3.15	1.45	

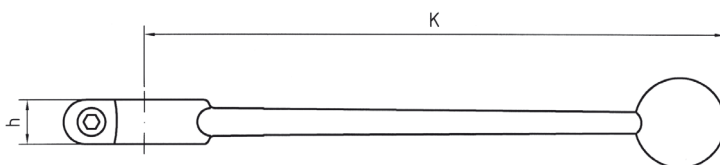
Stainless Steel V4A ▪ Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/lbs)	Order Codes
7	60	6,5	22	0,04	SW7/OS-SS
	2.36	.26	.87	.09	
9	115	9	47	0,10	SW9/OS-SS
	4.52	.35	1.85	.22	
14	173	12	64	0,23	SW14/OS-SS
	6.8	.47	2.52	.51	
17	227,5	15	90	0,66	SW17/OS-SS
	8.96	.59	3.54	1.45	



Aluminium ▪ Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/lbs)	Order Codes
12	160	12	55	0,07	SW12/OS-AL
	6.30	.47	2.17	1.54	



Zinc ▪ Straight Design

SW	Dimensions (mm/in)		Weight	Order Codes
	K	h	(kg/lbs)	
9	155	10	0.09	SW9/ST-ZN
	6.10	.29	.20	
14	200	14	0.22	SW14/ST-ZN
	7.87	.55	.48	

Aluminium ▪ Straight Design

SW	Dimensions ^(mm/in)		Weight	Order Codes
	K	h	(kg/lbs)	
9	150	11	0,06	SW9/ST-AL
	5.91	.43	.13	
14	200	12	0,11	SW14/ST-AL
	7.87	.47	.24	
17	320	16	0,27	SW17/ST-AL
	12.60	.63	.59	

Locking Device ■ Type LD1

Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in)		Order Codes
B	L1			
4-13	9	9	25	LD1-SW9
		.35	.98	
16	12	12	40	LD1-SW12
		.47	1.57	
20-25	14	14	40	LD1-SW14
		.55	1.57	
32-50	17	17	50	LD1-SW17
		.67	1.97	

Characteristics

Locking kit consisting of shackle, sliding sleeve, link with screw and Steel lever.

Features

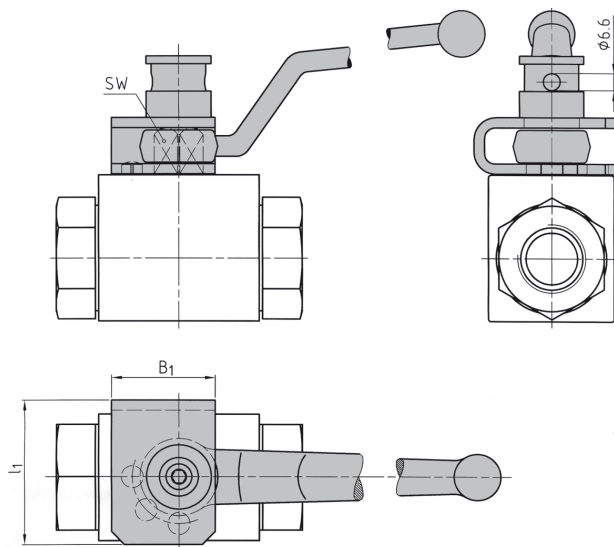
- Universal field-installed locking device
- High security: Cannot be dismantled when locked

Suitability

Type	Description	Page
BBV	Block Body Valve with Threaded Connections (SW 9-14)	F4-F7
FBV	Forged Body Valve with Threaded Connections (SW 17)	F8-F11
HBV	High-Pressure Block Body Valve with Threaded Connections (SW 9-14)	F12-F13
BBV22/23	Block Body Valve with SAE Split Flange Connections (SW 9-14)	F14-F15
FBV22/23	Forged Body Valve with SAE Split Flange Connections (SW 17)	F16-F17

Type	Description	Page
BBV	Block Body Valve with SAE Flange Connections (SW 9-14)	F18-F19
FBV	Forged Body Valve with SAE Flange Connections (SW 17)	F20-F21
BBV25	Block Body Valve (Two-Way Selector) for Manifold Mounting (SW 9-17)	F36-F37
BBV35	Block Body Valve (Three-Way Selector) for Manifold Mounting (SW 9-17)	F38-F39
BBVS35	Block Body Valve (Three-Way Selector) for Manifold Mounting (SW 9-17)	F40-F41

Type	Description	Page
CBV	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)	F42-F45
CBVS	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)	F48-F51



Locking Device ■ Type LD2

Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in)				Order Codes
H	B1	B2	B3			
4-8	9	3,5	61	24	10	LD2-DN4-8
		.14	2.41	.94	.39	
10-13	9	3,5	61	24	10	LD2-DN10-13
		.14	2.41	.94	.39	
16	12	4,5	64	25,5	12	LD2-DN16
		.18	2.52	1.00	.47	
20-25	14	4,5	84	35,5	14	LD2-DN20-25
		.18	3.31	1.40	.55	
32-50	17	4,5	136	61,5	15	LD2-DN32-50
		.18	5.35	2.42	.59	

Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features

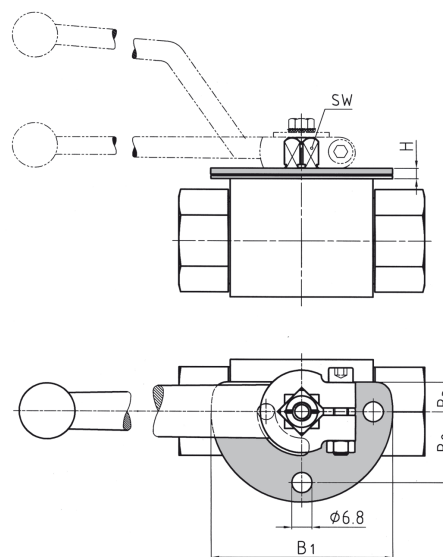
- Field-installed locking device
- Can be dismantled after disassembly of lever

Suitability

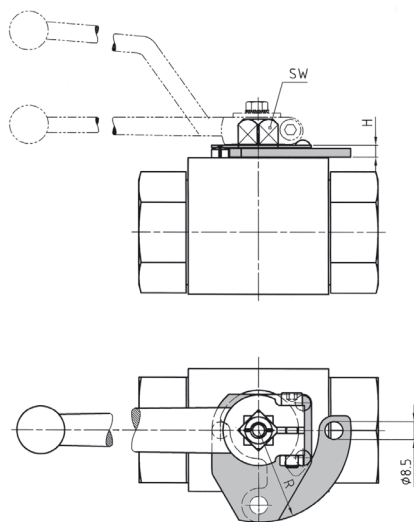
Type	Description	Page
BBV	Block Body Valve with Threaded Connections (SW 9-14)	F4-F7
FBV	Forged Body Valve with Threaded Connections (SW 17)	F8-F11

Type	Description	Page
BBV22/23	Block Body Valve with SAE Split Flange Connections (SW 9-14)	F14-F15
FBV22/23	Forged Body Valve with SAE Split Flange Connections (SW 17)	F16-F17

Type	Description	Page
CBV (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections	F42-F45



Locking Device ■ Type LD3



Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in)		Order Codes
4-13	9	H	R	LD3-SW9-SS
		4	37	
16	12	4,3	40	LD3-SW12-SS
		.16	1.47	
20-25	14	5,5	43,5	LD3-SW14-SS
		.22	1.71	
32-50	17	6	69,5	LD3-SW17-SS
		.24	2.74	

Characteristics

Only available in combination with suitable ball valve.

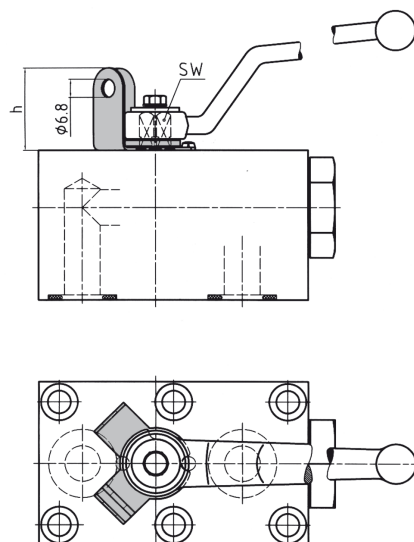
Features

- Factory-installed locking device
- High security: Cannot be dismounted when locked

Suitability

Type	Description	Page	Type	Description	Page	Type	Description	Page
BBV	Block Body Valve with Threaded Connections	F4-F7	FBV	Forged Body Valve with Threaded Connections	F8-F11	CBV (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections	F42-F45

Locking Device ■ Type LD4



Dimensions / Order Codes

SW	Dimensions (mm/in)	Order Codes
7	H	LD4-SW7-SS
	24	
9 *	.94	LD4-SW9-SS
	28	
14 *	1.10	LD4-SW14-SS
	34,5	
17	1.36	LD4-SW17-SS
	44	
	1.73	

* Lever displaced by 180°

Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features

- Universal field-installed locking device (for off-set lever)
- Can be dismounted after disassembly of lever

Suitability

Type	Description	Page	Type	Description	Page
BBV	Block Body Valve with Threaded Connections	F4-F7	BBV25	Block Body Valve (Two-Way Selector) for Manifold Mounting	F36-F37
FBV	Forged Body Valve with Threaded Connections	F8-F11	BBV35	Block Body Valve (Three-Way Selector) for Manifold Mounting	F38-F39
HBV	High-Pressure Block Body Valve with Threaded Connections	F12-F13	BBVS35	Block Body Valve (Three-Way Selector) for Manifold Mounting	F40-F41
BBV29	Round Body Valve with Direct SAE Flange Connections	F22-F23	CBV	Block Body Valve (Three-Way Selector) with Threaded Connections	F42-F45
BBV2D	Round Body Valve with ISO Flange Connections	F28-F29	CBV	Block Body Valve (Three-Way Selector) with SAE Flange Connections	F46-F47
BBV2Y	Round Body Valve with CETOP Flange Connections	F30-F31	CBVS	Block Body Valve (Three-Way Selector) with Threaded Connections	F48-F51
			LBV	Block Body Valve (Three-Way Selector) with Threaded Connections	F52-F55
			TBV	Block Body Valve (Three-Way Selector) with Threaded Connections	F56-F59
			TBV	Block Body Valve (Four-Way Selector) with Threaded Connections	F60-F63
			XBV	Block Body Valve (Four-Way Selector) with Threaded Connections	F64-F67

Locking Device ■ Type LD5A

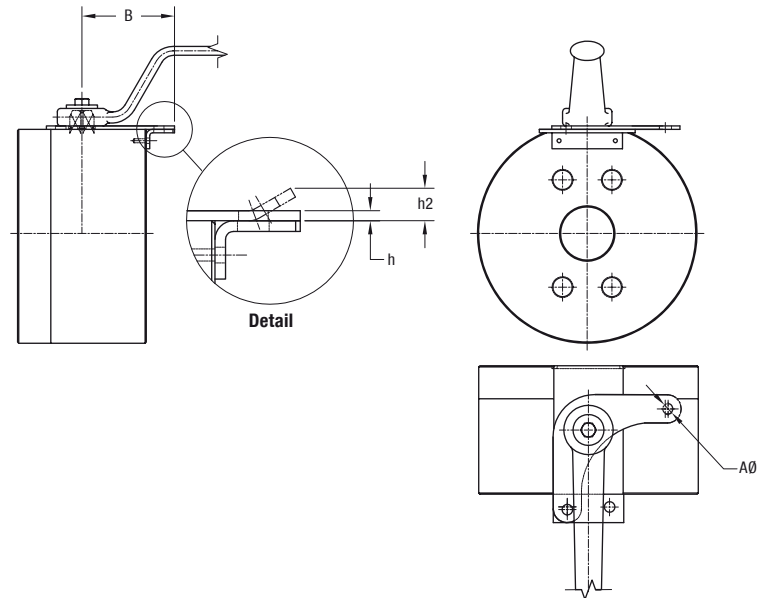
Dimensions / Order Codes

STAUFF Size	SW	Dimensions (mm/in)				Order Codes
08	12	8,5 .33	59 2.32	2 .08		LD5A-SW12
12-16	14	8,5 .33	64 2.52	2 .08		LD5A-SW14
20-32	17	9,5 .37	83 3.27	2 .08		LD5A-SW17
40	16	9,5 .37	102 4.01	3 .12		LD5A-40
48	19	9,5 .37	93 3.66	27 1.06		LD5A-48
64	24	9,5 .37	113 4.45	3 .12		LD5A-64
80	36	9,5 .37	134 5.28	3 .12		LD5A-80

Suitability

Type	Description	Page
BBV29	Round Body Valve	F22-F23
BBV27/28	Round Body Valve	F24-F25
BBVF	Round Body Valve	F22-F23

Please consult STAUFF for use with types BBV2D (direct ISO 6164 flange connection) and BBV2Y (direct CETOP flange connection).



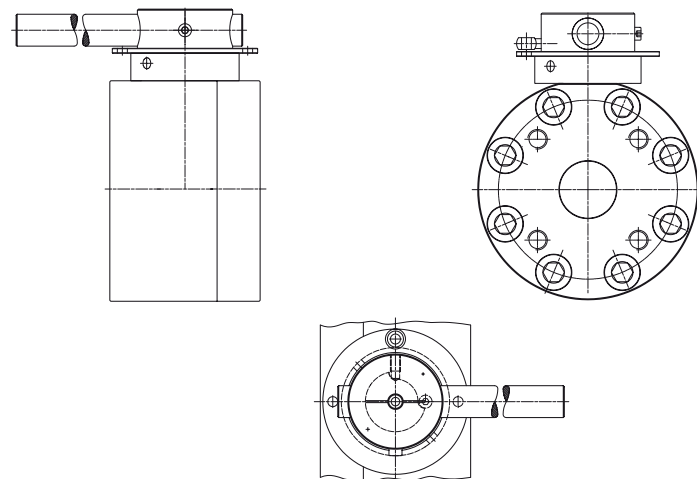
Locking Device ■ Type LD5B

Order Codes

STAUFF Size	SW	Order Codes
40	16	LD5B-40
48	19	LD5B-48
64	24	LD5B-64

Suitability

Type	Description	Page
BBV27/28	Round Body Valve with Direct SAE Flange Connections	F24-F25
BBVF	Round Body Valve with DIN Flange Connections with Butt Weld Ends	F26-F27
BBV2Y	Round Body Valve with Direct ISO 6164 Flange Connection	F28-F29
BBV2D	Round Body Valve with Direct CETOP Flange Connection	F30-F31



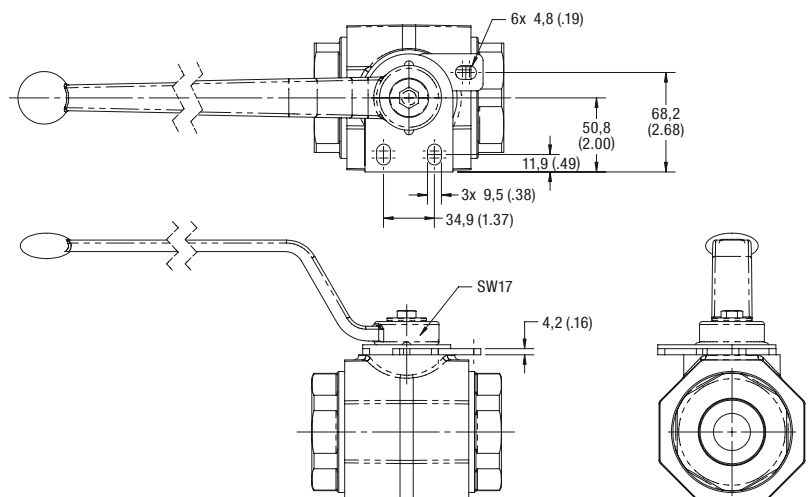
Locking Device ■ Type LD6

Order Codes

Nominal Size DN	SW	Order Codes
20-32	17	LD6-SW17

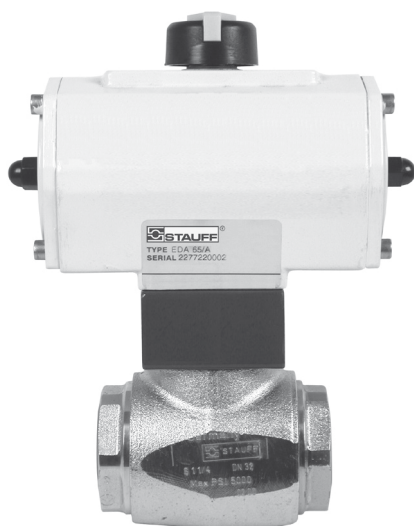
Suitability

Type	Description	Page
FBV	Forged Body Valve with Threaded Connections	F8-F11
FBV22/23	Forged Body Valve with SAE Split Flange Connections	F16-F17
FBV	Forged Body Valve with SAE Flange Connections	F20-F21



Double-Acting Pneumatic Actuators ▪ Type EDA

Single-Acting Pneumatic Actuators ▪ Type ESA



Most STAUFF ball valves can be factory-mounted to compact, efficient double-acting or single-acting pneumatic actuators for both high-pressure and low-pressure applications.

The actuators feature simple, robust construction and are suitable for applications with high cycle requirements.

Please note: The minimum air supply for STAUFF actuators is usually 5,5 bar / 80 PSI. They are designed for 90° open / close applications only and should not be used for valve throttling.

Select the size of your pneumatic actuator from the selection charts on the right and consult STAUFF for further information.

Limit Switches



Limit Switches:

Code: -LS

Code: -PX

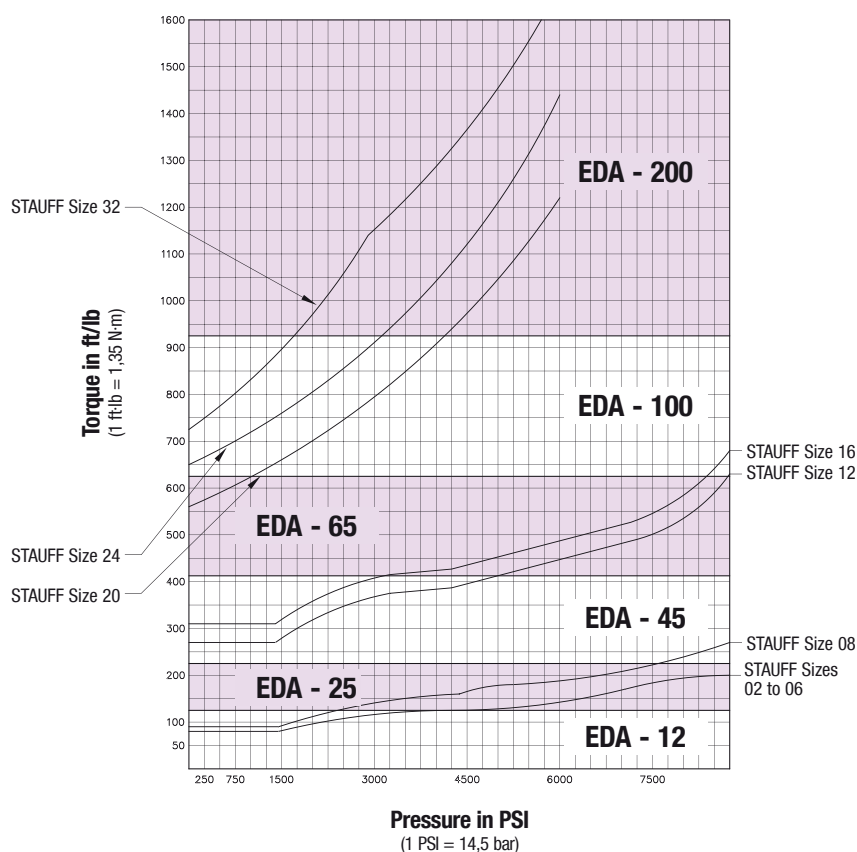
Available options:

- open (O)
- closed (C)
- open/closed (OC)

Please consult STAUFF for further information.

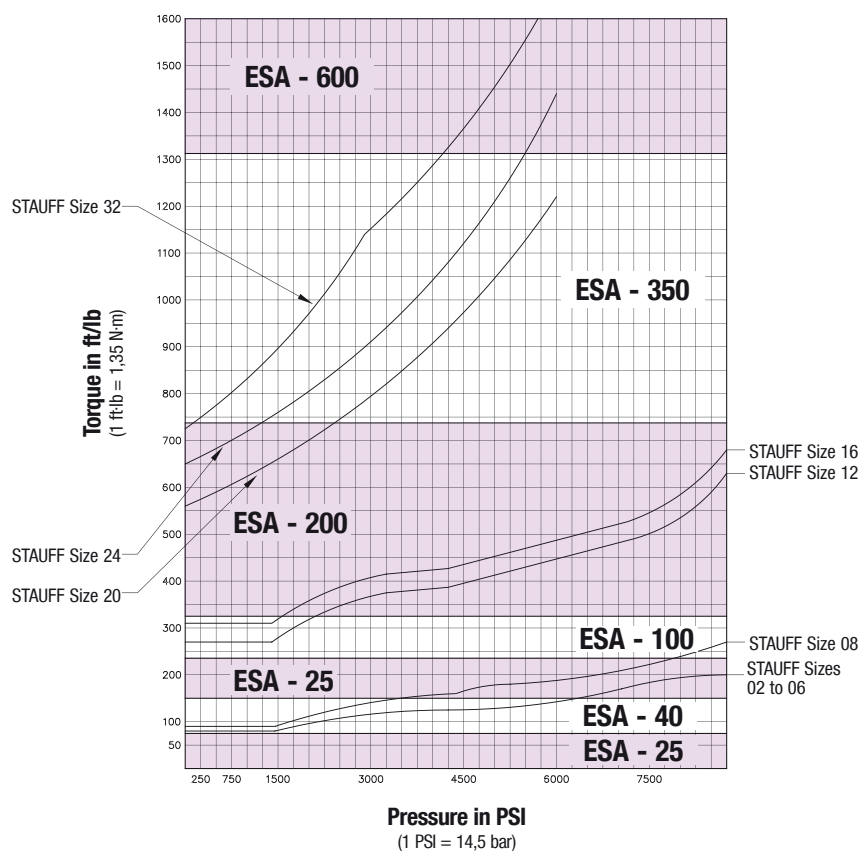
Selection Chart for Double-Acting Pneumatic Actuators EDA

for Two-Way Ball Valves used with Standard Mineral Oil according to DIN 51524 T1 and T2



Selection Chart for Single-Acting Pneumatic Actuators ESA

for Two-Way Ball Valves used with Standard Mineral Oil according to DIN 51524 T1 and T2



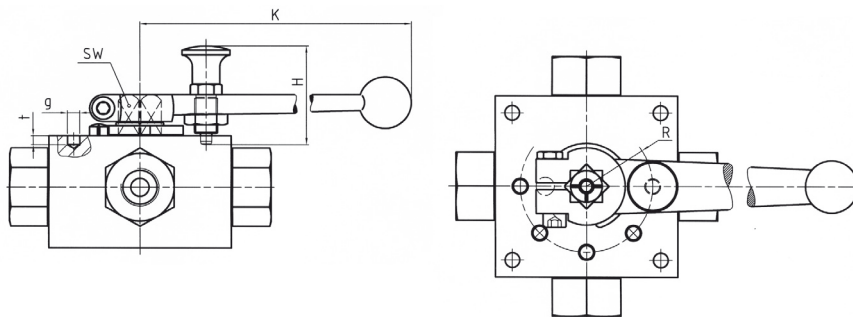
Ball Valves with Detent ▪ Type DT...

Dimensions

Multi-Way Ball Valves (Types LBV / TBV / XBV)

Order Example
LBV3G060001M-DT...

STAUFF Size	Nominal Size DN	Dimensions (mm/in)					
		SW	K	H	R	g	t
02	4	12	175	45	20	6	7
		.47	6.89	1.77	.79	.24	.28
04	6	12	175	45	20	6	7
		.47	6.89	1.77	.79	.24	.28
05	8	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
06	10	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
08	13	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
10	16	17	200	45	29	6	4
		.67	7.87	1.77	1.14	.24	.16
12	20	17	240	45	28	6	4
		.67	9.45	1.77	1.10	.24	.16
16	25	17	240	45	28	6	4
		.67	9.45	1.77	1.10	.24	.16



Please consult STAUFF for further information.

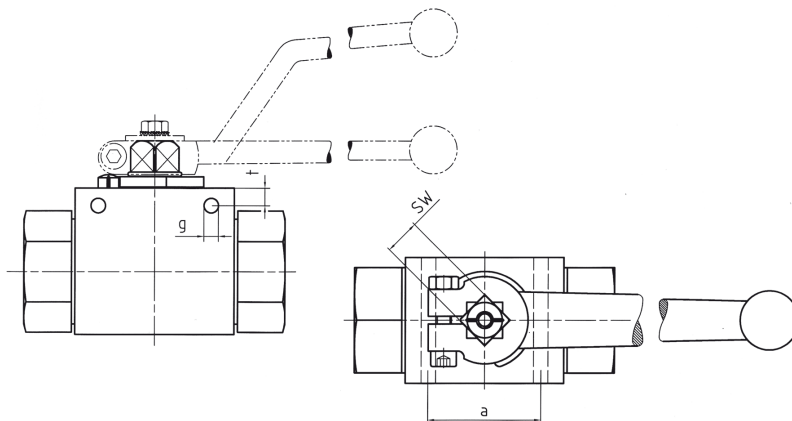
Ball Valves with Assembly Holes ▪ Type SMH

Dimensions

Block Body Ball Valves (Types BBV / CBV / CBVS)

Order Example
BBV2G060001M-SMH

STAUFF Size	Nominal Size DN	Dimensions (mm/in)			
		SW	a	g	t
02	4	9	31	4,3	4,5
		.35	1.22	.17	.18
04	6	9	31	4,3	4,5
		.35	1.22	.17	.18
05	8	9	31	4,3	4,5
		.35	1.22	.17	.18
06	10	9	32	4,3	4
		.35	1.26	.17	.16
08	13	9	32	4,3	4
		.35	1.26	.17	.16
10	16	12	32	5,2	6
		.47	1.26	.20	.24
12	20	14	44	6,2	6
		.55	1.73	2.44	.24
16	25	14	44	6,3	6
		.55	1.73	.25	.24



Please consult STAUFF for further information.

Ball Valves with Assembly Threads ▪ Type PM

Dimensions

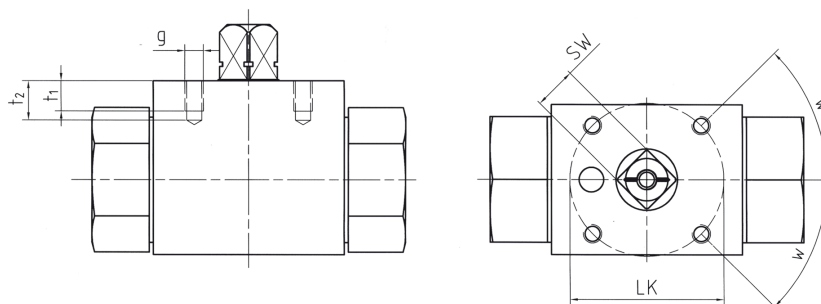
Block Body Ball Valves (Types BBV / HBV / CBV / CBVS up to STAUFF Size 16)

Forged Body Ball Valves (Types FBV from STAUFF Size 20 on)

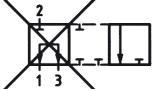
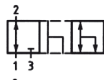
Order Example
BBV2G060001M-PM

STAUFF Size	Nominal Size DN	Dimensions (mm/in)							ISO 5211
		SW	LK	g	t1	t2	w		
02	4	9	36	M5	6	7,5	30°*	F03*	
		.35	1.42		.24	.30			
04	6	9	36	M5	6	7,5	30°*	F03*	
		.35	1.42		.24	.30			
05	8	9	36	M5	6	7,5	30°*	F03*	
		.35	1.42		.24	.30			
06	10	9	36	M5	7	9	45°	F03	
		.35	1.42		.28	.35			
08	13	9	36	M5	6	8	45°	F03	
		.35	1.42		.24	.31			
10	16	12	42	M5	8	10	45°	F04	
		.47	1.65		.31	.39			
12	20	14	50	M6	10	14	45°	F05	
		.55	1.97		.39	.55			
16	25	14	50	M6	10	12	45°	F05	
		.55	1.97		.39	.47			
20	32	17	50	M6	8	12	45°	F05	
		.67	1.97		.31	.47			
24	40	17	50	M6	8	12	45°	F05	
		.67	1.97		.31	.47			
32	50	17	50	M6	8	12	45°	F05	
		.67	1.97		.31	.47			

* 30° is not corresponding to ISO 5211
Please consult STAUFF for further information.



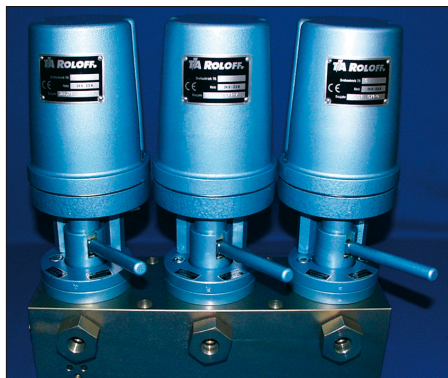
Alternative Porting Patterns

Type	Symbol	Porting Pattern		Stop of End Position	Operating Angle	Overlap
BBV35	LLu		58-BBV35		90°	negative
BBVS358	Lu		57-BBVS35		180°	negative
* Pressure inlet possible from all ports! Must be operated without pressure!						
CBV	L		50-CBV		90°	negative
	T		51-CBV		90°	negative
CBVS	L		55-CBVS *		90°	negative
	T		56-CBVS *		90°	negative
* Pressure inlet possible from all ports! Must be operated without pressure!						
Not Allowed	T					
Three-Way LBV/ TBV with Stop of End Position	L		01		90°	positive
	T		02		90°	positive
	LL		03		45°	negative
	TL		04		45°	negative
	LI		06		90°	negative
	TL		08		90°	negative
	TI		09		90°	negative

Alternative Porting Patterns

Type	Symbol	Porting Pattern	Stop of End Position	Operating Angle	Overlap
Four-Way TBV / XBV with Stop of End Position	T		13		90° positive
	X		16		90° negative with closed position
	X		15		45° negative
	XI		16		45° negative
	XI		17		90° negative
	LI		18		90° negative
	XT		19		90° negative
	TL		21		90° negative
	XL		22		90° negative
	XL		23		90° negative
	L		24		180° positive

Highest-Pressure Ball Valves



800 bar / 1200 PSI ball valve combination for alternating pressure demands from 6 bar / 87 PSI up to 800 bar / 12000 PSI working in a hose testing plant.

The STAUFF range of valves have stood the test of time for ultra high pressure applications up to 800 bar / 12000 PSI.

The high demands on ball valves will be maintained through the utilisation of high quality STAUFF specified materials. The extreme loads on the seals caused by the high pressures will be absorbed by a special chambering of the seals. Additionally the sealing system is protected against erosion and therefore rapid wear.

The ball valves are utilised in Test Stations, Steel Works, Cleaning and Cutting Systems.



Ball valve for a test bed: The customers demand was to apply high pressure and great volume to the specimen in a short time.



Descaling of steel sheets and profiles.

These valves are being utilised:

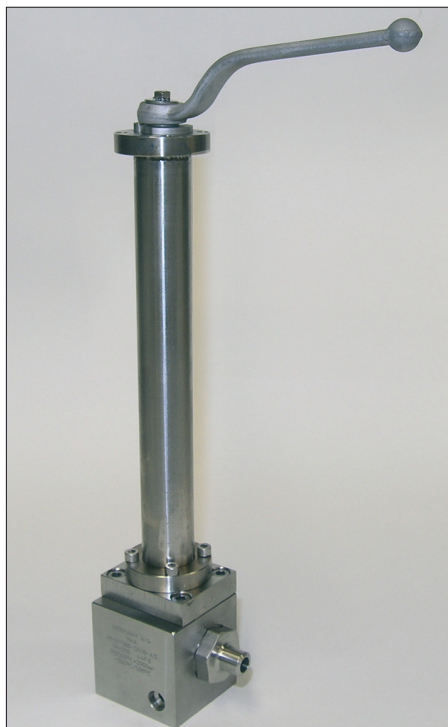
For High pressure water blasting

- internal cleaning of reactors, containers and mixers
- sewer cleaning
- pipe cleaning
- surface treatment like chamfering, descaling, varnish removal

For process and industrial technology

- CO₂ – extraction
- hydroforming
- test bed technology
- water jet cutting systems

High-Temperature Ball Valves



High temperature ball valves with heating elements for polymer production.

In order to provide the many advantages of ball valves in high temperature applications, STAUFF has developed the FBVT series of ball valves.

These valves are designed with a gland packing of special material. This sealing allows applications with high pressure and simultaneously high temperatures.

Up to a temperature of +260 °C / +500 °F high quality plastic seats are being utilised. These are suitable for high pressure and temperature loads due to their proven chambering.

For temperatures up to +500 °C / +932 °F STAUFF has developed a special sealing system with metal seats. Despite the additional demands on compression, wear and corrosion under high temperatures, the leak rate of these ball valves can be compared with standard valves.

Ball Valves for Gas Applications

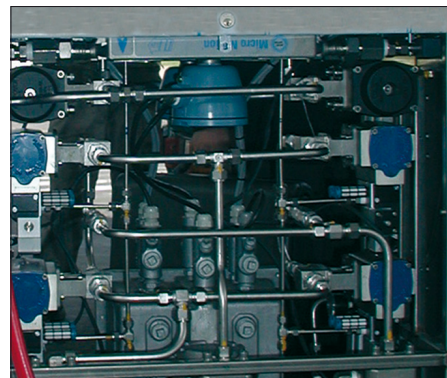
STAUFF ball valves are used for many gas applications, such as:

- General gas supply systems,
- Filling plants,
- compressor stations,
- gas stations,
- analysis equipment

The design follows the Pressure Equipment Directive 97/23/EC.

The ATEX Directive for hazardous location EX II 2G c will be proved in single test on demand.

The materials for body, ball and seals are dependant on the gas and application in consideration of the directives.



Ball valves with pneumatic actuator in gas stations.

Ball Valve Type	DN	PN (bar)	Approved Material Combination	Approved Material Combination for Hazardous Location EXII 2G c (ATEX)
BBV	6 - 25	16	Carbon or Stainless Steel / NBR (Buna-N®)	11aA / 44aA
FBV	32 - 50	16	Carbon or Stainless Steel / NBR (Buna-N®)	21 aA / 44aA
BBV	6 - 25	100	Carbon or Stainless Steel / NBR (Buna-N®)	11 aA / 44aA
BBV	6 - 25	500 / 315*	24HA / 44HA	21aA / 44aA
FBV	32 - 50	315*	24HA / 44HA	24aA / 44aA

* Pressure up to max. allowed nominal pressure of the ball valve

Further ball valves up to DN 200 with flange connector, as well as 3/2-way-selector ball valves, multi-way ball valves and ball valves for manifold mounting and cartridge ball valves are also available.

The requirements and tests are in accordance to DIN 3230 Part 5, test group PG1 or PG2, Material and test certificate DIN EN 10204-3.1, Certification to Pressure Equipment Directive 97/23/EC.

The leaking rate can be proved with a Helium leakage test device up to a leakage rate of 10^{-9} mbar x l/sec.

STAUFF recommends the use of the version with erosion protection ring in order to extend the lifetime of the seats look page F95.

Only if the most important parameters like pressure, medium, temperature, medium concentration and operation cycles are known the best or most suitable material combination and the most economical solution can be offered.

Except the general suggestions for the material combinations the chemical resistance and further directives are to be considered. For Fluids like oxygen, hydrogen, argon, helium and sour gas we request a consultation.

Sour gas application: For fluids with hydrogen sulphide (H₂S) – parts ball valves can be delivered in accordance to the NACE Standard MRO175.



Double block and bleed valve for sampling.



Filter station for the filtration of gases with STAUFF-3-way-selector ball valves for 250 bar / 3600 PSI and +200°C / +392 °F.

Gas stations:

For gas pumps both ball valves with floating ball and with trunnion ball are suitable. Most important for the design are the frequency of operation cycles in use with actuators. Assembling of actuators to ISO 5211 or direct mounting.

Ball valves for analysis techniques and Sampling

Ball valves are deliverable as "double block and bleed valve". Part of this product range are the TALFIRE – ball valves. These ball valves meet the requirements of the TA-Luft (technical directive for clean air). They are used in applications with air pollution substances.

In case of maintenance the gas flow is diverted by a 3-way-selector valve combination allowing the filter elements to be changed. Due to the excellent KV-value this valve is the ideal switch over unit for use in high leak-tightness application.

Ball Valves for Paints and Lacquers



Ball valve application in airless spraying device.

Ball valves for paints and lacquers must be resistant against the varying viscosities and dye particles in the fluid.

The sealing material is the determining factor to guarantee an optimal lifetime. The choice of the seals is depending on the required operating cycles and after consideration of the pressure differential.

In case of operating the ball valve without differential pressure, standard ball seats can be used.

To increase the lifetime we recommend a seat version with erosion protection ring. For a further increase of the lifetime and also a reduction of repair and maintenance time, a metal seat is the best solution.

The specified material combinations are suitable for most applications.

The chemical resistance to the used solvent has to be tested when selecting the ball valve.

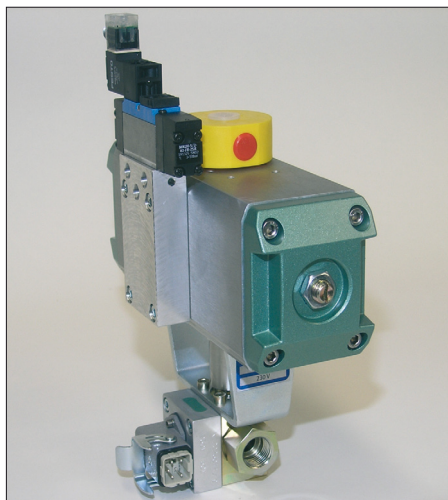
To maintain or repair the valve, it is necessary that the return and non-return lines in colour spraying plants can be blocked off.

Due to the opening of the bypass ball valve, an un-pressurised circulation has to be guaranteed.

The locking or opening of the bypass line is carried out manually, thereby incorrect operation is impossible.



Ball Valves for Isocyanates



Isocyanates react with humidity and develop crystalline particles. To avoid that the isocyanates get in contact with environmental humidity, the ball valves have to be completely leakproof.

On the other hand the crystalline particles in the fluid mustn't damage the ball seats. Special seats are used because standard plastic seats can be damaged by crystalline particles.

With these sealing system from STAUFF a ball valve provides extended lifetime.

These valves are being used in the foaming systems and pasters. Ball valves are also available with heating devices and temperature sensors in order to keep the temperature regulated during the manufacturing process.

Equipped with actuators and limit switches STAUFF ball valves being operated in many instances by robots.

Ball Valves with Fire-Safe Approval



When handling flammable liquids safety must be a prime consideration. Great importance is therefore attributed to the design of "fire-safe" shut-off valves utilized in many industrial environments including:

This is most important for:

- Chemical Plants
- Petrochemical Plants
- Oil Drilling
- On-Shore and Off-Shore Installations
- Oil Refineries

When fire does break out, it is important that it does not spread through failures in pipe-work systems. Even under the most extreme conditions shut-off valves must provide:

- Secure Operation
- Reliable Sealing in shut-off position
- Reliable Sealing to the outside

Due to their quarter turn shut-off design, STAUFF ball valves provide a solution to meet these demands.

Metal seat edges at the ball seats guarantee the sealing function during and after contact with fire, even if the seals themselves are burnt.

In addition both housings and shafts are also sealed with heat resistant seats ensuring their continued operation.

The "fire-safe" test undergone by STAUFF ball valves subjected them to flames and a resulting temperature of +760 °C / +1400 °F where the ball valve is heated to a general temperature of min. +650 °C / +1202 °F.

The STAUFF "fire-safe" design ensured that after this burn period of 30 min. the valves remained operable and that a continued "emergency" sealing of the valve could be guaranteed.

The test conditions under which "fire-safe" requirements are specified are characterised in various international standards.

STAUFF ball valves of the BBV series have been tested successfully according to British Standard BS 6755 T.2, API 6 FA and ISO 10497. The tests were testified by the German TÜV Inspectorate.

At this time, certification as "fire-safe" relates to our BBV series with threaded connections and nominal sizes from DN 25 to DN 50 and the BBV series with flange connections and nominal sizes from DN 25 to DN 125 and within a nominal pressure range from 260 ... 420 bar / 3700 PSI ... PN 6000 PSI.

The material utilized for the soft seals in "fire-safe" valves remains dependant upon the required chemical resistance to suit the fluid, the application and operation conditions.

A wide variety of ball valve terminations are available from STAUFF to suit the individual applications or requirements and additionally other characteristics such as antistatic design can be incorporated within the STAUFF product.

Nomenclature Definitions

Nominal Pressure PN

The nominal pressure indicates the pressure rate of a hydraulic component and continuous dynamic application. The number is rounded up in order to comply with the internationally specified terms.

These nominal pressure values are internationally recognised and assist to appoint common component dimensions. For all ball valves conform to a design and test pressure 1.5 x PN according to DIN 3230 T5 and ISO 5108 for body. For ball seats we admit 1,1 x PN.

The nominal pressure specifies the admissible working overpressure at +20 °C / 68 °F. Please consider the pressure reduction at higher temperature.

Maximum Working Pressure P_{max.}

P_{max.} is the maximum working pressure of a component including pressure peaks for limited duration of dynamic application resp. the maximum working pressure which considers temperature reduction ratings.

Burst Pressure P_{Burst}

The safety factor for burst pressure tests is a minimum of 2.4 times the nominal pressure.
 $P_{Burst} = 2.4 \times PN$

Nominal Diameter DN

The nominal diameter is a numeric dimension of mating parts without indication of outer tube diameter or thread size, for example flanges. The nominal diameters match approximately the clear diameter of the ball valves in mm. Reduced diameters are marked by STAUFF with for example DN25/32. That corresponds to the ball valve being DN 25 and the adapter being DN 32.

Leakage Rate

Leakage rate of ball valves with synthetic ball seats: DIN EN 12266 leakage rate A (No visually noticeable leakage during the duration of the test with fluid or air).

Standard Materials

Valve Body, Connections Adapters, Stem and Ball

Material Description	Standard	Temperature Range ¹	Applications
Free Cutting Steel 11SMn30 (formerly 9SMn28K)	1.0715 / DIN EN 10277-3 (SAE 1213)	-20°C ... +120°C -4°F ... +248°F	General oil hydraulics without special requirements on the material
Low Alloy Steel S355J2G3 (formerly St52-3)	1.0570 / DIN EN 10025	-40°C ... +120°C -40°F ... +248°F	General oil and water hydraulics as well as gas applications with special requirements to the yield stress
Stainless Steel X6CrNiMoTi17-12-2 X5CrNiMo17-12-2 X2CrNiMo17-13-2	DIN EN 10088 1.4571 (AISI 316 Ti) 1.4401 (AISI 316) 1.4404 (AISI 316 L)	-200°C ... +200°C -328°F ... +392°F	Special applications in the chemical and power industries with specific requirements on the material and corrosion protection

Ball Seats

Material Description	Trade Name	Temperature Range	Applications
Polyacetal POM	Delrin Hostaform C Ultraform	-30°C ... +100°C -86°F ... +212°F	High pressure and wear resistance, low water absorption, particularly suitable for hydraulic oils, other oils and water based hydraulic fluids
Polytetrafluorethylene PTFE	Teflon Hostflon Fluon	-200°C to +220°C ² -328°F ... +428°F ²	Excellent chemical resistance to almost all fluids, no water absorption, low surface friction. (Suitable for food FDA-US Food and Drug Administration) Higher characteristic compounds available.
Polyvinylidenefluorid PVDF	Dyflon Kynar Solef	-40°C ... +120°C ² -40°F ... +302°F ²	Mechanical properties like Teflon, but higher rigidity and lower thermal stability, resistant to ketones and esters at higher temperatures
Polyetheretherketone PEEK	Arlon Vitrex	-40°C ... +250°C -40°F ... +482°F	Good chemical resistance to many mediums, suitable for steam, high temperature resistance, high wearability
Cast iron GG25	0.60257 DIN 1651	-40°C ... +250°C -40°F ... +482°F	Applications for abrasive fluids

Stem and Adapter Sealing Materials

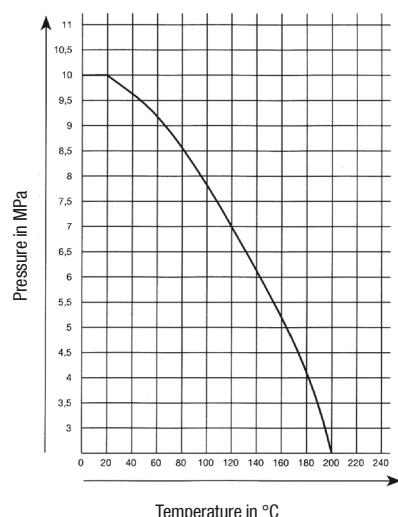
Material description	Trade Name	Temperature Range	Applications
Acrylonitrile Butadiene Rubber NBR	Buna N Perbunan Hycar Chemigum	-30°C ... +100°C -86°F ... +212°F	Good technical properties, therefore especially suitable for oils and gaseous mediums
Fluor Rubber FPM	Viton Fuorel Tecnoflon	-20°C ... +200°C -4°C ... +392°F	High chemical resistance to various mediums, in particular mineral oils, fuels and concentrated acids
Ethylene Propylene Diene Monomer Rubber EPDM	Buna AP Nordel	-50°C ... +130°C -58°C ... 266°F	Good ageing stability, low wear, especially suitable for actylene, brake fluids, hot water, superheated steam, cooling gases, low-flammable liquids based upon Phosphoric acid
Polytetrafluorethylene PTFE	Teflon Hostflon Fluon	-200°C ... +220°C ² -328°F ... +428°F ²	Excellent chemical resistance to almost all fluids, no water absorption, low surface friction. (Suitable for food FDA-US Food and Drug Administration) Higher characteristic compounds available.

¹ General temperature limits: A rating above the indicated limits is possible when the temperature reduction ratings are taken into consideration.

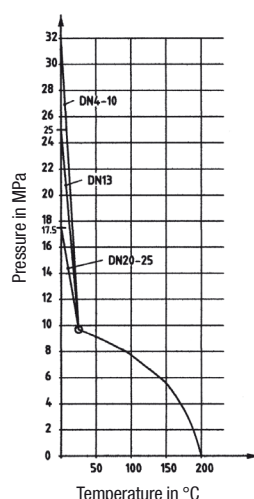
² Pressure / temperature curve must be observed.

Admissible Working Pressures

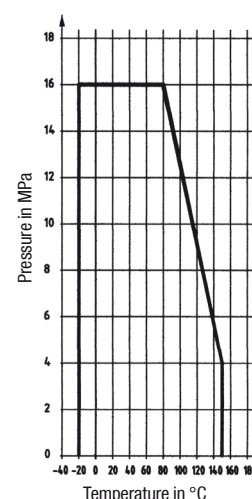
PTFE Ball Seats



PTFE Ball Seats Glass-Fibre Reinforced



PVDV Ball Seats



Zinc/Iron-Coating

Carbon steel products are supplied as standard with a high-quality zinc/iron-coating, which is a CrVI-free is a galvanic plated surface protection, corresponding to all demands according to the valid European regulations of the automobile industry, as well as the RoHS decree.

This surface protection also has a visual effect. It can be easily varnished to suit any product design, if required. The achieved corrosion protection is excellent and more effective than the protection of the yellow chrome-plating. The cathodic remote protective action prevents early occurring corrossions, that are due to handling or assembly damages.

As opposed to yellow plated surfaces zinc/iron-coated surfaces do not lose on corrosion protection with increasing thermal load from +80 ... +90°C / +176 ... +194°F. In the contrary, temperatures from approximately +100°C / +212°F increase the corrosion protection.

- Fe / ZnFe8 / Cn according to DIN 50979
- Approx. 96 hours resistance against white rust in the salt spray test to DIN EN ISO 9227
- Approx. 300 hours resistance against red rust in the salt spray test to DIN EN ISO 9227
- Free of hexavalent chromium Cr(VI)
- RoHS compliant according to 2002/95/EC (Restrictions of the Use of Hazardous Substances)
- ELV compliant according to 2000/53/EC(End of Life Vehicles Directive)

Besides the standard zinc/iron-coating, STAUFF can also supply the following surface coatings or surface treatments for the body materials:

Carbon Steel

- chemically nickel-plated
- varnished

Stainless Steel

- rotary or traction quality
- glass bead blasted
- electro polished
- ceramic finished

Aluminium

- anodised
- hard anodised

Please consult STAUFF for further information.

STAUFF Zinc/Iron-Coating

Approx. **96 hours** resistance against white rust
Approx. **300 hours** resistance against red rust
in the salt spray test to DIN EN ISO 9227



Yellow Zinc Plating

Corrosion clearly visible after **154 hours**
in the salt spray test to DIN EN ISO 9227



Phosphating

Corrosion clearly visible after **19.5 hours**
in the salt spray test to DIN EN ISO 9227



Determination of the Nominal Diameter

Using a Nomogram

This nomogram provides a guide for the determination of the nominal diameter (DN). We recommend to use the following flow rates as a basic guideline:

Suction lines:	0,5 ... 0,8 m/sec (1,5 ... 2,4 ft/sec)
Return lines:	2,0 ... 4,0 m/sec (6,1 ... 12,2 ft/sec)
Pressure lines >10 MPa:	2,0 ... 4,0 m/sec (6,1 ... 12,2 ft/sec)
Pressure lines >50 MPa:	3,0 ... 12,0 m/sec (9,1 ... 36,6 ft/sec)

Example 1

Velocity $v = 8$ m/sec (2,44 ft/sec)
Flow rate $Q = 150$ l/min (40 US GPM)

The straight line linking these two values on the outer scales intersects the nominal diameter DN 20 on the middle scale.

Example 2

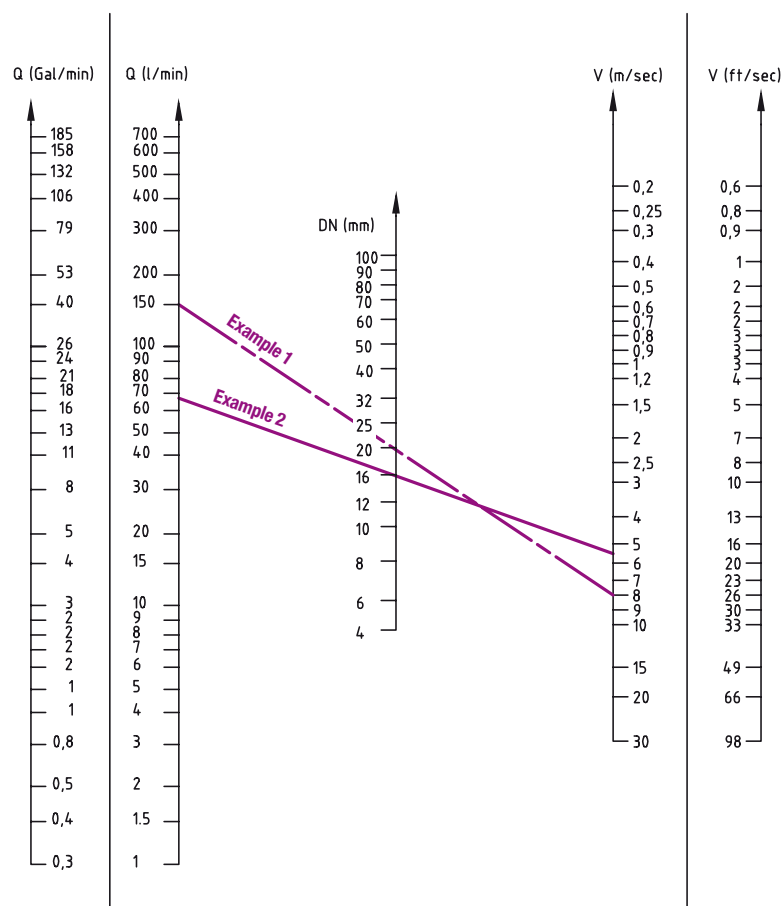
Velocity $v = 5,5$ m/sec (1,68 ft/sec)
Flow rate $Q = 66$ l/min (17 US GPM)

The straight line linking these two values on the outer scales intersects the nominal diameter DN 16 on the middle scale.

Please note:

No allowance is incorporated for the resistance of the pipes, elbows and valves, viscosity, the effect to temperature on viscosity and other factors.

Consult STAUFF for further information.



Determination of the Nominal Diameter

Using a List of Nominal Flow Rates

The indicated flow rates have been determined for ball valves in open position with water at a temperature of +15°C / +60°F.

K_v Coefficient

The nominal flow rate coefficient K_v according to German standard VDI/VDE 2173 indicates the quantity of water in cubic meter per hour (m³/h) at

$$\Delta p = 1 \text{ bar} / 14,5 \text{ PSI and } 35 \text{ mm}^2/\text{s (cSt)} \\ \text{at } +5 \dots +30^\circ\text{C} / +41 \dots +86^\circ\text{F}.$$

C_v Coefficient

The C_v value (which is still common practice in USA) specifies how much US gallons of water flow through the valve per minute (US GPM) at

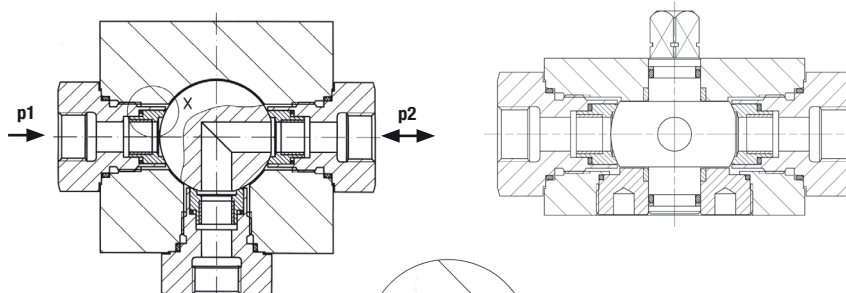
$$\Delta p = 1 \text{ bar} / 14,5 \text{ PSI at } +15^\circ\text{C} / +60^\circ\text{F}.$$

Consult STAUFF for further information.

Nominal Size DN		K_v	C_v
(mm)	(in)	(m³/h)	(US GPM)
15	1/2	19,4	22,6
20	3/4	45,6	53,0
25	1	71,5	83,1
32	1-1/4	105	122,1
40	1-1/2	170	197,7
50	2	275	319,8
65	2-1/2	507	589,5
80	3	905	1052,3
100	4	1414	1644,2
125	5	2362	2746,5
150	6	3694	4295,3

Sealing Variations

Multi-Way Ball Valves

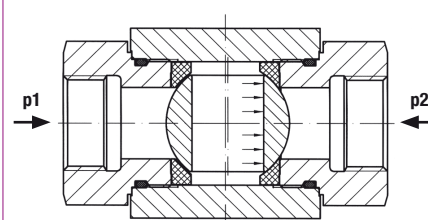


This valve has a trunnion ball.

The sealing element seals from the upstream side. The sealing is guaranteed under all pressure conditions. It is achieved by the sealing element being forced against the ball.

X3:1

Two-Way Ball Valves (Type LBV)

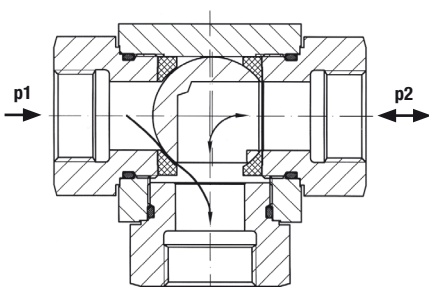


This valve has a floating ball.

The ball seats act as bearing seats for the ball. Sealing is achieved by the ball being pushed against the downstream seal due to the pressure p_1 at .

Without pressure the sealing is guaranteed by the preloading of the sealing elements.

Three-Way Ball Valves (Type CBV)



The selector ball valve has 2 seats and a floating ball.

If the shut-off port is pressurised and p_1 is higher than p_2 , then the ball is being forced against the opposite sealing element.

A gap forms and the ball valve is leaking.

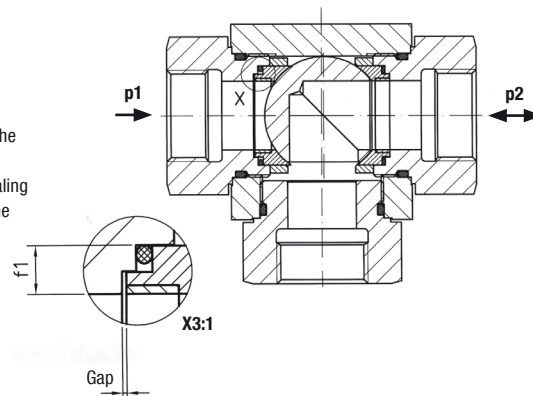
Three-Way Ball Valves (Type CBVS)

The selector ball valve has 2 front side sealing seats and a floating ball.

$p_1 > p_2$

Due to the forming of the ring surface „f1“ and the pressure ($p_1 - p_2$) the left sealing element will be forced against the ball and consequently the sealing is achieved. The „floating“ ball moves against the right sealing surface - the ball valve remains sealed.

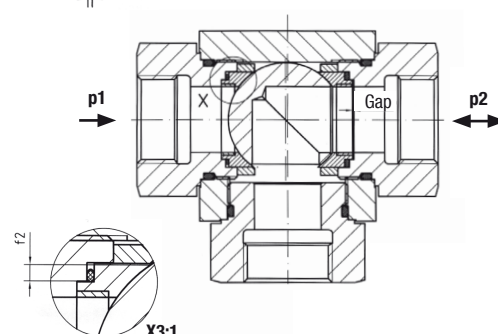
**Pressure inlet possible from all ports!
Must be operated without pressure!**



$p_1 < p_2$

Due to the ring surface „f2“ and the pressure ($p_2 - p_1$) the right sealing element will also be forced against the ball and consequently the sealing is achieved. The „floating“ ball moves against the left sealing surface - the ball valve remains sealed.

**Pressure inlet possible from all ports!
Must be operated without pressure!**



For compressible and abrasive media special protected seats are utilised.

During the first part opening of the ball valve, standard plastic seats are located unprotected in the critical cross sectional area.

During gas applications and with all kinds of compressive media this narrowest cross section can result in a very high flow rate that cause erosion of the seats.

If media contain solids, for example paint, the abrasion risk in the first opening section is extremely high.

Ball valves with standard seats can quickly become inoperative.

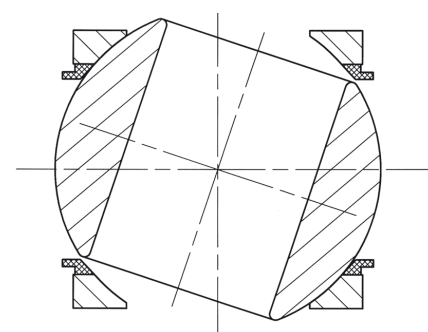
For this application, STAUFF has designed a sealing version with erosion protection ring. This ring is made of special material and keeps the high flow forces and the abrasive solids away from the plastic seals.

Tests and long term experience with this application have shown that ball valves with this sealing system provide substantially improved life times.

Times of non-use as well as maintenance and repair times are therefore reduced.

A further increase of the lifetime is possible by using metal seating elements.

Special Protected Seats



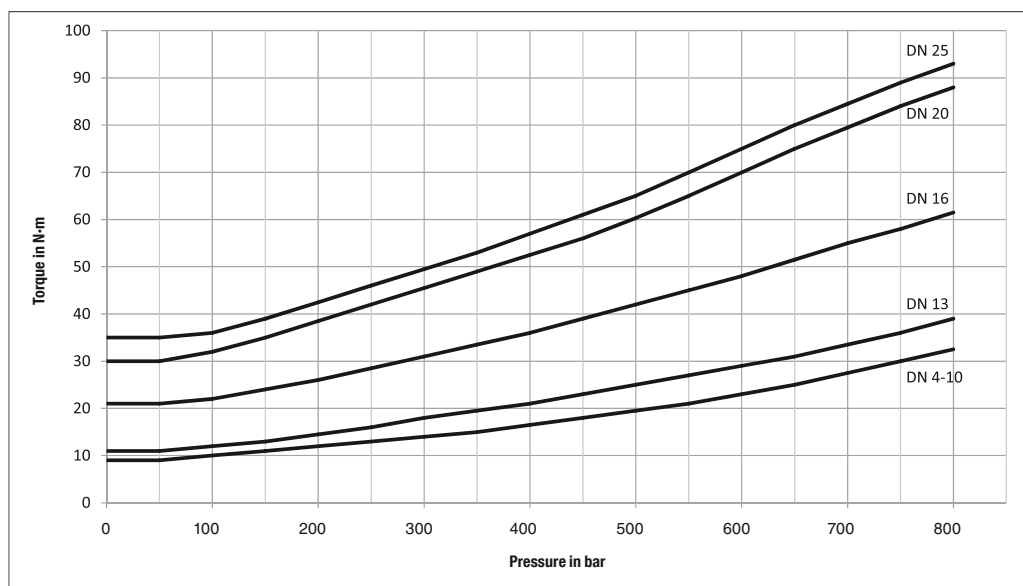
The ring is made of special material and protects the seats against erosion.

Torque Figures

Torque / Operation Pressure Curves

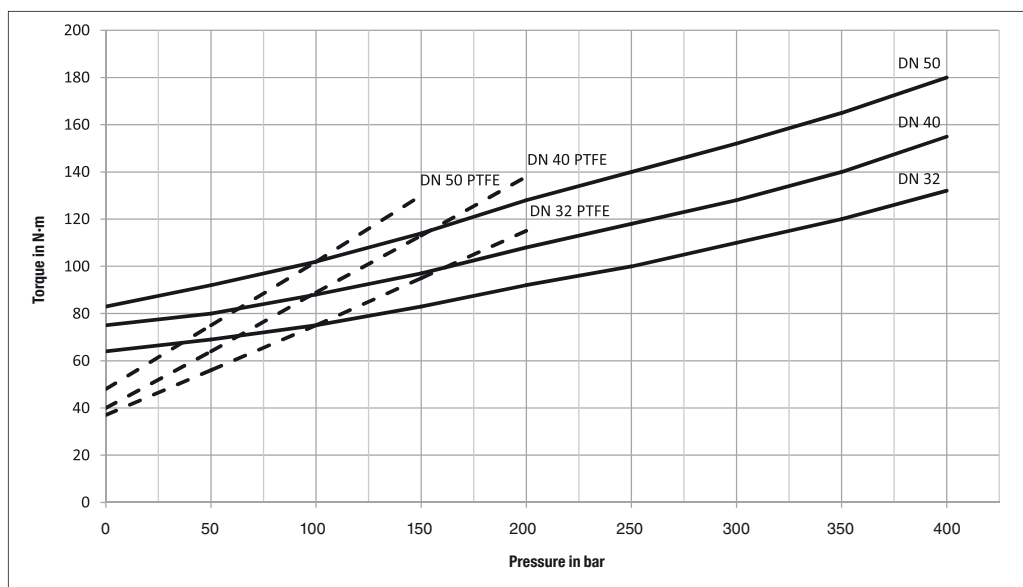
Operating torque
for ball valves with
POM seats

BBV
CBV
BBV22/23



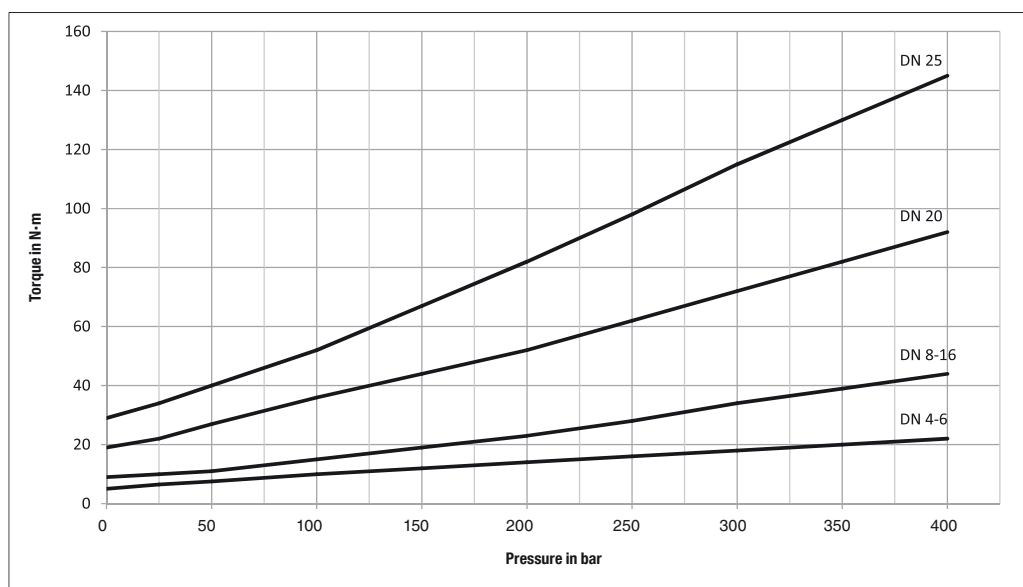
Operating torque
for ball valves with
Teflon or POM seats

FBV
FBV22/23



Operating torque
for ball valves with
POM seats

LBV
TBV
XBV



Pressure Equipment Directive CE-Marking of STAUFF Valves

Information about essential contents and consequences of the Pressure Equipment Directive (PED 97/23 EC) and the CE-marking for STAUFF valves

From 29th May 2002 the application of the Pressure Equipment Directive (PED 97/23 EC) is mandatory throughout in the European Community.

Responsibility

Manufacturers are obliged to ensure that products which are placed on the market in the European Community are designed and manufactured according to the regulations of the Pressure Equipment Directive.

The company is only allowed to purchase and use pressure equipment which corresponds to the regulations of the Pressure Equipment Directive.

Procedure

Valves have to be classified in categories (category I to III). Category I relates to the lowest, category III to the highest, hazard category.

The classification is carried out under consideration of

- diameter
- pressure
- medium-hazardous or harmless gases or liquids

Group 1 comprises hazardous mediums

- explosive
- extremely flammable
- highly flammable
- flammable (where the maximum allowable temperature is above flashpoint)
- very toxic
- toxic
- oxidising

Group 2 comprises all harmless mediums which are not listed in Group 1 such as hydraulic oil, water, air and oxygen.

Consequences

No CE-marking for:

- All valves < DN200 for harmless liquids of Group 2, such as hydraulic oil, water
- All valves up to and including DN 25 for all mediums in Group 1 and 2 (gaseous and liquid)

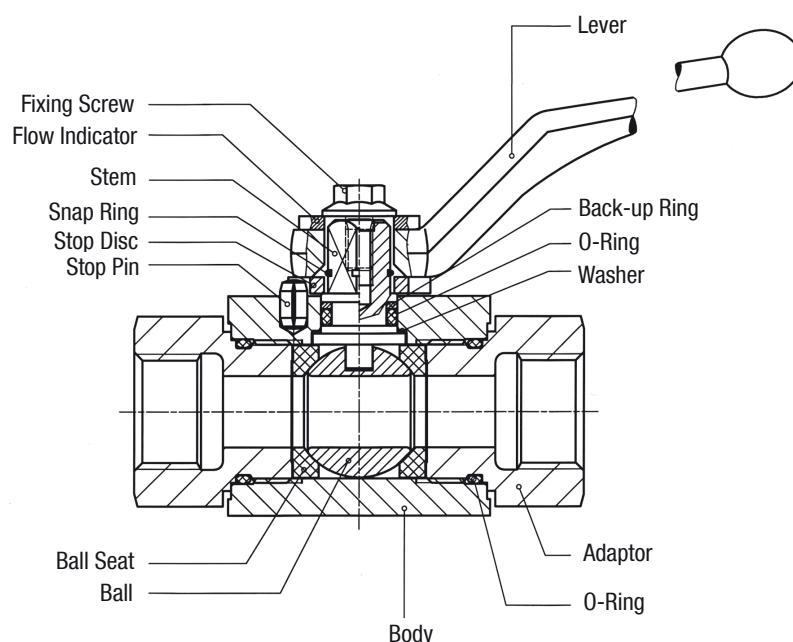
CE-marking for valves ≥ DN 32:

- With regards to valves of category I and II, STAUFF prepares a declaration of conformity.
- With regards to valves of category III an external conformity examination is necessary.
- The resulting costs will be included in our quotation.

Concerning valves of the categories I to III, it has to be observed that:

- a certification of conformity has to be enclosed with each delivery.
- operating instructions have to be enclosed with each packing unity.
- the traceability of products must be guaranteed.

Storing and Assembling Instructions



The assembly of the lever and the flow indicator has to be carried out the way that the groove of the stem and the groove of the indicator are identical in direction.

STAUFF delivers ball valves of first-class quality. This is guaranteed by the utmost care as far as construction and production of our products are concerned. All STAUFF products must pass our rigid quality assurance system ensuring the high standard of quality. As a matter of course, quality approvals can be supplied on request.

In order to guarantee the proper function of our products, the following criteria must be adhered to (non-observance can lead to expiration of this guarantee):

1. After receipt of order, the goods must be kept from moisture, erosion and thermal shock.

2. Ball valves are being delivered in open position. Store in a dry and clean place. Do not remove protective dust caps until final installation.

3. Pipe systems must be flushed before installing ball valves (dirt and other residues can damage seals).

4. It is possible to change the switching direction from our standard „clockwise“ to „counter clockwise“ by reversing the stop disc (see illustration).

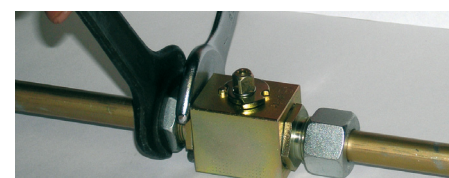
5. When mounting pipes or fittings to the ball valve, the valve connectors must be held in place at the hexagon with a suitable tool (open end wrench) to prevent expanding the end connectors.

6. Pressure test max. with 1,1 x PN with closed ball valve; 1,5 x PN in half opened position.

Flanged ball valves and ball valves in larger nominal diameters must be carefully aligned with pipe to prevent line stress. When welding ball valves into the pipe system, the temperature at the body must not exceed +200°C / +392°C.

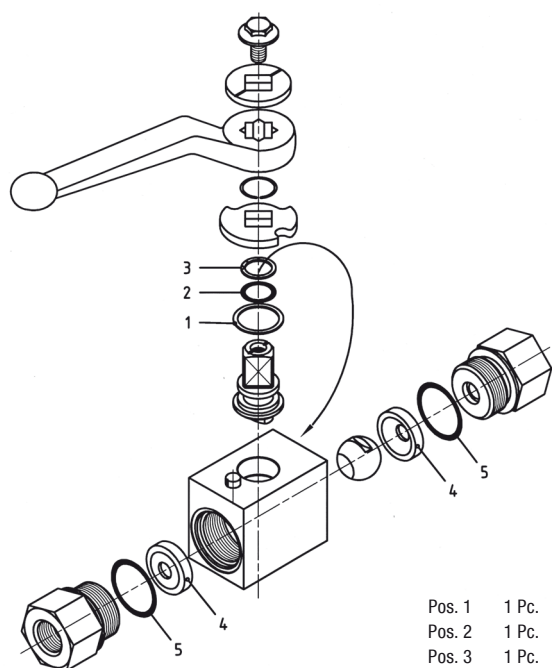
When bleeding a pipe system, the ball valve must be opened 45° to assure complete drainage.

In case of a defect please contact the factory prior to disassembly of our ball valves.



Seal Kits

Seal Kit for Two/Three-Way Block Body Valves



Pos. 1	1 Pc.	Thrust washer
Pos. 2	1 Pc.	O-ring for stem
Pos. 3	1 Pc.	Back-up ring for stem
Pos. 4	2 Pcs.	Ball seat for ball
Pos. 5	2 Pcs.	O-ring for adapter

Assembly Instructions

Notice: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors, so that the quality of repair can be guaranteed.

1. Dismantlement: Release any remaining fluid from the valve by first placing the ball in the HALF OPEN position and then to the OPEN position. Unscrew both adapters (anti-clockwise). Remove seals (note order and direction that these are in). The ball can only be removed when the valve is in the CLOSED position. Disassemble the stem by pressing it into the body of the valve. Remove all O-rings from the stem with suitable tools (e.g. small screw driver). Remove the thrust washer (on the stem collar) from the stem.

2. Preparation: Prior to replacing seals ensure that all components are clean and free of any contamination. All seal elements and O-rings as well as the areas of the valves that will be in contact with the seals have to be greased slightly with Vaseline.

3. Pre-Assembly: Mount the thrust washer (Pos.1) onto the stem collar. Replace O-rings (Pos.2+5) (using suitable tools) onto the stem and onto each adapter. Ensure that O-rings are not damaged on keen edges or overstretched, (e.g. by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil).

Back-up rings (Pos.3) are located above the stem O-ring (Pos.2), e.g. on the pressure less side. Ensure that the back-up ring is located in the groove to avoid any damages by assembling the stem to the body.

4. Assembly: Reassemble the stem to the body by pressing and turning at the same time, and then align the body axially to the ball operating claw.

Then put the ball in and centre it. Turn the shaft 90° (CLOSED position) in order to retain the ball within the body. Place the new seals into the body ensuring that the concave areas face the ball. Gently screw the adapters into the body and make sure that the O-ring will not be damaged.

Tighten to the prescribed torque settings as indicated below:

DN4-6:	48 Nm
DN10:	90 Nm
DN13:	110 Nm
DN16:	110 Nm
DN20:	220 Nm
DN25:	250 Nm

Place stop disc over the shaft square ensuring that the valve closes when turned to the right and secure with a snap ring. Assemble handle or actuator.

5. Test: Test to ensure that the valve can be opened and closed easily. We recommend that the valve is tested with air at 0,6 MPa and under working pressure with a compatible liquid, max. 1,1 x PN in closed position of the ball. If water is used for testing ensure after the test procedure has been carried out that all water is removed from the valve. This is best achieved by blowing through the valve with air, whilst the valve is in a half open position. Treat with an anti-corrosion treatment.

Store the valve in the OPEN position.

Order Codes for Seal Kit

Ordering Guide for Block Body Ball Valves ending in ...01M (Delrin/Viton seat/seal combination)

Threaded and SAE Flange Connections Types BBV and CBV

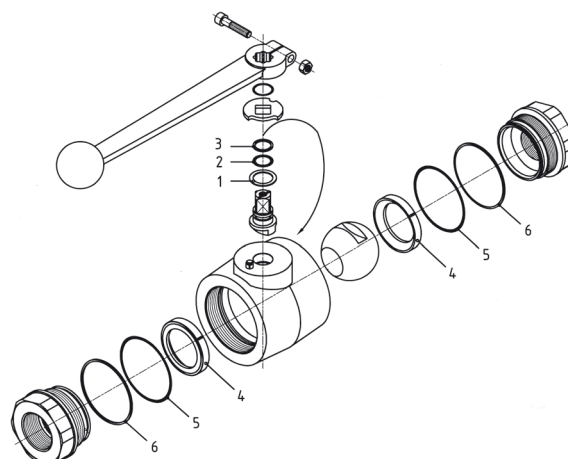
STAUFF Size	Order Codes
04	BBVS/K047101M
06	BBVS/K067101M
08	BBVS/K087101M
12	BBVS/K124501M
16	BBVS/K164501M

Direct Mount Flange Connections Types KHZ, BBV27/29 and BBVF

STAUFF Size	Order Codes
24	BBVS/K242701M
32	BBVS/K322701M
48	BBVS/K482701M
60	BBVS/K602701M

Seal Kits

Seal Kit for Two-Way Forged Body Valves



Pos. 1	1 Pc.	Thrust washer
Pos. 2	1 Pc.	O-ring for stem
Pos. 3	1 Pc.	Back-up ring for stem
Pos. 4	2 Pcs.	Ball seat for ball
Pos. 5	2 Pcs.	O-ring for adapter
Pos. 6	2 Pcs.	Back-up ring for adapter

Assembly Instructions

Note: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors to guarantee the quality of repair.

1. Dismantlement: Release any remaining fluid from the valve by first placing the ball in the HALF OPEN and then to the OPEN position. Unscrew both adapters (anti-clockwise). Remove seals (note the order and direction that these are in). The ball can only be removed when the valve is in CLOSED position. Disassemble the stem by pressing it into the body of the valve. Remove all O-rings from the stem with suitable tools (e.g. small screw driver). Remove the thrust washer (on the stem collar) from the stem.

2. Preparation: Prior to replacing seals ensure that all components are clean and free of any contamination. Slightly grease all seals and O-rings as well as the areas of the valves that will be in contact with the seals with Vaseline.

3. Pre-Assembly: Mount the thrust washer (Pos.1) onto the stem collar. Mount o-ring (Pos.2) and back-up ring (Pos.3) carefully onto the stem using suitable tools and avoid damages through sharp edges or overstretching (e.g. by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil). Mount the stem back-up ring (Pos.3) on top of the stem o-ring (Pos.2), e.g. on the pressure less side. Ensure that the back-up ring is located in the groove to avoid any damages by assembling the stem to the body. Mounting of the endless back-up ring to the adapter.

Mount the back-up ring (Pos.6) carefully onto the adapter by using a rounded tool (no sharp edges), but ensure to stretch it as little and constantly as possible. After a short time (approx. 30 to 60 sec.) the back-up ring returns to its original form and size. Push the back-up ring towards the threads and mount the O-ring (Pos.5).

4. Assembly: Reassemble the stem to the body by pressing and turning at the same time, and then align the ball operating claw axially to the body. Insert the ball and centre it. Turn the shaft 90° (CLOSED position) in order to retain the ball within the body. Place the new seals into the body ensuring that the concave areas face the ball. Gently screw the adapters into the body and make sure that the O-ring will not be damaged.

Tighten to the prescribed torque settings as indicated below:

DN32-DN50: 800Nm

Place stop disc over the stem square ensuring that the valve closes when turned to the right and secure with the snap ring. Assemble handle or actuator.

5. Test: Check that the valve can be opened and closed easily. We recommend that the valve is tested with air at 0,6 MPa and under working pressure with a compatible liquid (e.g. water), max. 1,1 x PN in closed position of the ball. Afterwards all the fluid has to be removed again from the valve. This can be achieved by blowing air through the valve, whilst in HALF OPEN position. Let completely dry and treat with an anti-corrosive agent, if necessary.

Store the valve in the OPEN position.

Please consult STAUFF for details on the recommended assembling tool for back-up ring assembly on adapter.

Order Codes for Seal Kit

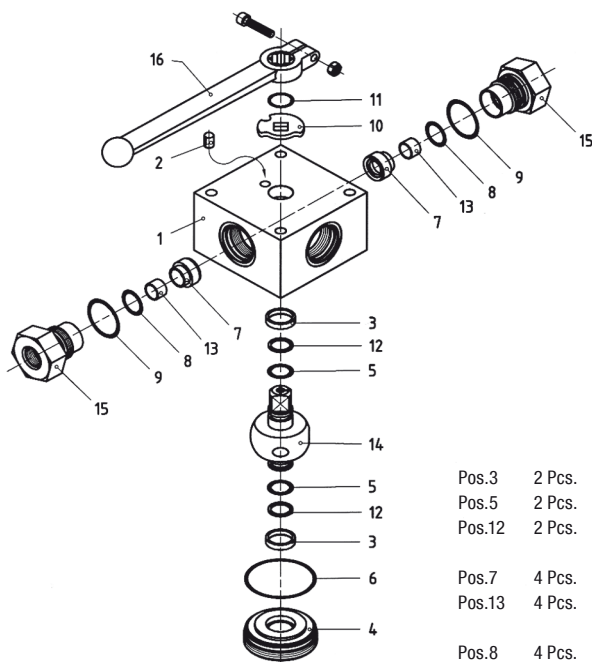
Ordering Guide for Two-Way Forged Body Ball Valves ending in ...01M (Delrin/Viton seat/seal combination)

Threaded and SAE Flange Connections Types FBV

STAUFF Size	Order Codes
20	FBVS/K204501M
24	FBVS/K244501M
32	FBVS/K324501M

Seal Kits

Seal Kit for Multi-Way Block Body Valves



Pos.3	2 Pcs.	Bearing
Pos.5	2 Pcs.	O-ring for trunnion
Pos.12	2 Pcs.	back-up ring for O-ring on trunnion
Pos.7	4 Pcs.	Ball seats
Pos.13	4 Pcs.	Mounting tube for ball seat
Pos.8	4 Pcs.	O-ring for ball seat
Pos.9	4 Pcs.	O-ring for adapter
Pos.6	1 Pc.	O-ring for cap

Order Codes for Seal Kit

Ordering Guide for Block Body Ball Valves ending in ...01M (Delrin/Viton seat/seal combination)

Threaded Connections Types LBV / TBV / XBV

STAUFF Size	Order Codes
04	XBVS/K047101M
06	XBVS/K067101M
08	XBVS/K085801M
12	XBVS/K124501M
16	XBVS/K164501M
20	XBVS/K164501M
24	XBVS/K164501M

Assembly Instructions

Notice: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors, so that the quality of repair can be guaranteed.

1. Dismantlement: In order to release the remaining pressure, carry out 1x reciprocating movement.

Disassemble the shaft handle (Pos.16). Unscrew all adapters (Pos.15) anti-clockwise. Remove seals (Pos.7). Unscrew cap (Pos.4) at body bottom with suitable tools anti-clockwise. Remove trunnions (Pos.14) and bearing shells (Pos.3). Remove all O-rings and back-up rings from trunnion resp. adapters and cap with suitable tools (for example with a small screw driver).

2. Preparation: Prior to replacing seals ensure that all components are clean and free of any contamination. Grease slightly with Vaseline all sealing elements and O-rings as well as the areas of the valves that will be in contact with the seals.

3. Pre-Assembly: Assemble O-rings (Pos.5) and back-up rings (Pos.12) in the grooves of the trunnion, back-up rings outwards to the pressure end.

Mount carefully O-rings on to the (Pos.9) adapters (Pos.15) by using suitable tools (at DN20 u. -25).

Attention: Ensure that O-rings are not damaged on keen edges or overstretched, (for example by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil).

At DN4 to DN16: Place mounting tubes (Pos.13) in the provided bore of the seal elements (Pos.7), resp. at DN20 and DN25: place seal element in the sleeve (no description in this figure), spherical side directed to the exterior. Push O-ring for sealing element (Pos.8) on to the sealing element (Pos.7), (resp. at DN20 and DN25 push on to sleeve) and place together in adapter.

Pre-assemble O-ring (Pos.6) on to the cap (Pos.4). (notice: ensure that there cannot occur any damages!).

4. Assembly: First assemble the bearing shells (bushing) (=Pos.3) in the body (Pos.1) and cap (Pos.4) so that the bevel shows towards the ball valve center and thus it can be used as chamfer for the O-ring (and back-up ring) of the trunnion.

Notice: Ensure that the back-up rings lie close to each other in the groove so that during the assembly process to the body and cap they are not damaged.

Assemble the shaft end of the trunnion (shaft square shows towards exterior) to the cap (Pos.4) by pressing and turning at the same time.

DN4 to DN16: place O-ring for cap (Pos.6) in the body.

Push the trunnion (together with cap) in the body, until the cap thread touches the body thread, afterwards screw in the cap and tighten to the prescribed torque. (see table).

Gently screw in the pre-assembled adapters into the body and ensure that the O-ring is not damaged. Tighten the adapters with the prescribed torque.

Replace stop disc (Pos.10) over the shaft square so that the desired operation function is achieved, secure with snap ring (Pos.11). Assemble the handle (Pos.16) or the actuator (after it had been tested).

5. Test: Test to ensure that the valve can be opened and closed easily. We recommend that the valve is tested with 6 bar air and under working pressure with a compatible liquid, max. 1,1 x PN. If water is used for testing ensure the after the test procedure has been carried out that all water is removed from the valve.

This is best achieved by blowing air through the valve, whilst the valve is in a half open position. Treat with anti-corrosion treatment.

Store the valve in the „OPEN“ or „CLOSED“ position, resp. end position.

Tightening Torques of Adaptors and Endcaps

Nominal Size	Adapter Tightening Torque in N-m	Thread	Endcap Tightening Torque in N-m	Thread
DN 4-6	40	M18 x 1,5	120 ... 140	M38 x 1,5
DN 8-10	70	M22 x 1,5	140 ... 160	M45 x 1,5
DN 13-16	110	M30 x 1,5	320 ... 350	M60 x 1,5
DN 20	180	M38 x 1,5	550 ... 600	M80 x 2
DN 25 (-32, -40)	250	M45 x 1,5	650 ... 700	M92 x 3

