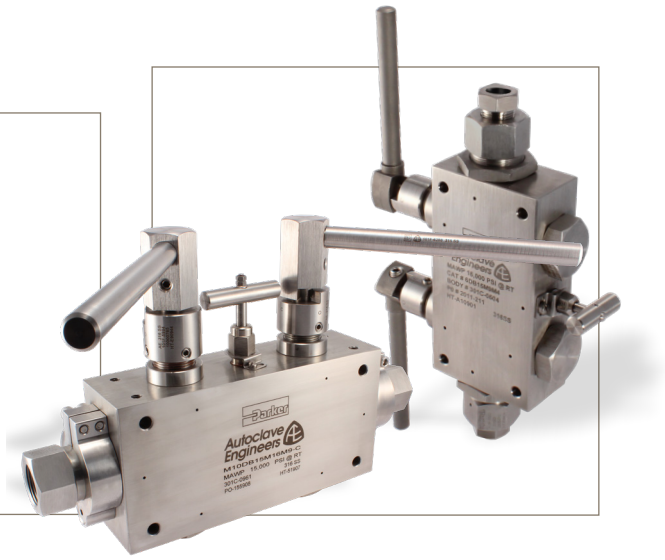
Ball Valve

Double Block & Bleed, 1/4 Turn

3/8" & 5/8" Bore to 15,000 psi (1034 bar)

6DB and 10DB Series



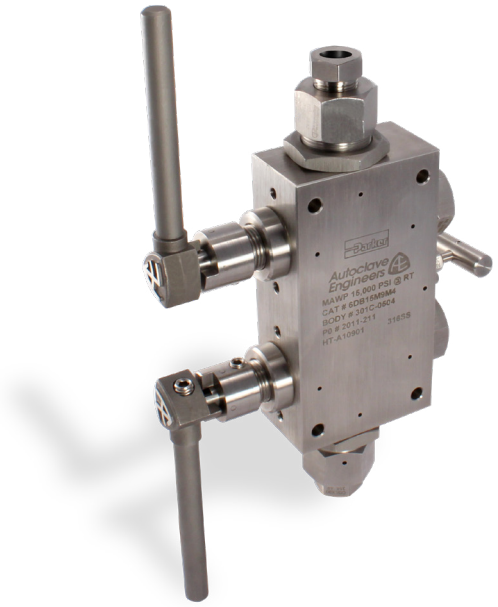
Parker Autoclave Engineers Double Block & Bleed valve is a two-stem ball valve with needle style vent valve providing economical and reliable isolation in critical areas superior in comparison to a standard, single valve. This valve is designed for use where critical isolation is needed to ensure that leakage does not occur. Our 3/8" and 5/8" Double Block & Bleed valves are designed to save space and weight while capable of pressures to 15,000 psi (1034 bar). These ball valves can also be modified to incorporate the use of special materials, optional seals with and capability for high temperature applications to 500°F (260°C).

Double Block & Bleed Ball Valve Features:

- One-piece, trunnion mounted style, stem design eliminates shear failure and reduces the effects of side loading found in two piece designs
- Re-torqueable seat glands for longer seat life
- Carbon filled PEEK seats offer excellent resistance to chemicals, heat, and wear/abrasion
- Vee-Stem Needle Vent Valve with PTFE Packing
- Full-port flow path minimizes pressure drop
- Manufactured using UNS S31600 316 cold worked Stainless Steel
- Low friction pressure assisted graphite filled PTFE stem seal increases cycle life and reduces operating torque
- FKM o-rings for operation from 0° to 400°F (-18 to 204°C)

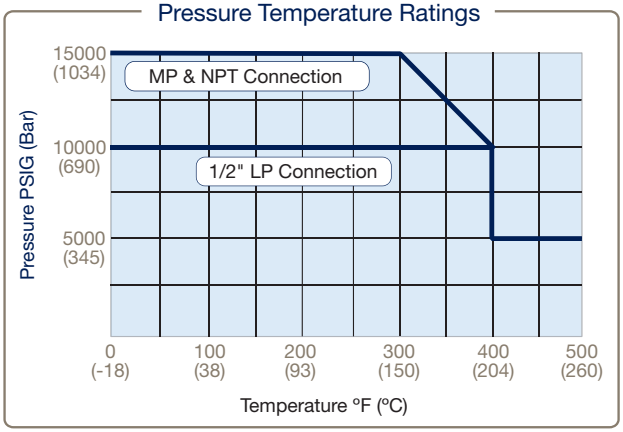
Traceability is ensured by use of heat and purchase order codes etched on valve body that also includes model number, MAWP rating, and material type references. Parker Autoclave Engineers' valves are complemented by a complete line of Medium Pressure Cone & Thread, or NPT fittings, check valves, relief valves, and line filters.

6DB Series: .323" (8.20mm) Orifice - Pressures to 15,000 psi (1034 bar)



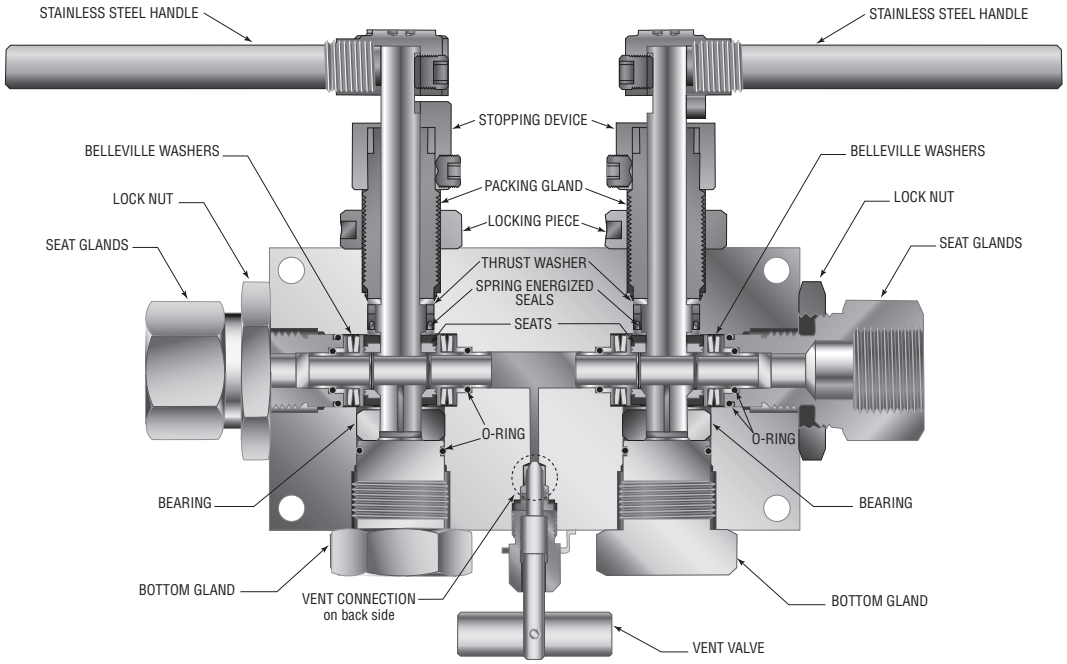
Connection Type	MAWP** at Room temperature	Minimum Orifice Inches (mm)	Rated C_V
SW500 (1/2" LP)	10,000 psi (690 bar)	0.323 (8.20)	2.3
SF375CX20 (3/8" MP)	15,000 psi (1034 bar)	0.203 (5.16)	1.0
SF562CX20 (9/16" MP)	15,000 psi (1034 bar)	0.312 (7.92)	2.1
SF750CX20 (3/4" MP)	15,000 psi (1034 bar)	0.323 (8.20)	2.3
1/4 FNPT	15,000 psi (1034 bar)	0.323 (8.20)	2.3
3/8 FNPT	15,000 psi (1034 bar)	0.323 (8.20)	2.3
1/2 FNPT	15,000 psi (1034 bar)	0.323 (8.20)	2.3

** Special materials often have reduced MAWP ratings, see Technical brochure for assistance



6DB Series Ball Valve Series

Pressure Ratings are determined by the end connections chosen, see chart.
Maximum Temperature rating is determined by the o-ring material.
NPT connections are limited to 400°F max due to PTFE Sealant.



See ball valve actuator section for full description, additional information, and options.additional information, and options.

Ordering Guide:

For complete information on available end connections and material options, see below. 6DB ball valves are furnished complete with tube or pipe connections. Standard valve has FKM o-rings [0-400ºF (204ºC) maximum].

Building a Part Number: ***Example: 6DB15M9M4***

Example Part Number:	6DB	15	M9	M4	–	XXX
Ordering Parameters/Options:	Valve Series	Pressure (x 1000 psi)	Tube Connection	Vent Connection		Options
Table Reference: (see below)	A	B	C	D		E

A - Valve Series	
6DB	3/8" Double Block and Bleed Ball Valve

B - Maximum Connection Pressure Rating (see "C" below)	
10	10,000 psi
15	15,000 psi

C - Tube Connection			
	Connection	MAWP @ RT	Seat Gland Hex
L8	SW500 (1/2" LP)	10,000 psi	1.38"
M6	SF375CX20 (3/8" MP)	15,000 psi	1.38"
M9	SF562CX20 (9/16" MP)	15,000 psi	1.38"
M12	SF750CX20 (3/4" MP)	15,000 psi	1.38"
P4	1/4" NPT	15,000 psi	1.38"
P6	3/8" NPT	15,000 psi	1.38"
P8	1/2" NPT	15,000 psi	1.38"

D - Vent Connection	
M4	1/4" MP - SF250CX20 connection
P4	1/4" NPT

E - Options (suffix addition)	
BO	O-ring, Buna-N (Nitrile), 40° to 250ºF (121ºC)
HT	O-ring, Perfluoroelastomer, - FFKM 30° to 500ºF (260ºC)
EPR	O-ring, EthylenePropylene Rubber, 0° to 250°F (121°C)
SOG*	NACE Material, Hardness Verification/Certificate
2507**	UNS 32750 2507 Super Duplex Stainless Steel
IN625**	UNS N06625 Inconel 625 Materials
K	Antivibration Gland Fitting (Cone and Thread Connections only)
L	Lock-out Bracket, Stainless Steel

Notes:
316 SS Valve bodies are cold worked and not suitable for use in NACE/ISO 15156 applications. If required, contact factory for options.

* SOG suffix also changes CW 316 SS body material to Annealed 316 SS suitable for NACE service. Contact factory for pressure reduction.

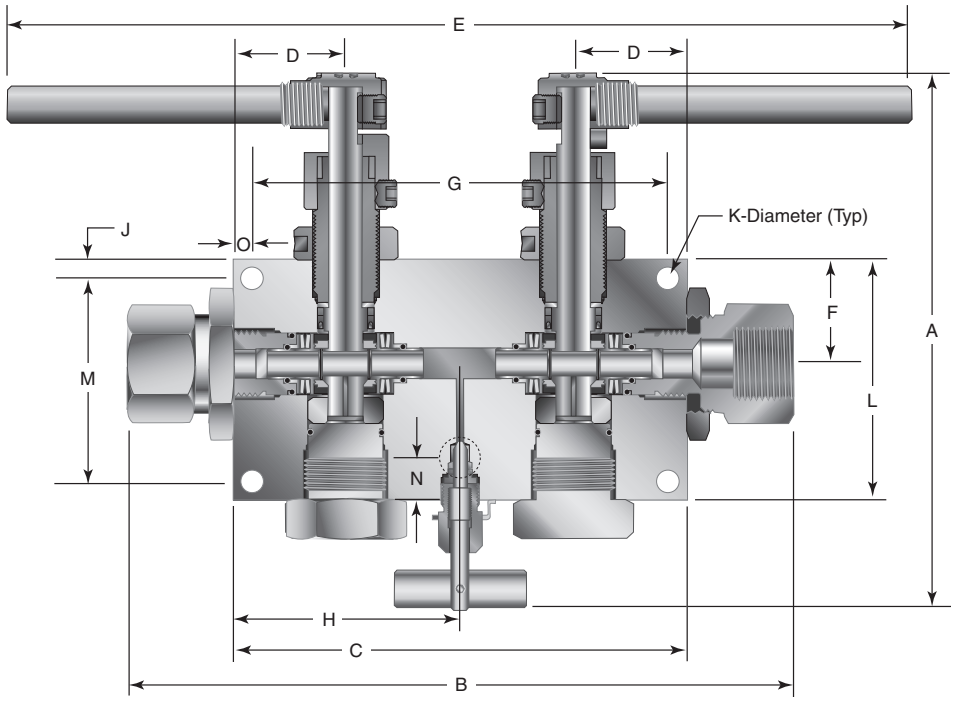
** Special materials often have reduced MAWP ratings, see Technical brochure for assistance.

Basic Repair Kits:

6DB Double Block & Bleed Valves are not repairable in field and must be returned to authorized repair center or factory location.

6DB Series 3/8" Bore Ball Valve Dimensions:

6DB Series 3/8" Bore Double Block & Bleed Ball Valve

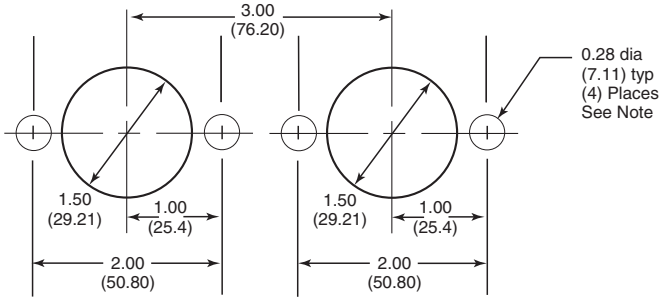


	VALVE MODELS - inches (mm)
	6DB
A	7.14 (181.4)
B	8.81 (223.8)
C	6.00 (152.4)
D	1.50 (38.1)
E	12.94 (328.7)
F	1.38 (34.9)
G	5.00 (127.0)
H	3.00 (76.2)
J	0.41 (10.3)
K	0.28 (7.1)
L	3.19 (81.0)
M	2.38 (60.4)
N*	0.65 (16.5)
O	0.50 (12.7)
Block Thickness	1.75 (44.5)

* Centerline location of vent outlet port

Panel Mounting Dimensions:

6DB Series (Double Block and Bleed) Panel Mounting



All dimensions are for reference only and are subject to change without notice.

Note: Body Mounting 1/4" - 20 threads

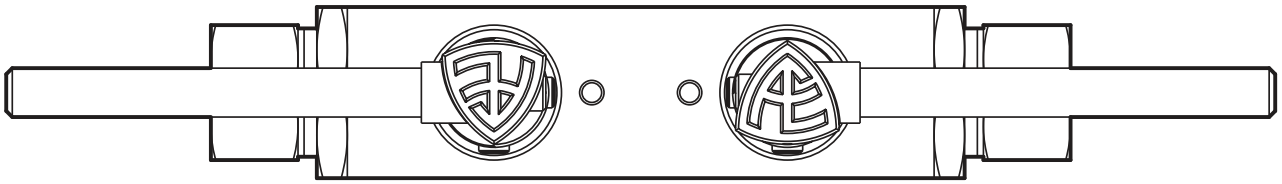
Material of Construction:

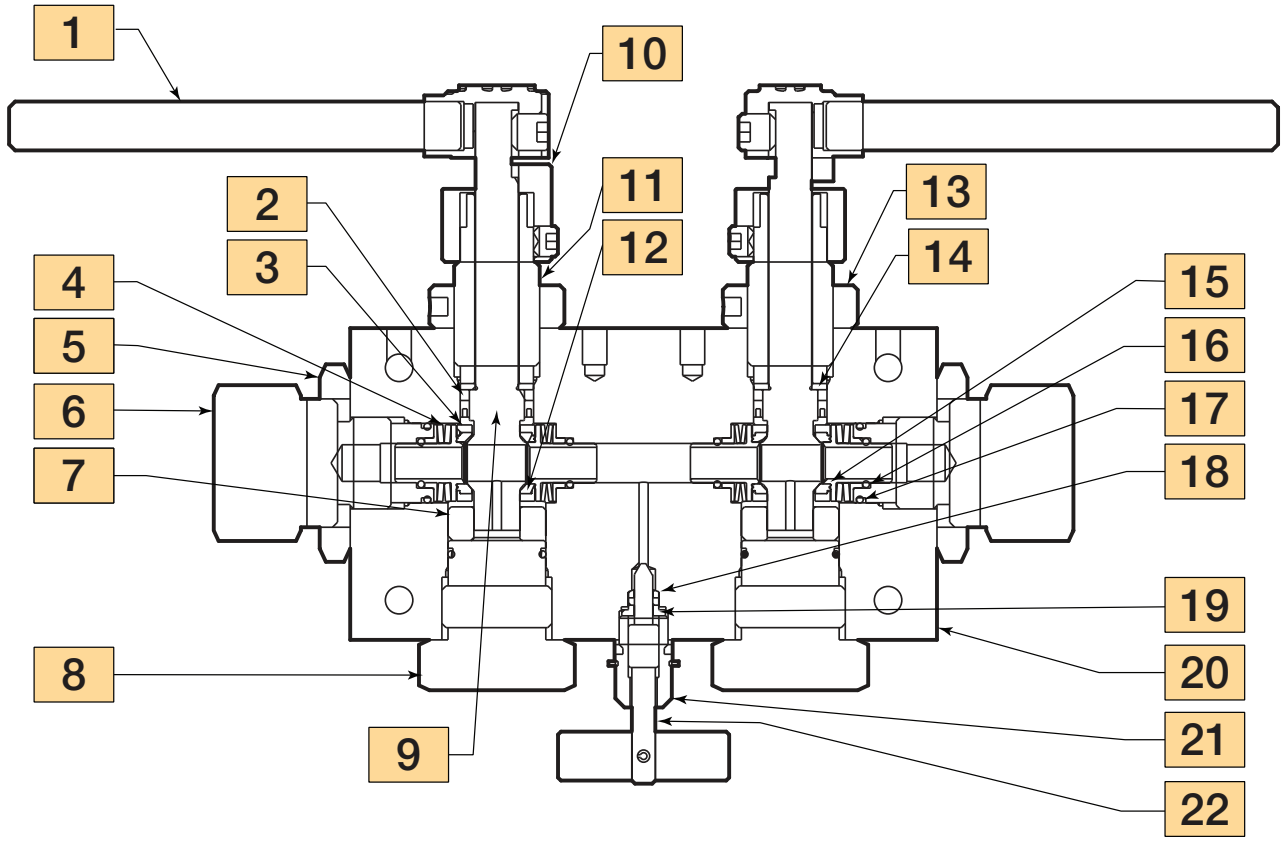
Item #	Description	Material
1	Handle	304 SS
2	Stem Seal/w 304 SS Spring	Graphite/Carbon PTFE
3	Seat Retainer	Nitronic 50 HC
4	Belleville Washer	17-7 PH
5	Locknut	316 SS
6	Seat Gland	316 CW SS
7	Bottom Bearing	Virgin PEEK
8	Bottom Gland	316 CW SS
9	Ball Stem (2)	316 CW SS
10	Stopping Device	316 CW SS
11	Packing Gland	316 CW SS
12	Seat	Arlon 1260
13	Locking Piece	316 SS
14	Thrust Washer	Ampco 45
15	Stress Riser Backup	Nitronic 50 HC
16	O-ring	90 Duro FKM
17	O-ring	90 Duro FKM
18	Bottom Washer	316 SS
19	Packing Washer	Ampco 45
20	Body	316 SS
21	Packing Gland	316 SS
22	Vent Valve Stem	316 SS

Please reference drawing on Page 5

6DB Series 3/8" Bore Ball Valve Material:

6DB Series 3/8" Bore Double Block & Bleed Ball Valve Part Identification





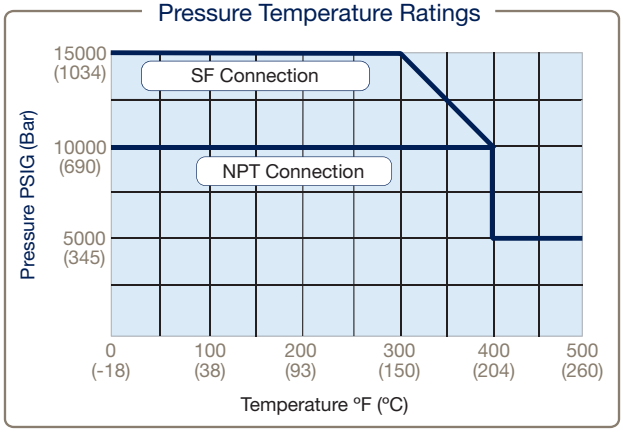
Many valve parts are duplicated but are only identified once for clarity.

10DB Series: .623" (15.82mm) Orifice - Pressures to 15,000 psi (1034 bar)

Series M10DB Vent Valve Option Shown

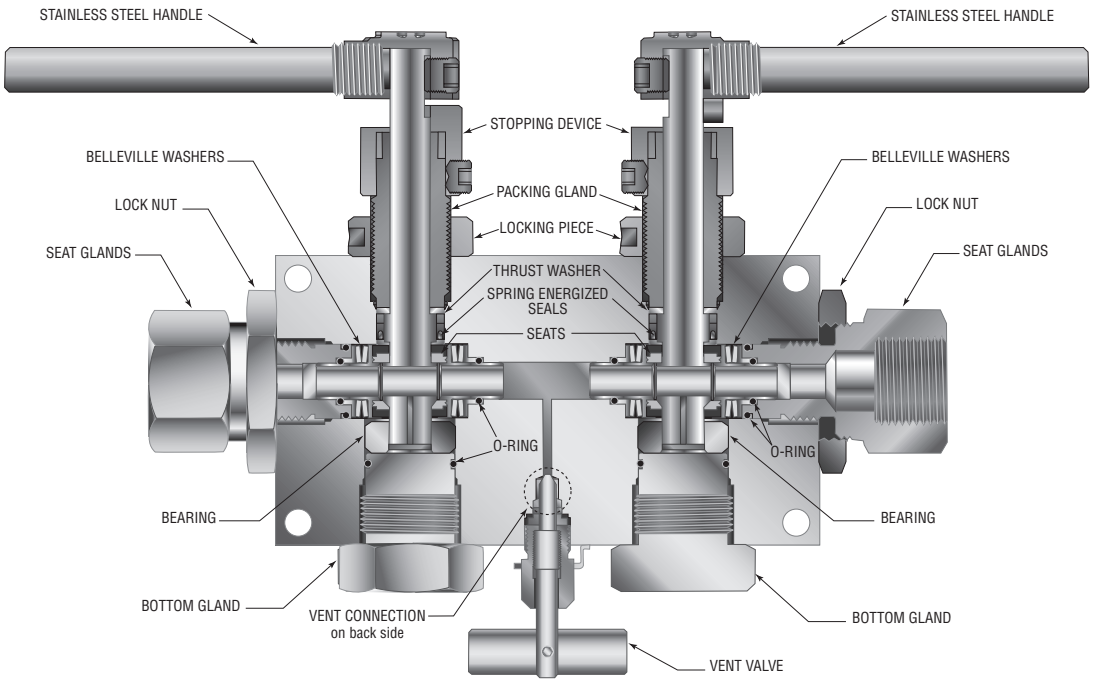
Connection Type	MAWP** at Room temperature	Minimum Orifice Inches (mm)	Rated C_V*
SF750CX10 (3/4" MP)	15,000 psi (1034 bar)	0.516 (13.11)	11.5
SF1000CX10 (1" MP)	15,000 psi (1034 bar)	0.623 (15.82)	28.1
SF1500CX (1.5" MP)	15,000 psi (1034 bar)	0.623 (15.82)	28.1
3/4" FNPT	10,000 psi (690 bar)	0.623 (15.82)	28.1
1" FNPT	10,000 psi (690 bar)	0.623 (15.82)	28.1

** Special materials often have reduced MAWP ratings, see Technical brochure for assistance



10DB Series Ball Valve Series

Pressure Ratings are determined by the end connections chosen, see chart.
Maximum Temperature rating is determined by the o-ring material.
NPT connections are limited to 400°F max due to PTFE Sealant.



See ball valve actuator section for full description, additional information, and options.additional information, and options.

Ordering Guide:

For complete information on available end connections and material options, see below. 10DB Series ball valves are furnished complete with tube or pipe connections. Standard valve has FKM o-rings [0-400ºF (204ºC) maximum].

Building a Part Number: ***Example: 10DB15M12M4***

Example Part Number:	**10DB**	**15**	**M12**	**M4**	–	**XXX**
Ordering Parameters/Options:	Valve Series	Pressure (x 1000 psi)	Tube Connection	Vent Connection		Options
Table Reference: (see below)	A	B	C	D		E

A - Valve Series	
10DB	5/8 Double Block and Bleed Ball Valve

B - Maximum Connection Pressure Rating (see "C" below)	
10	10,000 psi
15	15,000 psi

C - Tube Connection			
	Connection	MAWP @ RT	Seat Gland Hex
M12	SF750CX10 (3/4 MP)	15,000 psi	1.87"
M16	SF1000CX10 (1" MP)	15,000 psi	1.87"
M24	SF1500CX10 (1.5 MP)	15,000 psi	2.25"
P12	3/4" FNPT	10,000 psi	1.87"
P16	1" FNPT	10,000 psi	1.87"

D - Vent Connection	
M4	1/4" MP - SF250CX20 connection
P4	1/4" NPT

E - Options (suffix addition)	
BO	O-ring, Buna-N (Nitrile), 40° to 250ºF (121ºC)
HT	O-ring, Perfluoroelastomer - FFKM 30° to 500ºF (260ºC)
EPR	O-ring, Ethylene Propylene Rubber, 0° to 250ºF (121°C)
SOG*	NACE Material, Hardness Verification/Certificate
2507**	UNS 32750 2507 Super Duplex Stainless Steel
IN625**	UNS N06625 Inconel 625 Materials
K	Antivibration Gland Fitting (Cone and Thread Connections only)
L	Lock-out Bracket, Stainless Steel

Notes:
316 SS Valve bodies are cold worked and not suitable for use in NACE/ISO 15156 applications. If required, contact factory for options.

* SOG suffix also changes CW 316 SS body material to Annealed 316 SS suitable for NACE service. Contact factory for pressure reduction.

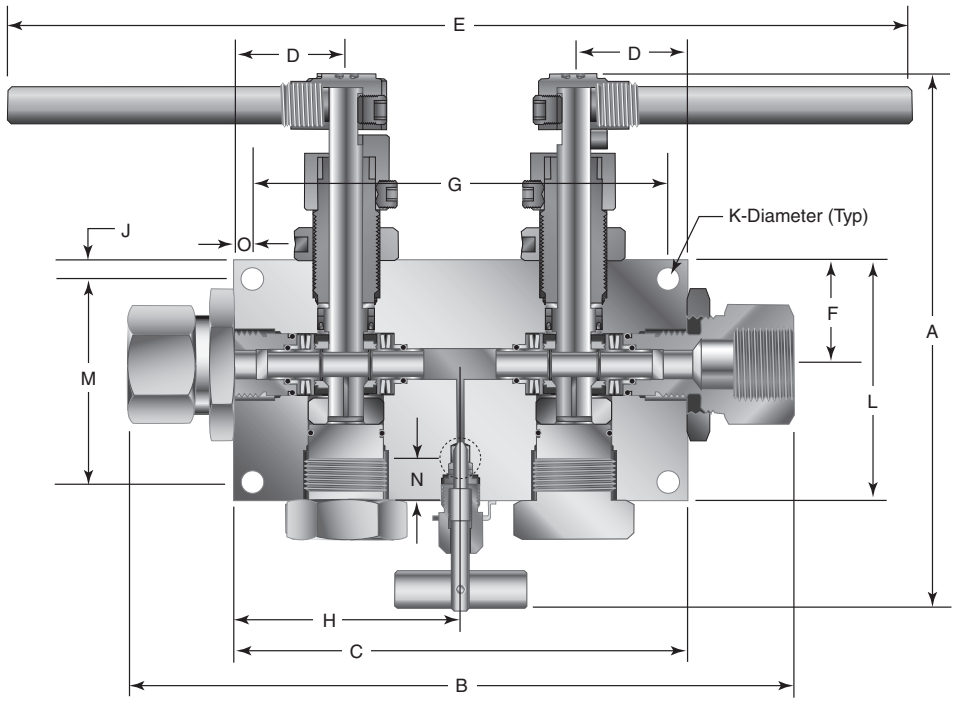
** Special materials often have reduced MAWP ratings, see Technical brochure for assistance.

Basic Repair Kits:

10DB Double Block & Bleed Valves are not repairable in field and must be returned to authorized repair center or factory location.

10DB Series 5/8" Bore Ball Valve Dimensions:

10DB 5/8" Bore Double Block & Bleed Ball Valve

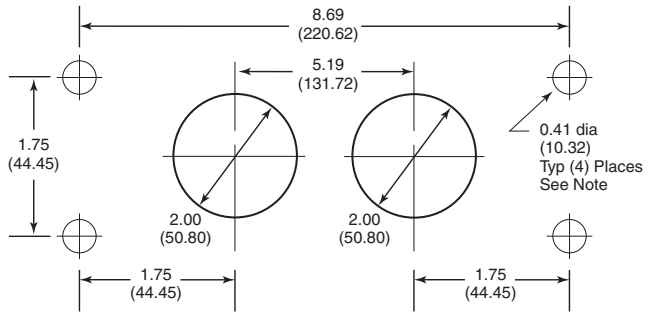


	VALVE MODELS - inches (mm)
	10DB
A	13.02 (330.8)
B	15.40 (391.2)
C	10.50 (266.7)
D	2.66 (67.6)
E	27.45 (697.2)
F	2.53 (64.3)
G	8.69 (220.8)
H	5.25 (133.4)
J	0.72 (18.3)
K	0.41 (10.3)
L	5.25 (133.4)
M	3.81 (96.8)
N*	1.75 (44.5)
O	0.91 (23.1)
Block Thickness	3.00 (76.2)

* Centerline location of vent outlet port

Panel Mounting Dimensions:

10DB Series (Double Block and Bleed) Panel Mounting



All dimensions are for reference only and are subject to change without notice.

Note: Body Mounting 3/8" - 16 threads

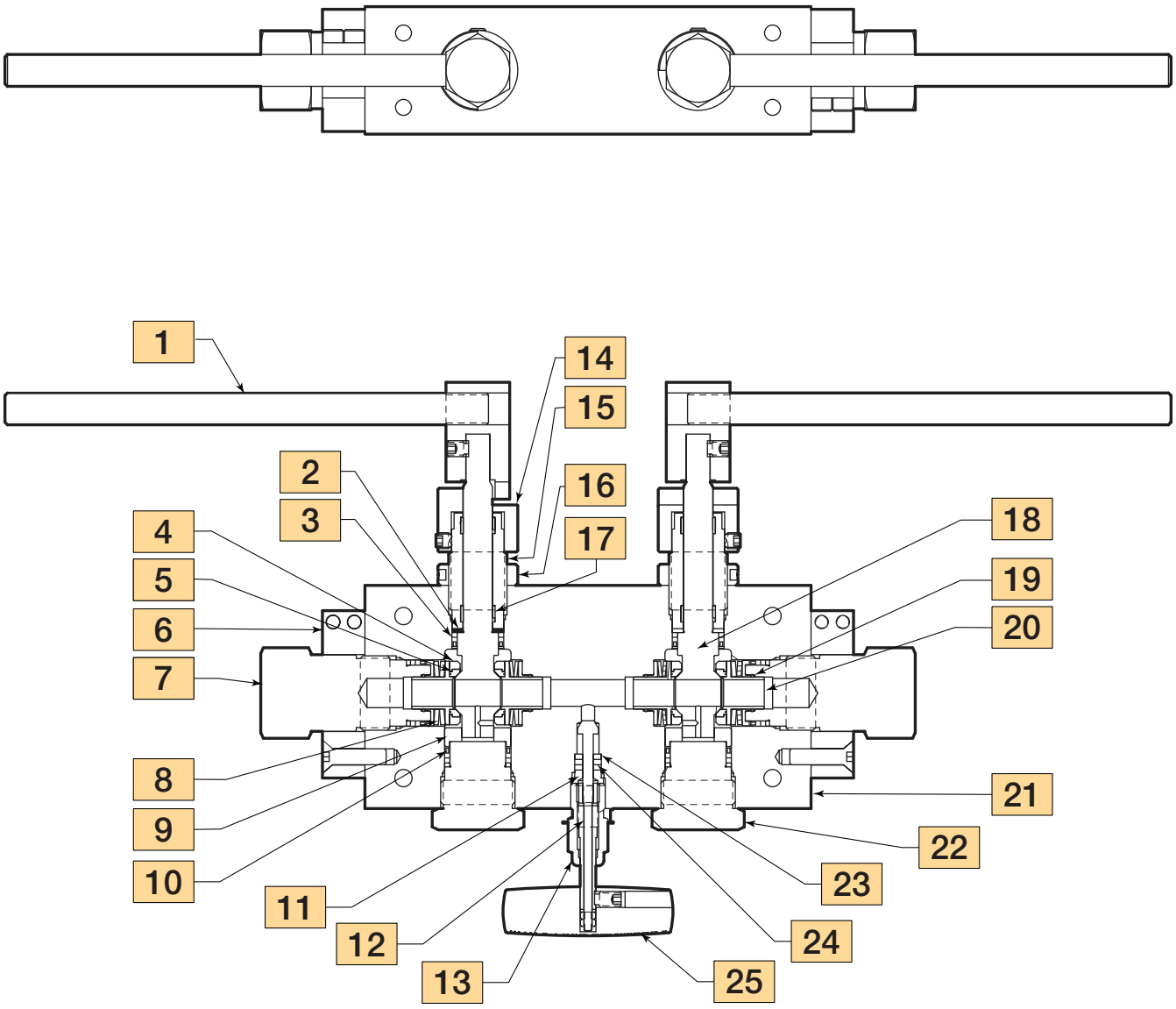
Material of Construction:

Item #	Description	Material
1	Handle	316 SS
2	Thrust Washer	AMPCO 45
3	Gland Seal	Carbon Filled PTFE
4	Seat Retainer	Nitronic 50 HC
5	Seat	Carbon Filled Peek
6	Locking Device	316 SS
7	Seat Gland	316 SS
8	Belleville Washer Backup	316 CW SS
9	Bottom Bearing	AMPCO 45
10	O-ring	90 Duro FKM
11	Packing Washer	AMPCO 45
12	Vent Valve Stem	316 SS
13	Packing Gland	316 SS
14	Stopping Device	316 SS
15	Packing Gland	316 SS
16	Locking Piece	316 SS
17	Bearing Guide	Virgin PEEK
18	Ball Stem	316 SS
19	O-ring	90 Duro FKM
20	Stres Riser Backup	Carbon Filled Peek
21	Body	316 SS
22	Bottom Gland	316 SS
23	Bottom Washer	316 SS
24	Packing	PTFE
25	Handle	316 SS

Please reference drawing on Page 9

10DB Series 5/8" Bore Ball Valve Material:

5/8" Double Block and Bleed Ball Valve Part Identification



Many valve parts are duplicated but are only identified once for clarity.

NOTES:

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! CAUTION !

Do not mix or interchange component parts or tubing with those of other manufacturers. Doing so is unsafe and will void warranty.

Parker Autoclave Engineers Valves, Fittings, and Tools are not designed to interface with common commercial instrument tubing and are designed to only connect with tubing manufactured to Parker Autoclave Engineers AES specifications. Failure to do so is unsafe and will void warranty.

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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