

0086

BS EN ISO 9001



FM 00707



Worcester Controls

5HP 44

High Pressure 3-Piece Ball Valves

Worcester's 5HP 44 has been developed specifically for use in high pressure systems. Typical media would be oil, inhibited water and nitrogen gas.

The 5HP 44 is derived from Worcester's proven Series 44 3-piece valve, and incorporates a number of product features, all designed to optimise the valve's performance. These include high pressure seals, thicker flanges on the body connectors, high tensile bolting, special acetal resin seats and a high strength stem.

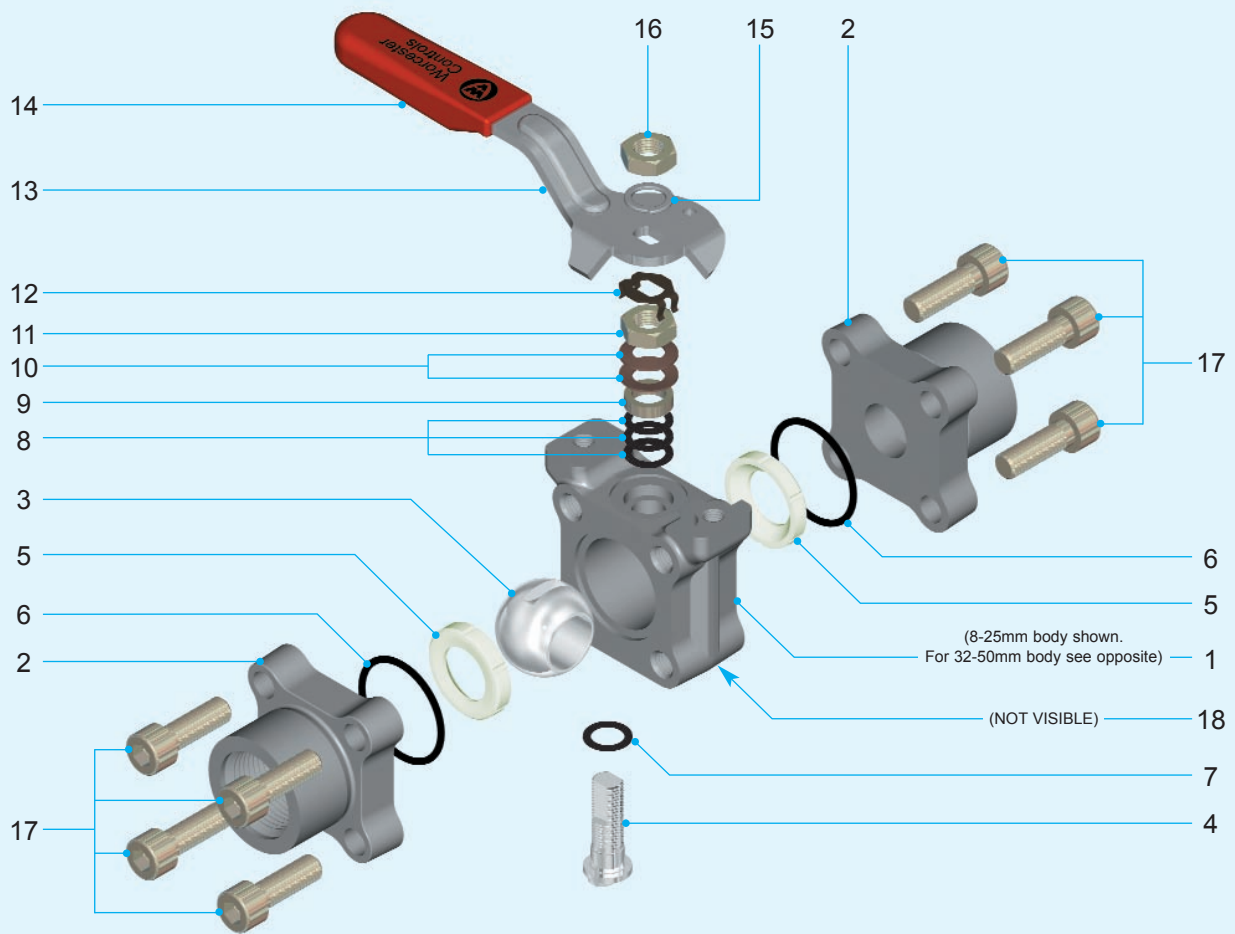
Compared with other types of high pressure valves, the 5HP 44 offers greater flow rates and easier operation (whether manual or automated).

It has been designed to accommodate Group II liquids up to 345 bar (5000 psi).

Whilst acetal resin seats will tolerate temperatures up to 80°C the use of PEEK seats extends the valve's temperature capability to 170°C, in conjunction with appropriate stem and body seals (see graph for corresponding pressures).

The 5HP 44 is manufactured in carbon steel in 8 sizes ranging from 8 to 50mm, with body connector options including screwed, butt weld and socket weld.

For the stainless steel option, please consult Worcester Controls.



PARTS/MATERIALS LIST

ITEM	DESCRIPTION	MATERIAL	ITEM	DESCRIPTION	MATERIAL
1.	Body	Stainless Steel ASTM A182 F316 (UNS S31600) or Carbon Steel ASTM A105 (UNS K03504)	9.	Gland	Stainless Steel
2.	Body Connector	Stainless Steel ASTM A479 316 (UNS S31600) 0.03% Carbon Maximum Carbon Steel ASTM A105 (UNS K03504) 0.2% Carbon Maximum	10.*	Disc Springs	Stainless Steel
3.	Ball	Stainless Steel ASTM A479 316 (UNS S31600) or ASTM 351 CF8M (UNS J92900)	11.*	Gland Nut	Stainless Steel
4.	Stem	Stainless Steel ASTM A564 Type 630 - H900 (UNS S17400)	12.*	Locking Clip	Carbon Spring Steel
5.*	Seat Ring	Acetal Resin (Delrin)	13.	Wrench	Carbon Steel
6.*	Body Seal (O-Ring)	Nitrile Rubber / Viton 'A'	14.	Wrench Sleeve	Vinyl Plastisol
7.*	Stem Seal	Nylatron	15.*	Spring Washer	Stainless Steel
8.*	Gland Packing	PTFE 35% Carbon Filled	16.	Wrench Nut	Stainless Steel
			17.	Hexagon Socket Head Cap Screw	Carbon Steel
			18.	Identification Plate	Stainless Steel

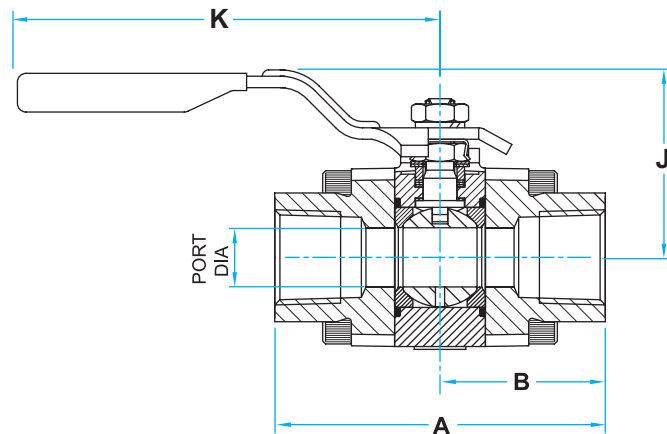
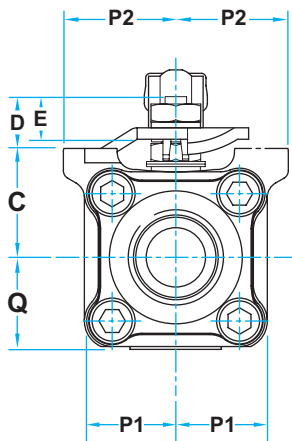
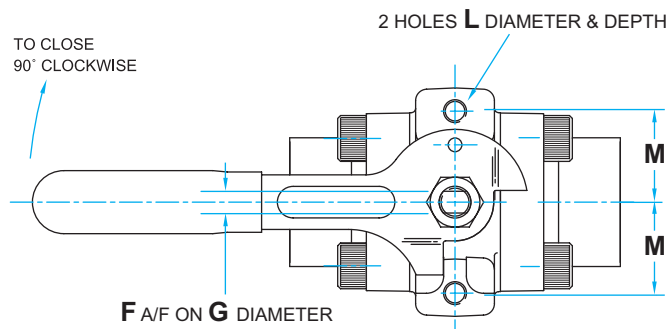
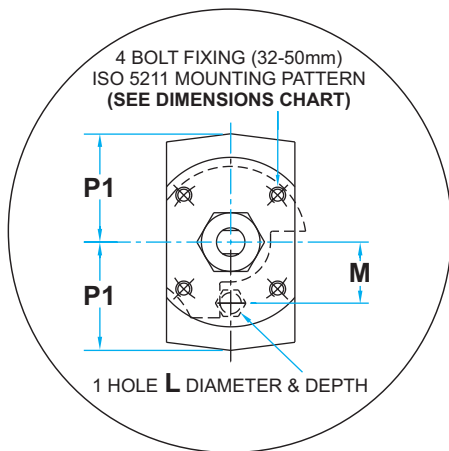
Notes: Valve sizes 40-50mm have a stop plate, cast iron wrench and stop pin
Valve size 32mm has a stop pin

FEATURES

- * High tensile cap-head screws.
- * Bottom entry stem.
- * Quarter turn design.
- * High tensile stem.
- * Nylatron thrust seal.
- * 3-piece design.
- * Wide range of body connectors.

BENEFITS

- High pressure integrity.
- Blow-out proof safety.
- Quick and easy operation.
- Greater operational reliability.
- Maximum stem integrity.
- Ease of maintenance.
- Greater pipe connection choice.



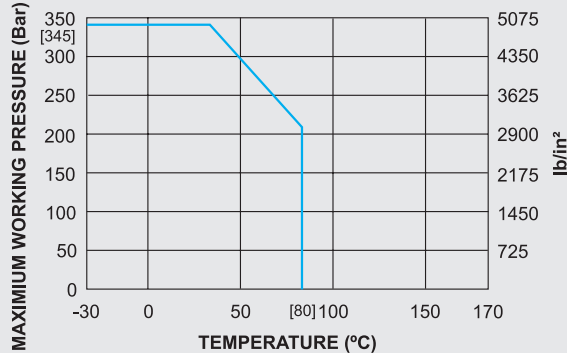
VALVE DIMENSIONS (mm)

Note: Main drawings show 15-25mm body.
See inset drawing for 32-50mm

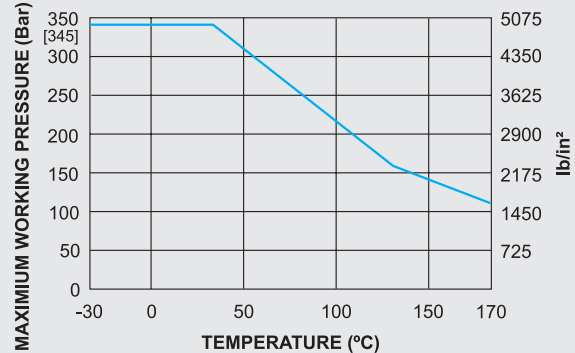
Valve Size (mm)	Port Ø Min.	A	B	C	D	E	STEM		J	K	L THREAD & DEPTH	M	P1	P2	Q	MOUNTING PLATFORM (ISO 5211)			WEIGHT
							F A/F	G THREAD								ISO SIZE	MOUNTING HOLES	PLATFORM RECESS	
15	10.9	81.65 79.52	40.29	26.7 26.5	11.68 11.04	10.69 10.19	5.54 5.46	3/8"-24 UNF	57.9	136.0	M6 x1.0p 9.5 MIN	24.0	23.8	30.4	23.8				0.9
20	14.0	95.61 93.49	47.28	29.1 28.9	11.68 11.04	10.69 10.19	5.54 5.46	3/8"-24 UNF	60.3	136.0	M6 x1.0p 9.5 MIN	27.0	27.2	33.4	27.2				1.2
25	20.4	116.75 114.62	57.84	38.1 37.9	17.94 17.16	15.19 14.69	7.54 7.47	7/16"-20 UNF	64.8	149.0	M8 x1.25p 9.7 MIN	31.75	32.7	40.5	32.7				2.1
32	25.1	132.30 130.17	65.62	37.10 36.85	23.74 22.91	15.19 14.69	7.54 7.47	7/16"-20 UNF	69.6	149.0	M5 x0.8p 6.0 MIN	19.5	36.3		36.3	F04	4 OFF M5 x0.8p x7.5 DEEP MIN ON 42.0 P.C.D.	Ø 30.15 / 30.02 x4.29 / 3.52 DEEP	2.7
40	31.3	145.41 143.29	72.18	44.0 43.75	29.55 28.73	18.39 17.89	8.71 8.64	9/16"-18 UNF	77.9	254.0	M6 x1.0p 7.5 MIN	23.0	42.3		42.3	F05	4 OFF M6 x1.0p x8.7 DEEP MIN ON 50.0 P.C.D.	Ø 35.15 / 35.02 x4.01 / 3.26 DEEP	4.3
50	37.7	165.34 163.21	82.14	48.75 48.50	29.55 28.73	18.39 17.89	8.71 8.64	9/16"-18 UNF	82.6	254.0	M6 x1.0p 8.7 MIN	23.0	47.4		47.4	F05	4 OFF M6 x1.0p x8.7 DEEP MIN ON 50.0 P.C.D.	Ø 35.15 / 35.02 x4.01 / 3.26 DEEP	5.7

PRESSURE TEMPERATURE RATINGS

ACETAL RESIN



PEEK



FLOW COEFFICIENTS

Valve Size		Flow Coefficients		Equivalent Length of Pipe	
mm	in	Cv	Kv	Feet	Metres
8 - 15	¼ - ½	8.0	6.9	1.9	0.58
20	¾	12.0	10.4	5.5	1.67
25	1	32.0	28.1	3.0	0.91
32	1¼	48.0	41.4	4.6	1.4
40	1½	80.0	69.2	3.9	1.19
50	2	104.0	90.0	9.0	2.28

Cv – Flow in US GPM Pressure – psi
Kv – Flow in M³/hr Pressure – bar

NOTES

- Screwed ends shown for clarity. Butt weld and socket weld variations are available.
- Limiting stem input torque figures are based on random practical laboratory tests. For critical applications where a guaranteed figure is essential consult Worcester Controls.
- When wrench not fitted flats on stem when parallel to pipeline axis, denotes ball open.
- Installation, Operating and Maintenance Instructions are available on request.
- When manifolding, please consult Worcester.
- Ends for staple lock fittings also available.
- 1¼", 1½" and 2" are only suitable for use on Group II liquids at the pressures shown.

STANDARDS OF COMPLIANCE

Screwed Valves	Body connector screwed female to the following thread specifications: NPT ANSI B1.20.1 (NPT) BSP T ISO R/7 BS 21 BSP P ISO R/7 BS 2779 / BS 21 DIN 2999
Socket Weld Valves	Prepared for assembly to plain end pipe in accordance with BS 1600 API 5L BS 3600
Butt Weld Valves	Prepared in accordance with ASME Code Section IX, and to the following specifications: - API 5L BS 1600 Schedules 160/80

Due to continuous development of our product range, we reserve the right to alter the dimensions and information contained in this leaflet as required.

LIMITING STEM INPUT TORQUE

Valve Size		Limiting Stem Input Torque		(See Note 2)
mm	in	lbf/in	Nm	
8 - 20	¼ - ¾	800	90.4	
25 - 32	1 - 1¼	1460	165.0	
40 - 50	1½ - 2	2370	267.8	

How to order Worcester Valves and other Worcester products

Please order Worcester Valves and other products by description, not by part number.

We need a precise description of the valve you require. We will then translate this information into our own coding for order processing and production.

Please state the despatch address and desired date of delivery.



5HP 44 with Norbro's Series 40R pneumatic actuator (l) and Series 75 electric actuator (r).



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