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BS EN ISO 9001



FM 00707

FLowsERVE[®]

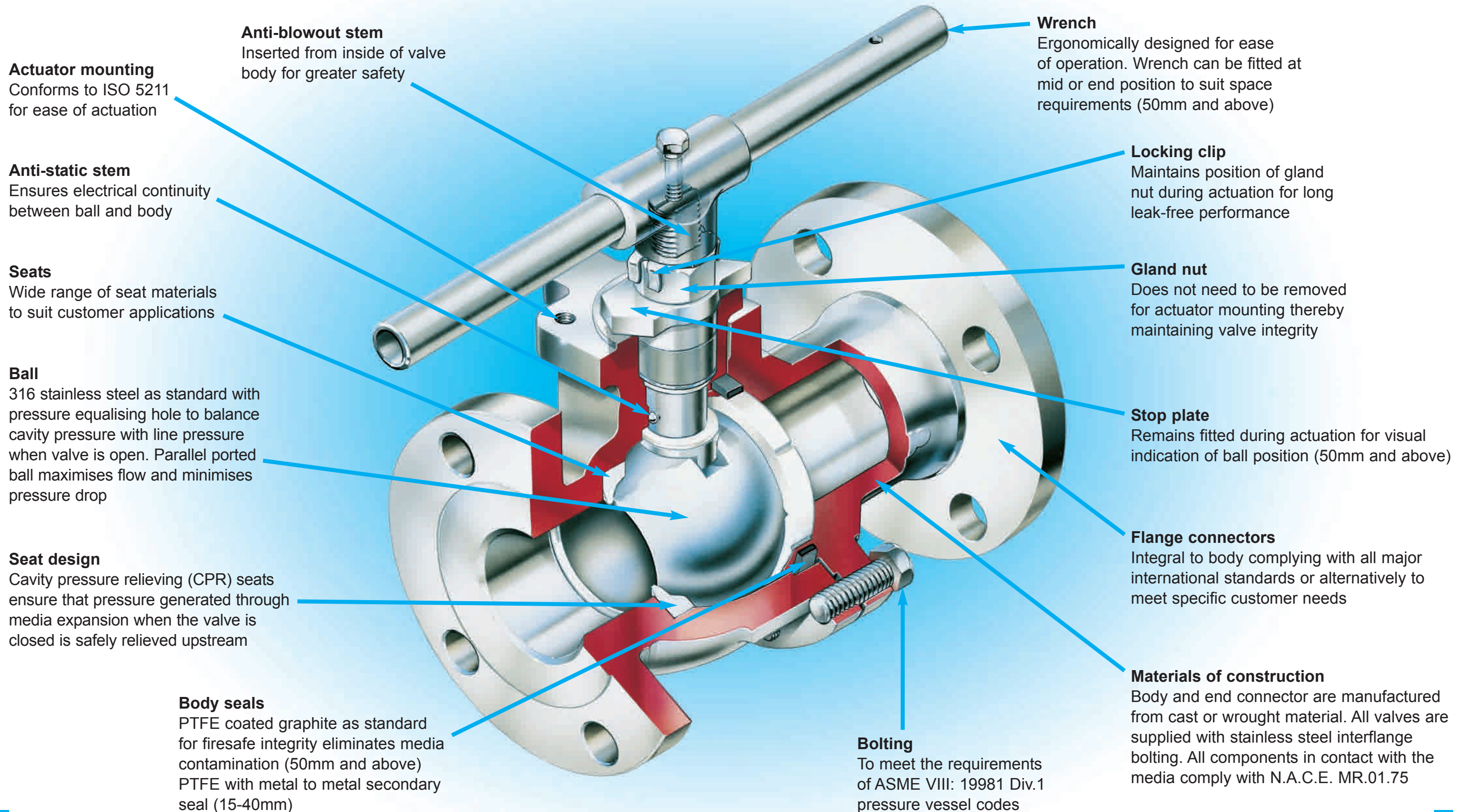
Worcester Controls

F819/829

Full Bore Firesafe Flanged Ball Valves

With the new Series 819/829 designed to BS 5351, Worcester Controls brings to the market a full bore valve which combines low cost of ownership and long service life with high operational safety and a range of features which now sets the standards for others to follow.

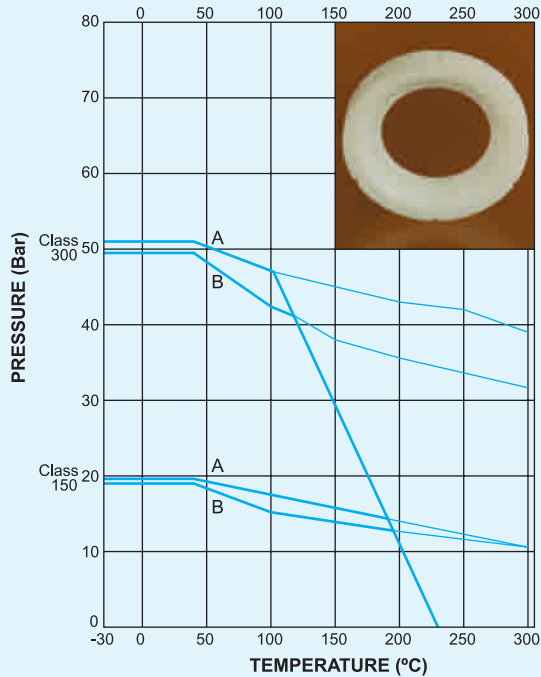
What remains unchanged however is Worcester Controls' total dedication to quality and service support. All of this is the result of following one simple strategy – to listen and respond to the needs of our customers.



PRESSURE/TEMPERATURE RATINGS

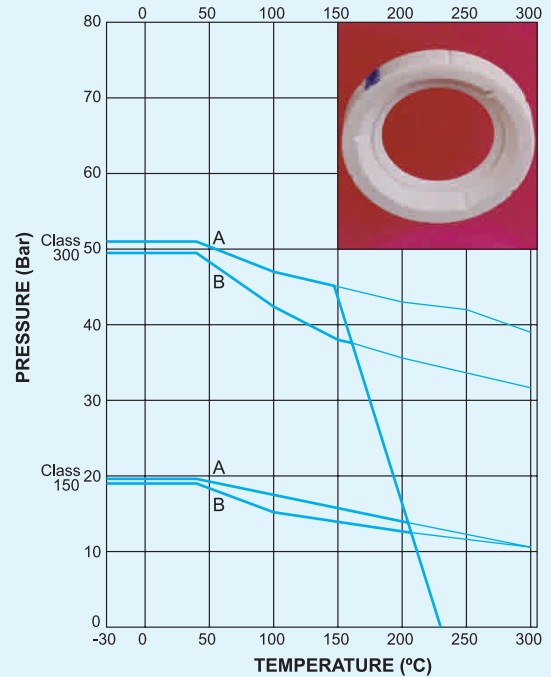
PTFE SEATS (T)

Virgin PTFE is the most common sealing material and is suitable for almost all media as it has excellent chemical resistance.



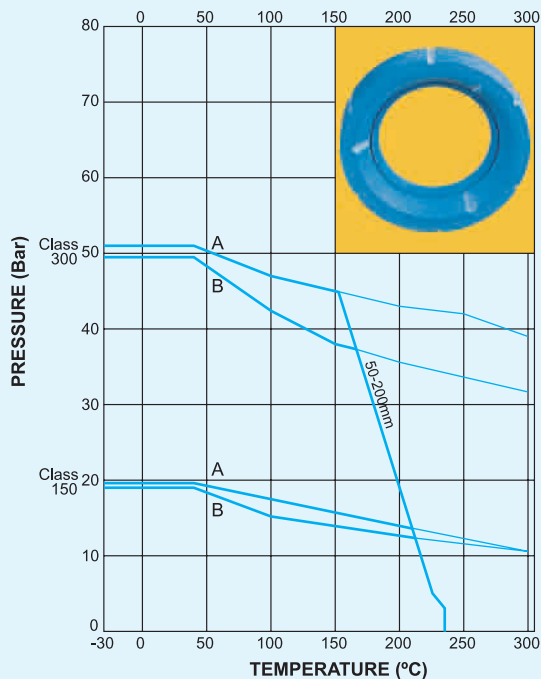
15% GLASS FILLED PTFE (R)

Glass re-inforced PTFE seats are stronger than virgin and have higher pressure/temperature ratings. Chemical resistance as per virgin PTFE.



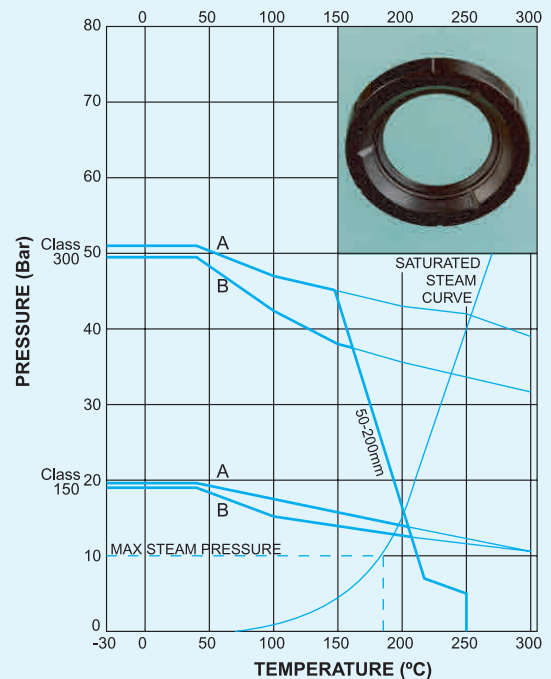
25% GLASS FILLED PTFE (H)

Glass re-inforced PTFE material offering a greater pressure / temperature capability than the R seat.



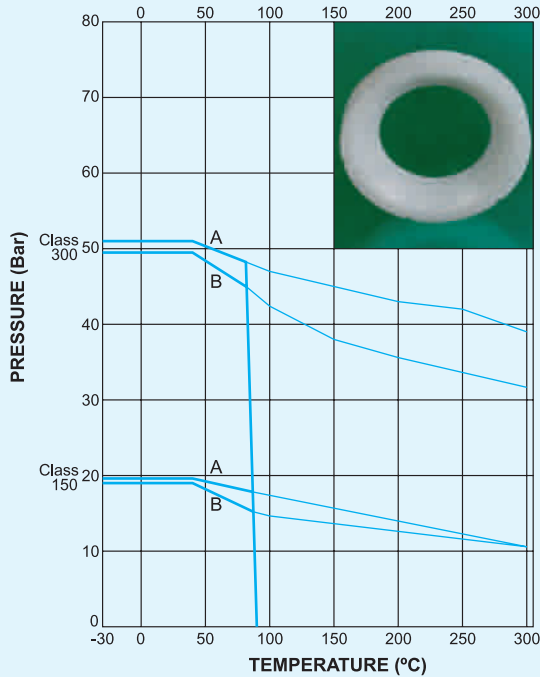
FLUOROFILL (P)

Carbon, glass and graphite filled PTFE material, an excellent seat material for steam and thermal services. Due to its high cycling capabilities, it is the recommended soft seat for modulating control applications.



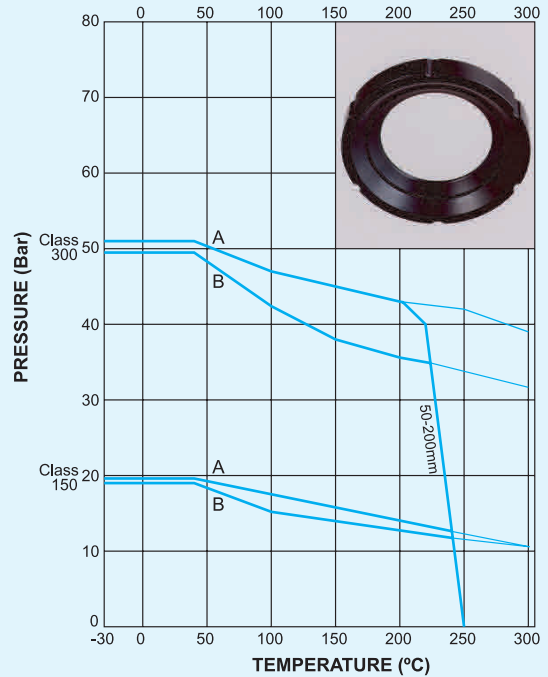
UHMWPE (U)

Ultra High Molecular Weight Polyethylene offers good performance characteristics in applications where PTFE is not suitable (for example on tobacco duty). It also has good abrasion resistance.



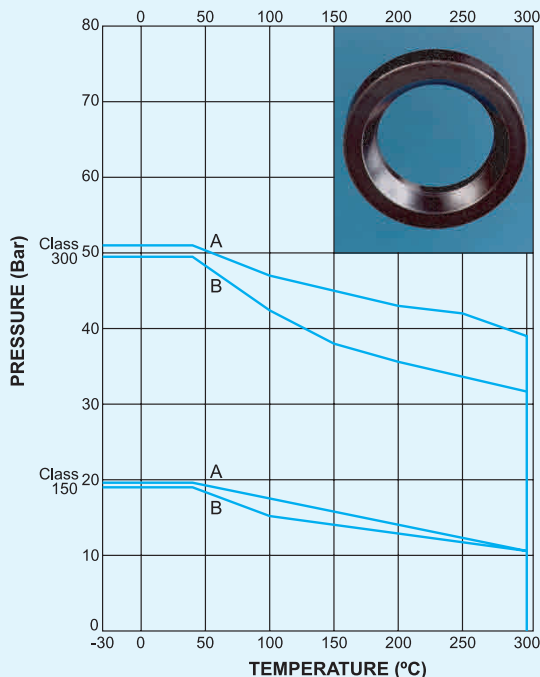
PEEK

PEEK is Poly Ether Ether Ketone, a material which demonstrates outstanding pressure capabilities at elevated temperatures. PEEK has excellent chemical and abrasion resistance.



METAL – ALPHA (N)

A 316L sintered metal seat impregnated with PTFE, this material combines the strength and abrasion resistance of metal with the lubrication properties of PTFE. A graphite-impregnated metal seat is also available.



KEY A = Carbon Steel Body Rating
 B = Stainless Steel Body Rating
 (In accordance with BS1560)

IMPORTANT NOTE

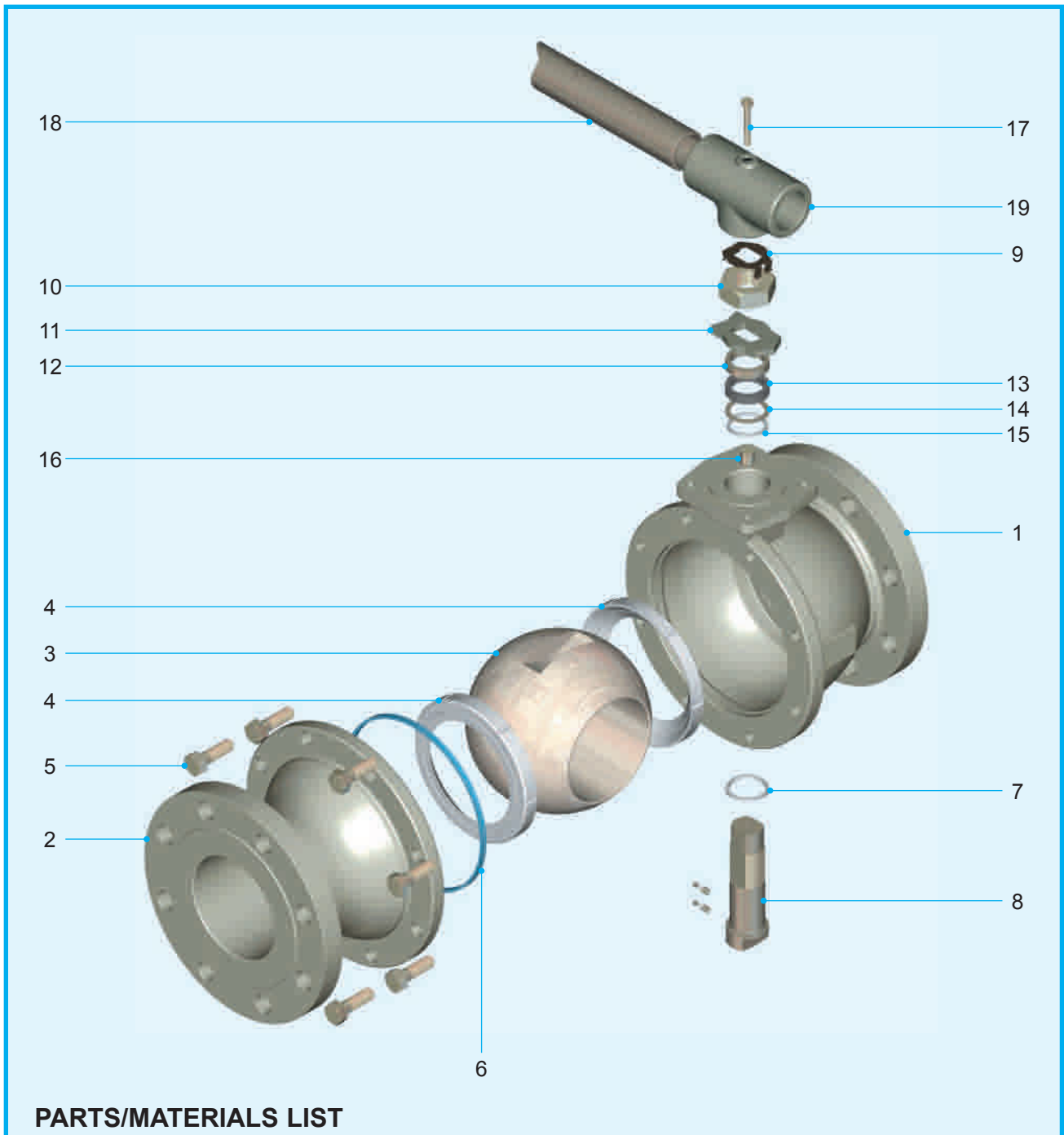
The information given in the pressure/temperature graphs on pages 6/7 indicates the maximum performance capabilities of these seat materials. The full potential of virgin and re-inforced PTFE can be realised in the standard Worcester valve build. For more demanding applications requiring the greater pressure/temperature capabilities of the other seat materials, it is essential that the appropriate valve build is specified.

Examples of these applications include the following:

- Thermal Fluids (P221 Spec.)
- Nuclear Service
- Oxygen Service (Q822 Spec.)
- Tobacco (Q858 Spec.)
- Ammonia (Q797 Spec.)
- Helium (P043 Spec.)
- Toxic Chemicals (eg. Chlorine, Hydrogen Peroxide, Phosgene etc.) – Envirosafe Build
- Vacuum Service (P043 Spec.)

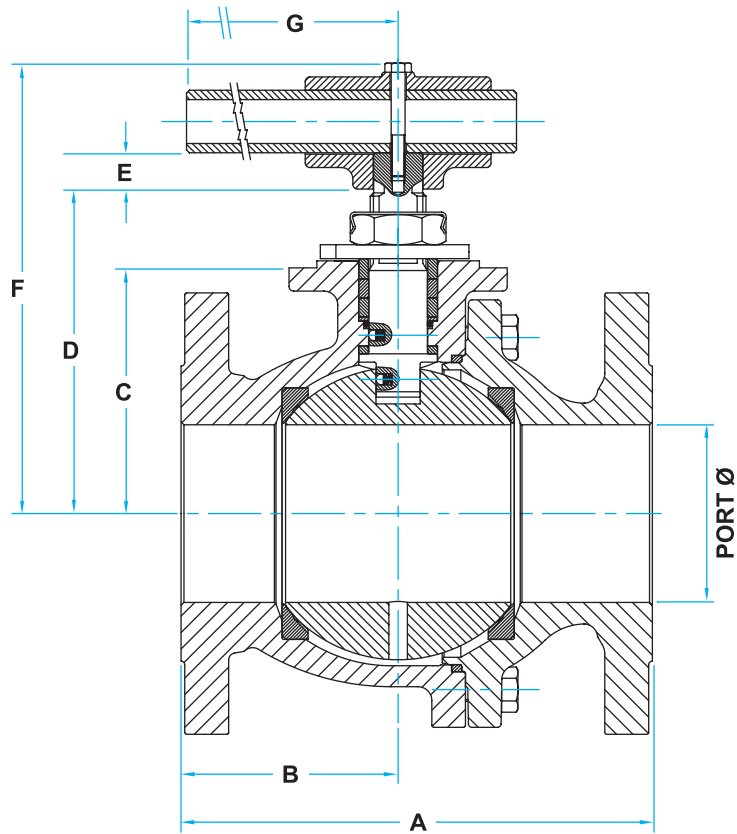
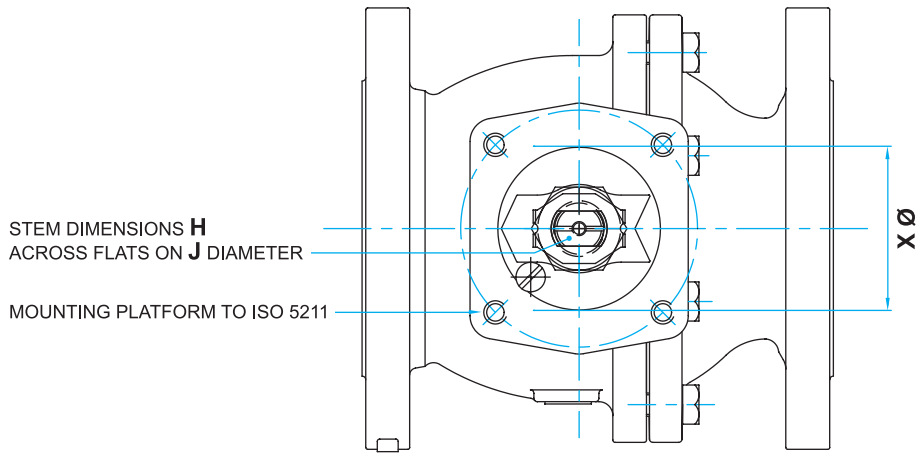
and many more.

To ensure that the correct valve is supplied, please consult Worcester Controls.



PARTS/MATERIALS LIST

ITEM	DESCRIPTION	MATERIAL	ITEM	DESCRIPTION	MATERIAL
1. & 2.	Body & Body Connector	Stainless Steel ASTM-A351 CF8M/ Carbon Steel ASTM A216 WCB	11.	Stop Indicator	Stainless Steel 316 / Zinc Plated Carbon Steel
3.	Ball	Stainless Steel 316 A351 CF8M	12.	Gland	Stainless Steel 316
4.	Seat	PTFE Virgin, PTFE 15% glass filled, VXI, Fluorofill, PEEK, metal or other options (see pages 4 & 5)	13.	Gland Packing	Flexible Graphite
5.	Body Connector Screw	Stainless Steel ASTM A193M B8 CL2/B8M CL2	14.	Stem Location Ring	Stainless Steel 316
6.	Body Seal	PTFE Coated Flexible Graphite	15.	Stem Seal	Virgin PTFE
7.	Stem Thrust Seal	Re-inforced PTFE	16.	Stop Pin	Stainless Steel
8.	Stem	Stainless Steel A479 316	17.	Wrench Fixing Bolt	Stainless Steel / Carbon Steel
9.	Gland Nut Locking Clip	Coated Spring Steel	18.	Wrench	Zinc Plated Carbon Steel
10.	Wrench	Zinc Plated Stainless Steel / Carbon Steel	19.	Wrench Head	Zinc Plated Carbon Steel
			20.	Anti-static Spring	Stainless Steel
			21.	Anti-static Plunger	Stainless Steel



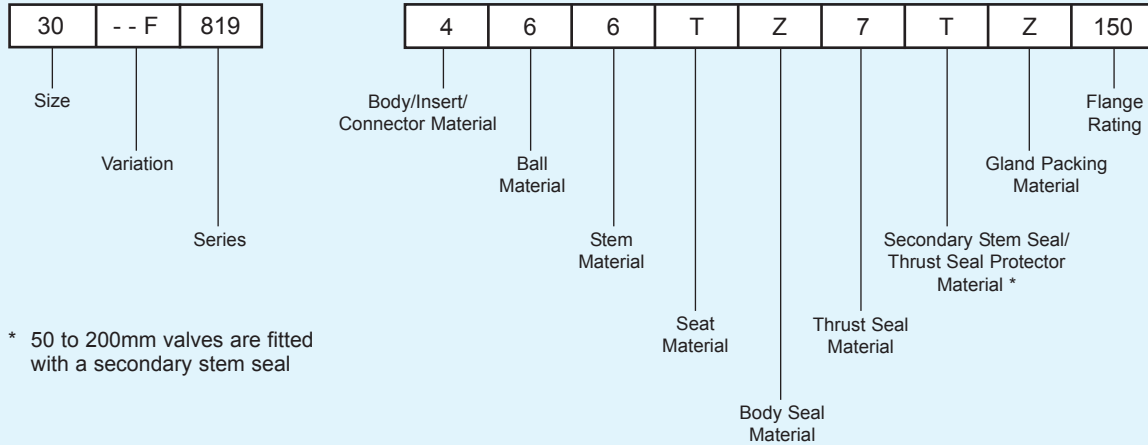
VALVE DIMENSIONS (mm)

819 (ANSI CI. 150)

829 (ANSI CI. 300)

Valve Size (Port Ø)	A	B	C	D	E	F	G	H A/F	J Dia.	X Dia.	ISO MTG	A	B	C	D	E	F	G	H A/F	J Dia.	X Dia.	ISO MTG
50 (51.1)	178	74	87	130	-	156	225	14.0	M20x 1.5p	55.0	F07	216	74	87	130	-	156	225	14.0	M20x 1.5p	55.0	F07
80 (76.5)	203	94	112	162	17.2	201	350	15.1	21.1	55.0	F07	283	94	119	174	21.4	214	557	19.3	27.1	70.0	F10
100 (102.3)	229	117	140	195	21.4	235	557	19.3	27.1	70.0	F10	305	132	147	218	28.6	275	850	26.6	33.1	85.0	F12
150 (151.0)	394	179	182	253	28.6	310	850	26.6	33.1	85.0	F12	403	179	194	270	29.6	327	850	30.4	37.8	100.0	F14
200 (203.3)	457	206	237	313	29.6	-	-	30.4	37.8	100.0	F14	502	231	256	343	36.0	-	-	34.5	42.4	130.0	F16

PRODUCT CODING



NOTES

- When wrench not fitted, flats on stem when parallel to pipeline axis denote open position.
- Installation, Operating and Maintenance instructions are available on request.
- Limiting stem input torque figures are based on random practical laboratory tests. For critical applications where a guaranteed figure is essential, consult Worcester Controls.
- Compliance with ANSI B16.10 requires that 50, 80 and 100mm 819 valves are of shorter pattern face to face lengths than the earlier standard F96 series.

STANDARDS OF COMPLIANCE

Valve Specification	BS 5351, valves for the petroleum industry. Lloyds Register type approved. Pressure Equipment Directive 97/23/EC
Flanges 819	BS 1560 Class 150
Flanges 829	BS 1560 Class 300
Face to Face Lengths	ANSI B16.10 as standard. 50, 80 & 100mm Class 150 to BS2080 optional. (See Note 4)
Pressure Test Specification	BS 6755 Part 1
Firesafe Specification	BS 6755 Part 2, ISO 10497, API 6FA, API 607 4th Edition
Quality Assurance	ISO 9000
Sour Gas Applications	NACE MR.01.75 (internal only)

TECHNICAL INFORMATION

Valve Size (mm)	Series	Weight kg	Limiting Stem Input Torque - Nm	Flow Coefficients	
				Cv	Kv
50	819	12.0	192	501	423
	829	15.0			
80	819	22.0	336	1158	978
	829	32.0			
100	819	40.0	620	2118	1789
	829	57.0			
150	819	88.0	1138	5074	4287
	829	117.0			
200	819	176.0	2006	9337	7889
	829	236.0			

See Note 3

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



Worcester's 819 full bore valve mounted with the Norbro 40R pneumatic actuator (l) and Series 75 electric actuator (r).



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Flow Control Division

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