



0086

BS EN ISO 9001



FM 00707



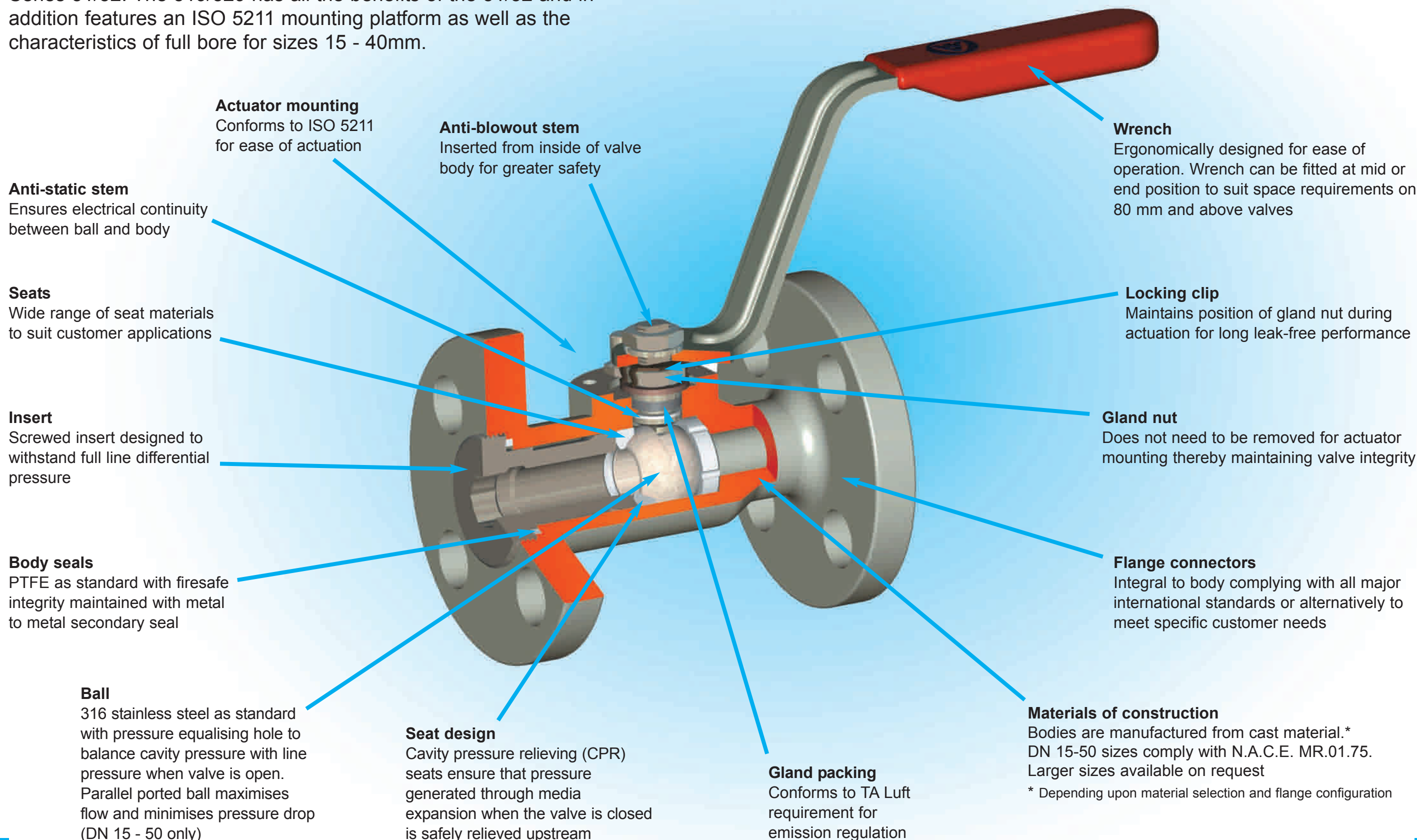
*Worcester Controls*

*5 Series*

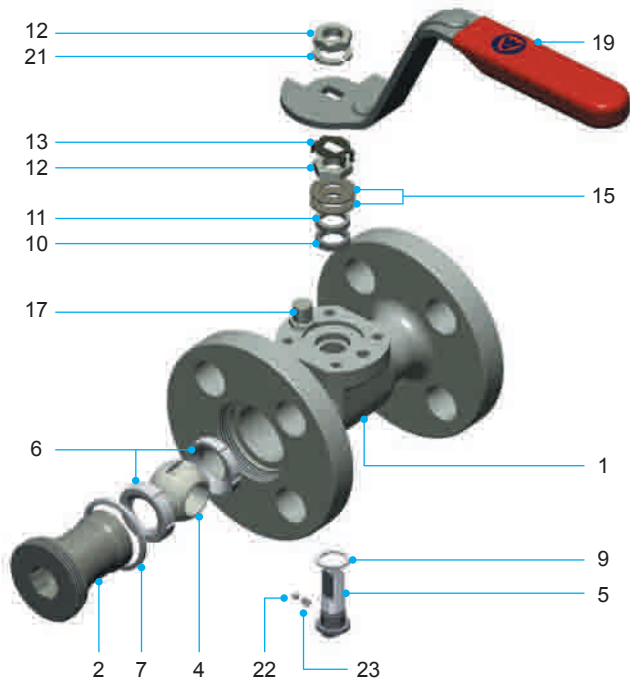
*BS 5351 Approved Flanged Ball Valves*

Worcester is proud to announce the introduction of its new 519/529 range of ball valves which replaces the DN 15 - 50 sizes of the proven Series 51/52. The 519/529 has all the benefits of the 51/52 and in addition features an ISO 5211 mounting platform as well as the characteristics of full bore for sizes 15 - 40mm.

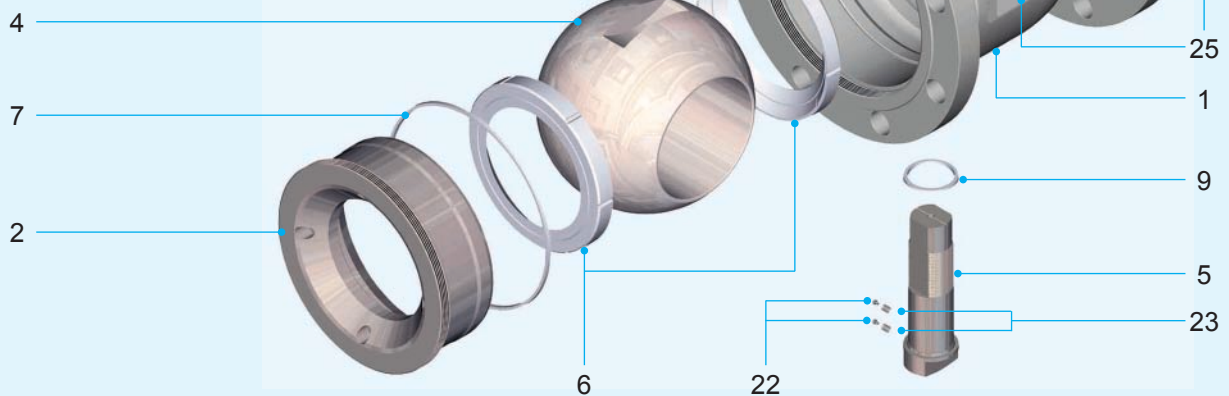
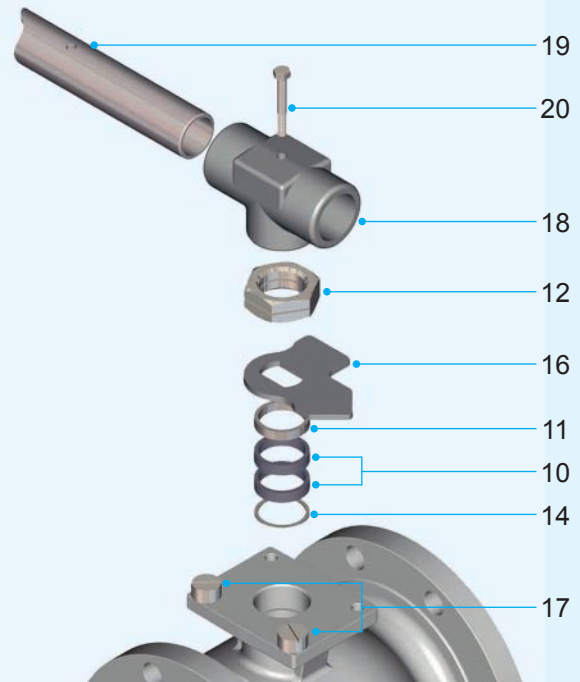
The new Series 519/529 has been independently third party approved to BS 5351, including fire testing to BS 6755 Part 2.



**519/529 (15-50mm)**



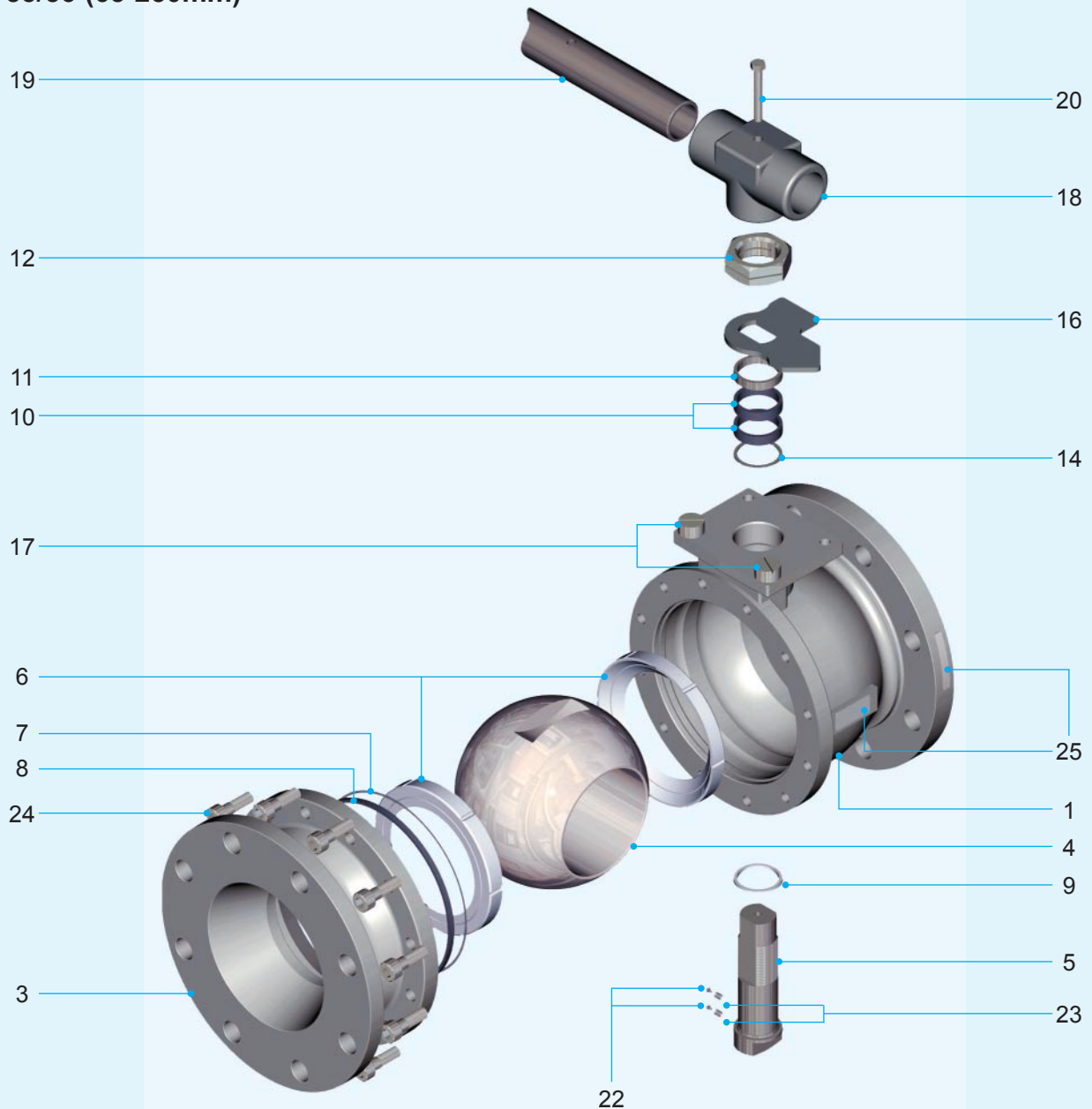
**51/52 (80-200mm)**



**Parts/Materials List**

ITEM	DESCRIPTION	MATERIAL
1.	Body	Stainless Steel ASTM A351 CF8M Carbon Steel ASTM A216 WCB
2.	Insert	Stainless Steel 316/A182 F316/Carbon Steel BS 970 070M20/ASTM A352
3.	Body Connector	Stainless Steel/Carbon Steel ASTM A351 CF8M ASTM A216 WCB
4.	Ball	Stainless Steel 316L
5.	Stem	Stainless Steel 316L
6.*	Seat Ring	PTFE Virgin, PTFE 15% / 25% glass filled, Fluorofil, PEEK, metal or other options
7.*	Body Seal	PTFE Virgin (15-50mm) PTFE 25% glass filled (80-200mm)
8.*	Secondary Body Seal	Stainless Steel/Flexible Graphite
9.*	Stem Thrust Seal	PTFE 25% glass filled
10.*	Gland Packing	Flexible Graphite
11.	Gland	Stainless Steel
12.	Gland / Wrench Nut	Stainless Steel (8-50mm) Carbon Steel/Stainless Steel (80-250mm)
13.*	Gland Nut Locking Clip	Carbon Steel Rustproofed

55/56 (65-250mm)



Parts/Materials List

ITEM	DESCRIPTION	MATERIAL
14.	Stem Location Washer	Stainless Steel
15.*	Disc Spring	Stainless Steel
16.†	Indicator Stop	Stainless Steel/Carbon Steel Rustproofed
17.	Stop Pin	Stainless Steel/Carbon Steel
18.†	Wrench Head	Malleable Iron
19.†	Wrench	Stainless Steel 15-50mm, Carbon Steel 80-200mm
20.†	Wrench Fixing Bolt	Stainless Steel
21.	Spring Washer	Stainless Steel
22.	Anti-static Plunger (See Note 4 on page 10)	Stainless Steel
23.	Anti-static Spring (See Note 4 on page 10)	Stainless Steel
24.	Body Connector Screw	Carbon Steel
25.	Identification Plate	Stainless Steel

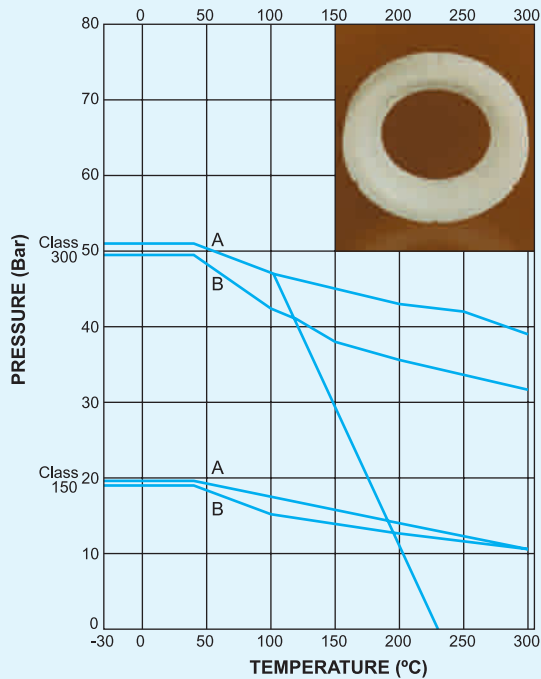
\* Items marked thus denote component supplied in repair kit

† Wrench assembly not fitted on size 250mm

## PRESSURE/TEMPERATURE RATINGS

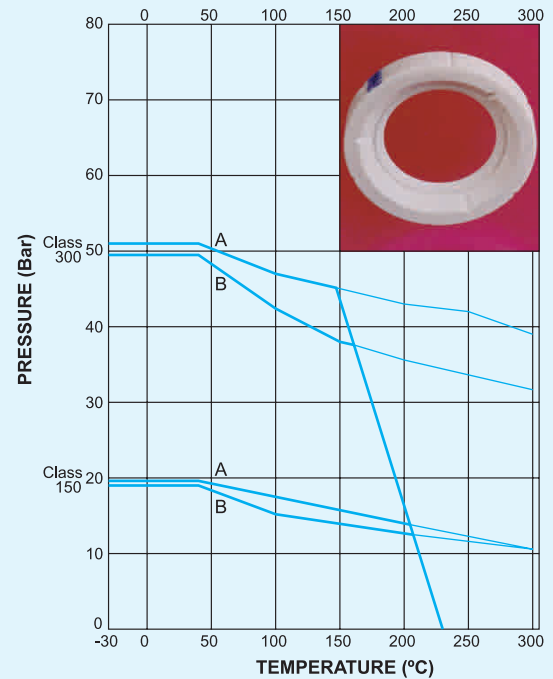
### PTFE SEATS (T)

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



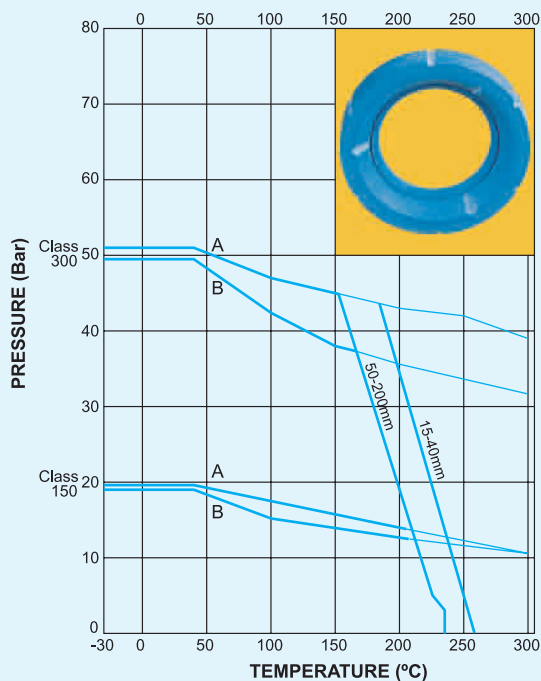
### 15% GLASS FILLED PTFE (R)

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



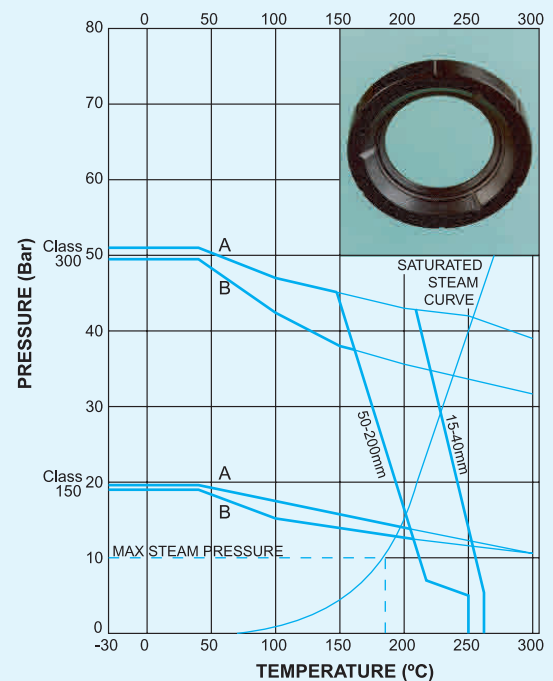
### 25% GLASS FILLED PTFE (H)

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



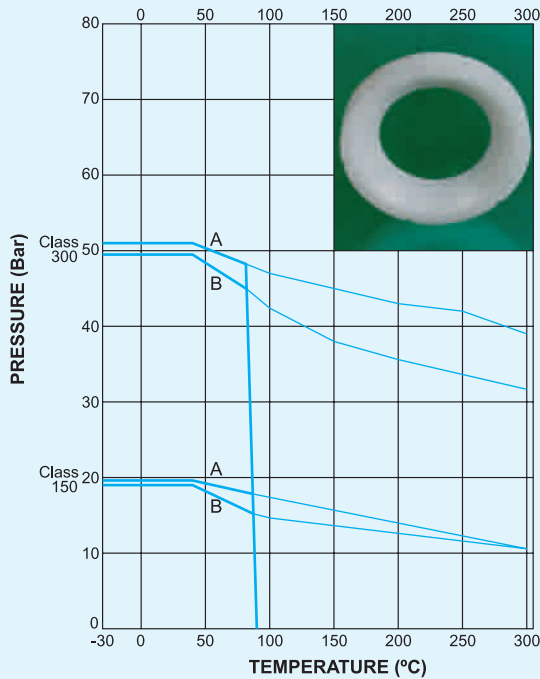
### FLUOROFILL (P)

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.



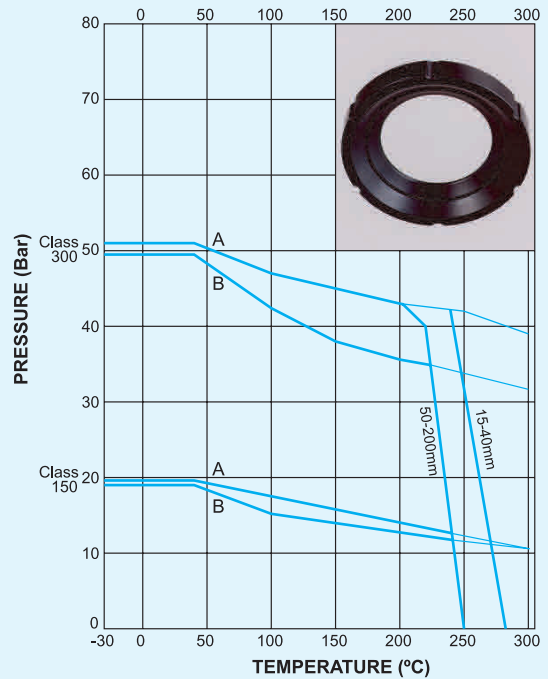
**UHMWPE (U)**

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.



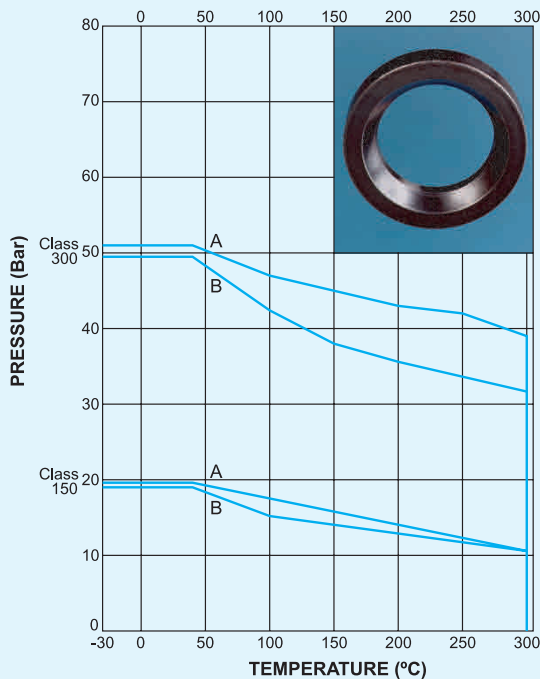
**PEEK (A - DN15-25) (X - DN32-150)**

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



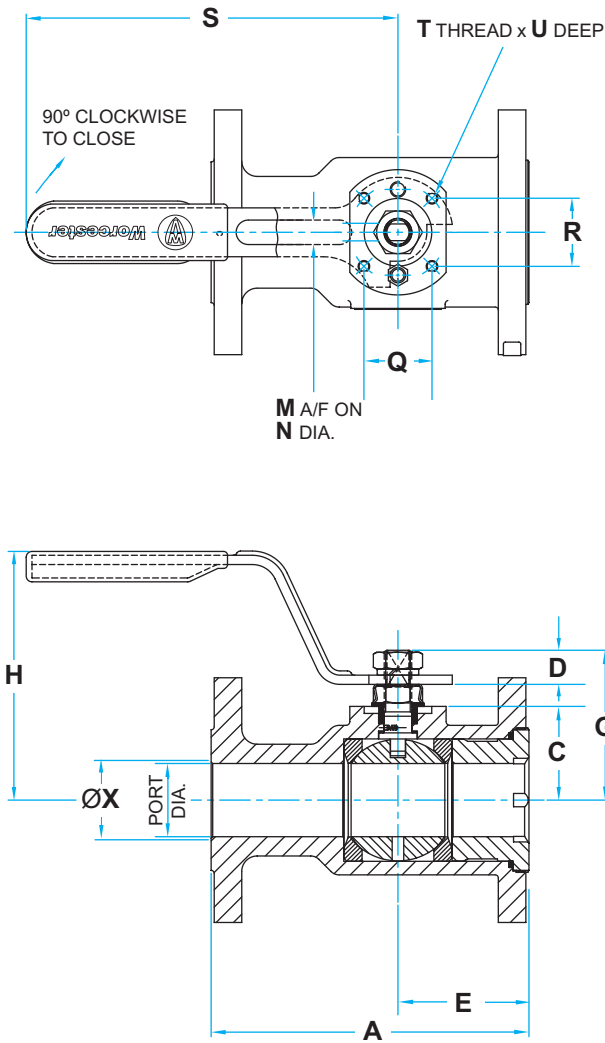
**METAL - ALPHA (N)**

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.

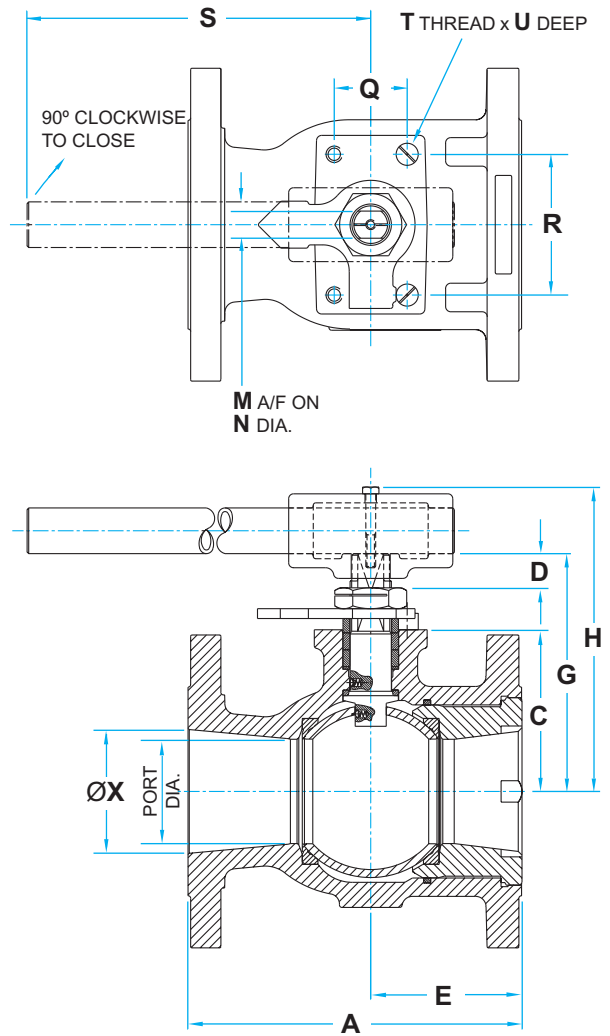


**KEY** A = Carbon Steel Body Rating  
 B = Stainless Steel Body Rating  
 (In accordance with BS1560)

519/529



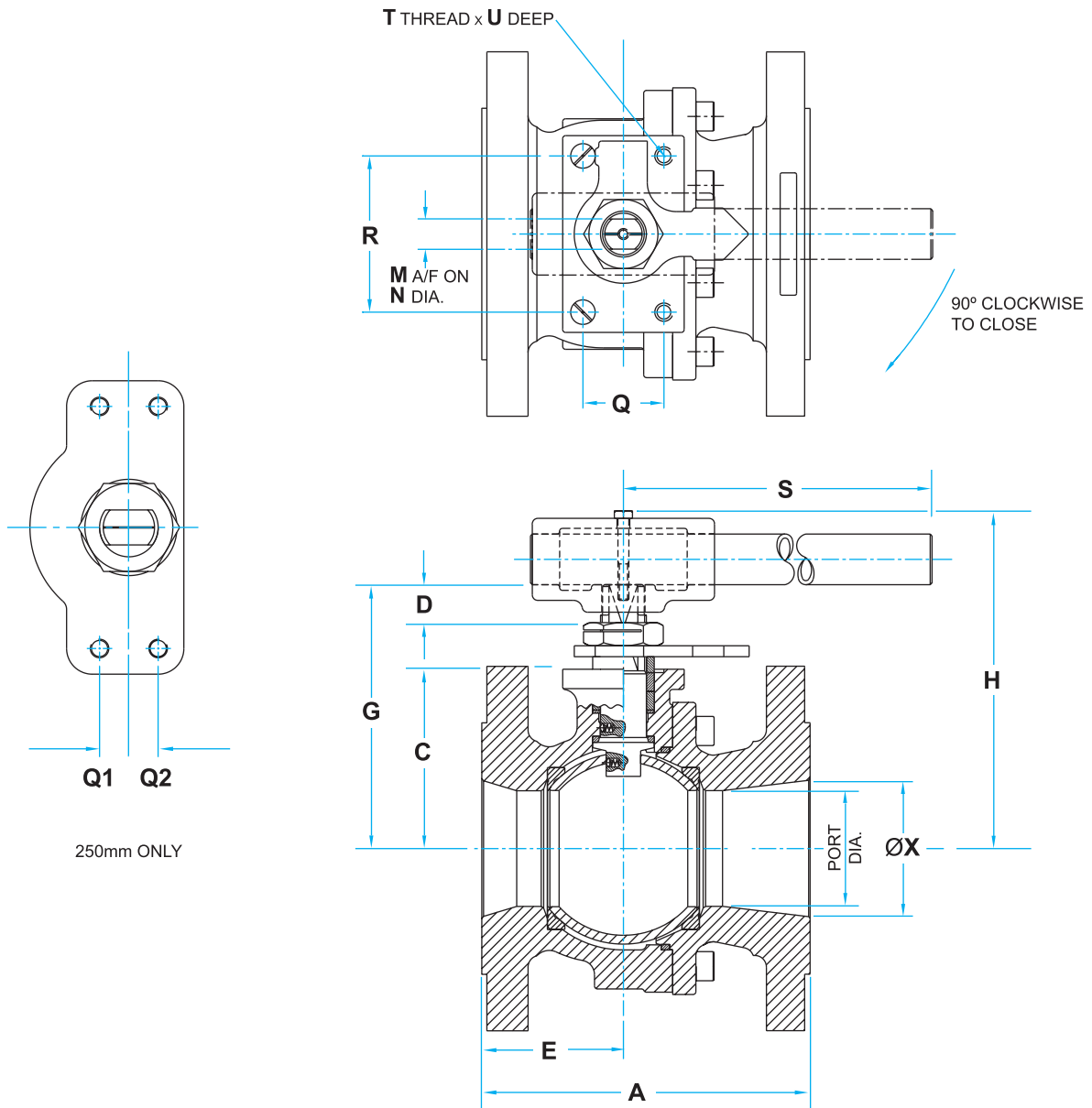
51/52



Valve Dimensions

VALVE SIZE (mm)	VALVE SERIES	PORT DIAMETER	A		C	D	E		G	H
			Cl. 150	Cl. 300			519 / 529	55 / 56		
15	519/529	13.9	108	140	23.1	10.5	52.5	-	40.3	102.0
20	519/529	20.1	117	152	32.2	15.0	57.0	-	55.5	115.0
25	519/529	25.4	127	165	37.0	15.0	63.0	-	60.4	120.0
40	519/529	38.1	165	190	48.6	19.1	68.0	-	77.8	134.0
50	519/529	38.1	178	216	46.8	19.1	70.9	-	77.8	122.2
65	55	50.8	190	-	74.2	17.1	-	68.0	116.0	143.0
80	51/52/55	63.5	203	283	98.4	16.7	91.9	77.8	144.8	183.7
100	51/52/55	82.6	229	305	114.0	16.7	101.4	84.1	160.5	199.4
150	51/52/55	111.1	267	403	157.2	26.2	107.8	120.6	226.1	283.6
200	51/52/55	144.5	292	419	185.0	26.2	144.3	126.5	253.6	311.0
250	55/56	203	330	457	260.4	31.8	-	165 / 228.5	343.0	-

55/56



M (Max.)	N Dia.	Q	R	S	T	U	X	Approx. Weight Kgs		
								519/51	529/52/56	55
5.54	9.5	25.5	25.5	165.0	M5	8	13.9	1.8	1.9	-
7.54	11.1	29.7	29.7	178.0	M5	9	20.1	2.4	3.5	-
7.54	11.1	29.7	29.7	178.0	M5	9	25.4	3.3	4.7	-
8.71	14.3	35.4	35.4	204.0	M6	10	38.1	5.8	8.6	-
8.71	14.3	35.4	35.4	204.0	M6	10	48.0	8.2	10.0	-
14.00	20.0	32.0	70.0	254.0	M8	14.0	63.5	-	-	13.0
15.87	23.0	44.5	85.7	350.0	M10	11.1	77.8	17.7	26.7	20.0
15.87	23.0	44.5	85.7	558.0	M10	11.1	102.4	28.2	39.5	26.7
23.80	35.3	76.2	101.6	850.0	M12	14.3	154.0	52.0	76.6	58.2
23.80	35.3	76.2	101.6	850.0	M12	15.9	203.2	82.0	120.0	89.0
30.40	44.6	<sup>Q1/Q2</sup> 31.8 / 25.4	209.5	-	M16	28.6	255.6	-	204.0	145.0



**NOTES**

1. When wrench not fitted, flats on stem when parallel to pipeline axis denote open position.
2. Installation, Operating and Maintenance instructions are available on request.
3. Limiting stem input torque figures are based on random practical laboratory tests. For critical applications where a guaranteed figure is essential, consult Worcester Controls.
4. For valve sizes 15-50mm only one anti-static ball and spring is fitted.

**STANDARDS OF COMPLIANCE**

Valve Specification	BS 5351, valves for the petroleum industry. Lloyds Register type approved.
Flanges	BS 1560 Class 150 / Class 300 BS 4504 PN16 / PN40
Face to Face Lengths	ANSI B16.10 BS 2080
Pressure Test Specification	BS 6755 Part 1
Firesafe Specification	BS 6755 Part 2, ISO 10497, API 6FA, API 607 4th Edition
Quality Assurance	ISO 9001
Sour Gas Applications	NACE MR.01.75 (15 to 50mm as standard)

**TECHNICAL INFORMATION**

Valve Size (mm)	Limiting Stem Input Torque - Nm	Flow Coefficients	
		Cv	Kv
15	13.2	32	27
20	24.4	54	46
25	24.4	94	80
40	48.6	254	219
50	48.6	130	112.5
80	385	350	303
100	385	720	623
150	1570	1020	882
200	1570	1800	1557
250	2640	2970	2560
See Note 3		Cv - Flow in US GPM Pressure - psi Kv - Flow in M <sup>3</sup> /hr Pressure - bar	

**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-reinforced 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.

## OTHER FLANGED VALVES



With the Series 819/829, Worcester brings to the market a full bore valve designed to BS 5351 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.

With the Enviro-Safe E51/52, Worcester's primary aim was to design a range of high integrity Class 150/300 ball valves to prevent external leakage in demanding applications such as highly toxic media (phosgene, chlorine etc) or with very costly media where wastage is unacceptable. Available in sizes from 15 - 150mm.



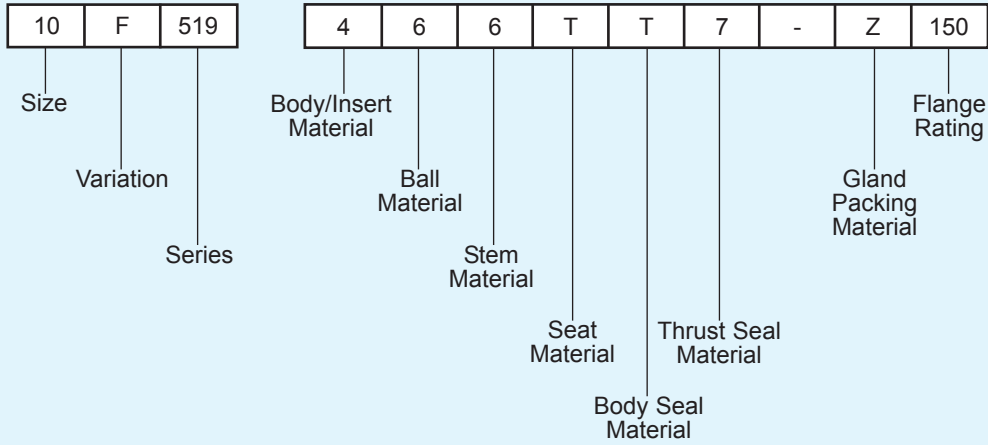
The modular Series 18/19 multi-way valve satisfies the need for diverting media through a number of flow paths. Currently used extensively on a variety of chemical and food processes, the potential applications for this firesafe valve are extensive. When compared with a plug valve for example, the Series 18/19 offers numerous advantages, including bubble tightshut-off, long sealing life, extended temperature range, ease of maintenance, material range, no need for sealant etc.

The Series C51/52 is a fully designed cryogenic flanged valve for liquid gases (propane, butane, etc.), as well as thermal cycling fluids such as Dowtherm which involve both high and low temperatures.

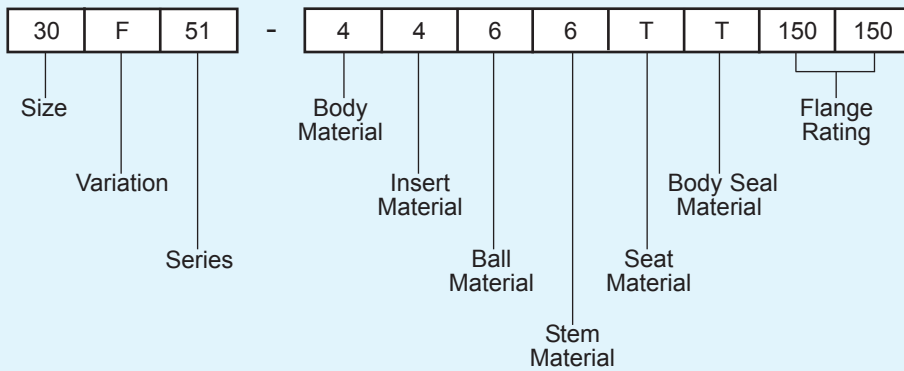


The Series 53/54 is Worcester's range of metric, integrally flanged valves conforming to DIN 3202. The valves are designed to BS 5159 and are supplied as F53/54 anti-static and fire rated.

**PRODUCT CODING 519/529**



**PRODUCT CODING 51/52**



**Flowserve Flow Control (UK) Ltd**  
 Burrell Road, Haywards Heath, West Sussex RH16 1TL  
 T: +44 (0)1444 314400 F: +44 (0)1444 314401  
 E-mail: [wwukinfo@flowserve.com](mailto:wwukinfo@flowserve.com)  
 Website: [www.worcestercontrols.co.uk](http://www.worcestercontrols.co.uk)



TM indicates a trade mark of Worcester Controls Information given in this leaflet is made in good faith and based upon specific testing but does not, however, constitute a guarantee