

Manual Operation of Gate Valves

The following table gives an approximate guide to the maximum unbalanced pressures in kPa against which wedge gate valves can be operated by one man exerting an effort of 200 N at the rim of the handwheel of standard dimensions, or two people exerting an effort of 400 N.

Valve Size	Maximum Unbalanced Pressure (kPa)			
	Plain Thrust Collar	Handwheel		Gearbox with Ball Thrust Collar
		Ball Thrust Collar		
		One Man Operation	Two Man Operation	
80	2500			
100	2500			
150	2500			
200	1600	2500		
250	-	1800	2500	
300	-	1300	2200	2500
350	-	1000	1600	2500
400	-	750	1300	2500
450	-	600	800	2500
500	-	370	650	2500
600	-	250	450	2500
700	-	-	-	1600
800	-	-	-	1600
900	-	-	-	1600

Spur gear ratios 300mm - 400mm 3:1 to 4:1 450mm - 600mm 4:1 to 8:1 700mm - 900mm 6:1 to 16:1

Optional Accessories

For valve operation:

Spur or bevel gearing, electric actuators with actuator mounted direct or remote and floor mounted pedestals with extension rods plus muff or universal couplings.

Anti-friction devices:

The use of machined bronze gate slides which assist the movement of the gate up and down the body, recommended for valves under relatively high differential pressures and/or valves mounted on their sides. (NB. Not fitted to 50 - 300mm valves.)

Ball thrust bearings fitted at stem collar, thereby reducing the torque required to operate the valve.

Sundry:

Gate valves can be provided with: Integral mounted bypass arrangements; drain or easing screws at the bottom of the body; plate or differential open to shut indicators; stems in stainless steel or other special materials.

D Series Wedge Gate Valves



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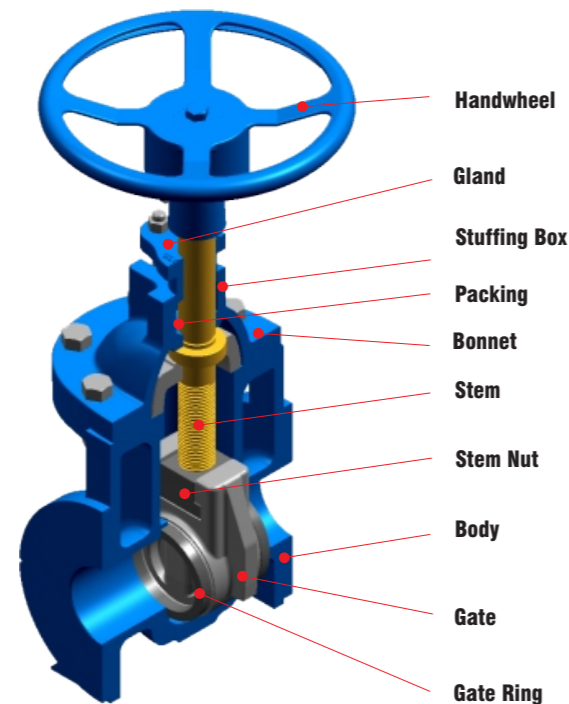
Features and Benefits

Body Bonnet Shape
Guides
Seats
Stem
Gland bolt housing
Markings

Oval for greater strength
Long guide in body and on gate to give support through its travel
Hydraulically pressed into body
Strong stub acme or trapezoidal form thread
Arranged for easy removal of bolts.
Standard requirements clearly marked on body.

Valves are of metal seated wedge gate design and are available in both bronze fitted and all iron fitted seat versions, with the choice of non-rising or rising stem.

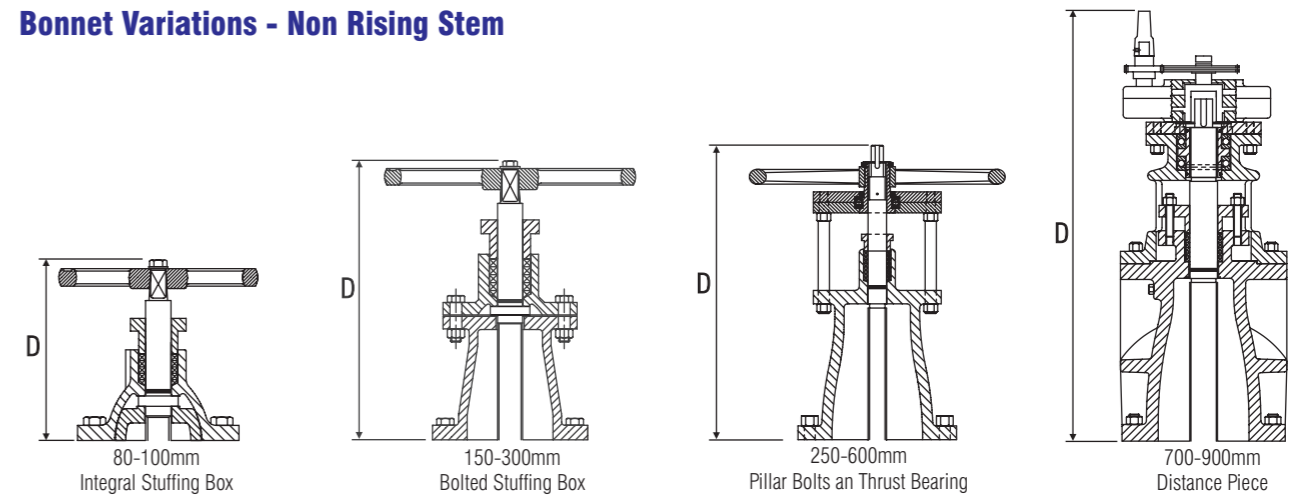
Typical Non Rising Stem



Standard Materials of Construction

Body, bonnet, stuffing box yoke, gland and handwheel	Cast Iron to SABS 1034 Gr250/ BS 1452 Gr. 220 Ductile Iron to SABS 936 SG 42 /BS 2789 GR. 420/12
Seat and Gate Rings (Bronze Fitted)	Gunmetal BS 1400 Grade Lg2
Sea and Gate Rings (All Iron Fitted)	Malleable Iron
Stem (Bronze Fitted)	High Tensile Brass BS 2872 Gr Cz114 or Stainless
Stem (All Iron Fitted)	Steel BS 970: 304S 15 Mild Steel 970 Gr. En 3 or Stainless Steel BS 970: 304S 15
Jointing	Klingerite
Packing	Graphited Fibre

Bonnet Variations - Non Rising Stem



Bonnet Variations - Rising Stem

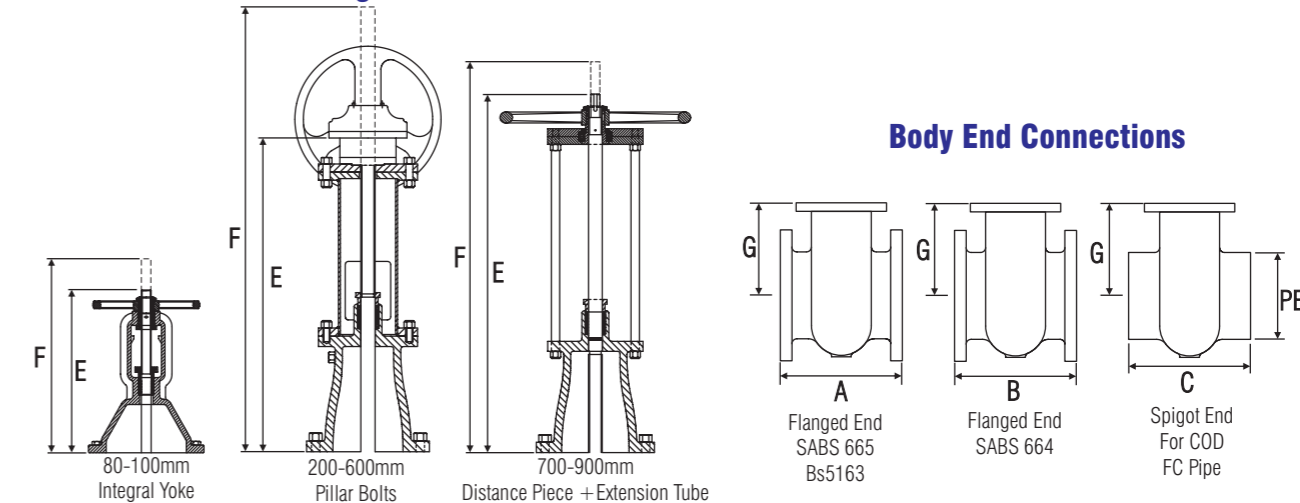


Figure Numbers for Specifying Trim and End Connections

BONNET ASSEMBLY	DIRECTION OF CLOSING	CAP TOP OR H/WHEEL	SABS 664		SABS 665 (or BS150/BS5163)			
			BRONZE TRIM	FLANGED Pn16	BRONZE TRIM	ALL IRON TRIM		
					FLANGED Pn16	FLANGED Pn25	FLANGED Pn16	FLANGED Pn25
Non Rising Stem	CC	CT	D324					
	CC	HW	D334	D534	D536	D434	D436	
	AC	CT	D344					
	AC	HW	D354					
Rising Stem	CC	HW	D364	D564	D566	D464	D466	

Valve Dimensions and Weights

All dimensions in mm

NOMINAL BORE	80	100	150	200	250	300	350	400	450	500	600	700	800	900	
FACE TO FACE SABS 665 OR BS150/BS5163	A	203	229	267	292	330	356	381	406	432	457	508	610	660	711
FACE TO FACE SABS 664	B	229	254	280	317	356	380	470	470	485	510	600	610	660	711
BONNET FLANGE TO STEM (N/R)	D	242	242	383	421	508	541	684	716	845	884	942	1288	1378	1482
BONNET FLANGE TO STEM (CLOSED)	E	262	262	445	574	613	712	923	1026	1120	1218	1377	1739	1794	2126
BONNET FLANGE TO STEM (OPEN)	F	345	370	615	803	880	1030	1288	1453	1597	1755	2010	2445	2606	3075
CENTRE TO BONNET FLANGE	G	168	210	194	240	292	343	375	454	501	533	656	750	820	980
SPIGOT DIAMETER	PE	95	122	177	232	286	345	-	-	-	-	-	-	-	-
HANDWHEEL DIAMETER N/R		250	315	400	400	500	500	610	610	610	610	610	750	750	750
HANDWHEEL DIAMETER R/S		200	250	380	380	500	500	610	610	610	610	610	750	750	750
WEIGHT (APPROX) kg N/R		25	32	57	96	165	215	428	472	630	750	1082	1810	2130	2950
WEIGHT (APPROX) kg R/S		27	34	62	100	172	223	434	503	646	781	1148	1880	2220	3070