

2/2-Way Globe Control Valve, Pneumatically Operated Cast Stainless Steel Body with Flanges

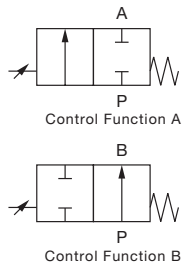
Continuous Globe valve

PRELIMINARY
Index 32
dd. 17.04.01



2712

DN 10 – 50



- ✓ Fully integrated in Burkert's Easy Process Control Systems
- ✓ New generation with interchangeable trims, all in stainless steel
- ✓ Integrated, cascade process controller with PID algorithm
- ✓ Automatic self-adjustment of basic parameters means autotune for the valve and for PID
- ✓ Quality certifications available

Picture showing a complete Burkert System using Type 2712 with TOP Control 8630

Control valve 2712 consists of a globe valve body with pneumatic piston actuator. The trim is in the form of a parabolic plug/seat system. This results in a favourable characteristic for continuous variation of the flow as a function of the parabolic plug position. Type 2712 can be actuated by the Continuous TOP Control type 8630 or SIDE Control Type 1067 and 8635. TOP Control/SIDE Control thus forms a mechanical and functional unit with the pneumatic actuator as a complete control valve system. With this control valve system, every need in the continuous control of fluids can be solved.

Process Specification

Materials		Cast Stainless Steel 316 L (conform to 1.4409)
Body		PA
Actuator		• SS/SS
Sealing		• PTFE/SS
Process media (for gases and liquids)		• For neutral gases, water, alcohols, oils, fuels, hydraulic liquids, salt solutions, lyes, organic solvents, steam (10 bar/+180 °C)
Viscosity		Max. 600 mm ² /s
Packing gland		PTFE V-rings (silicone grease) With spring compensation
Nominal pressure		PN 25 (body)
Temperatures		-10°C... +180°C
Fluid		-10°C... +60°C
Ambient		Instrument air class of 3
Control media		DIN ISO 8573-1
Pilot pressure		5.5... 7 bar
Threads		G 1/4 stainless steel (SS)
Flow direction		Below seat
Interchangeable seat		Different Kvs-values per port size
Valve characteristics		See flow-rate characteristics on page 2
Control ratio		Kvs/Kvo 50:1
Seatleakage IEC 534-4/EN 1349		Shut-off class IV for SS/SS Shut-off class VI for PTFE/SS
Port connections		
Flange	DIN	• DIN 2634 RF ¹⁾
	ANSI	• face-to-face EN 558-1 (DIN 3202)
		• ASME B16.5 RF ¹⁾ Class 150
		• face-to-face EN 558-2 (ISA S75.03)
	JIS	• JIS B2238 ordinary type JIS 10K RF ¹⁾ ;
		• face-to-face JIS B2002 serie 20 (ANSI B16.10) (EN 558-2)

¹⁾ Raised face (RF)

Applications: Food & Beverage

- CIP / SIP; Steam
- Auxiliary Processes

Water Treatment

- Air Control
- Chemical Dosing

Cosmetics

- CIP / SIP; Steam

Textile

- Steam; Water; Air; Dyeing

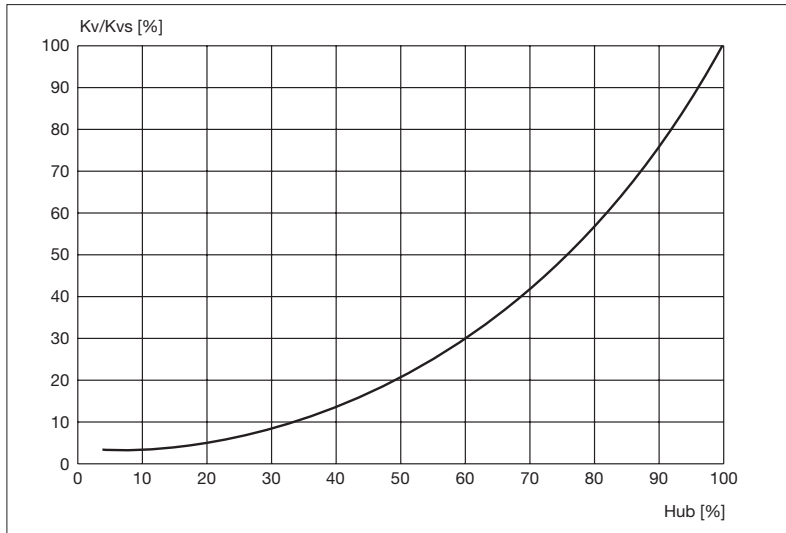


Port size (tube)	Orifice DN (seat)			Actuator size	Kvs-value water			Weight with controller 8630 (DIN) [kg]
	1	2	3		1	2	3	
[mm]	[mm]			[mm]	[m ³ /h]			
10	-	8	10	F-80	-	2.0	2.7	4.5
15	8	10	15	F-80	2.1	3.1	4.3	4.5
20	10	15	20	F-80	3.2	5.2	7.1	5.2
25	15	20	25	F-80	5.3	7.2	12.0	6.2
32	20	25	32	G-100	8.0	13.0	17.8	10.2
40	25	32	40	G-100	13.6	20.2	23.8	11.1
50	32	40	50	H-125	21.0	24.6	37.0	16.6

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Flow curve and description



Remarks on the flow characteristic

- Equipercentile parabolic plug; linear plug can also be supplied
- Flow characteristic runs within DIN/IEC 534-2-4
- Theoretical control ratio $K_{vs}/K_{vo} = 50 : 1$ other control ratios can also be realized
- K_{vR} value at 5% of stroke for $DN > 10$ mm
 K_{vR} value at 10% of stroke for $DN \leq 10$ mm
(K_{vR} value = smallest K_v value at which the gradient tolerance to DIN/IEC 534-2-4 is still complied with)

Kv values [m3/h]

Port size (tube)		Orifice (seat)		Stroke [%]										
[mm]	[inch]	[mm]	[inch]	5	10	20	30	40	50	60	70	80	90	100
10	3/8"	8	1/4"	0.06	0.07	0.09	0.12	0.18	0.26	0.42	0.61	0.92	1.5	2.0
10	3/8"	10	3/8"	0.09	0.11	0.13	0.19	0.30	0.48	0.73	1.00	1.60	2.3	2.7
15	1/2"	8	1/4"	0.07	0.08	0.11	0.13	0.19	0.27	0.43	0.63	0.95	1.6	2.1
15	1/2"	10	3/8"	0.09	0.11	0.15	0.19	0.31	0.49	0.75	1.10	1.70	2.5	3.1
15	1/2"	15	1/2"	0.14	0.17	0.22	0.35	0.52	0.80	1.20	1.80	2.70	3.7	4.3
20	3/4"	10	3/8"	0.11	0.12	0.16	0.20	0.33	0.52	0.77	1.20	1.80	2.6	3.2
20	3/4"	15	1/2"	0.14	0.17	0.22	0.35	0.52	0.80	1.20	1.80	2.90	4.0	5.2
20	3/4"	20	3/4"	0.20	0.25	0.30	0.45	0.70	1.10	1.60	2.40	3.50	5.2	7.1
25	1"	15	1/2"	0.14	0.17	0.22	0.35	0.52	0.80	1.20	1.80	2.90	4.1	5.3
25	1"	20	3/4"	0.20	0.25	0.31	0.47	0.70	1.10	1.60	2.50	3.80	5.4	7.2
25	1"	25	1"	0.35	0.38	0.65	1.00	1.50	2.20	3.40	5.10	7.00	9.4	12.0
32	1 1/4"	20	3/4"	0.22	0.25	0.35	0.50	0.75	1.10	1.60	2.50	3.80	5.8	8.0
32	1 1/4"	25	1"	0.40	0.47	0.73	1.10	1.60	2.50	3.70	5.40	7.50	10.3	13.0
32	1 1/4"	32	1 1/4"	0.48	0.60	0.85	1.30	2.10	3.10	4.50	6.80	10.20	14.0	17.8
40	1 1/2"	25	1"	0.40	0.50	0.75	1.10	1.70	2.60	3.80	5.60	8.00	10.7	13.6
40	1 1/2"	32	1 1/4"	0.48	0.60	0.85	1.30	2.10	3.20	4.60	6.90	11.00	15.0	20.2
40	1 1/2"	40	1 1/2"	0.60	0.70	1.10	1.70	2.70	4.00	6.00	9.20	13.80	18.2	23.8
50	2"	32	1 1/4"	0.48	0.60	0.90	1.30	2.10	3.20	4.60	6.90	11.60	16.0	21.0
50	2"	40	1 1/2"	0.60	0.70	1.00	1.70	2.60	4.00	5.90	9.20	14.00	18.9	24.6
50	2"	50	2"	0.90	1.10	1.90	2.90	4.50	6.80	10.50	15.50	22.00	29.3	37.0

2/2-Way Globe Control Valve, Pneumatically Operated Cast Stainless Steel Body with Flanges

Continuous Globe valve

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Ordering chart: Globe Valve Systems

Flange • DIN 2634 • face-to-face EN 558-1 (DIN 3202)					Flow below seat	
Circuit Function	Port size (tube) [mm]	Orifice DN (seat) [mm]	Actuator size ø [mm]	Op. pressure ≤+180°C [bar]	Item-No. seal system* SS/SS	Item-No. seal system* PTFE/SS
A	10	8	F-80	16.0	146 669 J	146 955 Z
	10	10	F-80	16.0	146 691 Z	146 979 H
	15	8	F-80	16.0	146 681 X	146 967 V
	15	10	F-80	16.0	146 703 D	146 991 N
	15	15	F-80	16.0	146 731 Y	147 019 T
	20	10	F-80	16.0	146 717 S	147 005 W
	20	15	F-80	16.0	146 745 E	147 033 R
	20	20	F-80	16.0	146 773 A	147 061 V
	25	15	F-80	16.0	146 759 L	147 047 X
	25	20	F-80	16.0	146 787 Z	147 075 T
	25	25	F-80	16.0	146 813 K	147 101 T
	32	20	G-100	16.0	146 801 Y	147 089 S
	32	25	G-100	16.0	146 825 P	147 115 Q
	32	32	G-100	16.0	146 851 Z	147 141 S
	40	25	G-100	16.0	146 837 K	147 127 L
	40	32	G-100	16.0	146 863 V	147 153 W
	40	40	G-100	16.0	146 891 J	147 180 W
	50	32	H-125	16.0	146 877 T	147 166 T
	50	40	H-125	16.0	146 905 Y	147 197 K
	50	50	H-125	16.0	146 200 R	147 211 Y
B	10	8	F-80	16.0	146 675 G	146 961 X
	10	10	F-80	16.0	146 697 X	146 985 Q
	15	8	F-80	16.0	146 685 T	146 973 T
	15	10	F-80	16.0	146 710 F	146 998 V
	15	15	F-80	16.0	146 738 F	147 026 J
	20	10	F-80	16.0	146 724 Z	147 012 L
	20	15	F-80	16.0	146 752 D	147 040 C
	20	20	F-80	16.0	146 780 E	147 068 C
	25	15	F-80	16.0	146 766 B	147 054 W
	25	20	F-80	16.0	146 794 Y	147 082 K
	25	25	F-80	16.0	146 818 Y	147 108 A
	32	20	G-100	16.0	146 807 W	147 095 Q
	32	25	G-100	16.0	146 831 M	147 121 N
	32	32	G-100	16.0	146 857 X	147 147 Y
	40	25	G-100	16.0	146 844 S	147 134 K
	40	32	G-100	16.0	146 870 G	147 159 C
	40	40	G-100	16.0	146 898 Z	147 190 Y
	50	32	H-125	16.0	146 884 K	147 173 S
	50	40	H-125	16.0	146 912 N	147 204 A
	50	50	H-125	16.0	146 924 J	147 218 F



Flange • ASME B16.5 Class 150 • face-to-face EN 558-2 (ISA S75.03)					Flow below seat		
Circuit Function	Port size (tube) [mm] [inch]	Orifice DN (seat) [mm] [inch]	Actuator size ø [mm]	Op. pressure ≤+180°C [bar]	Item-No. seal system* SS/SS	Item-No. seal system* PTFE/SS	
A	15 1/2"	8 1/4"	F-80	16.0	146 680 A	146 966 U	
	15 1/2"	10 3/8"	F-80	16.0	146 702 C	146 990 Z	
	15 1/2"	15 1/2"	F-80	16.0	146 730 B	147 018 S	
	20 3/4"	10 3/8"	F-80	16.0	146 716 Z	147 004 V	
	20 3/4"	15 1/2"	F-80	16.0	146 744 D	147 032 Q	
	20 3/4"	20 3/4"	F-80	16.0	146 772 H	147 060 G	
	25 1"	15 1/2"	F-80	16.0	146 758 K	147 046 W	
	25 1"	20 3/4"	F-80	16.0	146 786 Y	147 074 S	
	25 1"	25 1"	F-80	16.0	146 812 J	147 100 E	
	32 1 1/4"	20 3/4"	G-100	16.0	146 800 B	147 088 Z	
	32 1 1/4"	25 1"	G-100	16.0	146 824 N	147 114 P	
	32 1 1/4"	32 1 1/4"	G-100	16.0	146 850 C	147 140 D	
	40 1 1/2"	25 1"	G-100	16.0	146 836 J	147 126 K	
	40 1 1/2"	32 1 1/4"	G-100	16.0	146 862 U	147 152 V	
	40 1 1/2"	40 1 1/2"	G-100	16.0	146 890 V	147 179 G	
	50 2"	32 1 1/4"	H-125	16.0	146 876 S	147 165 S	
	50 2"	40 1 1/2"	H-125	16.0	146 904 X	147 196 J	
	50 2"	50 2"	H-125	16.0	146 918 U	147 210 B	
	B	15 1/2"	8 1/4"	F-80	16.0	146 684 S	146 972 S
		15 1/2"	10 3/8"	F-80	16.0	146 709 K	146 997 L
15 1/2"		15 1/2"	F-80	16.0	146 737 W	147 025 R	
20 3/4"		10 3/8"	F-80	16.0	146 723 Y	147 011 K	
20 3/4"		15 1/2"	F-80	16.0	146 751 C	147 039 X	
20 3/4"		20 3/4"	F-80	16.0	146 779 Q	147 067 T	
25 1"		15 1/2"	F-80	16.0	146 765 A	147 053 V	
25 1"		20 3/4"	F-80	16.0	146 793 X	147 081 J	
25 1"		25 1"	F-80	16.0	146 817 P	147 107 Z	
32 1 1/4"		20 3/4"	G-100	16.0	146 806 V	147 094 P	
32 1 1/4"		25 1"	G-100	16.0	146 830 Y	147 120 Z	
32 1 1/4"		32 1 1/4"	G-100	16.0	146 856 W	147 146 X	
40 1 1/2"		25 1"	G-100	16.0	146 843 Z	147 133 J	
40 1 1/2"		32 1 1/4"	G-100	16.0	146 869 B	147 158 B	
40 1 1/2"		40 1 1/2"	G-100	16.0	146 897 Q	147 189 T	
50 2"		32 1 1/4"	H-125	16.0	146 883 J	147 172 Z	
50 2"		40 1 1/2"	H-125	16.0	146 911 M	147 203 H	
50 2"		50 2"	H-125	16.0	146 923 R	147 217 W	



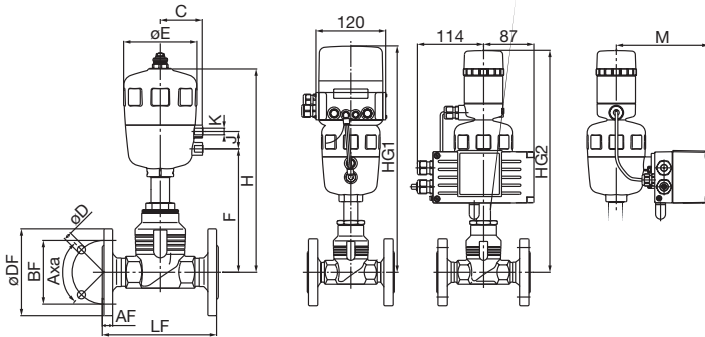
*seal system: SS/SS plug stainless steel / seat stainless steel
PTFE/SS plug PTFE / seat stainless steel

2/2-Way Globe Control Valve, Pneumatically Operated Cast Stainless Steel Body with Flanges

Flange					Flow below seat		
• JIS B2238 ordinary type; JIS 10K • face-to-face JIS B2002 serie 20 (ANSI B16.10) (EN 558-2)							
Circuit Function	Port size (tube) [mm]	Orifice DN (seat) [mm]	Actuator size ϕ [mm]	Op. pressure $\leq +180^\circ\text{C}$ [bar]	Item-No. seal system* SS/SS	Item-No. seal system* PTFE/SS	
A	15	8	F-80	16.0	148 415 W	148 496 Y	
	15	10	F-80	16.0	148 421 U	148 502 E	
	15	15	F-80	16.0	148 430 H	148 510 H	
	20	10	F-80	16.0	148 426 Z	148 506 A	
	20	15	F-80	16.0	148 434 Z	148 514 Z	
	20	20	F-80	16.0	148 443 A	148 522 Z	
	25	15	F-80	16.0	148 438 D	148 518 D	
	25	20	F-80	16.0	148 447 E	148 526 V	
	25	25	F-80	16.0	148 455 E	148 534 V	
	32	20	G-100	16.0	151 473 T	148 530 D	
	32	25	G-100	16.0	148 459 J	148 538 H	
	32	32	G-100	16.0	148 468 K	148 546 H	
	40	25	G-100	16.0	148 463 E	148 542 D	
	40	32	G-100	16.0	148 472 F	148 550 R	
	40	40	G-100	16.0	148 481 Z	148 558 M	
	50	32	H-125	16.0	148 477 C	148 554 H	
	50	40	H-125	16.0	148 485 V	148 562 H	
	50	50	H-125	16.0	148 489 H	148 566 D	
	B	15	8	F-80	16.0	148 417 Y	148 498 A
		15	10	F-80	16.0	148 423 W	148 504 G
15		15	F-80	16.0	148 432 X	148 512 X	
20		10	F-80	16.0	148 428 B	148 508 L	
20		15	F-80	16.0	148 436 T	148 516 T	
20		20	F-80	16.0	148 445 C	148 524 T	
25		15	F-80	16.0	148 441 G	148 520 B	
25		20	F-80	16.0	148 449 Q	148 528 F	
25		25	F-80	16.0	148 457 G	148 536 X	
32		20	G-100	16.0	148 452 B	148 532 T	
32		25	G-100	16.0	148 461 C	148 540 P	
32		32	G-100	16.0	148 470 R	148 548 K	
40		25	G-100	16.0	148 465 G	148 544 F	
40		32	G-100	16.0	148 474 H	148 552 F	
40		40	G-100	16.0	148 483 T	148 560 K	
50		32	H-125	16.0	148 479 N	148 556 B	
50		40	H-125	16.0	148 487 X	148 564 B	
50		50	H-125	16.0	148 492 U	148 568 P	



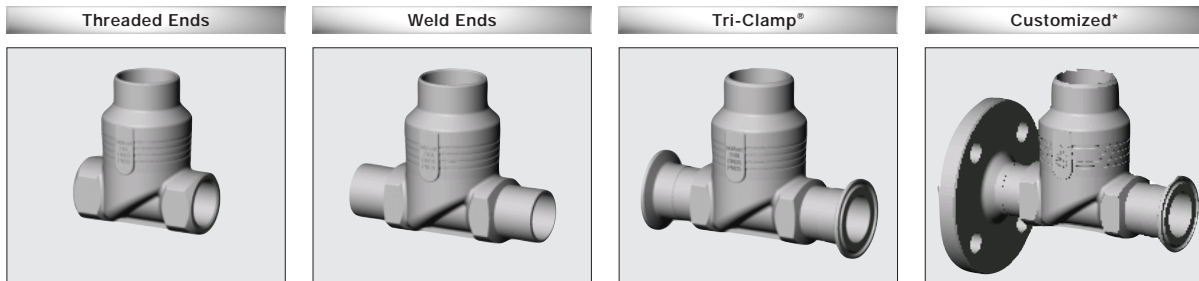
Dimensions [mm]



Port size	8630	1067	8635	
	HG ¹	HG ²	M	HG ²
10	391	384	145	384
15	391	384	145	384
20	389	379	145	379
25	389	382	145	382
32	476	469	158	469
40	481	474	158	474
50	618	511	171	511

All Actuators										DIN Flange					ANSI Flange					JIS Flange						
Port size	Act. size ϕ	C	E	F	H	K	J	HG	Axa	DF	LF	BF	AF	D	DF	LF	BF	AF	D	DF	LF	BF	AF	D		
10	F-80	60	101	166	264	G 1/4	24	see sep. chart	4 x 90°	90	130	60	16	14	-	-	-	-	-	-	-	-	-	-	-	
15	F-80	60	101	166	264	G 1/4	24			95	130	65	16	14	89.0	184	60.5	11.2	15.7	95	108	70	12	15	-	-
20	F-80	60	101	180	259	G 1/4	24			105	150	75	18	14	99.0	184	69.9	12.7	15.7	100	117	75	14	15	-	-
25	F-80	60	101	164	262	G 1/4	24			115	160	85	18	14	108.0	184	69.9	12.7	15.7	100	127	75	14	15	-	-
32	G-100	73	127	208	346	G 1/4	30			140	180	100	18	18	-	-	-	-	-	135	140	100	16	19	-	-
40	G-100	73	127	213	351	G 1/4	30			150	200	110	18	18	127.0	222	98.6	17.5	15.7	140	165	105	16	19	-	-
50	H-125	86	153	225	388	G 1/4	30			165	230	125	20	20	152.4	254	120.7	19.1	19.1	155	203	120	16	19	-	-

Further Process Connections are:



* e.g. one side with flange, other side Tri-Clamp®

2/2-Way Globe Control Valve, Pneumatically Operated Cast Stainless Steel Body with Flanges

Valve Actuation System: TOP Control

Type: 8630

TOP Control Continuous type 8630 forms a mechanical and functional unit with the pneumatic actuator. Main functional groups of the TOP Control continuous are:

- Positioner and process controller in one device, integrated PID
- Position measuring system for continuous feedback of the actual position of the pneumatic actuator and the valve
- Microprocessor controlled electronics for signal processing, setpoint/process value comparison
- Pneumatic positioning system for single and double-acting actuators whose integrated pilot valves are driven by pulse-width modulation

TOP Control continuous can be used in a variety of different applications in fluid control solutions.



Continuous Globe valve

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Valve Actuation System: SIDE Control 3-wire

Type: 1067

SIDE Control type 1067 is a 3-wire process controller and positioner composed of the main functional groups position measuring system, electropneumatic actuator system and microprocessor electronics.

Main functional groups of the SIDE Control continuous are:

- Positioner and process controller in one device, integrated PID
- Position measuring system for continuous feedback of the actual position of the pneumatic actuator and the valve
- Microprocessor controlled electronics for signal processing, setpoint/process value comparison
- Pneumatic positioning system for single and double-acting actuators whose integrated pilot valves are driven by pulse-width modulation



Valve Actuation System: SIDE Control 2-wire

Type: 8635

SIDE Control S type 8635S is a 2-wire electropneumatic process controller and positioner for pneumatically operated process valves. The input signal of 4 - 20 mA serves to transmit the set point signal and to supply the device with power at the same time.

As an alternative, communication can be effected via the HART protocol.

- The HART protocol is modulated onto the current signal using the FSK procedure (Frequency Shift Keying)
- Signal processing, control and drive of the internal positioning system are carried out by microprocessor controlled electronics
- The software function autotune implemented enables automatic adaptation of the positioner to the control valve used
- Parametrization and operation are performed comfortably via three keys and a display with plain text, or via the HART protocol (optional)
- To build up a decentralized control system, SIDE Control is equipped with a process controller with PID behaviour. In this case, a process control loop is superimposed on the positioning loop in a cascade structure
- The compact, robust design, the housing is suitable for use in chemical and process engineering



2/2-Way Globe Control Valve, Pneumatically Operated Cast Stainless Steel Body with Flanges

Globe Valve Systems

A continuous globe valve system consists of a continuous globe valve type 2712 and a valve actuation system TOP Control type 8630 or SIDE Control type 1067 or 8635.

Burkert offers a wide range of valve actuation systems suitable for the new continuous globe valve.

Example for variations of continuous globe valve systems



Globe Valve



Valve Actuation



Complete Continuous Globe Valve Systems

2712
Globe Valve
with required
process connection

Valve Actuation
with all its needs
TOP Control or
SIDE Control

2712+8630
Globe Valve
TOP Control
system

2712+1067
Globe Valve
SIDE Control
system

2712+8635
Globe Valve
SIDE Control
system