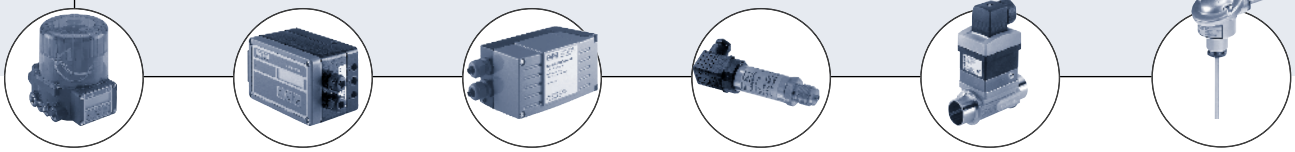
2712
Threaded

2/2–way Globe Control Valve, threaded connection, 3/8" – 3"

Complete Burkert system using Type 2712 with TopControl 8630

- New generation with interchangeable trims, 3 to 5 Cvs–value per connection port
- Excellent control characteristic
- Ultra compact design

Type 2712 can be combined with...



Type 8630
Positioner or process controller

Type 1067
Controller SideControl

Type 8635
Controller SideControl

Type 8323
Pressure transmitter

Type 8030
Flow sensor

Type ST20
Temperature sensor

The 2712 system has been specifically engineered for reliable control in applications where control accuracy is paramount.

The 2712 is made from an all stainless steel valve body combined with Burkert's new generation universal pneumatic actuator.

Each globe valve body can be fitted with three to five sizes of trim sets. These parabolic trims provide a reliable and repeatable characteristic to vary the flow. The control cones are available in either stainless steel or with a durable PTFE seal for tight shut-off.

When actuated by the 1067/8635 SideControls or the 8630 TopControl it forms a unique control valve system which can be operated as either a simple accurate positioner or an autotune PID process controller for flow, temperature or pressure.

Proven Applications

- **Fine chemical pressure and flow control**
- **High accuracy test bench equipment**
- **Food, beverage and pharmaceutical CIP/SIP and auxiliary processes with steam**
- **Pharmaceutical Sterilizers**
- **Precision distillation apparatus**
- **Sterile Packaging Machinery**

Technical data	
Materials	
Body	Cast stainless steel 316L (conform to 1.4409)
Actuator	PA (polyamide) (PPS on request)
Plug sealing	SS/SS (stainless steel/stainless steel) PTFE/SS
Seat leakage acc. IEC 534–4/EN 1349	Shut–off class IV for SS/SS Shut–off class VI for PTFE/SS (266°F Max.)
Process media gases and liquids (vacuum version on request)	For neutral gases, water, alcohols, oils, fuels, hydraulic liquids, salt solutions, lyes, organic solvents, steam, 150 PSI / 365°F (10.3 bar /185°C)
Viscosity	Max. 600 mm^2/s; 600 cSt; .93 in^2/s
Packing gland	PTFE V–rings (silicone grease) with spring compensation
Nominal pressure	PN 25 (body)
Temperatures	
Fluid	14°F to 365°F (-10°C to +185°C)[1] (266°F for PTFE/SS sealing recommended)
Ambient	14°F to 140°F (-10°C to +60°C)[1] Actuators F–80 to H–125 14°F to 122°F (-10°C to +50°C) Actuators K-175 and L-225
Control media	Compressed air (40 micron filter)
Pilot pressure	79.75 to 101.5 PSI (5.5 to 7 bar) Actuators F-80 to H-125 72.5 to 87 PSI (5 to 6 bar) Actuators K-175 and L-225
Pilot air ports	G 1/4 stainless steel (SS)
Flow direction	Below seat
Mounting position	Any, preferably upright
Interchangeable seat	Different Cvs-values per port size, see table p.4
Control ratio (Cvs/Cv0)	50:1 25:1 for orifice DN6 10:1 for orifice DN4
Port connections	
Threaded	NPT to ANSI B 1.20.1

[1] high temperature version on request

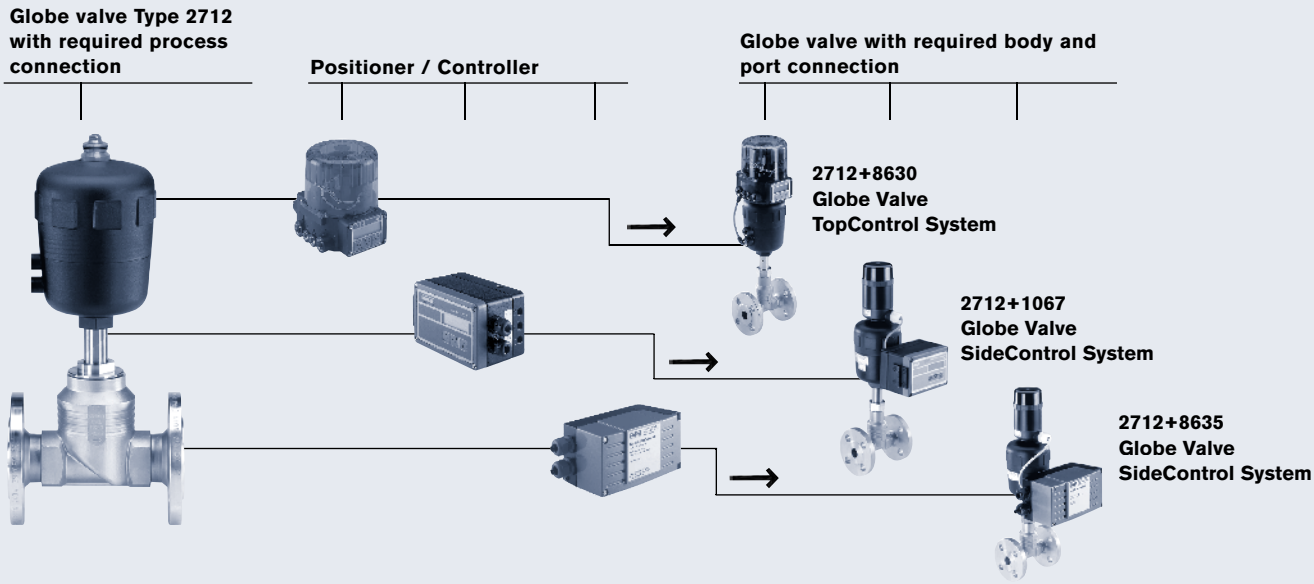
DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

Globe Valve Systems

A continuous globe valve system consists of a continuous globe valve Type 2712 and a valve actuation system SideControl Type 1067 or Type 8635 or TopControl Type 8630. The positioners are only delivered in combination with an actuator as a part of a complete control valve. The following information is necessary for the selection of a complete Globe Valve System:

- **Item no.** of the continuous globe valve Type 2712 (see Ordering chart)
- **Item no.** of the desired positioner Type 8630, 1067 or 8635 (see separate datasheets)

Example for variations of continuous Globe Valve Systems

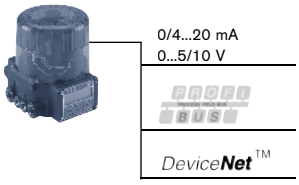


Valve actuation system: TopControl

TopControl Continuous Type 8630 forms a mechanical and functional unit with the pneumatic actuator. The main parts of the TopControl Continuous are:

- Positioner and/or process controller in one device, integrated PID (as option)
- Linear potentiometer connects to stem with zero backlash for precise position control.
- Microprocessor controlled electronics for signal processing, setpoint/process value comparison
- Pneumatic positioning system for single and double–acting actuators with integrated pilot valves
- New process tune function reduces time and costs during PID parameter set up.

Type: 8630

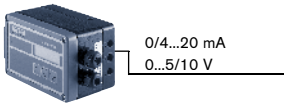


Valve actuation system: SideControl 3–wire

SideControl 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 SideControl are:

- Positioner and process controller in one device, integrated PID
- Linear potentiometer connects to stem with zero backlash for precise position control.
- Microprocessor controlled electronics for signal processing, setpoint/process value comparison
- Pneumatic positioning system for single and double-acting actuators with integrated pilot valves
- Remote versions available for distances up to 330 ft between valve and positioner
- The software function autotune implemented enables automatic adaptation of the positioner to the control valve used.

Type: 1067

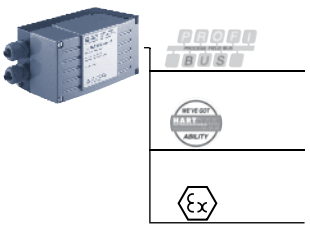


Valve actuation system: SideControl 2-wire, intrinsically safe

SideControl Type 8635 is a 2-wire electropneumatic process controller and positioner for pneumatically operated process valves. As an alternative, communi-cation can be effected via HART or PROFIBUS PA.

- 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 HART and PROFIBUS PA
- To build up a decentralized control system, SideControl 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
- New process tune function reduces time and costs during PID parameter set up.

Type: 8635



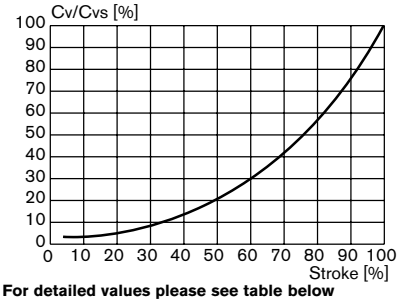
DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

Technical data

Cvs values

Port size (connection) [mm]	Actuator size [mm]	Orifice DN (seat) [mm] 04	06	08	10	15	20	25	32	40	50	65	80
10	F – 80	0.58	1.39	2.3	3.1	–	–	–	–	–	–	–	–
15	F – 80	0.58	1.39	2.4	3.6	5.0	–	–	–	–	–	–	–
20	F – 80	–	–	–	3.7	6.0	8.2	–	–	–	–	–	–
25	F – 80	–	–	–	–	6.1	8.4	13.9	–	–	–	–	–
40	G–100	–	–	–	–	–	–	15.8	23.4	27.6	–	–	–
50	H–125	–	–	–	–	–	–	–	24.4	28.5	42.9	–	–
65	H–125	–	–	–	–	–	–	–	–	20.3	30.2	60.3	–
65	K–175	–	–	–	–	–	–	–	–	29.6	45.8	71.9	–
80	L–225	–	–	–	–	–	–	–	–	–	48.7	81.2	116

Flow curve and description



For detailed values please see table below

Remarks on the flow characteristic

- Equal percent parabolic plug for the orifices DN8...DN100
- Linear plug for the orifices DN4 and DN6
- Flow characteristic runs within DIN/IEC 534-2-4
- Theoretical control ratio (Cvs/Cvo):
  50:1 for the orifices DN8...DN100
  25:1 for the orifice DN6
  10:1 for the orifice DN4
- CVR value at 5% of stroke for DN > 10 mm
  CVR value at 10% of stroke for DN ≤ 10 mm

(CVR value = smallest Cv value at which the gradient tolerance to DIN/IEC 534-2-4 is still complied with)

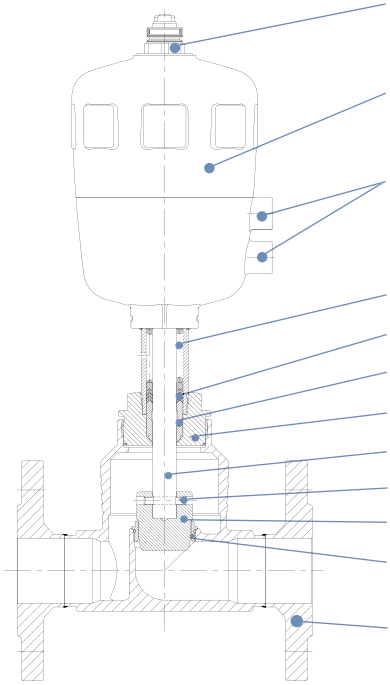
Cv values

Port size (connection) [mm]	[inch]	Orifice (seat) [mm]	[inch]	Actuator	Stroke [%] 5	10	20	30	40	50	60	70	80	90	100
10	3/8"	4	1/8"	F – 80	0.05	0.06	0.12	0.19	0.26	0.31	0.37	0.42	0.46	0.51	0.58
		6	3/16"	F – 80	0.06	0.14	0.37	0.56	0.72	0.88	1.02	1.14	1.24	1.31	1.39
		8	1/4"	F – 80	0.07	0.08	0.10	0.14	0.21	0.30	0.49	0.71	1.07	1.74	2.30
		10	3/8"	F – 80	0.10	0.13	0.15	0.22	0.35	0.56	0.85	1.16	1.86	2.70	3.10
15	1/2"	4	1/8"	F – 80	0.05	0.06	0.12	0.19	0.26	0.31	0.37	0.42	0.46	0.51	0.58
		6	3/16"	F – 80	0.06	0.14	0.37	0.56	0.72	0.88	1.02	1.14	1.24	1.31	1.39
		8	1/4"	F – 80	0.08	0.09	0.13	0.15	0.22	0.31	0.50	0.73	1.10	1.86	2.40
		10	3/8"	F – 80	0.10	0.13	0.17	0.22	0.36	0.57	0.87	1.28	1.97	2.90	3.60
		15	1/2"	F – 80	0.16	0.20	0.26	0.41	0.60	0.93	1.39	2.10	3.10	4.30	5.00
20	3/4"	10	3/8"	F – 80	0.13	0.14	0.19	0.23	0.38	0.60	0.89	1.39	2.10	3.00	3.70
		15	1/2"	F – 80	0.16	0.20	0.26	0.41	0.60	0.93	1.39	2.10	3.40	4.60	6.00
		20	3/4"	F – 80	0.23	0.29	0.35	0.52	0.81	1.28	1.86	2.80	4.10	6.00	8.20
25	1"	15	1/2"	F – 80	0.16	0.20	0.26	0.41	0.60	0.93	1.39	2.10	3.40	4.80	6.10
		20	3/4"	F – 80	0.23	0.29	0.36	0.55	0.81	1.28	1.86	2.90	4.40	6.30	8.40
		25	1"	F – 80	0.41	0.44	0.75	1.16	1.74	2.60	3.90	5.90	8.10	10.9	13.9
40	1 1/2"	25	1"	G–100	0.46	0.58	0.87	1.28	1.97	3.00	4.40	6.50	9.30	12.4	15.8
		32	1 1/4"	G–100	0.56	0.70	0.99	1.51	2.40	3.70	5.30	8.00	12.8	17.4	23.4
		40	1 1/2"	G–100	0.70	0.81	1.28	1.97	3.10	4.60	7.00	10.7	16.0	21.1	27.6
50	2"	32	1 1/4"	H–125	0.56	0.70	1.04	1.51	2.40	3.70	5.30	8.00	13.5	18.6	24.4
		40	1 1/2"	H–125	0.70	0.81	1.16	1.97	3.00	4.60	6.80	10.7	16.2	21.9	28.5
		50	2"	H–125	1.04	1.28	2.20	3.40	5.20	7.90	12.2	18.0	25.5	34.0	42.9
65	2 1/2"	40	1 1/2"	H–125	0.52	0.75	1.10	1.51	2.20	3.20	4.60	6.40	9.00	13.6	20.3
		50	2"	H–125	0.81	1.16	1.86	2.80	4.10	5.70	8.00	11.4	16.4	23.1	30.2
		65	2 1/2"	H–125	0.93	1.51	2.40	3.70	6.40	10.6	17.1	28.4	43.6	52.9	60.3
		40	1 1/2"	K–175	0.52	0.64	0.99	1.51	2.30	3.60	5.30	7.90	12.4	20.0	29.6
		50	2"	K–175	0.87	1.04	1.74	2.70	4.10	5.70	8.20	12.8	20.3	30.2	45.8
		65	2 1/2"	K–175	1.28	1.62	2.40	3.70	5.70	9.30	13.9	21.5	36.5	53.9	71.9
80	3"	50	2"	L–225	0.99	1.16	1.74	2.70	4.10	5.80	8.20	12.2	18.6	29.0	48.7
		65	2 1/2"	L–225	1.62	1.97	2.90	4.40	6.60	9.50	14.2	22.6	37.7	58.0	81.2
		80	3"	L–225	2.40	3.00	4.90	8.10	12.2	18.6	29.0	46.4	69.6	96.3	116

DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

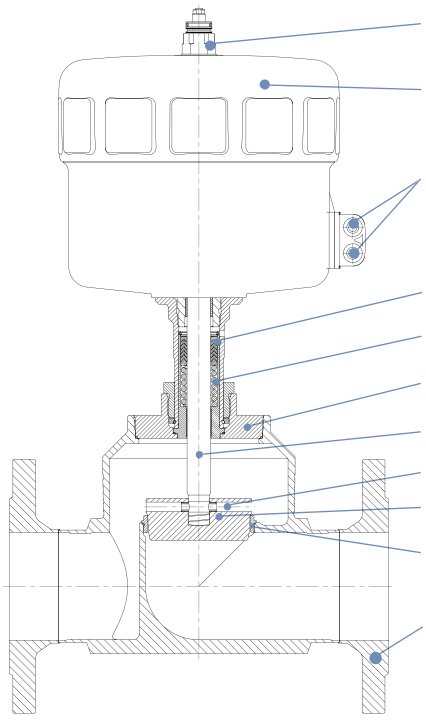
Materials

3/8" – 2 1/2" (actuator sizes F–80 to H–125 mm)



Adapter:	Stainless steel 303
Actuator:	PA polyamide (PPS on request)
Pilot air ports:	Stainless steel 303
Spring:	Stainless steel
V-seals:	PTFE
Wiper:	PTFE
Nipple:	Stainless steel 316
Spindle:	Stainless steel 316
Pin:	Stainless steel
Plug:	Stainless steel 316 Ti (+PTFE disc for soft seat sealing)
Valve seat:	Stainless steel 316 Ti
Valve body:	Cast stainless steel 316L

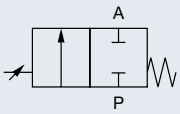
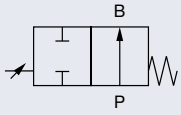
2 1/2" – 3" (actuator sizes K–175 and L–225 mm)



Adapter:	Stainless steel 303
Actuator:	PA polyamide
Pilot air ports:	Stainless steel 303
V-seals:	PTFE
Spring:	Stainless steel
Nipple:	Stainless steel 316
Spindle:	Stainless steel 316
Pin:	Stainless steel 316
Plug:	Stainless steel 316 Ti (+PTFE disc for soft seat sealing)
Valve seat:	Stainless steel 316 Ti
Valve body:	Cast stainless steel 316L

Ordering chart: Globe Valve System

Threaded Port NPT: ANSI B1.20.1, flow below seat

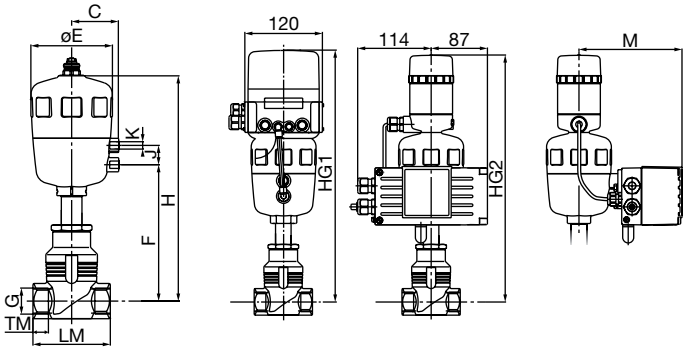
Control function	Port size (tube) [mm]	Port size (tube) [inch]	Orifice DN (seat) [mm]	Orifice DN (seat) [inch]	Actuator size Ø [mm]	Op. pressure ≤ +365 °F [PSI]	Item no. seal system SS/SS*	Item no. seal system PTFE/SS*
A  2/2-way, NC by spring return	10	3/8"	8	1/4"	F-80	232	146 671 C	146 957 T
			10	3/8"	F-80	232	146 693 T	146 981 L
	15	1/2"	8	1/4"	F-80	232	146 682 Y	146 969 F
			10	3/8"	F-80	232	146 705 F	146 993 Q
			15	1/2"	F-80	232	146 733 S	147 021 M
	20	3/4"	10	3/8"	F-80	232	146 719 C	147 007 Y
			15	1/2"	F-80	232	146 747 G	147 035 K
			20	3/4"	F-80	232	146 775 C	147 063 X
	25	1"	15	1/2"	F-80	232	146 761 E	147 049 H
			20	3/4"	F-80	232	146 789 B	147 077 V
			25	1"	F-80	232	146 815 M	147 103 V
	32	1 1/4"	20	3/4"	G-100	232	146 803 S	147 091 L
			25	1"	G-100	232	146 827 R	147 117 J
			32	1 1/4"	G-100	232	146 853 T	147 143 U
	40	1 1/2"	25	1"	G-100	232	146 839 V	147 129 W
			32	1 1/4"	G-100	232	146 865 X	147 154 X
			40	1 1/2"	G-100	232	146 893 L	147 182 L
	50	2"	32	1 1/4"	H-125	232	146 879 D	147 168 D
			40	1 1/2"	H-125	232	146 907 S	147 199 V
			50	2"	H-125	232	146 920 S	147 213 S
	65	2 1/2"	40	1 1/2"	H-125	145	155 747	155 968
			50	2"	H-125	145	155 785	156 005
			65	2 1/2"	H-125	145	155 842	156 067
			40	1 1/2"	K-175	217	155 767	155 988
			50	2"	K-175	217	155 805	156 025
			65	2 1/2"	K-175	217	155 864	156 088
	80	3"	50	2"	L-225	181	155 826	156 042
			65	2 1/2"	L-225	181	155 883	156 104
			80	3"	L-225	181	155 917	156 137
B  2/2-way, NO by spring return	10	3/8"	8	1/4"	F-80	232	146 677 A	146 963 Z
			10	3/8"	F-80	232	146 699 H	146 987 J
	15	1/2"	8	1/4"	F-80	232	146 687 V	146 975 V
			10	3/8"	F-80	232	146 712 V	147 000 D
			15	1/2"	F-80	232	146 740 M	147 028 U
	20	3/4"	10	3/8"	F-80	232	146 726 T	147 014 N
			15	1/2"	F-80	232	146 754 F	147 042 S
			20	3/4"	F-80	232	146 782 U	147 070 A
	25	1"	15	1/2"	F-80	232	146 768 M	147 056 Y
			20	3/4"	F-80	232	146 796 S	147 084 M
			25	1"	F-80	232	146 820 W	147 110 X
	32	1 1/4"	20	3/4"	G-100	232	146 809 G	147 097 J
			25	1"	G-100	232	146 833 P	147 123 Q
			32	1 1/4"	G-100	232	146 859 H	147 149 A
	40	1 1/2"	25	1"	G-100	232	146 846 U	147 136 M
			32	1 1/4"	G-100	232	146 872 W	147 161 W
			40	1 1/2"	G-100	232	146 900 F	147 192 N
	50	2"	32	1 1/4"	H-125	232	146 886 M	147 175 U
			40	1 1/2"	H-125	232	146 914 Q	147 206 C
			50	2"	H-125	232	146 926 L	147 220 D
	65	2 1/2"	40	1 1/2"	H-125	145	155 757	155 978
			50	2"	H-125	145	155 795	156 015
			65	2 1/2"	H-125	145	155 853	156 077
			40	1 1/2"	K-175	217	155 776	155 996
			50	2"	K-175	217	155 815	156 033
			65	2 1/2"	K-175	217	155 873	156 095
	80	3"	50	2"	K-175	181	155 834	156 049
			65	2 1/2"	K-175	181	155 891	156 111
			80	3"	K-175	181	155 926	156 145

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

DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

Dimensions

DN 13–65 (1/2" – 2 1/2")



Port size [mm]	8630 HG1	1067 HG2	1067 M	8635 HG2	8635 M
10	391	384	145	384	159
15	391	384	145	384	159
20	386	379	145	379	159
25	389	382	145	382	159
32	476	469	158	469	172
40	481	474	158	474	172
50	518	511	171	511	185
65	547	511	171	511	185

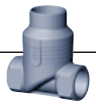
All actuators										NPT	
Port size [inch]	Actuator size	C	E	F	H	K	J	HG	LM	Size	TM
3/8"	F–80	60	101	166	264	G 1/4	24	See above chart	65	NPT 3/8	10.3
1/2"	F–80	60	101	166	264	G 1/4	24		65	NPT 1/2	13.7
3/4"	F–80	60	101	180	259	G 1/4	24		75	NPT 3/4	14.0
1"	F–80	60	101	164	262	G 1/4	24		90	NPT 1	16.8
1 1/4"	G–100	73	127	208	346	G 1/4	30		110	NPT 1 1/4	17.3
1 1/2"	G–100	73	127	213	351	G 1/4	30		120	NPT 1 1/2	17.3
2"	H–125	86	153	225	388	G 1/4	30		150	NPT 2	17.6
2 1/2"	H–125	86	153	254	417	G 1/4	30		–	NPT 2 1/2	–
2 1/2"	K–175	–	211	289	479	G 1/4	24		–	NPT 2 1/2	–
3"	L–225	–	261	299	482	G 1/4	24		–	NPT 3	–

[1] Approximately weight with positioner

DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

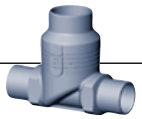
Further process connections

Threaded ends



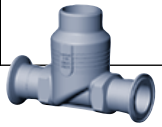
- G
- NPT
- RC

Weld ends



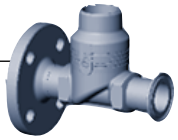
- ISO 4200
- DIN 11850 S2
- BS 4825
- ASME BPE
- SMS 3008

Tri-Clamp®



- ISO 2852
- SMS 3017
- DIN 32676
- BS 4825

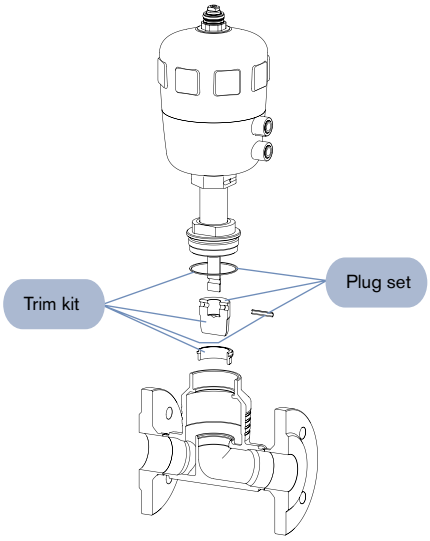
Customized*



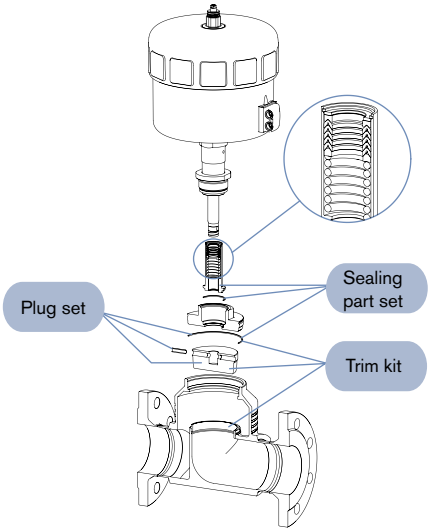
*e.g. one side with flange, other side Tri-Clamp®

Spare parts for Type 2712 – DN 10–80 (on request)

Port size 10 to 65 in combination with actuator size F–80 to H–125



Port size 65 to 80 in combination with actuator size K–175 and L–225



DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013

Specification sheet for control valves: Please fill out and send to your local Burkert Sales Center* with your inquiry or order

■ = mandatory fields to fill out Quantity Required delivery date

Operating data

		Min	Standard	Max	unit
Site of control					
Measuring and control task					
Pipeline	DN / PN				
Pipe material					
■ Process medium					
■ Type of media	☐ Liquid ☐ Steam ☐ Gas				
■ Flow rate (Q, Q_N, W) [1]					
■ Temperature at valve inlet T1					
■ Absolute pressure at valve inlet P1					
■ Absolute pressure at valve outlet P2					
Steam pressure Pv					
Kinematic viscosity (ν)			mm²/s or cSt		
Dynamic viscosity (η)			mPa.s or cP		
Standard density			Kg/m³		
Max. sound level accepted			dB (A)		

[1] standard unit
Liquid Q = m³/h; Steam W = Kg/h; Gas Q_N = Nm³/h

Valve features

Control valve type	☐ Globe	☐ Angle seat	☐ Diaphragm	☐ Ball valve	☐ Butterfly	☐ Other
Body material	☐ Stainless Steel		☐ PVC	☐ PP	☐ PTFE	☐ Other
Surface finish[2]			internal			external
Seat sealing material	☐ Metal	☐ PTFE	☐ EPDM[2]	☐ FKM[2]		
Nominal pressure	PN					
Nominal size	DN					
Type of connection	☐ Flange	☐ Socket union	☐ Welded	☐ Int. thread	☐ Ext. thread	☐ Tri-Clamp®
Standard connection	☐ ISO	☐ DIN	☐ ANSI	☐ JIS	☐ Other	
Function	☐ NC	☐ NO	☐ Double-acting			
Pilot pressure			min.			max.

[2] Only diaphragm valve

Positioner / Controller

☐ **Type 1067** - 3 wire	☐ **Type 8630** - 3 wire	☐ **Type 8635** - 2 wire
☐ Valve mounted ☐ Remote version		☐ Standard ☐ EExia
Power supply 24 VDC	**Power supply** 24 VDC	**Power supply** 24 VDC via setpoint or BUS
Communication Setpoint/ output analog signal	**Communication** Setpoint/ output analog signal or via BUS ☐ Profibus DP ☐ Device Net	**Communication** Setpoint/ output analog signal or via BUS ☐ Profibus PA ☐ Hart
☐ **Positioner version** Input 0/4 - 20 mA / 0-10 V Output ☐ 4 - 20mA or ☐ Binary	☐ **Positioner version** Input 0/4 - 20 mA / 0 - 5/10 V Output ☐ 4 - 20mA or/and ☐ Binary	☐ **Positioner version** Input 4 - 20 mA Output ☐ 4 - 20mA or/and ☐ Binary
☐ **PID Controller version**[3] Input measuring signal 4 - 20 mA	☐ **PID Controller version**[3] Input measuring signal 4 - 20 mA / Pt100 / Frequency	☐ **PID Controller version**[3] Input measuring signal 4 - 20 mA / Pt100 / Frequency

[3] same setpoint for Input and Output signal as for Positioner version

Please do not forget to fill in the customer data below

Company	Contact person
Customer No	Department
Address	Tel./Fax
Postcode/Town	E-mail

In case of special application conditions, please consult for advice.

We reserve the right to make technical changes without notice.

0602/2_US-en

DTS 1000082426 EN Version: A Status: RL (released | freigegeben | validé) printed: 29.08.2013