



Keeping the World Flowing

Sanitary Piston Actuated Valves for Utility Service

The SPV range of Sanitary Piston Actuated Valves is the ideal choice to comply with relevant hygiene requirements.

Valves in the food and beverage processing industry are divided into two main classifications: direct contact valves and utility service valves. M&M utility service valves do not come in direct contact with food; they are suitable for handling substances such as steam, water and other non-food related resources used upstream and downstream of the processing system.

The ease of cleaning is of paramount concern in food and beverage production, so the internal construction of all piping components, including valves, must be very smooth and free from crevices that might entrap fluid or debris that is difficult to remove by standard cleaning.

Valves in this range are available in sizes from DN15 to DN50 in both ON/OFF or control valve configuration.

- › DN15 to DN50 range
- › Tube weld ends to ASME BPE, BS 4825, ISO 2037 and SMS 3008
- › Clamp ends to ASME BPE and BS 4825
- › Internal Ra \leq 1.2 μ on wetted surfaces as standard, polishing to \leq 0,5 μ as an option
- › Compliant to EC regulation 1935/2004
- › Available in on/off or modulating control configuration
- › Control valve package available with a linear smart positioner with contactless position transducer, PID parameters setting and optional feedback signal

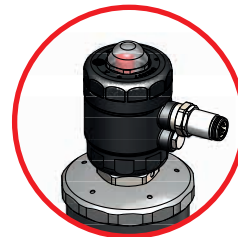


SPV Range

Sanitary Piston Actuated Valves for On/Off and Modulating Control



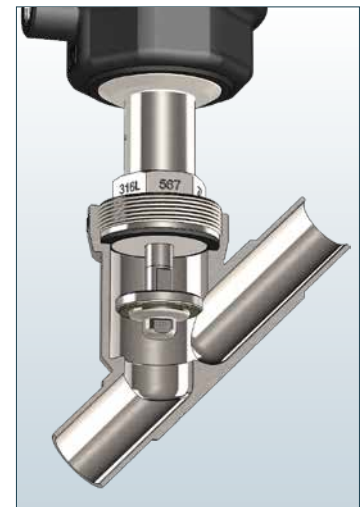
SMART Positioner



Position Indicator



Banjo Pilot Valves



A rotork Brand

2/2 Way on/off Sanitary Piston Actuated Valve – DN15 to DN50, Tube Weld & Clamp

Specifications	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Tube Material	AISI 316L (CF3M)
Tube Weld Connection	SMS 3008, BS 4825 or ASME BPE
Clamp Connection	BS 4825 or ASME BPE
Bonnet Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard
Gasket and Clamp	Not included

Features and Benefits

- Sanitary design with fully machined wetted internals
- Crevice free plug design
- Waterhammer-free design with flow direction 2→1
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar

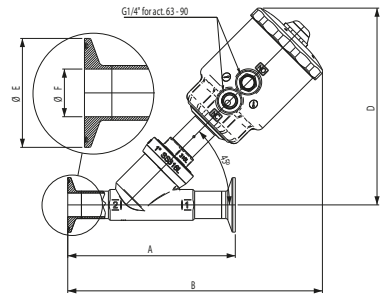


Options
Internal finish polished to Ra ≤ 0,5µ

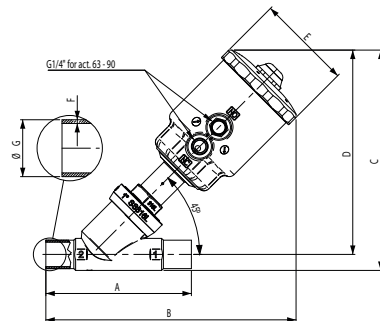
Accessories
Position module, travel switch kit, pilot solenoid valves see Piston Actuated Valves Catalogue

Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN40	DN50	DN25	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63				Ø 90			
A – ASME BPE*	[mm]	135.4	145.4	135.4	145.4	155.4	187.4	200.4	155.4	187.4	200.4
B – ASME BPE*	[mm]	175	178.5	222.5	228.5	236.5	256	267	248	267	278
D	[mm]	123	125	170	175	183	192	202	194	203	213
E – ASME BPE*	[mm]	25	25	25	25	50.5	50.5	64	50.5	50.5	64
F – ASME BPE*	[mm]	9.4	15.75	9.4	15.75	22.1	34.8	47.5	22.1	34.8	47.5
Weight	[kg]	0.9	1.1	1.3	1.5	1.8	2.8	3.6	2.4	3.2	4.0

*clamp dimensions to ASME BPE can be used also to fit BS 4825 clamp ends



Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63				Ø 90					
A – SMS 3008	[mm]	110	120	110	120	130	153.5	162	175	130	153.5	162	175
A – BS 4825 & ASME BPE	[mm]	110	120	110	120	130	-	162	175	130	-	162	175
B – SMS 3008	[mm]	162.2	165.5	211	216	224	236	244	254	235	246.5	254	265
B – BS 4825 & ASME BPE	[mm]	162.2	165.5	211	216	224	-	244	254	235	-	254	265
C – SMS 3008	[mm]	130.5	138	178	188	197	212	214	229	208	223	224	240
C – BS 4825 & ASME BPE	[mm]	130.5	138	178	188	197	-	214	229	208	-	224	240
D – SMS 3008	[mm]	122.7	124.5	170	175	183	191	192	202	194	202	203	213
D – BS 4825 & ASME BPE	[mm]	122.7	124.5	170	175	183	-	192	202	194	-	203	213
E	[mm]	57	57	85	85	85	85	85	85	112	112	112	112
F – SMS 3008	[mm]	1	1	1	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
F – ISO 2037	[mm]	1	1	1	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
F – BS 4825	[mm]	1.2	1.2	1.2	1.2	1.65	-	1.65	1.65	1.65	-	1.65	1.65
F – ASME BPE	[mm]	1.65	1.65	1.65	1.65	1.65	-	1.65	1.65	1.65	-	1.65	1.65
G – SMS 3008	[mm]	12	18	12	18	25	38	38	51	25	38	38	51
G – ISO 2037	[mm]	12.7	21.3	12.7	21.3	25	38	38	51	25	38	38	51
G – BS 4825	[mm]	12.7	19.05	12.7	19.05	25.4	-	38.1	50.8	25.4	-	38.1	50.8
G – ASME BPE	[mm]	12.7	19.05	12.7	19.05	25.4	-	38.1	50.8	25.4	-	38.1	50.8
Weight	[kg]	1.2	1.3	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



Coding chart

Valve type / function		Sanitary connection		Valve head (to match DN)		Actuator Ø		Main seal material		DN (mm)		Options		Special Executions	
P	Normally Closed (1->2)	M	Tube weld to SMS 3008	205	½"	C	Ø45 (plastic)	T	PTFE	W	DN15	0	None	OC	Sanitary design and materials
BP	Normally Closed bidirectional (1<->2)	X	Tube weld to ISO 2037	206	¾"	S	Ø63 (plastic)			X	DN20	A	Position module mechanical switches		
		T	Tube weld to ASME BPE	207	1"	L	Ø90 (plastic)			Y	DN25	B	Position module inductive switches		
		Z	Tube weld to BS 4825	208	1 ¼"	M	Ø63 (st. steel)			Z	DN32				
RP	Normally Open (2->1)	K	Clamp to ASME BPE	209	1 ½"	G	Ø90 (st. steel)	K	DN40	J	DN50				
				210	2"										

Product coding example: BPK205STW00C on/off Sanitary Piston Valve with clamp ends to ASME BPE, Normally Closed bidirectional (flow 1<->2), DN15, actuator plastic dia. 63, PTFE seal, sanitary design and materials compliant to EU regulation 1935/2004.

2/2 Way Control Sanitary Piston Actuated Valve

DN15 to DN50, Tube Weld & Clamp



Valve Specifications	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases (filtered with mesh 5 µ)
Body Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Tube Material	AISI 316L (CF3M)
Process Connection – Tube Weld	SMS 3008, BS 4825 or ASME BPE (gasket & clamp not included)
Process Connection – Clamp	BS 4825 or ASME BPE (gasket & clamp not included)
Bonnet Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Main Seal Material	PTFE
Flow Characteristic	Linear or equal-percentage
Positioner Specifications	
Body & Cover Material	PPS & PC
Power Supply	24 VDC ± 10%
Input Signal	4 to 20 mA, 0 to 5 / 10 V
Output	4 to 20 mA
Power / Air Consumption	< 4W / 20 LPM
Supply Pressure	Max 7 bar
Air Connection	G1/8" (Ø 6 mm tube)
Electrical Connection	Conduit M16 x 1.5 (with screw terminals)
Ingress Protection	IP65 / IP67 to EN 60529
Output Characteristics	Linear, EQ%, User Set (5 to 21 points)
Hysteresis	±0.2% F.S.
Accuracy	≤ ± 0,3 % F.S.
Linearity	≤ ± 1.0 % F.S.
Close tight function	CLOSED: W ≤ 0.5%; OPEN: W ≥ 99.5%

Features and Benefits

Piston Actuated Valve

- Sanitary internals design
- Materials compliant with EC Regulation 1935/2004
- High reliability of M&M standard piston valve design
- Accuracy of control thanks to specifically trimmed plug profiles

Smart Positioner (solenoid technology)

- Auto calibration: simple menu structure with options to auto calibrate all parameters or zero and end points only
- Zero leak positioner
- Front panel pushbuttons for configuration
- LCD display backlight, for process values and calibration
- Fail-safe and fail-freeze function: enables the valve to move to a pre-determined position or maintain the last position on the loss of electrical power supply or pneumatic air supply
- Feedback signal: 4 to 20 mA output option

Valve Options	Code Examples
Main Seal material in Peek ¹	ZPZ205SPWEK
Internal finish polished to Ra ≤ 0,5µ	
Positioner Options	
Fail Option : Safe (S) or Freeze (F)	SNG10S or SNG10F
Feedback output option: 4 to 20 mA (1)	SNG11S or SNG11F

¹ Seal in peek usually improves valve life in severe applications

DN	Flow Rate ³ Equl% 1:25	Flow Rate ³ linear 1:25	Working Pressure ¹ Max.	Flow Direction	Pilot Pressure		Actuator Ø	PN ²	Valve Code (weld ends to BS 4825)		Positioner Code
					Min.	Max.			EQ%	Linear	
[mm]	Kvs [m³/h]	Kvs [m³/h]	[barg]	[2 → 1]	[barg]	[barg]	[mm]	—			Fail-safe, no feedback
15	4.5	4.9	16	Only under seat	4.5	7	63	40	ZPZ205STWE0C	ZPZ205STWLO0C	SNG10S
20	8.7	8.7	16						ZPZ206STXE0C	ZPZ206STXLO0C	
25	12.7	14.4	14						ZPZ207LTYE0C	ZPZ207LTYL00C	
32	20.4	22.8	12	Only under seat	4.5	90	25	-	-		
40	29.7	34.2	8					ZPZ209LTKE0C	ZPZ209LTKLO0C		
50	36.3	39	6					ZPZ210LTYE0C	ZPZ210LTYL00C		

Notes 1. Steam max. working pressure 10 bar (9 barg). 2. PN 10 for all sizes with clamp connection. 3. Flow values shown in the selection table are subjects to a tolerance of ±15%

Coding chart

Valve type / function	Sanitary connection	Valve head (to match DN)	Main seal material	DN (mm)	Plug options	Special Features	Special Executions
ZP Control Piston Valve fitted with positioner	M ¹ Tube weld to SMS 3008	205S For DN15	T PTFE	W DN15	E Equal %	0C Sanitary design and materials	SNG10S No feedback, Fail Safe
	X Tube weld to ISO 2037	206S For DN20	P PEEK	X DN20	L Linear		SNG10F No feedback, Fail Freeze
	T Tube weld to ASME BPE	207L For DN25		Y DN25			SNG11S Feedback 4-20 mA Fail Safe
	Z ² Tube weld to BS 4825	208L For DN32		Z DN32			SNG11F Feedback 4-20 mA Fail Freeze
	K ³ Clamp to ASME BPE	209L For DN40		K DN40			
		210L For DN50		J DN50			

¹ For sizes from DN25 to DN50 SMS 3008 dimensions are the same as ISO 2037, therefore valve coding will be the same for both standards following ISO 2037 (e.g. ZPZ205SPWE0-SNG10S)

² For sizes from DN25 to DN50 BS 4825 dimensions are the same as ASME BPE, therefore valve coding will be the same for both standards following ASME BPE (e.g. ZPZ205SPWE0-SNG10S)

³ Clamp ends to ASME BPE can be used to match clamp ends to BS 4825 with minor tolerance variations on the inside diameter.

Product coding example: ZPK205SPWE0-SNG10S Control valve with clamp ends to ASME BPE, DN15, main seal in Peek, equal% plug, sanitary design & materials – fitted with smart linear positioner in fail-safe configuration.

A full listing of the Rotork sales and service network is available on our website.

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