

rotork®

Keeping the World Flowing



The Rotork PAV-TMP range are compact piston actuated control valves with integrated smart digital positioners, designed for modulating control applications.

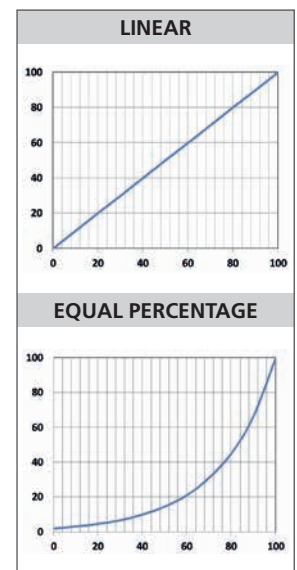
The PAV-TMP range provides a compact solution for modulating control applications. PAV-TMP valves utilise proven M&M piston valve designs featuring optimised flow capabilities.

The range incorporates a smart digital positioner using micro solenoid technology with full manual and auto-calibration proportional and derivative (PD) settings. The positioner also includes fail-safe and fail-freeze configurations in the event of input signal or pneumatic supply failure.

The valve design features both special linear and equal percentage plugs with soft seals to provide tight shut-off.

PAV-TMP Range

A compact solution for modulating control



- › DN15 to DN50 range
- › Wide choice of process connections (G ISO 228-1, NPT, tube weld ends, flanges, clamp ends)
- › Fail-freeze and fail-safe functions
- › Smart positioner with LCD display and auto calibration
- › PD parameters setting and optional feedback signal
- › Compact size with optimised flow control capabilities
- › Compliant with all relevant EC regulations

m&m
international
A rotork® Brand

rotork®

2/2 Way Control Piston Actuated Valve

Valve Specifications	
Type: ZP flow always under seat 2 → 1	NC (Direct) / NO (Reverse)
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	All connection types available for ON/OFF valve range in stainless steel
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	
Power Supply	24 VDC ± 10%
Input Signal	4 to 20 mA, 0 to 5 / 10 V
Power Consumption	< 4W
Output	4 to 20 mA
Output Characteristics	Linear, EQ%, User set (21 points)
Operating Temperature	-10 to +60 °C
Supply Pressure	Max 7 bar
Air Consumption	0 LPM
Filtering size	5 micron
Air Connection	G1/8" (Ø 6 mm tube)
Electrical Connection	Conduit M16 x 1.5 (with screw terminals)
Ingress Protection	IP67
Body Material	PPS
Cover Material	PC
Hysteresis	±0.2% F.S.
Accuracy	≤ ± 0.3 % F.S.
Linearity	≤ ± 1.0 % F.S.
Close tight function	CLOSED: W ≤ 0.2%; OPEN: W ≥ 99.5%

NOTES:

1. Steam max. working pressure 10 bar (9 barg)
2. Please contact Rotork sales department for other pilot media

Piston Actuated Valve

- Accuracy of control with specifically trimmed plug profiles
- Universal design suitable for vacuum applications up to 10⁻² mbar
- Water-hammer free design
- Extended cycle life with self-registering gland and chevron packing
- Optimised control characteristic with high flow rate and low pressure drop

Smart Positioner Design Features (Solenoid Technology)

- Vertical mounting with easy to mount installation
- Fail-freeze and fail-safe function on the loss of electrical power or pneumatic air supply
- Backlit LCD alphanumeric digital display for process values and calibration
- Feedback signal with 4 to 20 mA output option
- Auto calibration with simple menu structure
- Low air consumption level and almost zero air leakage
- Front panel push buttons for configuration and positive acting push buttons for field configuration

Valve Options	Code Examples
Main seal material in peek ¹	ZP*2055PWE0
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 improve valve life in severe applications

2/2 Way Control Piston Actuated Valve

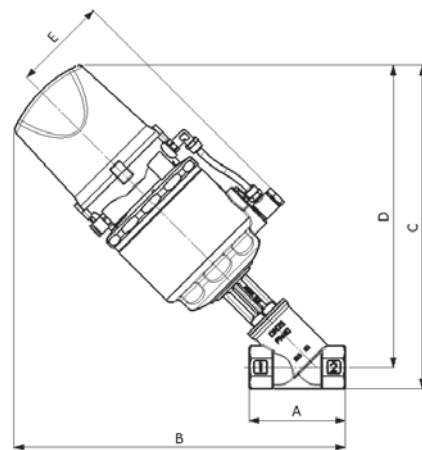
Selection Table

DN	Flow Rate ³ Equi% 1:25	Flow Rate ³ linear 1:25	Working Pressure ¹ Max.	Flow Direction	Pilot Pressure Min.	Pilot Pressure Max.	Actuator Ø	PN ²	Valve Code (* is the connection ref. to be selected in the coding table)		Positioner Code
[mm]	Kvs [m3/h]	Kvs [m3/h]	[barg]	[2 → 1]	[barg]	[barg]	[mm]	—	EQ%	Linear	Fail-safe, no feedback
15	4.5	4.9	16	Only under seat	4.5	7	63	40	ZP*205STWEO	ZP*205STWLO	SNG10S
20	8.7	8.7	16						ZP*206STXEO	ZP*206STXLO	
25	12.7	14.4	14						ZP*207LTYES	ZP*207LTLYO	
32	20.4	22.8	12	Only under seat	4.5	7	90	ZP*208LTYES	ZP*208LTLYO		
40	29.7	34.2	8					ZP*209LTKEO	ZP*209LTKLO		
50	36.3	39	6					ZP*210LTYES	ZP*210LTLYO		

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 subject to a tolerance of ±15%

Dimensions and Weights

GAS - NPT - WELDED ENDS	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	
	Actuator	[mm]	Ø 63		Ø 90				
	A	[mm]	64	75	90	110	120	150	
B	[mm]	287	293	309	322	327	345		
C	[mm]	280	287	302	315	323	338		
D	[mm]	266	271	282	290	295	304		
E	[mm]	69.8	69.8	82.8	82.8	82.8	82.8		
Weight	[kg]	1.9	2	2.8	3.2	3.4	4.1		



FLANGED EN 1092-1	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	
	Actuator	[mm]	Ø 63		Ø 90				
	A	[mm]	130	150	160	180	200	230	
B	[mm]	325	332	345	360	365	386		
C	[mm]	347	356	368	392	403	418		
D	[mm]	299	303	315	322	327	335		
E	[mm]	69.8	69.8	82.8	82.8	82.8	82.8		
Weight	[kg]	3.3	3.7	5.2	6.8	7.7	9.9		

FLANGED ANSI B16.5	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	
	Actuator	[mm]	Ø 63		Ø 90				
	A	[mm]	139.7	152.4	165.1	184.2	203.2	228.6	
B	[mm]	323	328	346	358	365	386		
C	[mm]	344	352	369	381	391	411		
D	[mm]	299	303	315	322	327	335		
E	[mm]	69.8	69.8	82.8	82.8	82.8	82.8		
Weight	[kg]	3.3	3.7	5.2	6.8	7.7	9.9		

Regulatory

The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
ZPG - ZPR - ZPN - ZPC - ZPP - ZPA - ZPD -	DN15 to DN25 (PN40)	SEP (art. 4.3)	SEP (art. 4.3)
	DN32 to DN40 (PN25)	Category I	SEP (art. 4.3)
	DN50 (PN16)	Category I	SEP (art. 4.3)

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0.5 barg shall be considered as gases.

Coding chart

Valve type / function		Process connection*		Valve head (to match DN)		Main seal material		DN (mm)		Plug options		Special Features		Positioner	
ZP	Control Piston Valve fitted with positioner	A	Flange to ANSI B10.5	205S	For DN15	T	PTFE	W	DN15	E	Equal %	0	None	SNG10S	No feedback, fail-safe
		D	Flange to UNI EN 1092-1	206S	For DN20	P	PEEK	X	DN20	L	Linear			SNG10F	No feedback, fail-freeze
		G	Thread to ISO 228-1	207L	For DN25			Y	DN25					SNG11S	Feedback 4-20 mA, fail-safe
		N	Thread to NPT	208L	For DN32			Z	DN32						
		P	Clamp ends to ASME BPE ¹	209L	For DN40			K	DN40						
		R	Spigots to ISO 228-1	210L	For DN50			J	DN50					SNG11F	Feedback 4-20 mA, fail-freeze
		W	Butt weld ends to DIN11850-2												
ZP		•		••••		•		•		•		•		•••••	

Product coding example: ZPN205STWE0-SNG10S Control valve with NPT threaded connection, DN15, main seal in PTFE, equal% plug, fitted with smart linear positioner in fail safe configuration.

Notes

1 - See PUB125-005 for information on the sanitary PAV range.

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

www.rotork.com

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