

# 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.

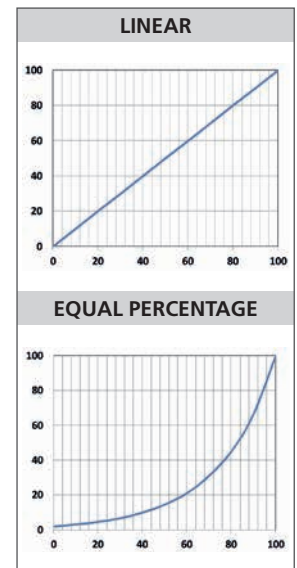
The PAV-TMP range provides a compact solution for modulating control applications. PAV-TMP valves utilise proven M&M piston valve designs featuring optimised flow capabilities.

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 <sup>1</sup>
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media <sup>2</sup>	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<sup>-2</sup> 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 <sup>1</sup>	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

<sup>1</sup> Seal in peek usually improve valve life in severe applications

# 2/2 Way Control Piston Actuated Valve

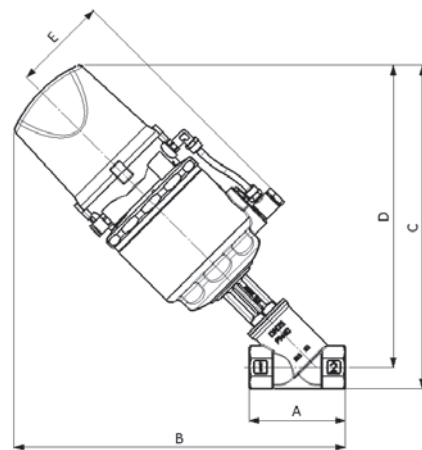
## Selection Table

DN	Flow Rate <sup>3</sup> Equi% 1:25	Flow Rate <sup>3</sup> linear 1:25	Working Pressure <sup>1</sup> Max.	Flow Direction	Pilot Pressure		Actuator Ø	PN <sup>2</sup>	Valve Code (* is the connection ref. to be selected in the coding table)		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	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 <sup>1</sup>	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](http://www.rotork.com)

#### Corporate Headquarters

Rotork plc  
tel +44 (0)1225 733200  
fax +44 (0)1225 333467  
email mail@rotork.com

#### Rotork Instruments Italy Srl

24050 Orio al Serlo (Bg)  
ITALY Via Portico 17  
tel +39 035 451161  
fax +39 035 431763  
email info.instruments-italy@rotork.com  
web www.mminternational.net / www.rotork.com