

# Mark 75PTP Series

CRN Registration Number Available

## Piston Operated Wafer Style Control Valves

The Mark 75PTP is a Mark 75 wafer style control valve with an 80mm (1" - 2") Stainless Steel Piston Actuator. The Gemu cPOS Smart Positioner is standard and required for control applications. For on/off service, the valve may be supplied without a positioner. JVCV Should be used for sizing selection.

### CAPACITY

The Mark 75PTP provides great capacity in a compact wafer style body. A 2" Mark 75PTP provides 72 Cv (62 Kv). (Refer to Cv Capacity Charts for information concerning all line sizes).

### EASE OF MAINTENANCE

The Mark 75PTP features a 'T' slot design connection to the disc. This connection allows for quick and easy reversing of functions. Instead of having to go into the actuator to change action, all that is needed in a Mark 75PTP is to rotate the seats 180°. With this simple rotation, the valve can go from reverse acting to direct acting (or vice versa).

The stroke length of the Mark 75PTP is a slightly longer stroke than standard sliding gate valves. This longer stroke enables better turndown. Combined with the capacity of the Mark 75PTP, the increased turndown makes for a great control valve.



Control Valves

Mark 75PTP Wafer Style Control Valves



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## SPECIFICATIONS

**Sizes:** 1" (DN25), 1-1/2" (DN40), 2" (DN50)

### Body Materials

- A105 CS barstock or SA-479 Bar 316/316L SS barstock

### Body Seals:

- Jorlon plate/body gasket, PTFE spring loaded teflon v-ring packing

### Trim Material

- 316 Stainless Steel

### Seat Materials

- Jorcote/316SS – standard

**Shut Off:** Class IV

**End Connections:** ANSI 150/300 WAFER

### Yoke Materials

- Ductile Iron (1" - 2")
- NAMUR Cast Iron

**Actuator Case Material:** Stainless Steel

### Packing Material

- Spring loaded Teflon V-Ring to 500°F (260°C)
- Grafoil above 500°F (260°C)

**Maximum Pressure Drop:** 125 psi with standard Piston Actuator and Spring

**Ranges:** 12.7-14.7 psi for 1", 12.7-16.7 psi for 1-1/2", 12.7-19.1 psi for 2"

\* positioner required

### Action

- Direct (ATC)
- Reverse (ATO)

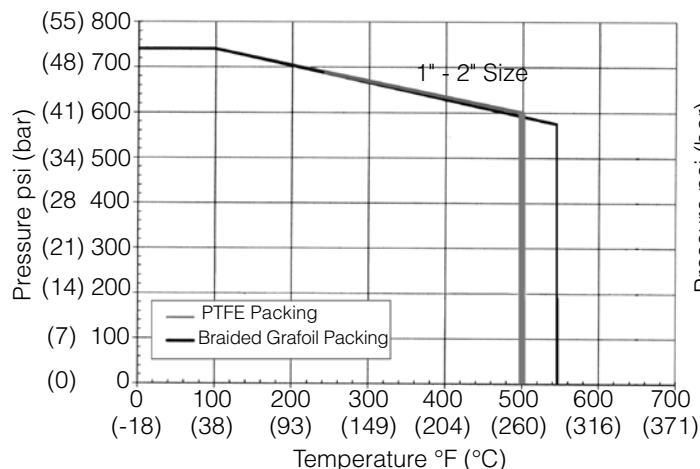
### Actuator

- Direct mount pneumatic piston

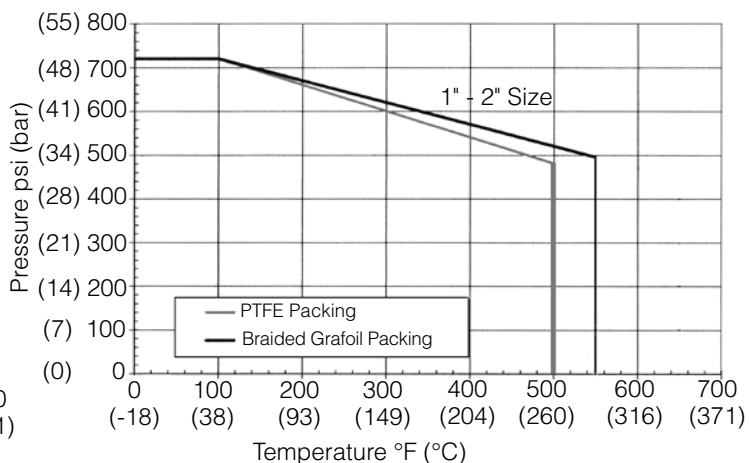
**Turndown Ratio Capability:** 100:1

## PRESSURE/TEMPERATURE CHART

### Carbon Steel



### Stainless Steel



### Cv/Kv vs TRAVEL – LINEAR

| Cv (Kv)   | Flow Characteristics | 10%  | 20%  | 30%  | 40%  | 50%  | 60%  | 70%  | 80%  | 90%  | 100% |
|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|
| 9.5 (8,2) | Linear               | 0.95 | 1.90 | 2.85 | 3.8  | 4.75 | 5.70 | 6.65 | 7.60 | 8.55 | 9.5  |
| 33 (28)   | Linear               | 3.3  | 6.6  | 9.9  | 13.2 | 16.5 | 19.8 | 23.1 | 26.4 | 29.7 | 33   |
| 38 (33)   | Linear               | 3.8  | 7.6  | 11.4 | 15.2 | 19.0 | 22.8 | 26.6 | 30.4 | 34.2 | 38   |
| 72 (62)   | Linear               | 7.2  | 14.4 | 21.6 | 28.8 | 36.0 | 43.2 | 50.4 | 57.6 | 64.8 | 72   |

Cv vs Travel curves represent projected performance based on file data. Actual results may vary from system to system.

### Cv (Kv) VALUES

| Size   | DN   | Linear Cv | Linear Kv | Equal Percentage Cv | Equal Percentage Kv |
|--------|------|-----------|-----------|---------------------|---------------------|
| 1"     | DN25 | 9.5       | 8,2       | 5.7                 | 4,9                 |
| 1-1/2" | DN40 | 33        | 28        | 20                  | 17                  |
| 2"     | DN50 | 38        | 33        | 43                  | 37                  |
|        |      | 72        | 62        |                     |                     |

Note: if equal percentage flow is required, specify positioner to be programmed for equal percentage flow.

### MAXIMUM ΔRATINGS, PSI (BAR) WITH POSITIONER

| Size    | Actuator | Teflon     | Jorcote    |
|---------|----------|------------|------------|
| 1" – 2" | 35M      | 175 (12,1) | 200 (13,8) |

Note: 25 psi (1,7 bar) air supply for ATC, 45 psi (3,1 bar) for ATO (35 min, 45 max)

### SLIDING GATE FEATURES & BENEFITS

#### Jordan Valve's Sliding Gate Seats

Installed in the widest range of gas, chemical and steam applications the world over, our pressure regulators, temperature regulators and control valves have been providing the following benefits for over fifty years.

#### Shorter stroke length than globe or cage designs

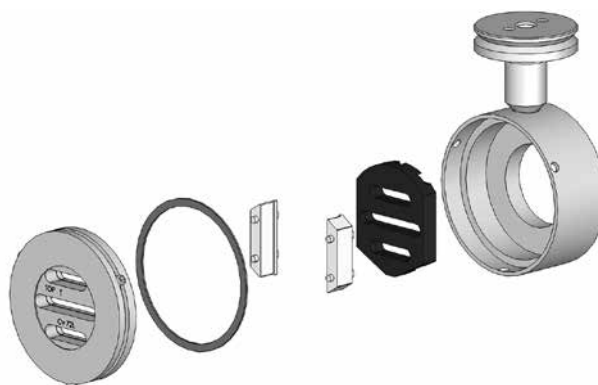
- Provides faster response to input signal changes
- Significantly extends packing and diaphragm life
- Allows for more compact valve/actuator assembly

#### Straight-through flow

- Significantly reduces turbulence, thereby reducing noise and erosion
- Markedly increases rangeability associated with "flow to open" and "flow to close" designs
- Eliminate valve "chatter" commonly observed when valve is partially open

#### Ease of maintenance

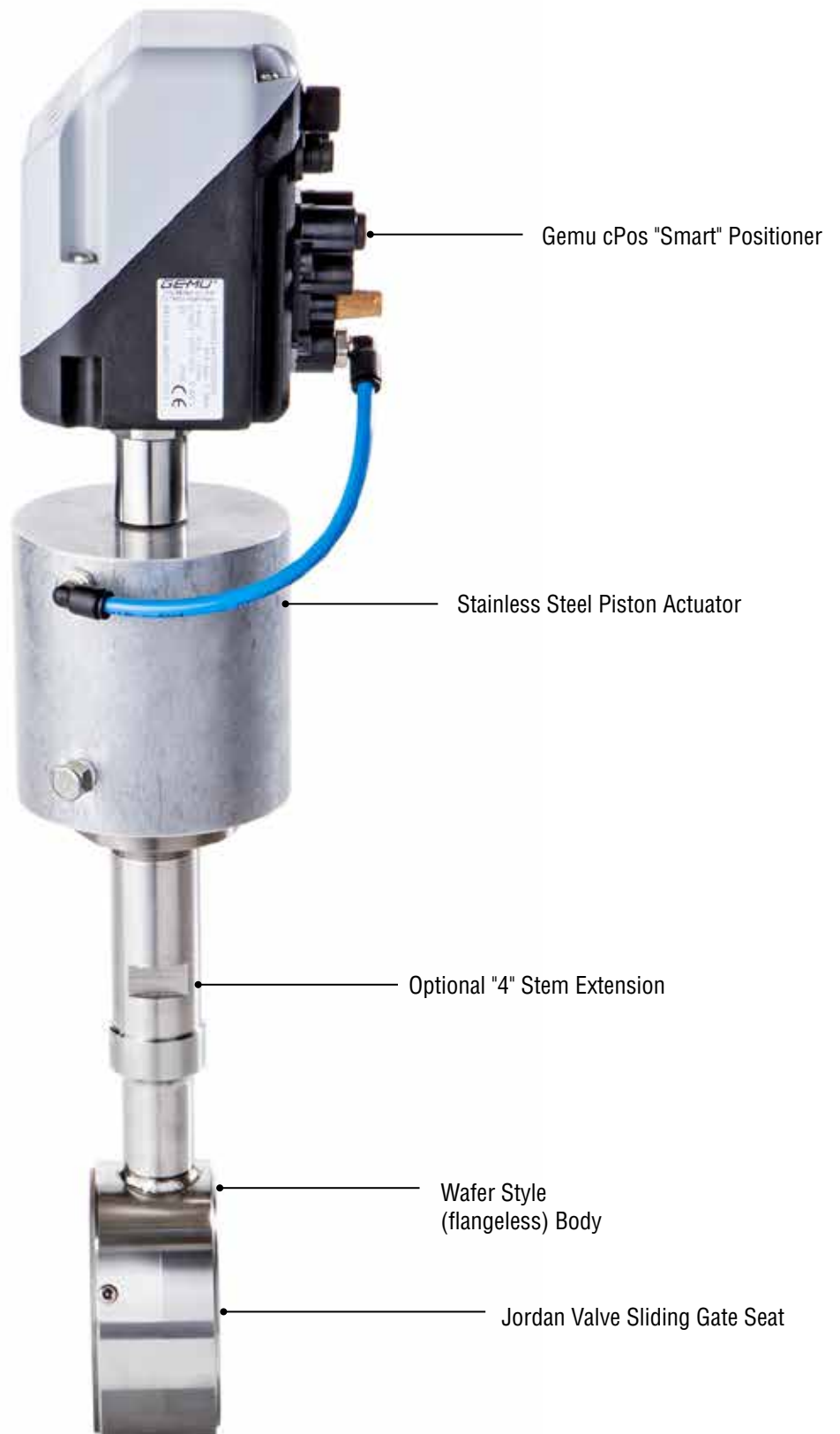
- During seat/Cv change (seats are not screwed or pressed in body)
- Attributable to lightweight, compact design
- Fewer trim components



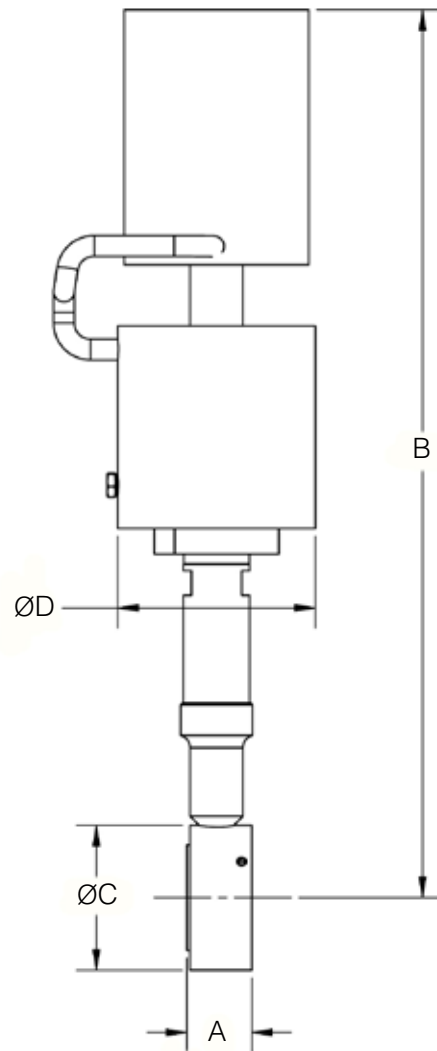
#### Features

- Easy installation between flanges with wafer body
- High flow rates
- Self cleaning, self lapping seats
- Reduced noise compared to conventional globe/cage valves
- More resistant to cavitation / flashing with straight through, wafer design

**1" THRU 2" MARK 75PTP SERIES WITH OPTIONAL 4" STEM EXTENSION**



**DIMENSIONS – MK75PTP**



INCHES

| Valve Size | Dimensions, Inches |       |      |      |
|------------|--------------------|-------|------|------|
|            | A                  | B     | C    | D    |
| 1"         | 1.24               | 16.86 | 2.75 | 3.75 |
| 1-1/2"     | 1.30               | 17.34 | 3.24 | 3.75 |
| 2"         | 1.69               | 17.56 | 3.97 | 3.75 |

MARK 75PTP SERIES WAFER STYLE CONTROL VALVES

ORDERING SCHEMATIC MARK 75PTP

| Model No | Size | Body Mat'l | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----------|------|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|
|          |      |            |   |   |   |   |   |   |   |   |   |    |    |    |    |

|       | Model    |
|-------|----------|
| 75PTP | Standard |

|     | Size   |
|-----|--------|
| 100 | 1"     |
| 150 | 1-1/2" |
| 200 | 2"     |

|    | Body Material       |
|----|---------------------|
| CB | Carbon Steel Bar    |
| SB | Stainless Steel Bar |

| 1 & 2 | End Connections |
|-------|-----------------|
| I3    | 150# / 300# IFE |

| 3 & 4 | Trim           |
|-------|----------------|
| G6    | TFE / 316 5 IN |
| ZZ    | Non-Standard   |

| 5 & 6 | Seats        |     |
|-------|--------------|-----|
|       | Material     | Cv  |
| W     | 316 / JOR    | 4   |
|       |              | 1.6 |
|       |              | 6   |
|       |              | 4.4 |
|       |              | 7   |
|       |              | 6.4 |
|       |              | 8   |
|       |              | 9.5 |
|       |              | A   |
|       |              | 33  |
|       |              | B   |
|       |              | 38  |
|       |              | E   |
|       |              | 72  |
| ZZ    | Non-Standard |     |

| 7 & 8 | Range        |           |
|-------|--------------|-----------|
|       | 75PTP        |           |
|       | Range        | Actuator  |
|       |              | B4        |
|       |              | 4 - 20 mA |
|       |              | B9        |
|       |              | 0 - 10V   |
| ZZ    | Non-Standard |           |

| 9 & 10 | Actuator       |
|--------|----------------|
| B7     | 80mm Piston    |
| ZZ     | Non - Standard |

| 11 & 12 | Action       |
|---------|--------------|
| ØD      | Air-to-Close |
| ØR      | Air-to-Open  |

| 13 | PED Compliance |
|----|----------------|
| Ø  | Not Required   |
| F  | CE Category 1  |
| Z  | Non-Standard   |



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