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Parallel Tunnel (PT45) Diverter Valve

- **The 2nd generation PT diverter design introduces new features such as adjustable alignment stops located in the housing, position indication from the tunnel itself, additional actuation options and external tunnel position indication.**
- **Features a tunnel that rotates 45° port to port which prevents contamination and 2-way switching capability for either dilute phase or dense phase conveying applications**
- **The diverter's aluminum housing and tunnel are hard anodized for wear resistance**
- **This valve includes a positive food grade rubber silicone seal at each port, and can be used in convey line applications operating at line pressure up to 110 psi**
- **Units are available in either aluminum, 316 stainless steel or cast iron construction**

Application
This precision machined valve is designed to prevent contamination and provide line switching for either dilute or dense phase conveying. The two-way PT45 valve operates as a 1 to 2 way diverting valve or a 2 to 1 way converging valve in a pneumatic conveying system for powdered or granular materials.

Equipment
- Cast aluminum (356-T6) housing, tunnel and end plates
- Aluminum housing and tunnel are hard anodized, .001" thick, spec. AMS-2468
- Stainless steel actuator arms
- Food grade silicone rubber seal at each port
- Pneumatic cylinder actuator
- 120 volt double operator solenoid
- (2) Position indicating proximity sensors, stainless steel construction
- Ports flanged to mate 150# ANSI drilling
- Temperature: -20°F to 200°F (-29°C to 93°C)
- Pressure (maximum convey):
  - 110 psig, models 20PT45 through 60PT45
  - 80 psig, model 80PT45
- Integral lifting and mounting accommodations

Operating principles
The tunnel is rotated forward and backwards in the housing by the actuator. This positions the tunnel to either the divert ports or the straight-through ports. The tunnel is supported by shaft bearings in the two end plates and between two thrust washers. The tunnel has position stops located in the housing for fine adjustment of both conveying positions.

Tunnel position, whether straight-through or divert, indication is made by two proximity switches mounted in the housing, sensing directly off of the tunnel. A positive seal is made through the selected position between the tunnel bore and the housing interior by seal rings. During tunnel position changes, the seal rings act like a wiper to clean the surface of the tunnel.

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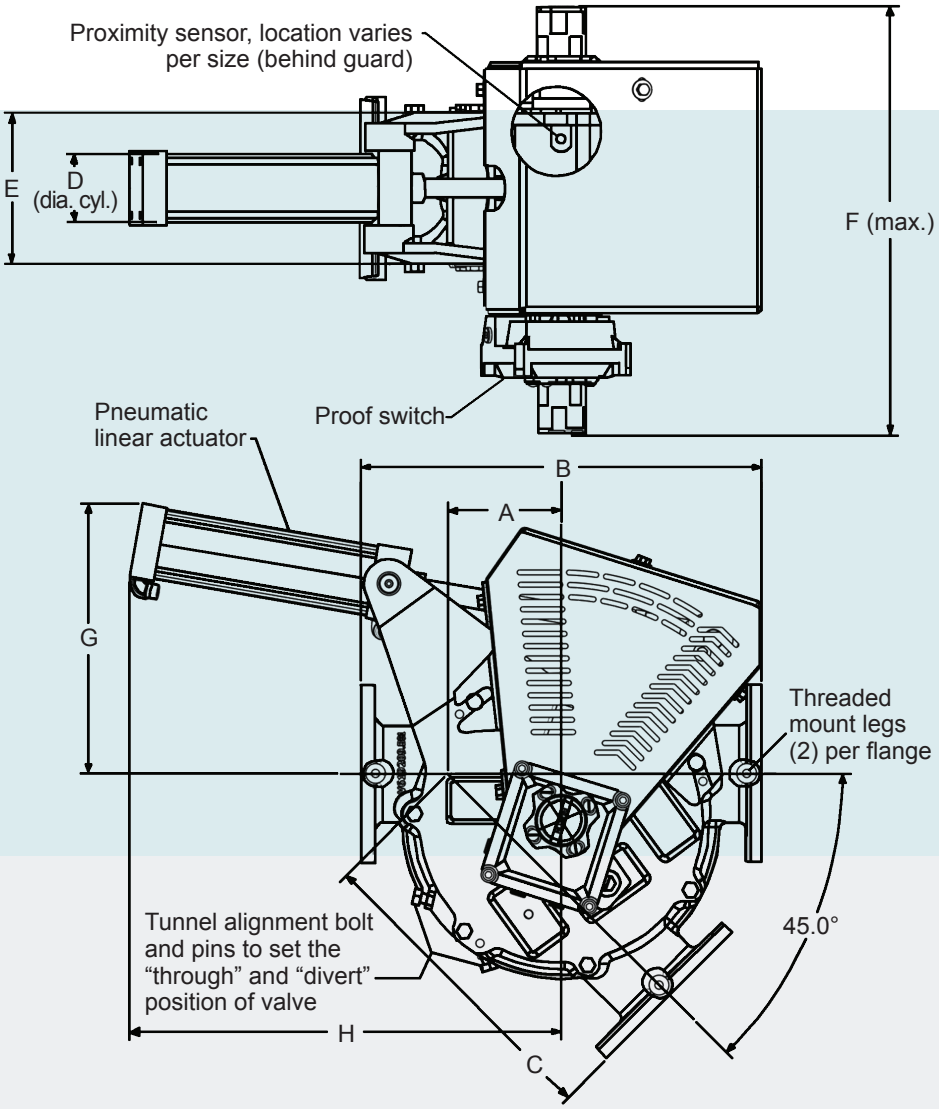

Available Options

- Cast 316 (CF8M) stainless steel housing, tunnel and end plates
- Cast iron (Class 40) housing and end plates w/cast ductile iron tunnel (Models 40PT45, 50PT45 and 60PT45 only)
- Designs for extreme temperatures as low as -45°F and as high as 300°F
- 24 volt double operator solenoid
- 110 volt explosion proof or 24 volt intrinsically safe solenoids
- Intrinsically safe proximity sensors
- DPDT position proof switches (linear actuator only)
- Explosion proof DPDT position proof switches (linear actuator only)
- No-ledge coupling adaptors for housing flanges (30 - 80PT45 models)
- Electric actuator (20 - 60PT45 models)
- Pneumatic rotary actuator

Model	Pipe Size	DIMENSIONS (INCHES)										
		A	B	C	D	E	F	G	H	Aluminum (lbs.)	316 S.S. (lbs.)	C.S. (lbs.)
20PT45	2	3.94	15	11.44	2.5	5.75	20.25	11.38	16	70	185	N/A
25PT45	2.5	3.88	15	11.38	2.5	5.75	20.25	11.38	16	70	185	N/A
30PT45	3	4.63	16.75	13	3.25	6.38	20.63	14	17.5	90	205	N/A
40PT45	4	5.75	20.31	15.91	3.25	7.63	21.75	17.25	22	125	290	290
50PT45	5	7.13	23.5	18.88	4	8.63	22.75	17	24.75	170	410	410
60PT45	6	8.38	26.44	21.59	4	9.69	24.13	18.75	24	215	596	596
80PT45	8	10.69	33	27.19	5	11.81	26.13	11.56	26.5	330	925	N/A

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