

PRODUCT INFORMATION SHEET

PTD

PLUG DIVERTER VALVE



BACKGROUND

Established in 1950, DMN-WESTINGHOUSE has been a worldwide, trusted supplier of rotary valves and diverter valves for decades, serving a large range of dry bulk solids processing industries. True to our promise to provide future-proof value, our experts continue monitoring the performance of our products in practice, including in the context of customer feedback and emerging new technologies and practices.

Our staff have developed a complete range of premium diverter valves for the transport of any type of dry bulk solid in powder, granule, or pellet form. We offer plug, tube, flap, and ball diverter valves – all with the DMN-WESTINGHOUSE quality mark.

These durable diverters can be further customized to your specifications and are easy to integrate with your current rotary valves. Tell us more about your setup and applications, and we will offer you the perfect diverter valve.

MEET THE **PTD** PLUG DIVERTER VALVE

The PTD plug diverter valve is especially designed to route powders and pellets in pneumatic conveying systems with minimum degradation. Precision machining, proper sealing, and an obstruction-free internal geometry guarantee a smooth passage of your product.

The user-friendly, foolproof design enables quick on-site internal examination, servicing, and – when necessary – replacement of seals. The PTD design features no moving parts on the outside and complies with all current guidelines regarding safety in the workplace.



THE **PTD** PLUG DIVERTER VALVE AT A GLANCE

- The standard diverter is suitable for product temperatures from -13 °F to +176 °F at ambient temperatures of +23 °F to +104 °F; versions suitable for higher temperatures are available on request
- Fitted with static belly seals, the standard PTD is suitable for systems with positive pressures up to 43.5 PSI
- Fitted with inflatable belly seals, the PTD is suitable for systems with positive pressures up to 87 PSI
- Pressure shock resistant up to 145 PSI*
- Aluminium housing and end covers, installed with a dual-pipe plug (two-channel design)
- All product contact surfaces are stainless steel AISI 316/ DIN 1.4404
- No moving parts on the outside
- Three FDA and EC 1935/2004-compliant silicone belly seals guarantee the sealing between housing and plug
- Pressure-tight body, ensuring no leakage to atmosphere
- The PTD with static belly seals is standard supplied with solenoid valve and inductive position sensors; a terminal box can be selected optionally
- The PTD with inflatable belly seals is supplied with a complete electro-pneumatic control system, including solenoids, terminal box and inductive position sensors
- Versions with electrical drive and/or wear-resistant pipes available

- EC 1935/2004- and FDA-compliant
- ATEX 2014/34/EU certification available

PROPERTIES

- Universal application; diverting and converting
- Glue-free belly seals ensure a fast seal replacement process
- Easy, two-sided access – service the diverter from the most convenient side
- Plug position indicator on both sides
- Minimal service required
- The compact form and user-friendly design ensure great ease of operation

BENEFITS

Glue-free seal replacement, faster checks, minimal servicing needs, and maximum user-friendliness each lead to greater efficiency. Your operators perform their tasks quicker, leading to minimal downtime.

Your benefit? The PTD sets a new standard in servicing efficiency, ensuring **more uptime and reduced expenses**.

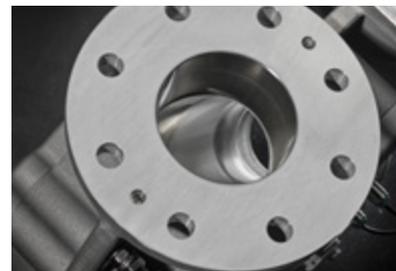
APPLICATIONS

DMN-WESTINGHOUSE produces all existing types of diverter valves, for a broad range of industries. Get in touch and share the details of your process and installation, so that we can recommend the perfect valve for you.

*Size 200 (8") excluded

SPECIFICATIONS

| | |
|---|--|
| Flange connection | Round PN 10 or ANSI 150 |
| Maximum allowable working pressure | 10.15 PSI to 43.5 PSI |
| Optional: inflatable seal size 50-150 inflatable seal size 200 | 10.15 PSI to 87 PSI 10.15 PSI to 43.5 PSI |
| Allowable conveying product temperature | -13°F to +176°F |
| Maximum allowable working temperature | -4°F to +140°F |
| ATEX 2014/34 EU | Marking of the mechanical equipment II 1D/2D and II -/2G |



| TYPE | AVAILABLE SIZES | | | | | | |
|-------------------------|-----------------|-----------|---------|----------|----------|----------|----------|
| PTD plug diverter valve | 2" (50) | 2.5" (65) | 3" (80) | 4" (100) | 5" (125) | 6" (150) | 8" (200) |

MATERIAL SPECIFICATIONS

| | | |
|----------------------------------|---|---------------------------------------|
| Cast housing/end covers/plug | Aluminium EN AC 42100 (EN AC-Al Si7Mg0.3) | |
| Piping | Stainless steel AISI 316L | DIN 1.4404 |
| Static and inflatable belly seal | Silicone | FDA-approved - EC 1935/2004-compliant |

DRIVE SPECIFICATIONS

| | |
|------------------------|--|
| Double acting cylinder | According to ISO 15552 |
| Medium | Air filtration lubricated or not up to 145 PSI |
| Temperature range | -4°F to +176°F |
| Working pressure | 72.5 PSI to 114 PSI |
| Tube | Ø 0.39" |



AIR CONSUMPTION

| TYPE | AVAILABLE SIZES | | | | | | |
|-----------------------------------|-----------------|-----------|---------|----------|----------|----------|----------|
| PTD plug diverter valve | 2" (50) | 2.5" (65) | 3" (80) | 4" (100) | 5" (125) | 6" (150) | 8" (200) |
| At 87 PSI Ft ³ /stroke | 0.074 | 0.175 | 0.19 | 0.22 | 0.41 | 0.485 | 1 |

SOLENOID VALVE SPECIFICATIONS

| | |
|-----------------|--|
| Cylinder | 5/2 bistable version with manual control |
| Festo | Type JMFH-5-1/4-EX |
| Medium | Air filtration lubricated or not up to 116 PSI |
| Connection | 1/4" |
| Inflatable seal | 3/2 monostable version with manual control |
| Festo | Type MFH-3-1/4-EX |
| Medium | Air filtration lubricated or not up to 116 PSI |
| Connection | 1/4" |

SOLENOID COIL SPECIFICATIONS

| | |
|-------------------|-----------------------------|
| Festo | Type MSF-... |
| Protection | IP 66 |
| Socket connection | M 16 Ø 0.23" to 0.31" |
| Standard voltage | 24 VDC 110/230 VAC 50/60 Hz |
| Temperature range | +23°F to +104°F |

PRESSURE SWITCH SPECIFICATIONS

| | |
|------------|----------------------|
| Festo | Type PEV-1/4-B |
| Protection | IP 65 |
| Voltage | Max. 125 VDC/250 VAC |



SENSOR SPECIFICATIONS

Pepperl & Fuchs

Standard

Type NBB5-18GM50-E2-V1 incl. connector and 6.5 ft cable

D.C. sensor (3 wire)

Nominal voltage: 10–30 VDC

Normally open PNP

Ambient temperature: -13°F to +158°F

Alternatives on request



TERMINAL BOX SPECIFICATIONS

ROSE

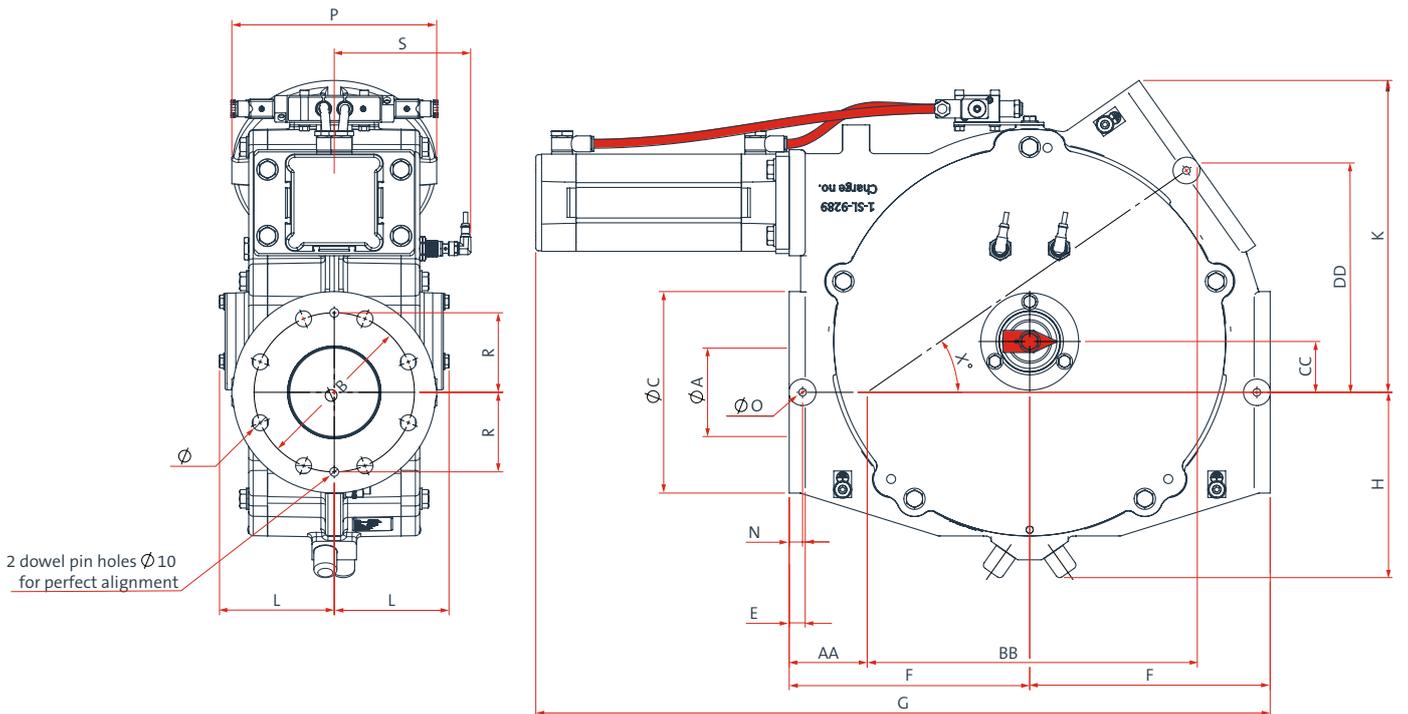
Material

Polyester

Protection

IP 66

MEASUREMENTS



| TYPE | DIN | | | ANSI | | | | | | | | | | | | | | | | | | |
|-----------|------|-------|---------|-------|-------|---------|------|-------|-------|-------|-------|------|------|--------|-------|------|------|------|------|-------|------|-------|
| PTD | ØA | ØB | D | ØC | ØB | D | E | F | G | H | K | L | N | O | P | R | S | X | AA | BB | CC | DD |
| 2" (50) | 1.97 | 4.92 | 4xØ0.71 | 6.50 | 4.75 | 4xØ0.75 | 0.63 | 8.07 | 24.33 | 6.69 | 9.72 | 4.41 | 0.49 | M10x20 | 6.69 | 2.46 | 4.76 | 33.5 | 3.50 | 10.55 | 1.38 | 6.97 |
| 2.5" (65) | 2.56 | 5.71 | 4xØ0.71 | 7.28 | 5.50 | 4xØ0.75 | 0.63 | 8.46 | 26.69 | 7.09 | 11.02 | 4.61 | 0.49 | M10x20 | 7.48 | 2.85 | 5.16 | 36.7 | 3.43 | 10.83 | 1.67 | 8.07 |
| 3" (80) | 3.15 | 6.30 | 8xØ0.71 | 7.87 | 6.00 | 4xØ0.75 | 0.71 | 10.04 | 30.24 | 7.68 | 12.60 | 5.00 | 0.59 | M10x20 | 8.07 | 3.15 | 5.45 | 36.6 | 4.25 | 12.68 | 1.91 | 9.45 |
| 4" (100) | 3.94 | 7.09 | 8xØ0.71 | 8.98 | 7.50 | 8xØ0.75 | 0.71 | 10.63 | 32.01 | 8.83 | 13.90 | 5.12 | 0.59 | M10x20 | 9.06 | 3.54 | 5.94 | 35 | 3.46 | 14.57 | 2.26 | 10.24 |
| 5" (125) | 4.92 | 8.27 | 8xØ0.71 | 9.84 | 8.50 | 8xØ0.87 | 0.79 | 13.19 | 39.02 | 10.43 | 16.69 | 5.87 | 0.69 | M12x24 | 10.04 | 4.13 | 6.44 | 35.5 | 4.57 | 17.76 | 2.76 | 12.68 |
| 6" (150) | 5.91 | 9.45 | 8xØ0.87 | 11.22 | 9.50 | 8xØ0.87 | 0.79 | 14.76 | 41.77 | 11.61 | 19.09 | 6.54 | 0.79 | M12x24 | 11.50 | 4.72 | 7.17 | 35.8 | 4.72 | 20.12 | 3.25 | 14.53 |
| 8" (200) | 8.31 | 11.61 | 8xØ0.87 | 13.50 | 11.75 | 8xØ0.87 | 0.98 | 19.69 | 51.02 | 14.96 | 25.08 | 7.83 | 0.98 | M12x20 | 13.78 | 5.81 | 8.31 | 34.8 | 5.24 | 28.03 | 4.53 | 19.49 |

Technical modifications are possible, dimensions in inches.



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