

PRODUCT INFORMATION SHEET

BTD **BALL 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 customised 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 **BTD** BALL DIVERTER VALVE

The Ball-Type Diverter valve (BTD) is designed to handle abrasive products in pneumatic conveying systems. It can be installed in high-pressure and high-temperature settings, such as thermoelectric power stations, incinerators, foundries, and cement, glass, ceramic, limestone, gypsum, and chemical plants.

It is suitable for both diverting and converging applications. In diverting mode, the product forms its own wear surface, while in converging mode, the diverter's impact area is reinforced for durability. The BTD is constructed from robust ductile cast iron, to ensure efficiency and a long service life in demanding environments.



THE **BTD** BALL DIVERTER VALVE AT A GLANCE

- Suitable for product temperature from -10 °C to + 80 °C; options for higher temperatures are available on request
- Pressure range: -0.5 to +6 barg
- Especially designed for transport of abrasive dry bulk solids
- Suitable for systems with high pressures and temperatures
- Two removable side covers allow for seal replacement in-place
- Body made from ductile cast iron
- Smart design that ensures that the seal becomes tighter with the increase of positive pressure
- Seals replaceable with the valve in place
- Replaceable wear bushings on the outlet
- Grease-lubricated shaft seals
- ATEX 2014/34/EU certification available

PROPERTIES

- Hard-wearing diverter made from premium material, designed to withstand the constant attack of abrasive dry bulk solids
- Built for excellent performance under high pressure and high temperatures
- In-place seal replacement

BENEFITS

With a smart design executed in premium, extremely robust materials, **the BTD offers great value and performance** under extreme circumstances. The possibility of in-place seal replacement makes servicing easy and quick, ensuring **lower costs** due to minimal downtime.

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.

SPECIFICATIONS

| | |
|---|--|
| Flange connection | Round PN 10 or ANSI 150 |
| Maximum allowable working pressure | -0.5 to 6 barg |
| Allowable conveying product temperature | -25°C to 80°C |
| Maximum allowable working temperature | -20°C to 60°C |
| ATEX 2014/34 EU | Marking of the mechanical equipment II 1D/2D and II -/2G |

| TYPE | AVAILABLE SIZES | | | | | | |
|-------------------------|-----------------|----|-----|-----|-----|-----|-----|
| BTD ball diverter valve | 65 | 80 | 100 | 125 | 150 | 200 | 250 |

MATERIAL SPECIFICATIONS

| | | |
|-------------------------|---------------------------------------|--------------------------------|
| Cast housing/end covers | Ductile spheroidal cast iron GS 500/7 | UNI EN 1563-UNI 4544 ASTM A536 |
| Seal | Polyurethane | |
| Optional | Silicone (+150°C) | |

DRIVE SPECIFICATIONS

| | |
|-------------------|---|
| Airtorque | Type DR double acting pneumatic actuator |
| Medium | Air filtration lubricated or not up to 10 bar |
| Temperature range | -40°C to 80°C |
| Working pressure | 5–8bar |
| Tube | Ø 10 mm |

AIR CONSUMPTION

| TYPE | AVAILABLE SIZES | | | | | | |
|------------------------------------|-----------------|------|------|------|------|-----|-----|
| BTD ball diverter valve | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| At 6 bar LTR/cycle opening-closure | 12.3 | 12.3 | 21.5 | 36.3 | 36.3 | 50 | 88 |

SOLENOID VALVE SPECIFICATIONS

| | |
|----------------|--|
| Solenoid valve | 5/2 NAMUR bistable version with manual control |
| Festo | Type VSNC-F-B52-G14-FN |
| Medium | Air filtration lubricated or not up to 8 bar |
| Connection | 1/4" |

SOLENOID COIL SPECIFICATIONS

| | |
|-------------------|-----------------------------|
| Festo | Type VACN-N-... |
| Protection | IP 65 |
| Socket connection | M 16 Ø 6–8 mm |
| Standard voltage | 24 VDC 110/230 VAC 50/60 Hz |
| Temperature range | -20°C to 60°C |



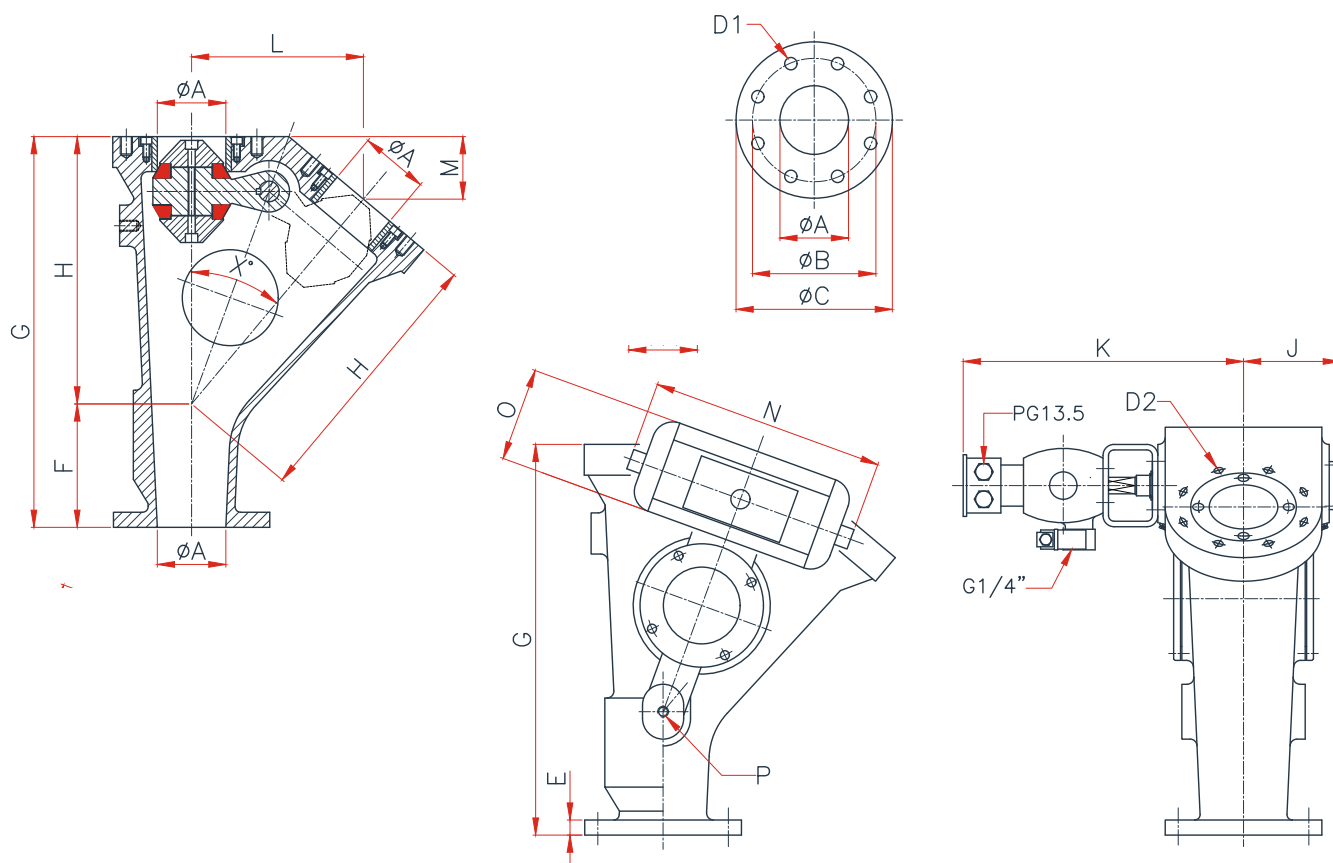
SWITCH/TERMINAL BOX SPECIFICATIONS

| | |
|-------------------|------------------------------------|
| Rotech | Type ACR3ASTAZ10 Micro switches |
| Protection | IP 65 |
| Standard voltage | 4 A, 230 VAC |
| Temperature range | -25°C to 85°C |
| Cable gland | M20x1.5 Clamp. range 8 mm to 13 mm |

OPTIONAL SWITCH/TERMINAL BOX SPECIFICATIONS

| | |
|----------------------------|---|
| Rotech | Type APFN412EASEAZ10 |
| Inductive proximity switch | Pepperl & Fuchs. Type NBN4-12GM50-E2 |
| Protection | IP 65 |
| Standard voltage | 10 VDC to 30 VDC 3-wire PNP NO - 0-200 mA |
| Temperature range | -25°C to 70°C |
| Cable gland | M20x1.5 Clamp. range 8 mm to 13 mm |

MEASUREMENTS



| TYPE | PN 10 | | | | ANSI 150 LBS | | | | |
|------|----------|----------|---------------|----------|--------------|-----------------|------------|----|-----|
| BTD | ϕA | ϕB | $\phi D1$ | ϕC | ϕB | $\phi D1$ | $\phi D2$ | E | F |
| 65 | 65 | 145 | 4x $\phi 18$ | 185 | 139.7 | 4x $\phi 19$ | 4x M16x25 | 18 | 95 |
| 80 | 80 | 160 | 8x $\phi 18$ | 200 | 152.4 | 4x $\phi 19$ | *x M16x25 | 20 | 140 |
| 100 | 100 | 180 | 8x $\phi 18$ | 228.6 | 190.5 | 8x $\phi 19$ | 8x M16x25 | 22 | 180 |
| 125 | 125 | 210 | 8x $\phi 18$ | 255 | 215.9 | 8x $\phi 22,2$ | 8x M16x25 | 24 | 225 |
| 150 | 150 | 240 | 8x $\phi 22$ | 285 | 241.3 | 8x $\phi 22,2$ | 8x M16x25 | 24 | 240 |
| 200 | 200 | 295 | 8x $\phi 22$ | 340 | 298.4 | 8x $\phi 22,2$ | 8x M16x25 | 25 | 160 |
| 250 | 250 | 350 | 12x $\phi 22$ | 407 | 361.9 | 12x $\phi 25,4$ | 12x M20x35 | 30 | 170 |

Flange connection: Pn 10 or
Ansi 150 lbs * 8 holes for Pn
10, 4 holes for AnSi 150 lbs

| TYPE | BTD | G | H | J | K | L | M | N | O | P | X° | WEIGHT |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|--------|
| 65 | 65 | 550 | 455 | 130 | 395 | 228 | 61 | 310 | 105 | M16x20 | 30° | 68 kg |
| 80 | 80 | 500 | 360 | 135 | 400 | 232 | 84 | 310 | 105 | M16x20 | 40° | 77 kg |
| 100 | 100 | 570 | 390 | 145 | 425 | 250 | 91 | 380 | 120 | M16x25 | 40° | 100 kg |
| 125 | 125 | 700 | 475 | 165 | 470 | 305 | 111 | 450 | 140 | M20x25 | 40° | 155 kg |
| 150 | 150 | 780 | 540 | 175 | 480 | 347 | 126 | 450 | 140 | M20x20 | 40° | 208 kg |
| 200 | 200 | 810 | 650 | 200 | 515 | 418 | 152 | 520 | 150 | M20x25 | 40° | 300 kg |
| 250 | 250 | 850 | 680 | 260 | 630 | 437 | 159 | 640 | 170 | M20x30 | 40° | 450 kg |

Technical modifications are possible, dimensions in mm.



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