



**PRODUCT INFORMATION SHEET**

# **3-TDV**

# **TUBE DIVERTER VALVE**



**USDA**



## 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 3-TDV TUBE DIVERTER VALVE

The 3-port Tube Diverter Valve (3-TDV) is a hygienic, USDA-accepted, and space-saving tube diverter valve designed for routing pneumatically conveyed powders, granules, or pellets to or from three locations. Its design ensures high positional accuracy with minimal components.

The 3-TDV offers precise alignment of your conveying lines, optimal speed, and minimal pressure loss. Executed in premium material, the 3-TDV ensures smooth transport of your dry bulk solids, minimising product degradation.



This compact and user-friendly diverter valve allows for cleaning in place (CIP) without disassembly. Full removal for cleaning out of place (COP) is only required for thorough cleaning, giving you the flexibility to choose the method that best suits your process.

### THE 3-TDV TUBE DIVERTER VALVE AT A GLANCE

- Suitable for product temperature from -4°F to +212°F
- Pressure range: -11.6 to +43.5 PSI
- A single diverter valve for converging and diverting maximum three product flows
- A uniform, smooth bore pipe between the inlet and outlet
- Multiple choice of line connections: from a simple pipe connection to a milk coupling
- Unused ports are sealed by a rotating disc
- All stainless steel or aluminium/stainless steel configurations
- EC1935/2004-compliant & FDA-approved white EPDM inflatable seals
- USDA-accepted versions available
- EC1935/2004- and FDA-compliant version available
- ATEX 2014/34/EU certification available

### PROPERTIES

- With exact pipe alignment, a smooth bore pipe between inlet and outlet, and a robust swan neck, the 3-TDV ensures minimal product degradation
- Easily detachable construction, easy to fit and clean
- Hygienic and USDA-accepted

### BENEFITS

Degradation of raw materials during processing can be a huge expense – and one of your biggest challenges. Conversely, minimal product degradation translates to more output and more profit. That is why the 3-TDV offers exact pipe alignment, a smooth bore pipe between inlet and outlet, and a robust swan neck. These and other features allow you to **maximise the value of your dry bulk solids**.

This versatile tube diverter valve is easy to install, service, and clean, and helps you **gain more uptime and higher productivity**. The 3-TDV is a proven and hygienic solution trusted by the most critical dry bulk solids handling industries in the world.

### 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

|                                         |                                                          |
|-----------------------------------------|----------------------------------------------------------|
| Pipe connection                         | Imperial                                                 |
| Maximum allowable working pressure      | -11.6 to +43.5 PSI                                       |
| Allowable conveying product temperature | 4 °F to 212 °F (266 °F for short periods only)           |
| 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 |         |           |         |          |          |          |
|---------------------------|-----------------|---------|-----------|---------|----------|----------|----------|
| 3-TDV tube diverter valve | 1.5" (40)       | 2" (50) | 2.5" (65) | 3" (80) | 4" (100) | 5" (125) | 6" (150) |

MATERIAL SPECIFICATIONS

|                             |                                                   |                                      |  |
|-----------------------------|---------------------------------------------------|--------------------------------------|--|
| Covers                      | Aluminium or stainless steel depending on version |                                      |  |
| All product contact surface | Stainless steel AISI 316L                         | DIN 1.4404                           |  |
| Inflatable seal             | EPDM White                                        | FDA-approved; EC 1935/2004-compliant |  |

DRIVE SPECIFICATIONS

|                   |                                                |          |             |
|-------------------|------------------------------------------------|----------|-------------|
| Valpes            | Type VS-VSX electric actuator                  |          |             |
| Electrical supply | 100 V to 240 V                                 | 50/60 Hz | 100-350 VDC |
| Protection        | IP 68                                          |          |             |
| Limit switch      | 4 V to 250 VAC/DC 1 mA to 5 A max              |          |             |
| Temperature range | -4 °F to 158 °F                                |          |             |
| Festo             | Type ADN double acting pneumatic cylinder      |          |             |
| Medium            | Air filtration lubricated or not up to 145 PSI |          |             |
| Temperature range | -4 °F to 176 °F                                |          |             |
| Working pressure  | 73 PSI - 145 PSI                               |          |             |

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 MOFH-3-1/8-EX                             |  |  |
| Medium          | Air filtration lubricated or not up to 116 PSI |  |  |
| Connection      | 1/8"                                           |  |  |

SOLENOID COIL SPECIFICATIONS

|                   |                             |  |  |
|-------------------|-----------------------------|--|--|
| Festo             | Type MSF-...                |  |  |
| Protection        | IP 65                       |  |  |
| Socket connection | M 16 Ø 0.24" 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 |  |  |

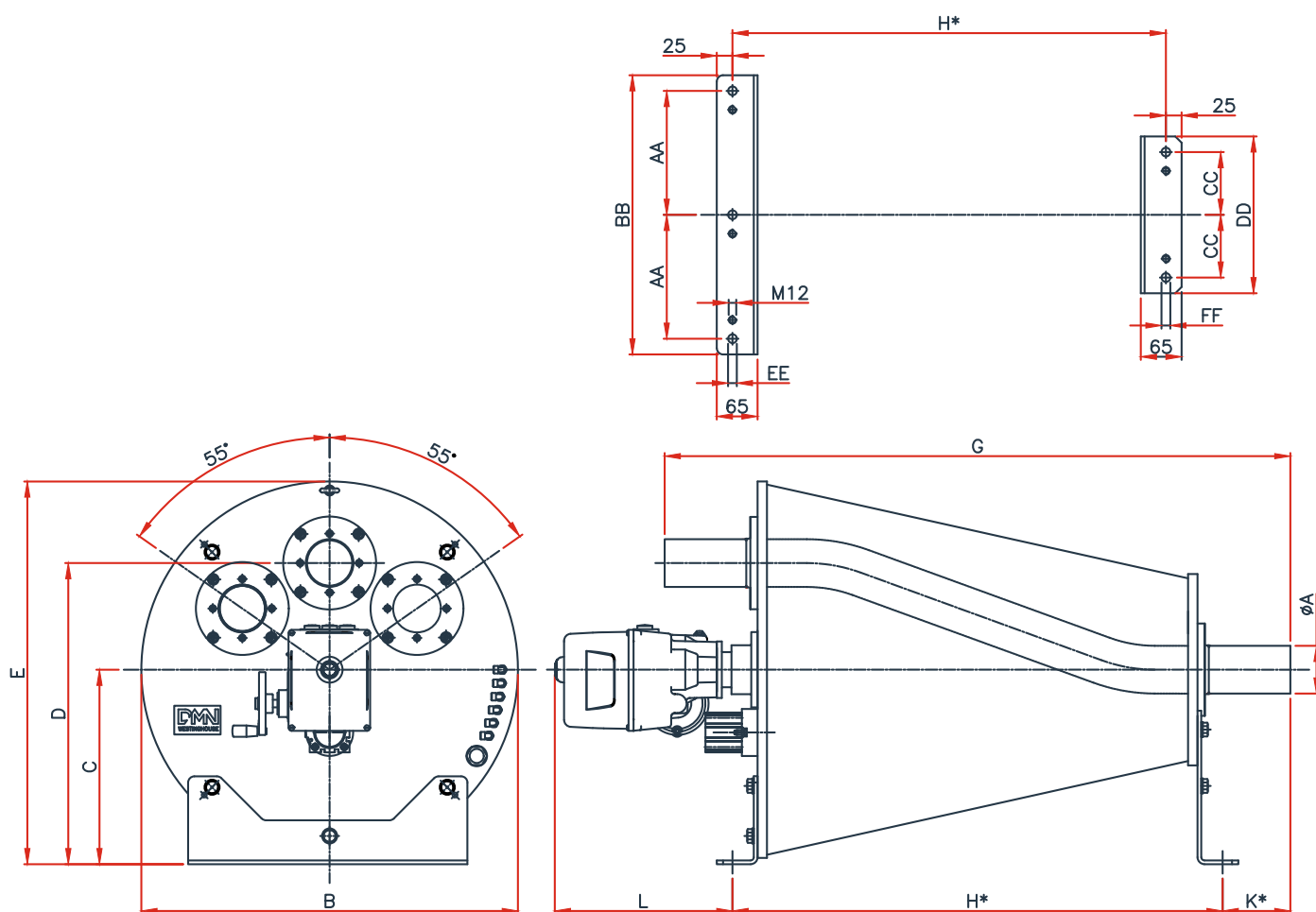
## PROXIMITY SWITCH SPECIFICATIONS

|                   |                             |
|-------------------|-----------------------------|
| Festo             | Type SME-8M-DS-24V-K-2,5-OE |
| Protection        | IP 65                       |
| Standard voltage  | 5 VAC/DC to 30 VAC/DC       |
| Temperature range | -4 °F to 158 °F             |

## TERMINAL BOX SPECIFICATIONS

|              |           |
|--------------|-----------|
| Terminal box | ROSE      |
| Material     | Polyester |
| Protection   | IP 66     |

## MEASUREMENTS



| TYPE      |           | VERSION 2 |       | VERSION 3 |       |       |       |      |       |      |       |       |       |      |       |         |       |
|-----------|-----------|-----------|-------|-----------|-------|-------|-------|------|-------|------|-------|-------|-------|------|-------|---------|-------|
| 3-TDV     | ØA        | B         | C     | D         | E     | G     | H     | K    | H     | K    | L     | AA    | BB    | CC   | DD    | EE      | FF    |
| 1.5" (40) | 1.50x0.06 | 22.05     | 11.42 | 17.32     | 22.44 | 34.88 | 26.38 | 4.25 | 25.83 | 4.53 | 11.22 | 7.19  | 16.34 | 3.94 | 9.84  | 3xØ0.55 | 2xØ14 |
| 2" (50)   | 2.00x0.06 | 22.05     | 11.42 | 17.32     | 22.44 | 34.88 | 26.38 | 4.25 | 25.83 | 4.53 | 11.22 | 7.19  | 16.34 | 3.94 | 9.84  | 3xØ0.55 | 2xØ14 |
| 2.5" (65) | 2.50x0.06 | 23.62     | 12.20 | 18.90     | 24.02 | 39.25 | 30.75 | 4.25 | 30.20 | 4.53 | 11.22 | 7.78  | 17.52 | 3.94 | 9.84  | 3xØ0.55 | 2xØ14 |
| 3" (80)   | 3.00x0.06 | 23.62     | 12.20 | 18.90     | 24.02 | 39.25 | 30.75 | 4.25 | 30.20 | 4.53 | 11.22 | 7.78  | 17.52 | 3.94 | 9.84  | 3xØ0.55 | 2xØ14 |
| 4" (100)  | 4.00x0.08 | 26.38     | 13.58 | 21.06     | 26.77 | 41.50 | 32.99 | 4.25 | 32.44 | 4.53 | 11.22 | 8.27  | 18.50 | 4.53 | 11.02 | 3xØ0.55 | 2xØ14 |
| 5" (125)  | 5.08x0.08 | 30.31     | 15.55 | 24.41     | 30.71 | 47.60 | 39.09 | 4.25 | 38.54 | 4.53 | 11.22 | 9.84  | 21.65 | 4.92 | 11.81 | 3xØ0.55 | 2xØ14 |
| 6" (150)  | 6.06x0.08 | 33.46     | 17.13 | 26.97     | 33.86 | 49.96 | 41.46 | 4.25 | 40.91 | 4.53 | 11.22 | 10.93 | 23.82 | 5.22 | 12.40 | 3xØ0.55 | 2xØ14 |

Technical modifications are possible, dimensions in inches.



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