

PRODUCT INFORMATION SHEET

# **M-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.

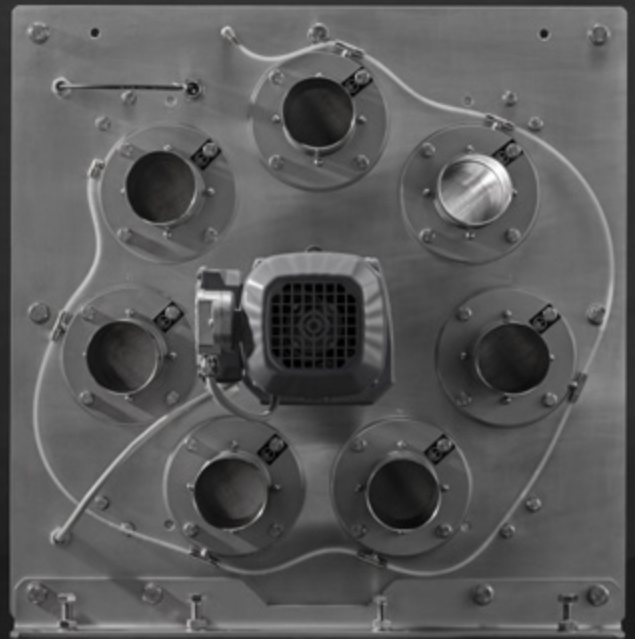
These durable diverters can be further customised to your specifications and are easy to integrate with your current rotary valves. Tell us more about your setup and applications, and we will offer you the perfect diverter valve.

## MEET THE **M-TDV** TUBE DIVERTER VALVE

The Multiport Tube Diverter Valve (M-TDV) can easily replace multiple PTDs. It is a hygienic, USDA-accepted, and space-saving solution that ensures optimal product quality. It efficiently handles the pneumatic transport of powders and pellets, facilitating both diverting (one-to-multiple) and converging (multiple-to-one) flows.

The smooth bore pipe and perfect alignment between the inlet and outlet optimise speed, minimise pressure loss, and reduce product degradation. Inflatable seals make an airtight connection, while the unused ports are sealed by a rotating disc.

Available in sizes from 1.57 to 5.91 inches, with 4 up to 14 ports, the M-TDV features a pre-programmed controller with an integrated PLC (compatible with input from your PLC).



### THE **M-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
- Converging and diverging applications
- From 4 up to 14 ports in a compact design
- A uniform, smooth bore pipe between the inlet and outlet
- Inflatable seals
- All product contact materials FDA-approved
- Minimal product degradation
- USDA-accepted versions available
- EC 1935/2004- and FDA-compliant
- 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 M-TDV ensures minimal product degradation
- With its capacity of up to 14 ports, the M-TDV can replace multiple PTDs, yet still comes in an efficient, space-saving design
- 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 M-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**.

### 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
Upwards conveying and diverging is not recommended	

TYPE	AVAILABLE SIZES						
	1.5" (40)	2" (50)	2.5" (65)	3" (80)	4" (100)	5" (125)	6" (150)
M-TDV tube diverter valve							
Number of ports	4 - 14	4 - 13	4 - 12	4 - 11	4 - 10	4 - 8	4 - 7

### MATERIAL SPECIFICATIONS

Front and end cover	Aluminium 5754	
Protection covers	Stainless steel AISI 304L	DIN 1.4404
Piping	Stainless steel AISI 304L	DIN 1.4404
Inflatable seal	EPDM White	FDA-approved; EC 1935/2004-compliant

### DRIVE SPECIFICATIONS

SEW	Gearmotor type RF37/R DRN71M4/TF/EK8C with incremental encoder
Motor power	0.5 hp (0.37 kW)
Speed	23 rpm/50 Hz
Electrical supply	230/400 V 50 Hz
Protection	IP 55
Isolation	F

### POSITION CONTROLLER SPECIFICATIONS

KEBA/LTI-LUST	Type CDB32.003 C3.7
Terminal extension module	Type UM-8I4O, 2.0
Rated motor output	0.5 hp (0.37 kW)
Supply voltage	1 x 230 V (-20% to 15%) 50/60 Hz
Nominal output current	2.4 A/4.3 A Peak for 30 s
Protection	IP 20
Ambient temperature	-13°F to 113°F (up to 131°F with derating)

For more information about KEBA/LTI products see:

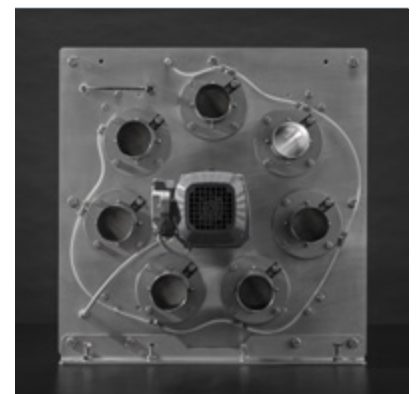
<https://www.keba.com/en/industrial-automation/products/servo-controllers/c-line-drives-detail>

### SOLENOID VALVE SPECIFICATIONS

Inflatable seal	3/2 monostable version with manual control
Festo	Type MOFH-3-1/8-EX
Connection	1/8"
Operating medium	Air filtration lubricated or not up to 116 PSI

### SOLENOID COIL SPECIFICATIONS

Festo	Type MSF...
Protection	IP 65
Socket connection	M16 Ø 0.24" to 0.31"
Standard voltage	24 VDC 110/230 VAC 50/60 Hz
Temperature range	23°F to +104°F

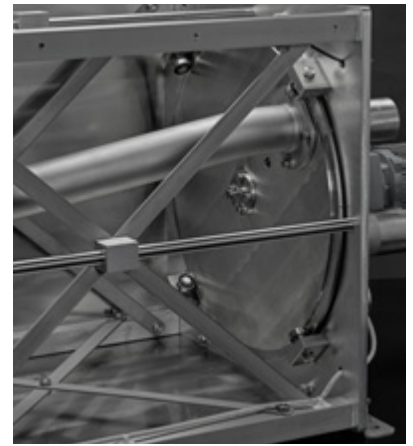


## PRESSURE SWITCH SPECIFICATIONS

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

## SENSOR SPECIFICATIONS

Inductive sensor	Pepperl & Fuchs
For reference run	Type NCB5-18GM40-Z1-V1 DC sensor (2 wire) Normally closed Ambient temperature -13°F to 158°F



## TERMINAL BOX SPECIFICATIONS

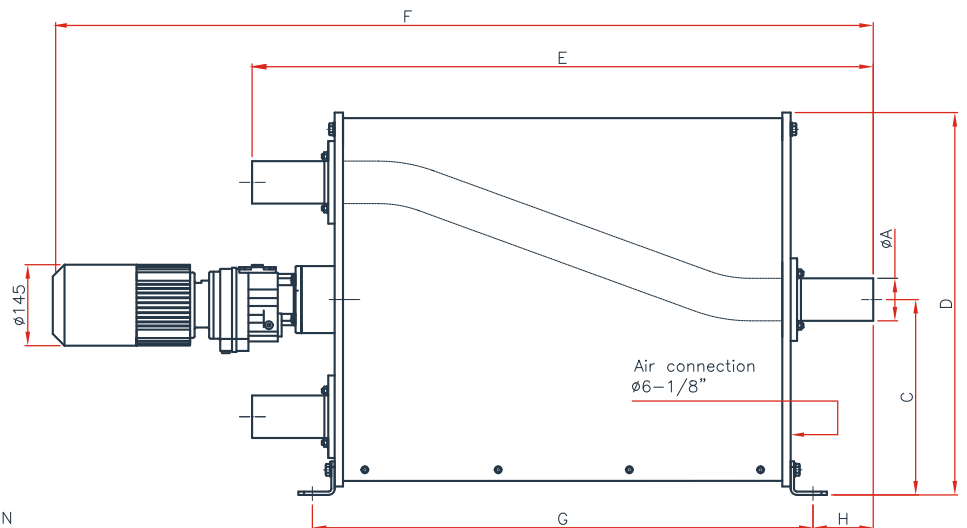
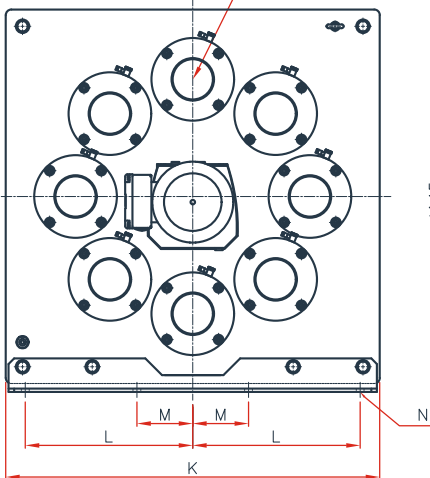
Terminal box	ROSE
Material	Polyester
Protection	IP 66

## MEASUREMENTS

**MODULE II:**  
Small module

**MODULE III:**  
Large module

X outlets  $\phi A$   
equispaced on B mm PCD.



	SIZE	$\phi A$	X	B	C	D	E	F	G	H	K	L	M	N
<b>MODULE II: SMALL MODULE</b>	1.5" (40)	1.50x0.06	4-10											
	2" (50)	2.00x0.06	4-9											
	2.5" (65)	2.50x0.06	4-8	16.54	13.78	26.97	43.82	57.87	35.31	4.25	26.38	11.81	3.94	4 HOLES $\phi 0.55$
	3" (80)	3.00x0.06	4-8											
4" (100)	4.00x0.08	4-7												
<b>MODULE III: LARGE MODULE</b>	1.5" (40)	1.50x0.06	11-14											
	2" (50)	2.00x0.06	10-13											
	2.5" (65)	2.50x0.06	9-12											
	3" (80)	3.00x0.06	9-11	23.62	18.70	36.81	54.45	68.50	45.94	4.25	36.22	15.75	5.91	4 HOLES $\phi 0.55$
	4" (100)	4.00x0.08	8-10											
	5" (125)	5.08x0.08	4-8											
6" (150)	6.06x0.08	4-7												

Technical modifications are possible, dimensions in inches.



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