

EN- Technical data sheet

Modular two-way valve, 45°, pneumatically operated, rotary actuator

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Article code

20	4	1	963
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Diameter

15	DN 150
20	DN 200
25	DN 250
...	
40	DN 400

②

Thickness

4	4.0 mm (case)
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③

Surface

1	1.0330, powder-coated
3	1.4301, shot-blasted

④

Article group

963	Modular two-way valve, 45°, pneumatically operated, rotary actuator
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1 Technical data

Area of application and use	Dust-tight deflection of dry, non-abrasive bulk materials in conveyor systems. Due to the modular design (rotatable inlet), it can be used as a symmetrical or asymmetrical design. With the flap seal intact, there is no risk of mixing. Flap unit can be replaced without removing it from the pipeline. Only suitable for pressureless conveying. Adjustment only in the event of interrupted product flow. The actuation time depends on the drive. <i>(see table 1.1 Actuation, p.3)</i>
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Connection	All sides with flanged edge (<i>lips</i>) for clamping ring connection
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Materials	
Case	According to article number 1.0038 (S235JR) or 1.4301 (X5CrNi18-10) in material thickness t = 4 mm
Transition pieces	Made of 1.0330 (DC01) in material thickness t = 3 mm Made of 1.4301 (X5CrNi18-10) in material thickness t = 2 mm
Flaps	Two pieces of 1.0038 (S235JR) or 1.4301 (X5CrNi18-10) in Material thickness t = 3 mm
Flap seal	Flat seal made of silicone, transparent, 60 ±5 Shore A
Shaft seal	Silicone profile seal, transparent, 60 ±5 Shore A
Shaft sealing ring	Flat sealing ring made of silicone, transparent, 60 ±5 Shore A

Surfaces and temperature		
Surface treatment	Powder Coating (1.0330)	Stainless Steel Shot Blasting (1.4301)
	Standard colour: RAL 7032 ("pebble grey"); smooth, satin-gloss, electrostatically dissipative; Food physiologically harmless; Average layer thickness: 30 - 60 µm	Surface roughness Ra: 1.3 µm
Ambient temperature	-10°C to +50°C	
Product temperature*	-20°C to +120°C <i>(from +80°C impairment of the appearance is to be expected)</i>	-10°C to +180°C

**Note: If product temperatures exceed 50°C, the manual control or drive must be insulated against heat conduction on site.*

1.1 Actuation

Pneumatic rotary actuator			
Diameter	DN 150 – DN 200	DN 250 – DN 300	DN 350 – DN 400
Make	Air Torque		
Type	DR00060U	DR00100U	DR00150U
Compressed air supply	5 bar		
Torque (at 5 bar)	58.2 Nm	91.5 Nm	133 Nm
A/F double square	14 mm	17mm	
Air volume per double stroke	0.8 L	1.29L	1.82 L
Actuation time (120°)	< 3 seconds		
Mode of action	double-acting		
Ambient temperature	-40° to +80°C		

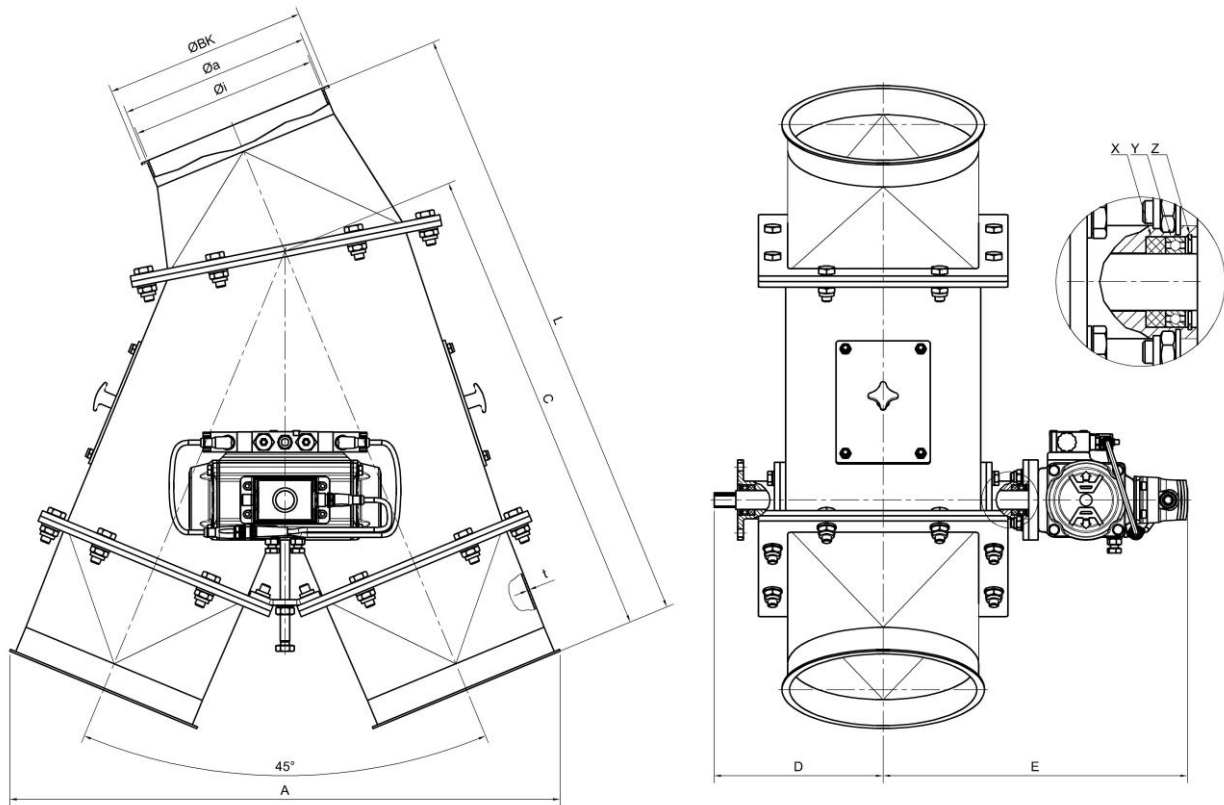
5/2-way solenoid valve	
Voltage	24V DC
Make	Hafner
Type	MNDS 510 701
Number of spools	2 (bistable)
Flow	1250 L/min
Temperature Environment	-10°C to +50°C
Electrical connection	wired with sensor as standard
Pneumatic connection	Push-in connection for 8 mm hose diameter

Sensor	
Voltage	10 - 30V DC
Make	Ifm
Type	MVQ201
Communication-interface	IO-Link
Output	PNP
Power consumption	< 40mA
Degree of protection	IP65
Ambient temperature	-25°C to +70°C
Electrical connection	Stretch connection M12, code A

2 Dimensions

Dimension table: 45°, asymmetrical

pictured version: DN 200



X= Silicone shaft sealing ring
Y= Deep groove ball bearings
Z= Retaining ring

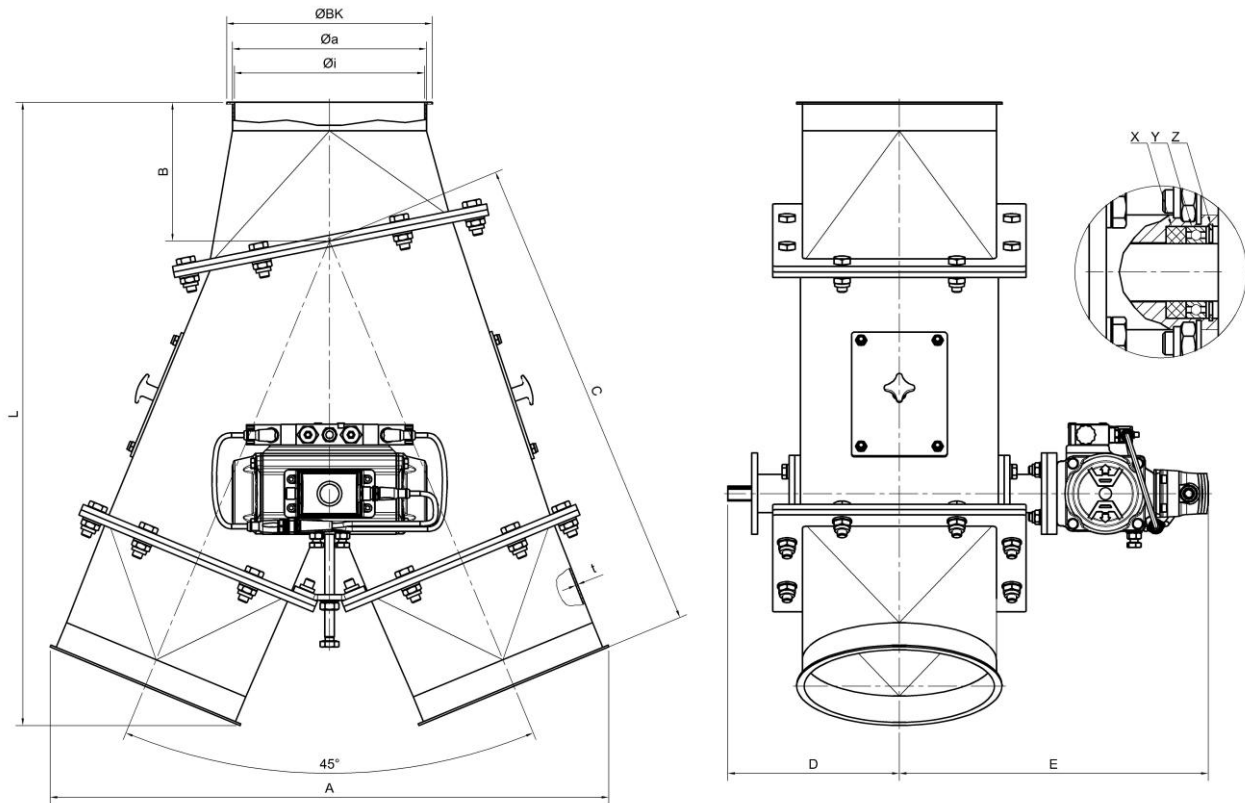
DN	t [mm]	Øi [mm]	Øa [mm]	ØBK [mm]	A [mm]	C [mm]	D [mm]	E [mm]	L [mm]	m [kg]
150	3	148	154	166	474	420	153	296,7	585	31
200		198	204	216	583	504	178	321,7	704	46,1
250		248	254	266	698	590	203	359,7	833	67,3
300		298	304	316	846	725	228	384,7	1000	86,7
350		348	354	366	935	780	253	421,7	1096	105
400		398	404	416	1016	844	278	446,7	1164	113,4

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NORO
SOLIDLY CONNECTED

Dimension table: 45°, symmetrical

pictured version: DN 200



X= Silicone shaft sealing ring
Y= Deep groove ball bearings
Z= Retaining ring

DN	t [mm]	Øi [mm]	Øa [mm]	ØBK [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	L [mm]	m [kg]
150	3	148	154	166	474	116	420	153	296,7	585	31
200		198	204	216	583	145	504	178	321,7	704	46,1
250		248	254	266	698	167	590	203	359,7	833	67,3
300		298	304	316	846	205	725	228	384,7	1000	86,7
350		348	354	366	935	240	780	253	421,7	1096	105
400		398	404	416	1016	277	844	278	446,7	1164	113,4

Tolerances

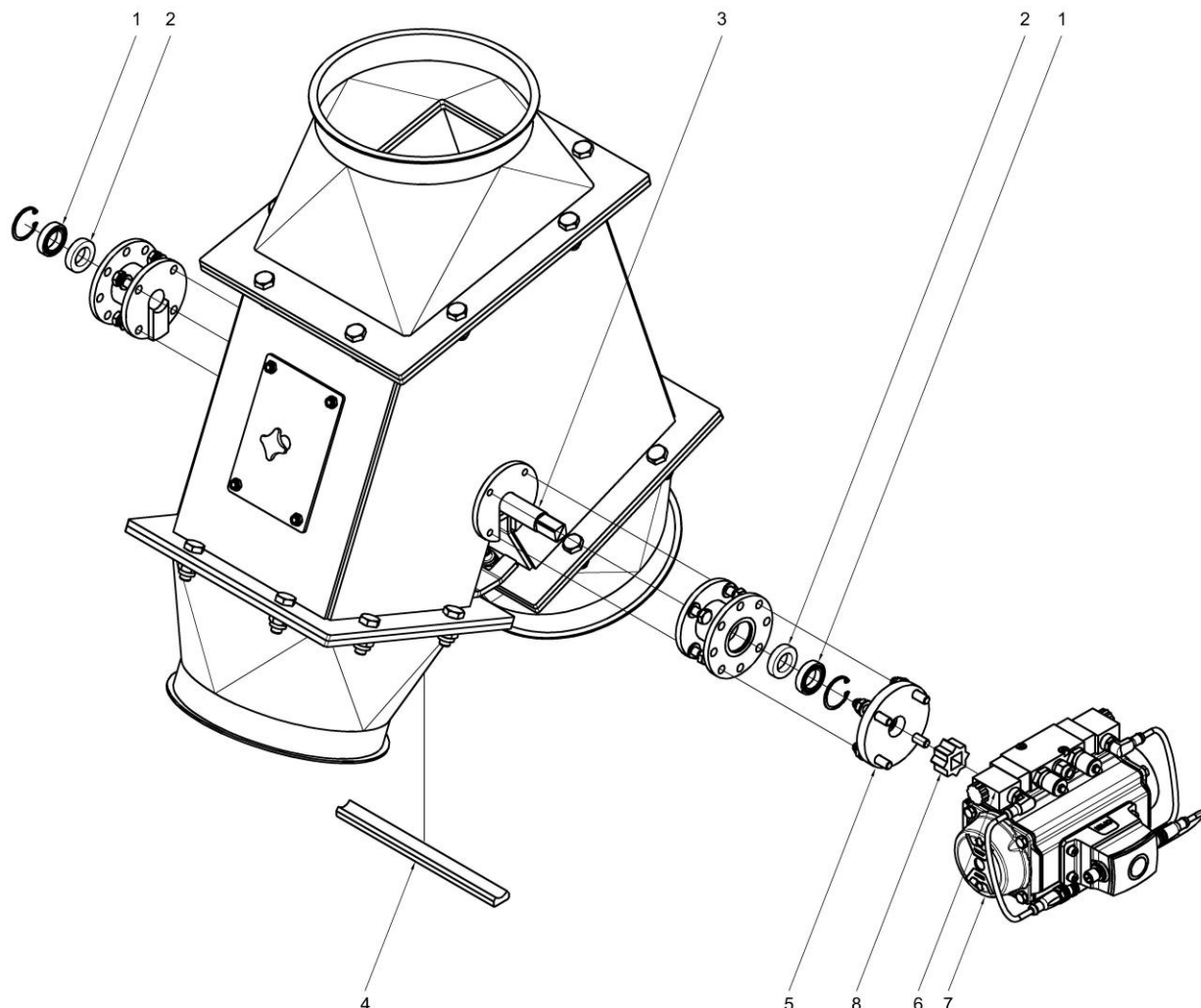
Pipe diameter and roundness according to DIN EN 10296-1:2004
Length and angular dimensions according to DIN ISO 2768-v (very coarse)
Lips: 6 mm ± 1mm

3D-Models

All 3D-models are available for download in our [CAD portal](#) in the common file formats.

3 Spare parts list

Exploded view



No.	Naming	Quantity	DN 150 – DN 200	
			1.0330	1.4301
1	Deep groove ball bearings <i>(for shaft diameter 20 mm)</i>	2	SO0128616	SO0118470
2	Shaft sealing ring <i>(for shaft diameter 20 mm)</i>	2	SO0118471	
3	Flap unit	1	on request	
4	Shaft seal	1	SO0131435	
5	Spacer flange <i>(for shaft diameter 20 mm)</i>	1	SO0105946	SO0123370
6	5/2-way solenoid valve, bistable & limit switches (ZZ0692)	1	SO0131335	
7	Rotary actuator (DR00060U)	1	SO0131327	

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No.	Naming	Quantity	DN 250 – DN 300	
			1.0330	1.4301
1	Deep groove ball bearings <i>(for shaft diameter 20 mm)</i>	2	SO0128616	SO0118470
2	Shaft sealing ring <i>(for shaft diameter 20 mm)</i>	2	SO0118471	
3	Flap unit	1	on request	
4	Shaft seal	1	SO0107217	
5	Spacer flange <i>(for shaft diameter 20 mm)</i>	1	SO0105946	SO0123370
6	5/2-way solenoid valve, bistable & limit switches (ZZ0692)	1	SO0131335	
7	Rotary actuator (DR00100U)	1	SO0131328	
8	Reducing sleeve (17 / 14)	1	SO0106392	

No.	Naming	Quantity	DN 350 – DN 400	
			1.0330	1.4301
1	Deep groove ball bearings <i>(for shaft diameter 20 mm)</i>	2	SO0128616	SO0118470
2	Shaft sealing ring <i>(for shaft diameter 20 mm)</i>	2	SO0118471	
3	Flap unit	1	on request	
4	Shaft seal	1	SO0107217	
5	Spacer flange <i>(for shaft diameter 20 mm)</i>	1	SO0105946	SO0123370
6	5/2-way solenoid valve, bistable & limit switches (ZZ0692)	1	SO0131335	
7	Rotary actuator (DR00150U)	1	SO0131329	
8	Reducing sleeve (17 / 14)	1	SO0106392	