



ROTARY VALVES
DIVERTER VALVES
GATE VALVES
SPECIAL COMPONENTS

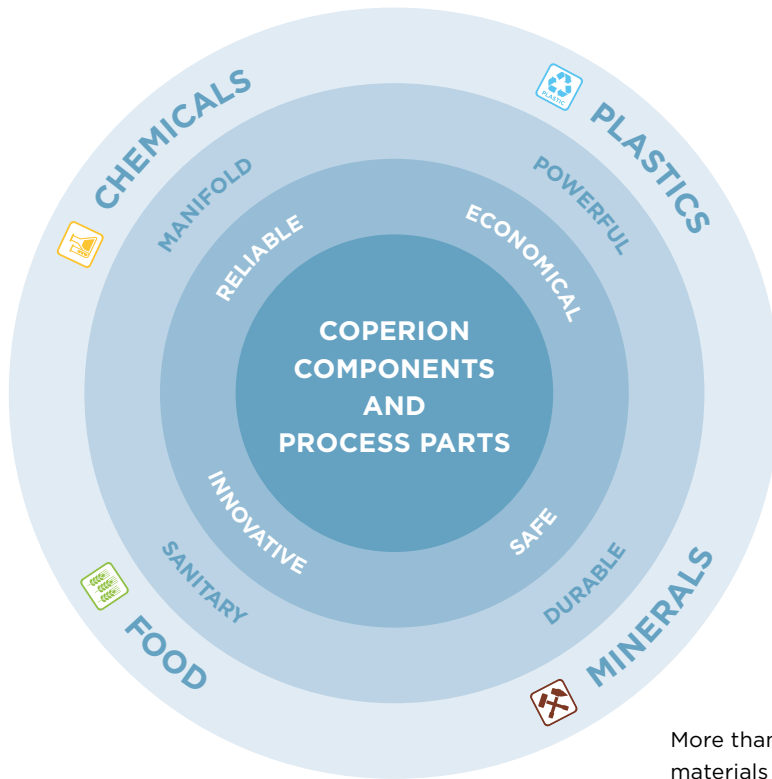
Productline. **Components.**

>compounding & extrusion >materials handling >service

 **coperion**
confidence through partnership

»» Confidence through partnership. Making a promise into a guarantee of success.





More than 200,000 bulk materials components sold

»» First-class handling for first-class products. **Conveying, discharging, separating, storing, homogenising, dosing or thermal treatment** – we master all process steps for processing and handling bulk materials.

The components manufactured in our own facilities are highly regarded as top-quality products in the plastics, chemical, food and mineral industries around the world. Many years of experience and comprehensive process know-how in systems engineering are continually incorporated into the research and development of our components.

We supply certified solutions for requirements regarding sanitary and flameproof design and ATEX conformity. Our components and key process parts also set standards at high pressures and with regard to wear protection. We produce components and systems for the market, for our customers we provide trust and confidence. That's what we mean when we say "confidence through partnership".



PLASTICS

»» Powerful components for all process stages. Discharging, dosing, conveying, separating, cleaning, homogenising, heating, cooling etc. – it is only possible to supply detailed solutions which result in decisive improvements throughout the entire process chain with in-depth knowledge of each process stage.

To maintain the quality of your products at a consistently high level, powders and pellets (e.g. PP, PE, PET, PA, PVC) must be handled and conveyed optimally at each stage of the process chain in accordance with their respective properties. Comprehensive and ongoing research and development enable us to offer you innovative concepts and components from our own manufacturing facilities for your production. You therefore profit from components that are tailored perfectly to your needs and guarantee that your products are handled as reliably, economically and gently as possible.



CHEMICALS

»» Continually optimised first-class products for a very wide range of requirements. Rotary valves, diverter valves, slide gate valves etc. – Coperion supplies a wide range of components that reliably prove their worth and functionality in many bulk materials systems around the world.

Especially the chemical industry produces many different bulk materials that have various and sometimes difficult product properties. As the market and technological leader we unite process know-how, decades of experience and international knowledge for handling a wide range of products (such as PTA, toner, cellulose, fertilisers, melamine). Long-term, successful partnerships with our customers are best evidence of the success of our solutions in which economy, reliability and quality are always at the centre of focus.





FOOD

>> Innovative technology for optimum operational reliability and sanitary production. Bulk materials components for pneumatic conveying and discharging of food must meet particularly high demands regarding hygiene and cleanability. Coperion has developed ideal concepts for all types of applications.

With our intensive research and development of new technologies, we set standards for sanitary handling of products such as powdered milk and baby food with process components that are easy to clean and trend-setting. During the production and handling of starches, instant products as well as food ingredients our components guarantee long-term, reliable and safe operation. Our components are also impressively gentle when discharging and conveying fragile products such as roasted coffee beans and cereals.



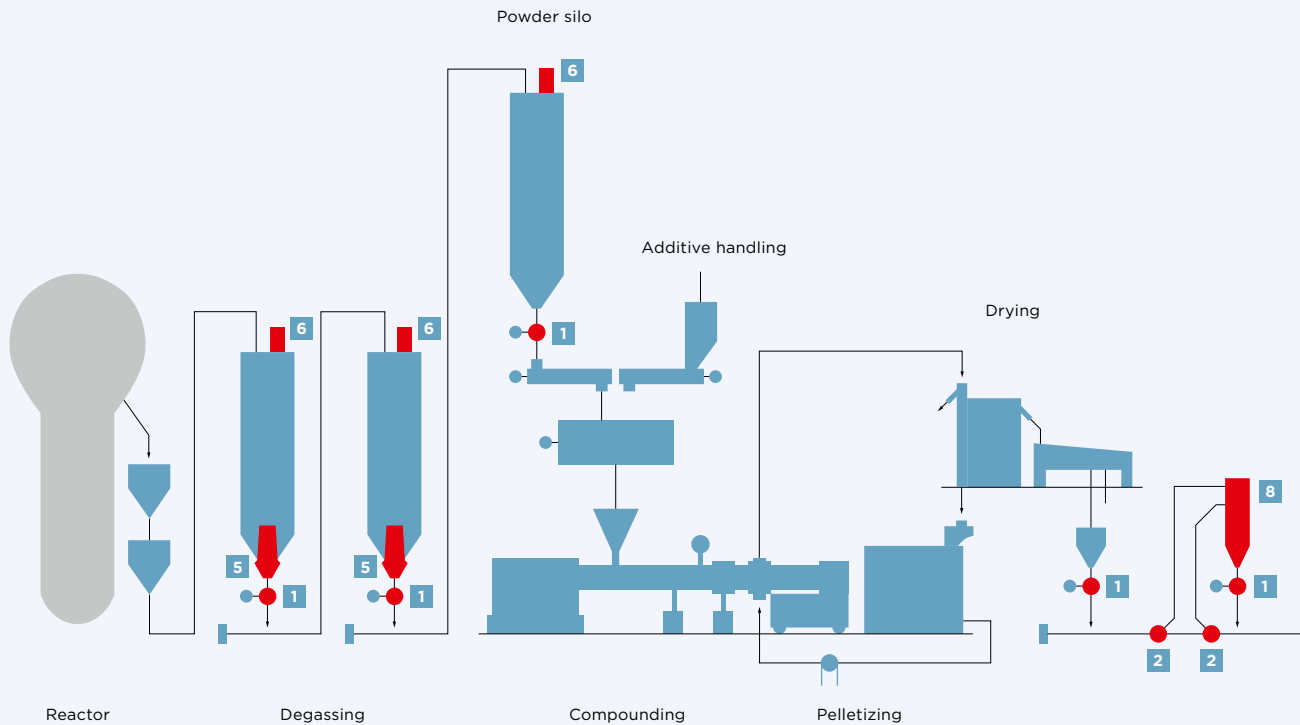
MINERALS

>> Track-proven wear protection concepts for a long service life. Many minerals put a considerable strain on the components in bulk materials systems as they are very abrasive. Coperion masters these challenges with innovative wear protection concepts that were developed on the basis of the results of comprehensive studies. These have proven their effectiveness in practical applications many times.

A high degree of availability and a long service life with abrasive products such as cement, lime, sand, ash, aluminates etc. are only possible with an effective protection concept which not only takes into account the product characteristics but also the operating conditions. Place your confidence in the sound, in-depth specialist knowledge of Coperion – we not only have experience with more than 14,000 bulk materials, but also an in-house test centre in which various abrasion conditions can be simulated and optimum protection measures defined for your applications.



» Individual plant concepts with process know-how in systems engineering and components from our own manufacturing facilities.



1 Rotary Valves



2 Diverter Valves

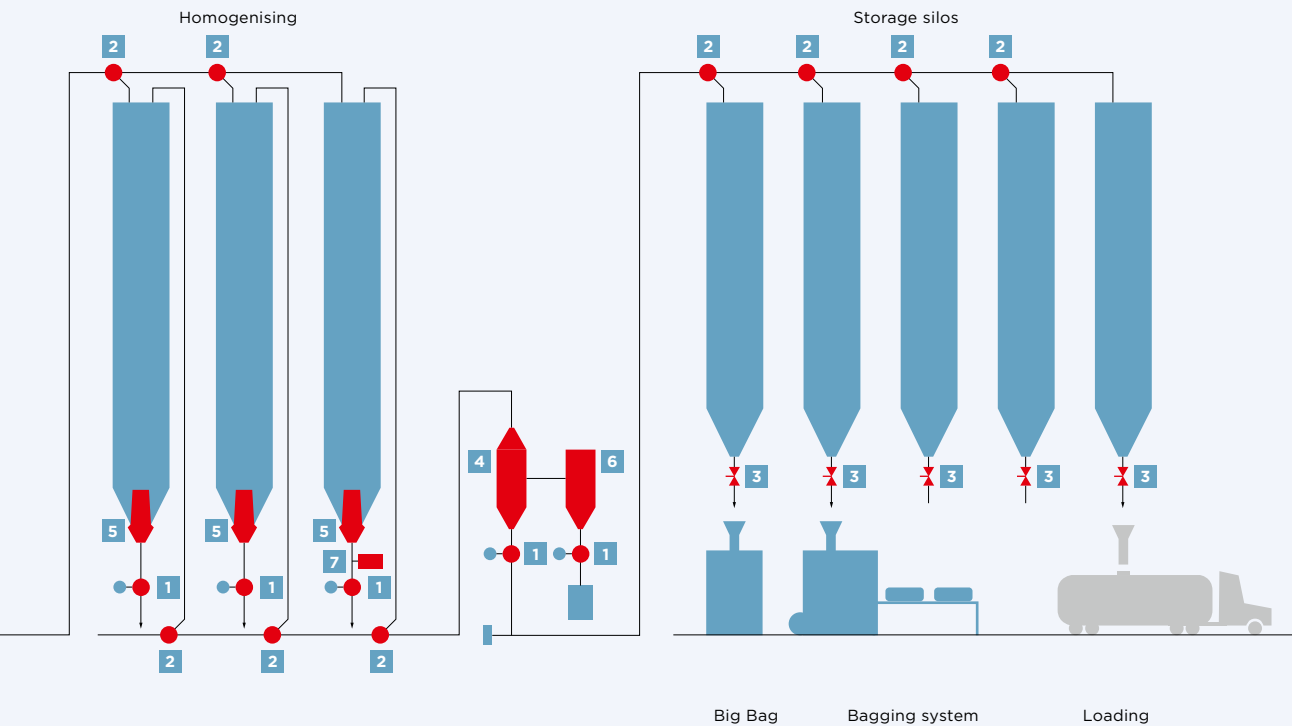


3 Gate Valves



4 Elutriators and Separators





5 Blenders



6 Filters and Separators



7 Samplers



8 Heat Exchangers



ROTARY VALVES

INTRO WITH SELECTION MATRIX ON PAGE 10/11

ROTARY VALVES FOR POWDERS

12	ZHD	ROTARY VALVE, 0.8 BARG Discharging and metering valve for powders	   
14	ZZB	ROTARY VALVE, 1.0 BARG Discharging and metering valve for powders	 
16	ZXD	ROTARY VALVE, 1.5 BARG Blow-through valve for powders	   
18	ZFD	ROTARY VALVE, 1.5 BARG Blow-through valve for powders	
20	ZRD	ROTARY VALVE, 1.5 BARG Discharging and metering valve for powders	   
22	ZKD	ROTARY VALVE, 1.5 BARG Discharging and metering valve with rectangular flange-connections for powders	   
24	ZXQ	ROTARY VALVE, 3.5 BARG High pressure blow-through valve for powders	   

ROTARY VALVES FOR GRANULAR PRODUCTS

26	ZVB	ROTARY VALVE, 1.5 BARG Discharging valve for pellets	 
28	ZVD	ROTARY VALVE, 1.5 BARG Discharging valve for universal applications	   
30	ZVH	ROTARY VALVE, 3.5 BARG High pressure discharging valve for pellets	 

OPTIONS AND ACCESSORIES FOR ROTARY VALVES

32	OPTIONS Options for rotors and housings for the individual adjustment of our rotary valves to your applications
34	QUICK DISASSEMBLING Rotary valve executions and accessories for highest demands regarding disassembling and accessibility
36	SANITARY DESIGN Rotary valve executions and accessories for highest requirements regarding hygiene and cleanability
38	WEAR PROTECTION Rotary valve executions with design incorporated erosive wear protection and wear resistant materials
40	ACCESSORIES Accessories for rotary valves for the individual adjustment of our rotary valves to your applications

DIVERTER VALVES

INTRO WITH SELECTION MATRIX ON PAGE 44/45

46	WEK	TWO-WAY-DIVERTER VALVE, 6 BARG Single channel diverter valve with 45° outlet for pellets	 
48	WET	TWO-WAY-DIVERTER VALVE, 6 BARG Single channel diverter valve with 90° outlet for pellets	 
50	WZK	TWO-WAY-DIVERTER VALVE, 5 BARG Dual channel diverter valve for powders and pellets	   
52	WYK	TWO-WAY-DIVERTER VALVE, 5 BARG Stainless steel diverter valve in sanitary design for powders and pellets	  
54	WRK	TWO-WAY-DIVERTER VALVE, 4 BARG Solid cast iron diverter valve for powders and pellets	 
56	WHK	TWO-WAY-DIVERTER VALVE, 3 BARG Compact stainless steel single channel diverter valve with 45° outlet for powders and pellets	  
58	WGV	TWO-WAY-DIVERTER VALVE, 1 BARG Single channel diverter valve for gravity pipes	  
60	DWR	MULTI-WAY DIVERTER VALVE, 1 BARG Multi-way diverter valve with up to 13 ports for powders and pellets	  

GATE VALVES

INTRO WITH SELECTION MATRIX ON PAGE 62/63

64	FUS and FUH	UNIVERSAL GATE VALVE 1.5 BARG AND 3.5 BARG Wafer valves for silo and hopper outlets	   
66	FUT	CONVEYING LINE GATE VALVE 4.5 BARG Stainless steel gate valve for powders	  

SPECIAL COMPONENTS

INTRO ON PAGE 68/69

70	ELUTRIATORS AND SEPARATORS Components for separating dust, fibres, oversized pellets and streamer conglomerations from granular bulk materials		
72	FILTERS AND SEPARATORS Filters and separators for miscellaneous applications		
74	AIR VOLUME CONTROL UNIT Control units for the ideal adjustment of conveying gas volumes to your conveying system		
76	SAMPLERS For taking granular and powdered bulk materials samples out of hoppers or gravity pipes		
78	DEFLECTION BEND AND BLENDERS For reduction of pellet degradation and for homogenisation of pellets and powders		
80	HEAT EXCHANGER Application concepts for cooling and heating of bulk materials		
82	DISCHARGE DEVICES Discharge aids for hoppers and silos		

10 >> Rotary Valves

Powders < 1 mm							Granular products 1-10 mm		
ZHD	ZZB	ZXD	ZFD	ZRD	ZKD	ZXQ	ZVB	ZVD	ZVH
									
0.8 barg	1.0 barg	1.5 barg	1.5 barg	1.5 barg	1.5 barg	3.5 barg	1.5 barg	1.5 barg	3.5 barg



>>Coperion Rotary Valves come with the assurance of decades of experience, process know-how as well as with proprietary development and manufacturing with top quality materials.

ROTARY VALVES FOR POWDERS

Benefits: Large inlet. Unrestricted product flow.
High filling efficiency.

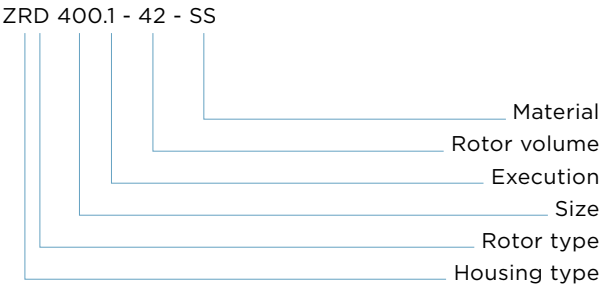
ROTARY VALVES FOR GRANULAR PRODUCTS

Benefits: Patented anti-chopping inlet geometry.
Safe starting under full product load.

OPTIONS AND ACCESSORIES FOR ROTARY VALVES

Optional execution of the valve for the individual application to ensure reliability.

TYPE CODE FOR ROTARY VALVES



SELECTION MATRIX FOR ROTARY VALVES

Product	Average particle size d 50	Application		
		Discharging	Pneumatic conveying	
		Non-pressurised	Up to 1.5 barg	Up to 3.5 barg
Powder	Up to 0.3 mm	ZRD ZKD ZHD ZZB	ZXD ZRD ZKD ZHD ³⁾ ZZB ⁴⁾ ZFD ⁵⁾	ZXQ ZAQ
Powder, fluff	0.3 mm to 1 mm	ZRD ZKD ZVD ZHD ZZB	ZXD ZRD ZKD ZVD ZHD ³⁾ ZZB ⁴⁾ ZFD ⁵⁾	ZXQ ZAQ
Granular products, uniform particles, regular particle shapes	1 mm to 6 mm	ZVB ZVD ZGM ¹⁾ ZRD ²⁾ ZHD ²⁾	ZVB ZVD ZGM ¹⁾ ZRD ²⁾ ZHD ^{2), 3)}	ZVH
Irregular particles, granular products with high percentage of fines	1 mm to 6 mm	ZVD ZRD ²⁾ ZHD ²⁾	ZVD ZRD ²⁾ ZHD ^{2), 3)}	ZVH
Fibres, film scarp	1 mm to 10 mm	ZVX ZRX ZKX	ZVX ZRX ZKX	

Blue = preferred

¹⁾ Only for metering

²⁾ Only for pre-dosed operation

³⁾ Max. pressure 0.8 barg (11.6 psi)

* Materials see page 33.

⁴⁾ Max. pressure 1 barg (14.5 psi)

⁵⁾ Only available as CIP execution

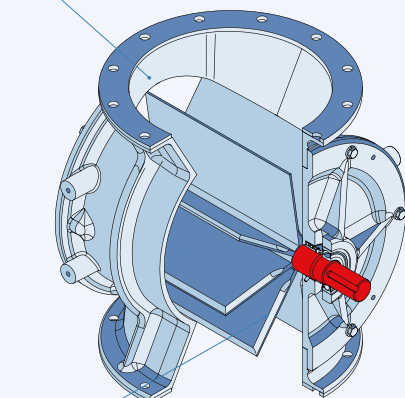
12 >> Rotary Valve ZHD



DISCHARGING- AND METERING-VALVE FOR POWDERS

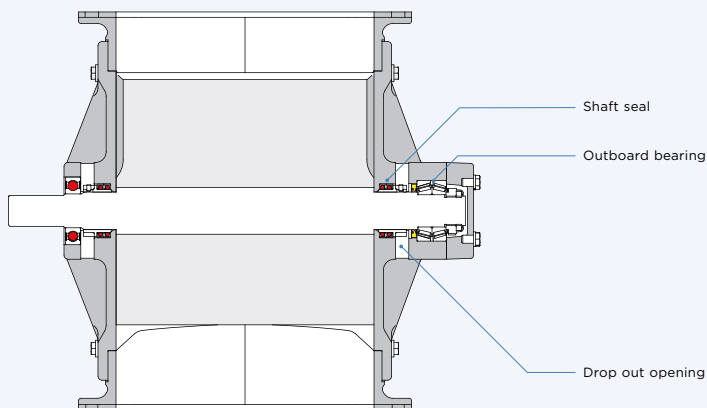
- _ Competitive cast iron valve with a large inlet, especially for discharge application
- _ With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 0.8 barg (12 psi)
- _ Operation possible without leakage gas venting

Cast housing



D-Rotor, open end, 8 pockets, chamfered blades

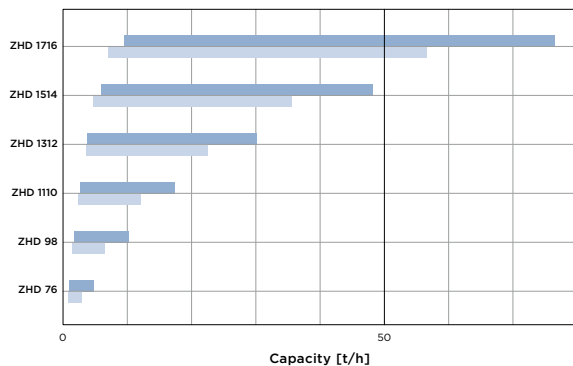
Large inlet without restriction



Large outlet

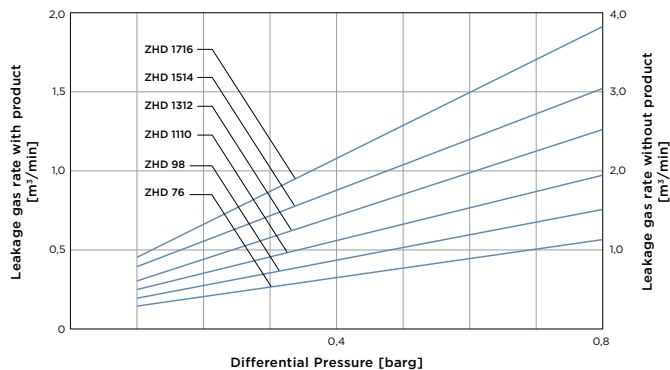
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.3 mm < d₅₀ < 0.6 mm, Δp = 0.5 barg
- Powder with bulk density 1000 kg/m³ and 0.075 mm < d₅₀ < 0.15 mm, Δp = 0.5 barg



Leakage gas diagram

(New, standard clearance 100°C, max. speed)

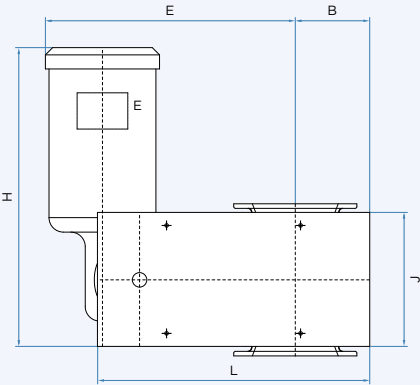


PRESSURE RANGE
LARGE INLET/OUTLET
SHAFT SEAL
OUTBOARD BEARINGS

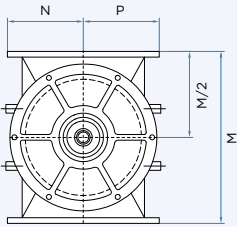
0.8 barg (12 psi) system and differential pressure
Large cross section for high discharge capacities
PTFE compound seal, no purge gas required
Separated from product by seal arrangement
and drop out opening
Manufacturer standard

FLANGE PATTERN

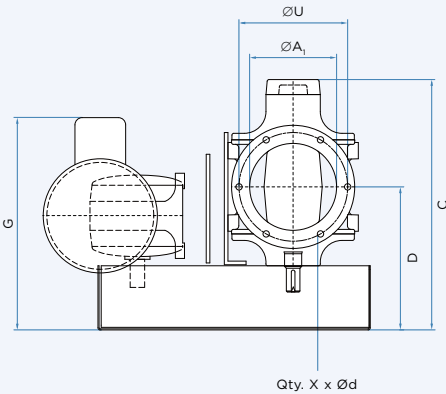
OPTIONS AND ACCESSORIES
_ Without chamfered blades
_ Wear protection
_ Purge gas system for shaft seal



With chain drive



Shown without drive



With chain drive

	Flange pattern of drilling			Other dimensions												Weight** appr. kg
	Ø U	X	Ø d	Ø A ₁	B	C	D	E*	G*	H*	J	L	M	N	P	GG
ZHD 76	191	6	11	152	127	437	249	432	337	455.5	235	477	267	111	108	75
ZHD 98	241	6	11	203	140	491	276	464	349	474.5	298	528	305	143	133	97
ZHD 1110	305	6	11	254	165	557	314	491	362	520.5	362	655	381	172	165	140
ZHD 1312	362	6	14	305	200	592	324	530	367	635.5	362	655	457	203	197	180
ZHD 1514	413	12	14	356	225	670	375	559	386	673.5	457	770	533	238	222	249
ZHD 1716	470	12	14	406	251	721	400	587	411	734.0	457	770	610	267	254	346

Dimensions in mm

* Dimensions may vary depending on installed drive

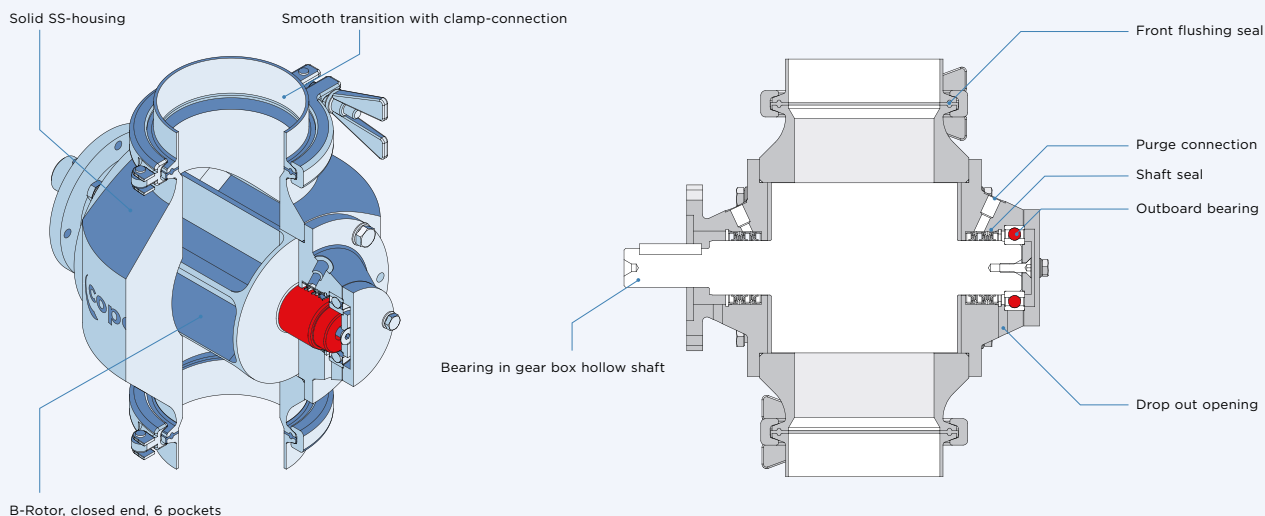
** Without drive

14 >> Rotary Valve ZZB



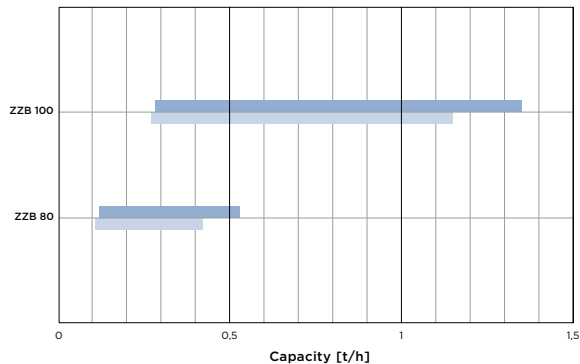
DISCHARGING- AND METERING-VALVE FOR POWDERS

- _Solid SS rotary valve for high hygienic standards
- _Polished surfaces Ra 0.8 μm in- and outside to avoid product deposits
- _Quickly opening clamp-connection for easy installation and maintenance



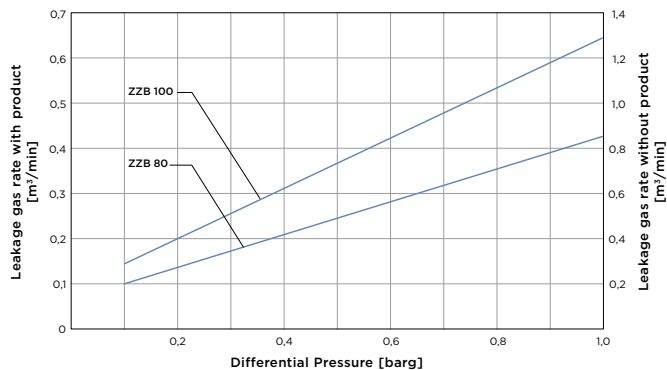
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.6 mm < d₅₀ < 1.0 mm, $\Delta p = 0.2$ barg
- Powder with bulk density 1000 kg/m³ and 0.15 mm < d₅₀ < 0.3 mm, $\Delta p = 0.2$ barg



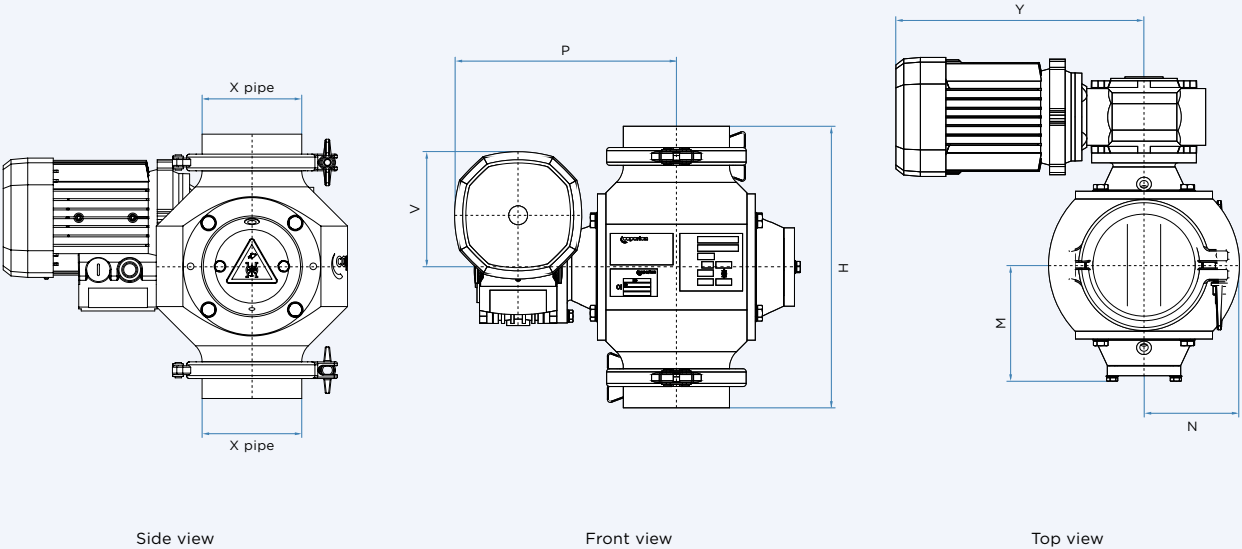
Leakage gas diagram

(New, standard clearance 60°C, max. speed)



PRESSURE RANGE	1 barg (14.5 psi) system and 0.2 barg (2.9 psi) differential pressure, option 1 barg (14.5 psi) differential pressure
PRESSURE SURGE PROOF	10 barg (145 psi), due to heavy duty design
ATEX (OPTIONAL)	Usable in Ex-Zones, inside zone 0.20, outside zone 1.21
LARGE INLET	Without restriction for max. capacities
EASY CLEANING	Quick cleaning version as standard, rotor easily extendable
OUTBOARD BEARINGS	Separated from product through drop out opening, shaft sealing optional seal purged

OPTIONS AND ACCESSORIES
_ Chamfered blades _ D-Rotor (open end) → ZZD _ Rotor with 10 pockets for maximal 1 barg (14.5 psi) differential pressure



	Inlet			Other dimensions							Weight** appr. kg
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1/A2	H	P*	X pipe	Y*	M	N	V*	
ZZB 80	ND 80	3"	72.9	206.4	248	72.9 x 1.65	297	90.1	72.5	99.5	10
ZZB 100	ND 100	4"	97.4	269.4	274	97.4 x 2.20	286	118.6	97.5	91.0	23

Dimensions in mm

* Dimensions may vary depending on installed drive

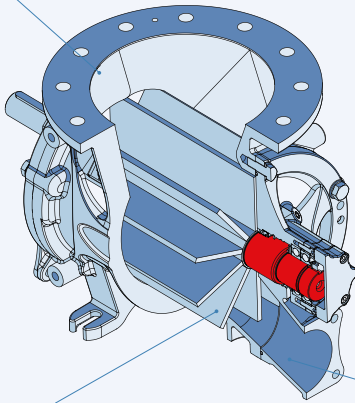
** Without drive



BLOW-THROUGH VALVE FOR POWDERS

- _ Large inlet for high capacities
- _ For feeding bulk materials into pneumatic conveying systems at up to 1.5 barg (21 psi)
- _ Operation possible without leakage gas venting

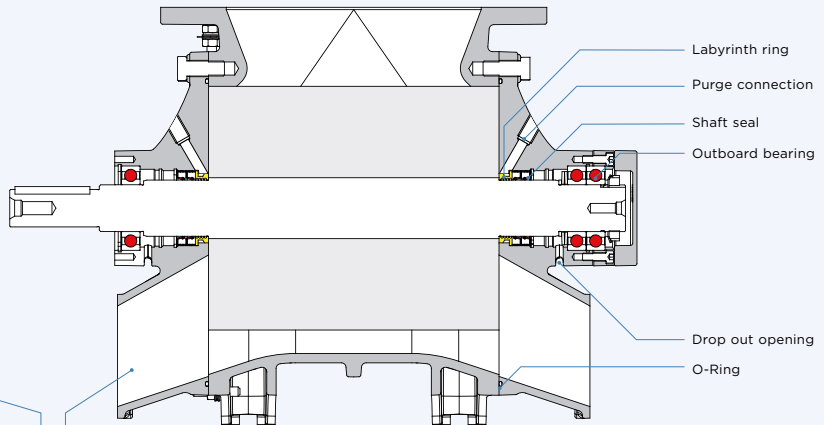
Cast housing



D-Rotor, open end, 10 pockets

Side covers with upswept blow through channel (patented) for optimal pocket sweeping

Large inlet without restriction



Labyrinth ring

Purge connection

Shaft seal

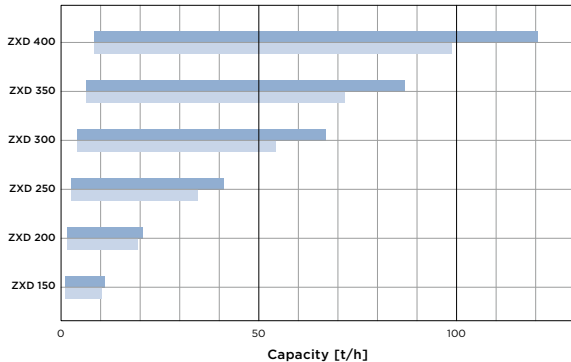
Outboard bearing

Drop out opening

O-Ring

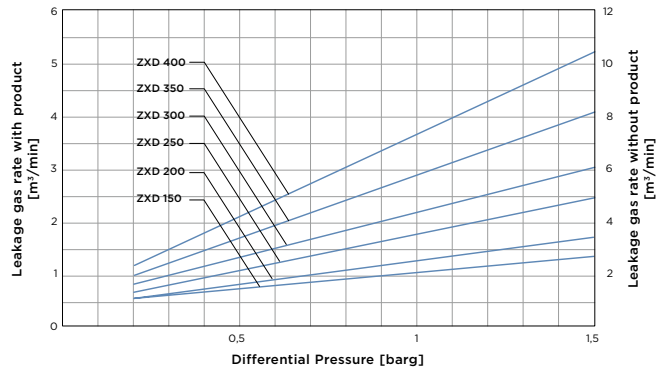
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.3 mm < d₅₀ < 0.6 mm, Δp = 0.8 barg
- Powder with bulk density 1000 kg/m³ and 0.075 mm < d₅₀ < 0.15 mm, Δp = 0.8 barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



- PRESSURE RANGE

PRESSURE SURGE PROOF
ATEX (OPTIONAL)

LARGE INLET

OUTBOARD BEARINGS

BLOW-THROUGH CHANNEL
- 1.5 barg (21 psi) system and differential pressure

10 barg (145 psi), due to heavy duty design

Usable in Ex-Zones and as protection system
(flameproof for dust ST2)

Without restriction of the cross section for
highest capacities

Separated from product by purged seal arrangement
and drop out opening

Optimal pocket sweeping at low pressure drop

- OPTIONS AND ACCESSORIES
- _ Quick cleaning coupling with extraction device

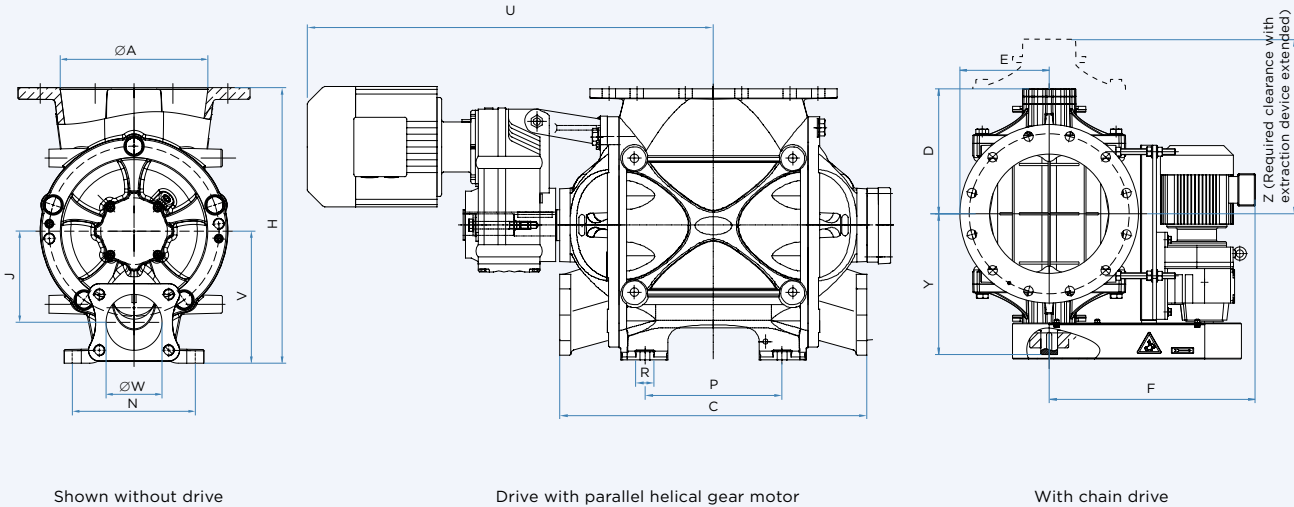
_ Chamfered blades

_ Knife at the product inlet

_ Scraper blades

_ Wear protection

_ Sanitary version

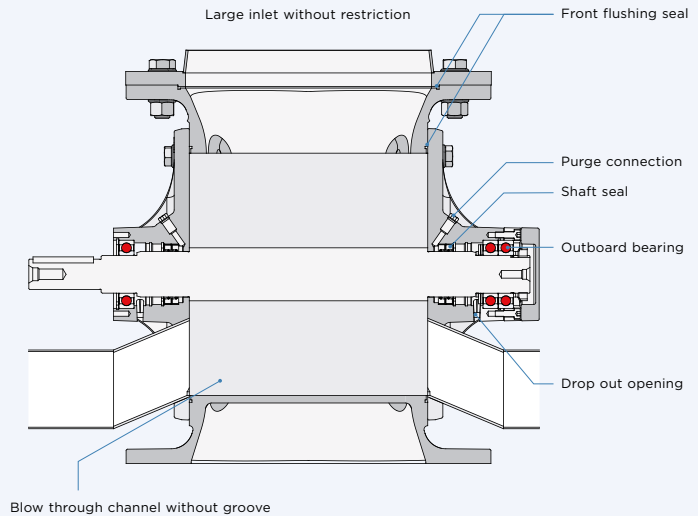
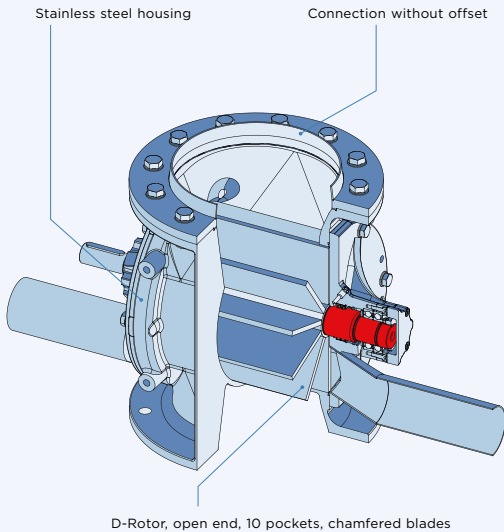


	Inlet*			Blow through channel		Mounting pattern			Other dimensions										Weight*** appr. kg	
	A (DIN)	A (ANSI)	Ø A	Ø W	J ₋₁ ⁺¹	N	P	R	H ₋₁ ⁺⁵	C ₋₂ ⁺²	D	E	F**	Y	V ₋₁ ⁺³	U**	Z**	AL	SS/GG	
ZXD 150	ND 150	6"	168	69	128	112	130	14	350	366	229	142	390	271	181,0	665	703	30	54	
ZXD 200	ND 200	8"	217	82	134	154	180	14	405	420	254	171	456	306	194,0	725	791	47	83	
ZXD 250	ND 250	10"	272	107	158	168	225	18	445	504	302	206	499	367	230,7	790	1094	74	131	
ZXD 300	ND 300	12"	322	132	193	220	275	18	560	580	337	241	578	380	287,5	912	1162	117	220	
ZXD 350	ND 350	14"	360	160	205	240	330	23	620	660	371	267	591	437	313,0	962	1172	160	325	
ZXD 400	ND 400	16"	410	184	212	310	372	23	715	600	401	299	712	467	375,0	992	1285	241	507	



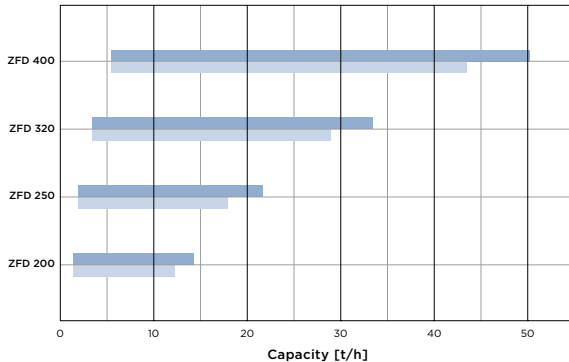
BLOW-THROUGH VALVE IN CIP EXECUTION

- _ EHEDG certified, for automatic wet cleaning without opening the valve (CIP)
- _ Smooth transitions and polished surfaces $Ra\ 0.8\ \mu m$ to minimize product deposits
- _ Front flushing seals at inlet/outlet and between side cover and housing (patented gap-free design, FDA conform)



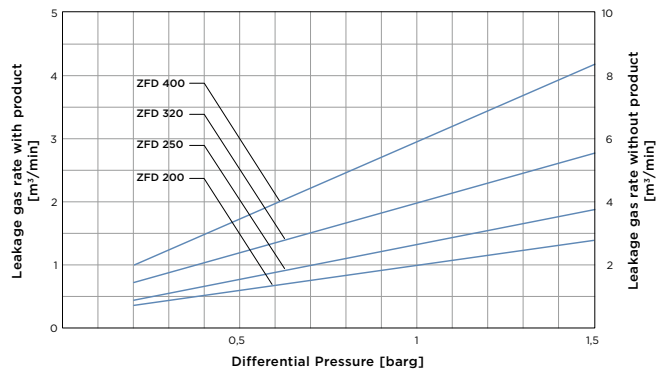
Performance diagram

- Powder with bulk density $1000\ kg/m^3$ and $0.3\ mm < d_{50} < 0.6\ mm$, $\Delta p = 0.8\ barg$
- Powder with bulk density $1000\ kg/m^3$ and $0.075\ mm < d_{50} < 0.15\ mm$, $\Delta p = 0.8\ barg$



Leakage gas diagram

(New, standard clearance $60^\circ C$, max. speed)



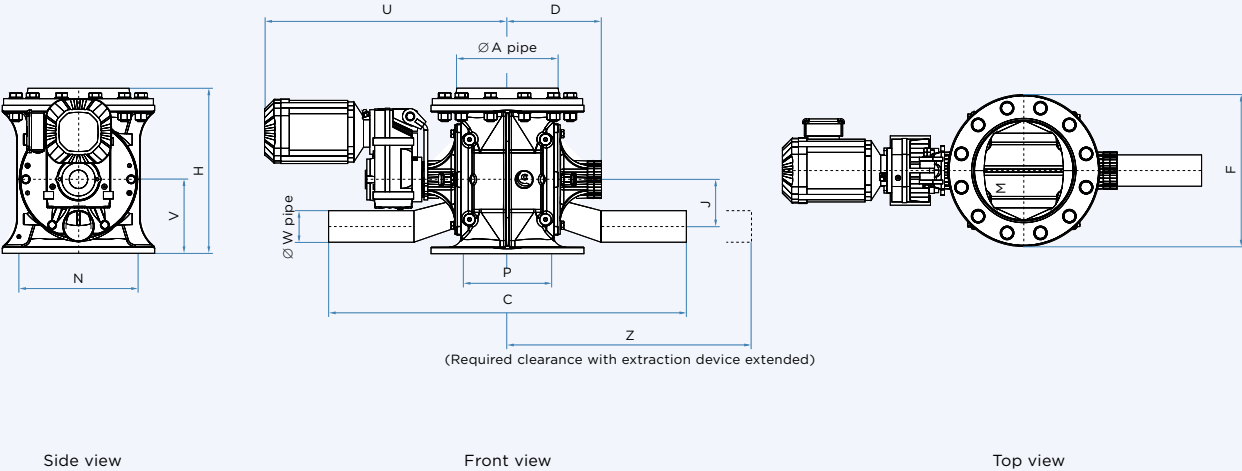
PRESSURE RANGE
 PRESSURE SURGE PROOF
 ATEX (OPTIONAL)

1.5 barg (21 psi) system and differential pressure
 10 barg (145 psi), due to heavy duty design
 Usable in Ex-Zones and as protection system
 (flameproof for dust ST2)
 Without restriction of the cross section for
 highest capacities
 Separated from product by purged seal arrangement
 and drop out opening

LARGE INLET

OUTBOARD BEARINGS

OPTIONS AND ACCESSORIES
 _ Quick cleaning coupling with extraction device
 _ Conveying line adaptors acc. DIN 11864



	Inlet*			Blow-through channel		Mounting pattern			Other dimensions							Weight*** appr. kg
	A (DIN)	A (ANSI)	Ø A pipe	Ø W pipe	J	N	P	Qty. x Ø	H ₁ **	C	D	F	U**	V ₁ **	Z	
ZFD 200	ND 200	8"	225.1 x 3.0	66 x 2.0	118.1	272.5	112.9	4 x Ø 22	386	937	234.5	341	673.5	170	995	73
ZFD 250	ND 250	10"	279.0 x 3.0	81 x 2.0	126.5	247.5	247.5	4 x Ø 22	446	964	253.0	412	715.0	200	1015	129
ZFD 320	ND 300	12"	329.9 x 3.0	100 x 2.0	152.0	243.8	348.1	4 x Ø 22	546	1015	304.5	483	864.0	250	1161	218
ZFD 400	ND 350	14"	361.6 x 3.0	125 x 2.0	168.5	263.9	376.8	4 x Ø 22	653	1320	352.0	533	930.0	300	1581	380

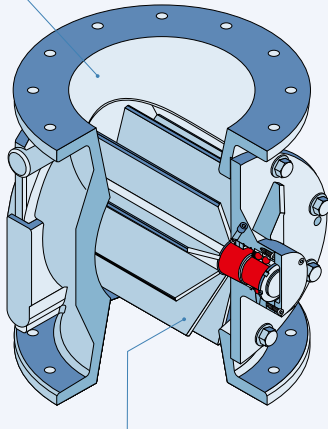
20>>> Rotary Valve ZRD



DISCHARGING- AND METERING-VALVE FOR POWDERS

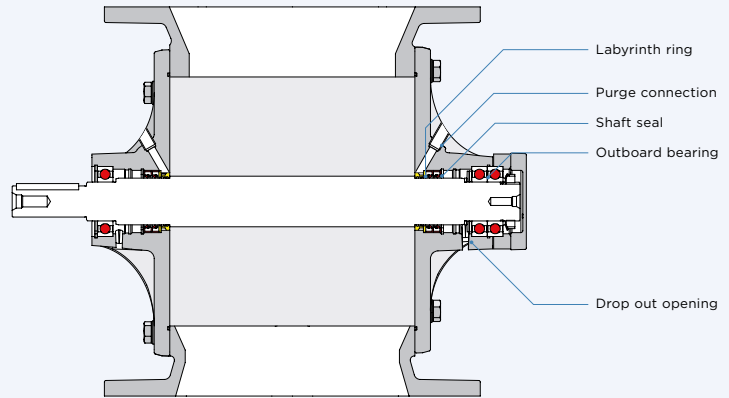
- _ Large inlet for high capacities
- _ With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 1.5 barg (21 psi)
- _ Operation possible without leakage gas venting

Cast housing



D-Rotor, open end, 10 pockets

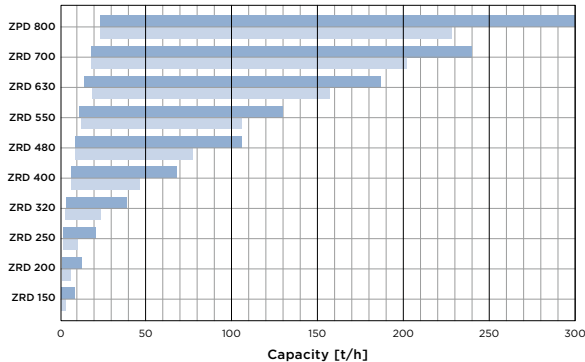
Large inlet without restriction



Large outlet

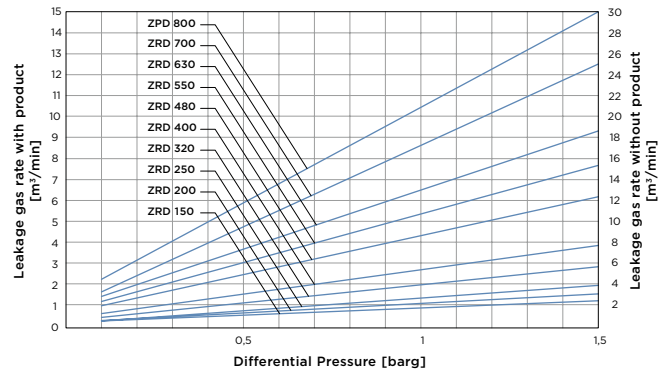
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.6 mm < d₅₀ < 1.0 mm, Δp = 0.8 barg
- Powder with bulk density 1000 kg/m³ and 0.15 mm < d₅₀ < 0.3 mm, Δp = 0.8 barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



- PRESSURE RANGE**

PRESSURE SURGE PROOF

ATEX (OPTIONAL)

LARGE INLET/OUTLET

OUTBOARD BEARINGS
- 1.5 barg (21 psi) system and differential pressure

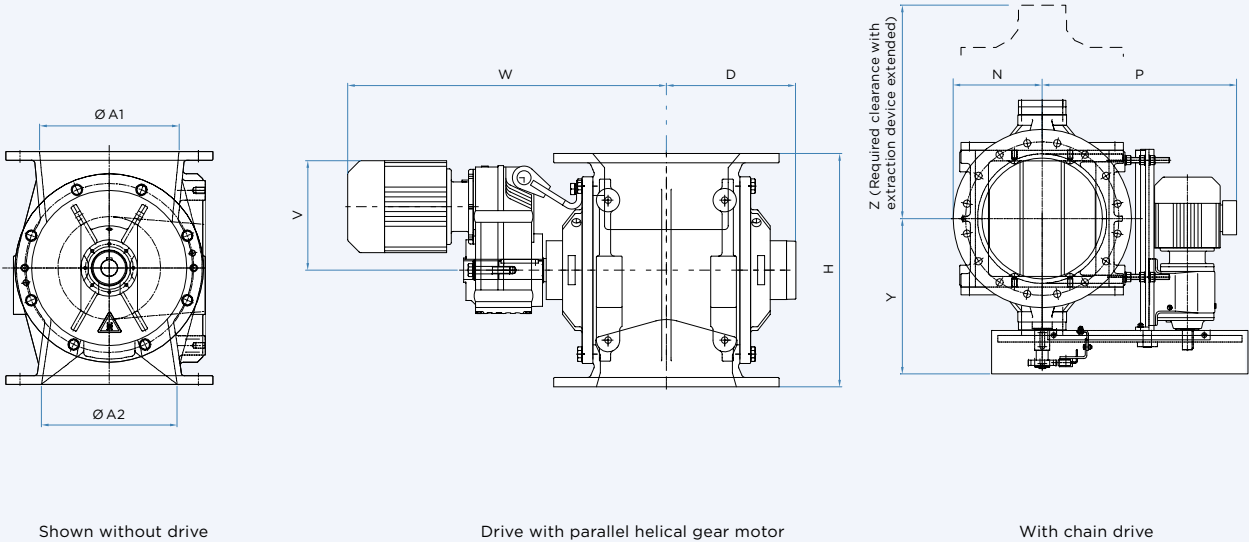
10 barg (145 psi), due to heavy duty design (ZPD 5 barg)

Usable in Ex-Zones and as protection system (flameproof for dust ST2)

Without restriction of the cross section for highest capacities

Separated from product by purged seal arrangement and drop out opening

- OPTIONS AND ACCESSORIES**
- _ Quick cleaning coupling with extraction device
 - _ Chamfered blades
 - _ Rotor with shallow pockets
 - _ Knife at the product inlet
 - _ X-rotor → ZRX or C-rotor → ZRC
 - _ Wear protection
 - _ Sanitary version
 - _ High temperature execution (T) up to 250°C



	Inlet*/Outlet*				Other dimensions								Weight*** appr. kg	
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1	Ø A2	H ₁ **	P**	Y	N	D	V**	W**	Z	AL	SS/GG
ZRD 150	ND 150	6"	166	155	260	372	235	143	185.0	220	539	568	20	36
ZRD 200	ND 200	8"	217	207	340	386	330	171	234.5	273	683	761	30	53
ZRD 250	ND 250	10"	272	259	400	416	349	206	253.0	289	724	786	40	80
ZRD 320	ND 300	12"	322	310	500	650	421	241	304.5	297	778	958	60	140
ZRD 400	ND 350	14"	354	341	600	730	474	267	352.0	321	844	1238	120	260
ZRD 480	ND 400	16"	410	400	750	815	553	299	409.0	382	1014	1271	270	490
ZRD 550	ND 500	20"	500	480	800	880	605	350	466.0	382	1110	/	370	690
ZRD 630	ND 600	24"	600	590	900	960	637	408	508.0	428	1166	/	550	1100
ZRD 700	ND 700	28"	710	695	1000	1075	688	459	560.0	517	1257	/	890	1600
ZPD 800****	ND 700	28"	700	680	1140	1380	800	756	561.0	517	1260	/	1420	3010

Dimensions in mm

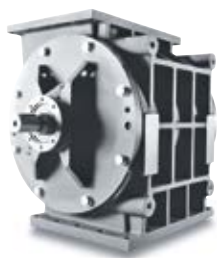
* Drilled according to DIN PN 10 or ANSI 150 lbs

**** Different housing version

*** Without drive

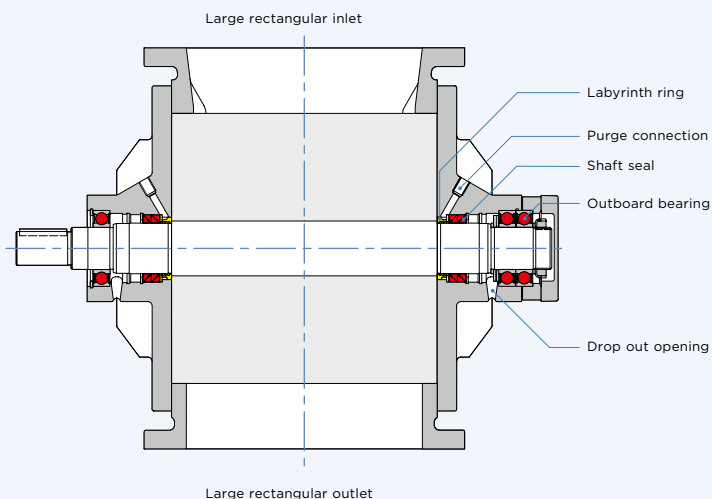
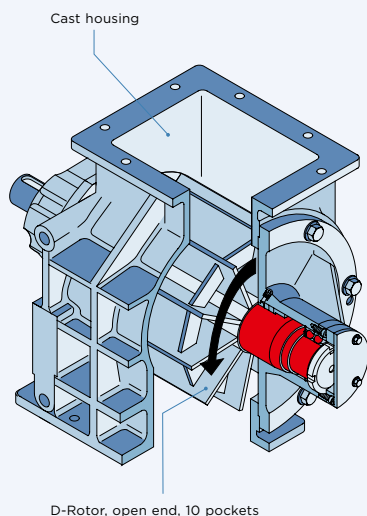
** Dimensions are not valid for high temperature executions and may vary depending on installed drive

22>> Rotary Valve ZKD



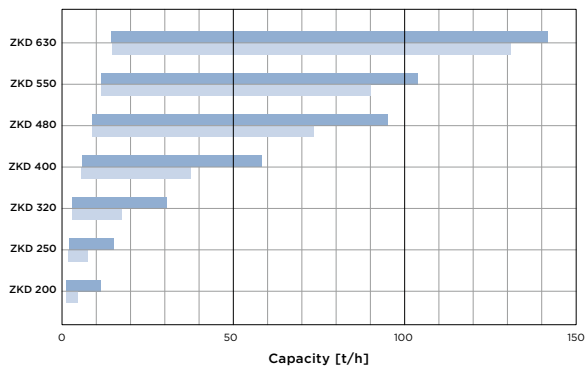
DISCHARGING- AND METERING- VALVE FOR POWDERS

- Solid housing with rectangular flange-connections
- With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 1.5 barg (21 psi)



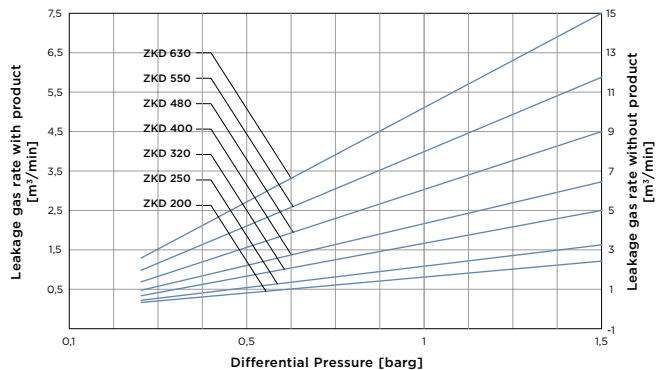
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.6 mm < d₅₀ < 1.0 mm, Δp = 0.8 barg
- Powder with bulk density 1000 kg/m³ and 0.15 mm < d₅₀ < 0.3 mm, Δp = 0.8 barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



PRESSURE RANGE
PRESSURE SURGE PROOF
ATEX (OPTIONAL)

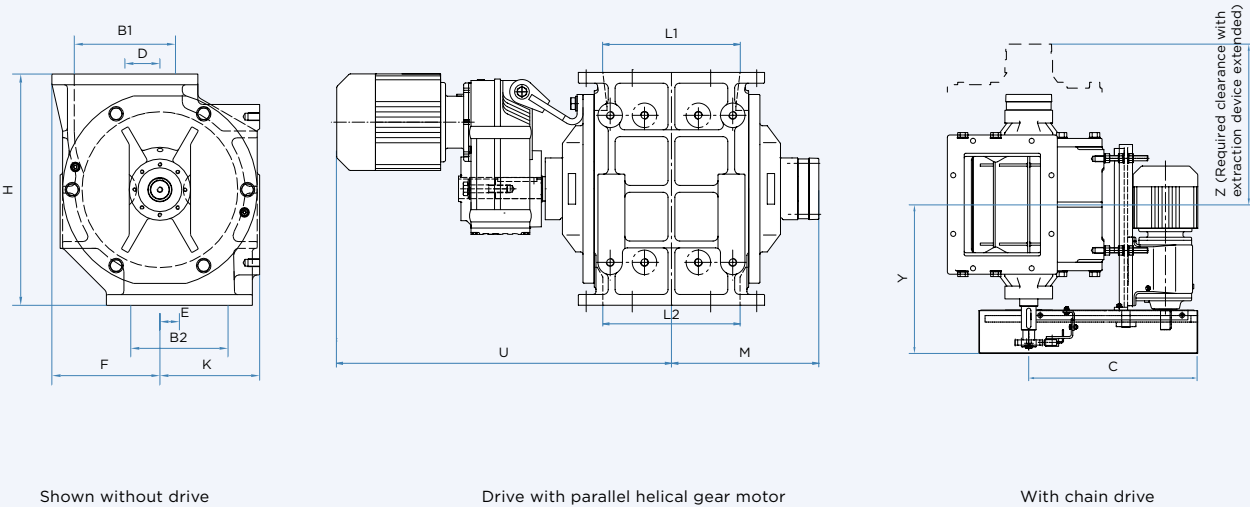
1.5 barg (21 psi) system and differential pressure
10 barg (145 psi), due to heavy duty design
Usable in Ex-Zones and as protection system
(flameproof for dust ST2)
Rectangular design shape of housing corresponds
to shape of rotor
Separated from product by purged seal arrangement
and drop out opening

INLET/OUTLET

OUTBOARD BEARINGS

OPTIONS AND ACCESSORIES

- _ Quick coupling with extraction device
- _ Chamfered blades
- _ Rotor with shallow pockets
- _ Knife at the product inlet or scraper blades
- _ X-rotor → ZKX or C-rotor → ZKC
- _ Wear protection
- _ High temperature execution (T) up to 250°C



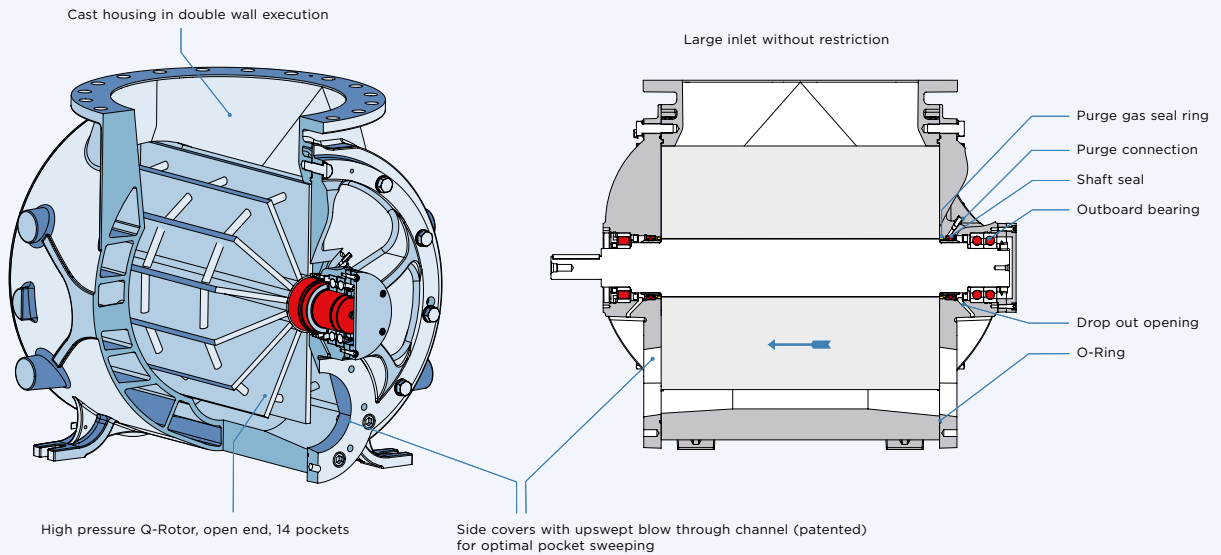
	Inlet/Outlet		Offset (axes)		Other dimensions								Weight** appr. kg	
	L1 x B1	L2 x B2	D	E	H ^{*S} ₋₁	C*	Y*	K	F	M*	Z*	U**	AL	SS/GG
ZKD 200	186 x 150	186 x 150	25	/	340	485	350	140	147	233	761	510	32	65
ZKD 250	220 x 178	220 x 170	54	20	400	485	385	165	174	252	786	560	42	90
ZKD 320	280 x 208	280 x 200	72	40	475	530	450	205	222	300	958	685	67	148
ZKD 400	370 x 268	350 x 260	80	50	600	585	490	247.5	260	356	1034	760	126	260
ZKD 480	460 x 300	450 x 300	60	20	700	730	570	300	270	415	1271	940	280	495
ZKD 550	500 x 320	490 x 320	100	30	800	900	630	330	330	470	/	1000	385	690
ZKD 630	600 x 400	590 x 400	45	/	900	1000	670	405	405	508	/	1110	700	1000

24 >> Rotary Valve ZXQ



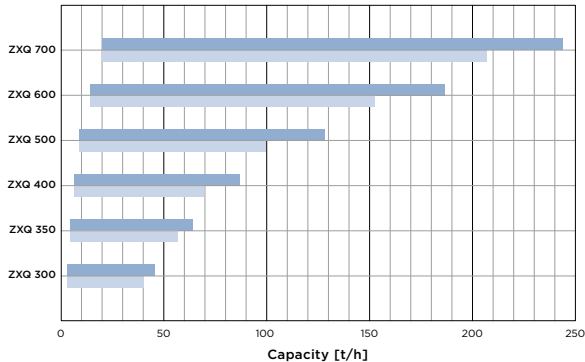
HIGH-PRESSURE BLOW-THROUGH VALVE FOR POWDERS

- _ Highest product capacities due to low leakage gas rates
- _ Designed for feeding bulk materials into pneumatic conveying systems at up to 3.5 barg (51 psi)



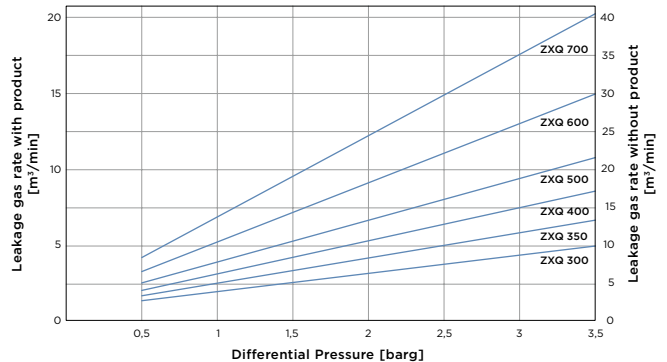
Performance diagram

- Powder with bulk density 1000 kg/m³ and 0.3 mm < d₅₀ < 0.6 mm, Δp = 2 barg
- Powder with bulk density 1000 kg/m³ and 0.075 mm < d₅₀ < 0.15 mm, Δp = 2 barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



- PRESSURE RANGE

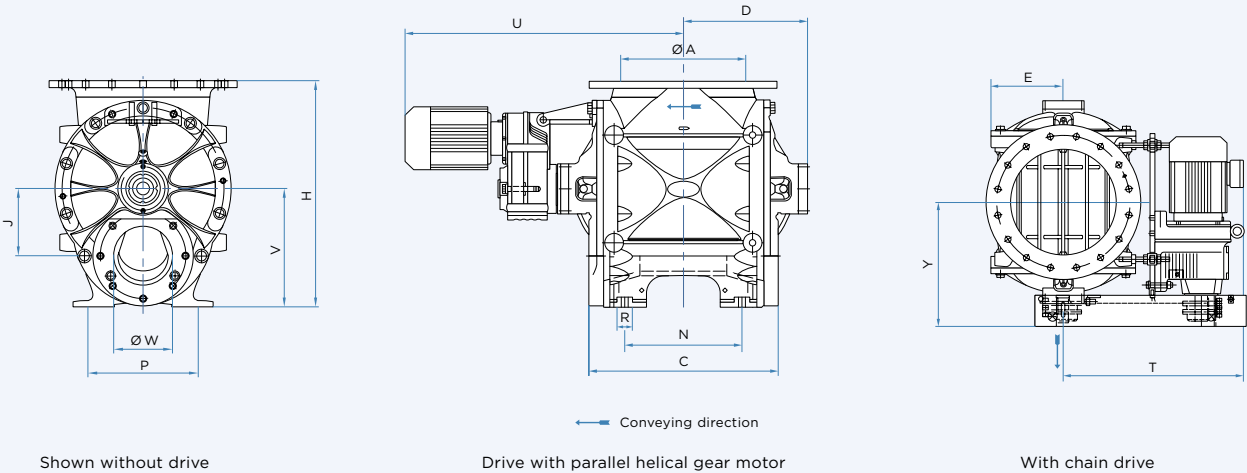
PRESSURE SURGE PROOF

LOW MAINTENANCE
- 3.5 barg (51 psi) system and differential pressure
10 barg (145 psi), due to heavy duty design
Open end high pressure rotor with 14 pockets for low leakage gas rates
- LARGE INLET
- Without restriction of the cross section for highest capacities
- OUTBOARD BEARINGS
- Separated from product by purged seal arrangement and drop out opening
- BLOW-THROUGH CHANNEL
- Optimal pocket sweeping at low pressure drop

- OPTIONS AND ACCESSORIES
- _ Chamfered blades

_ Suitable for Ex-Zones (ATEX)

_ Heated housing

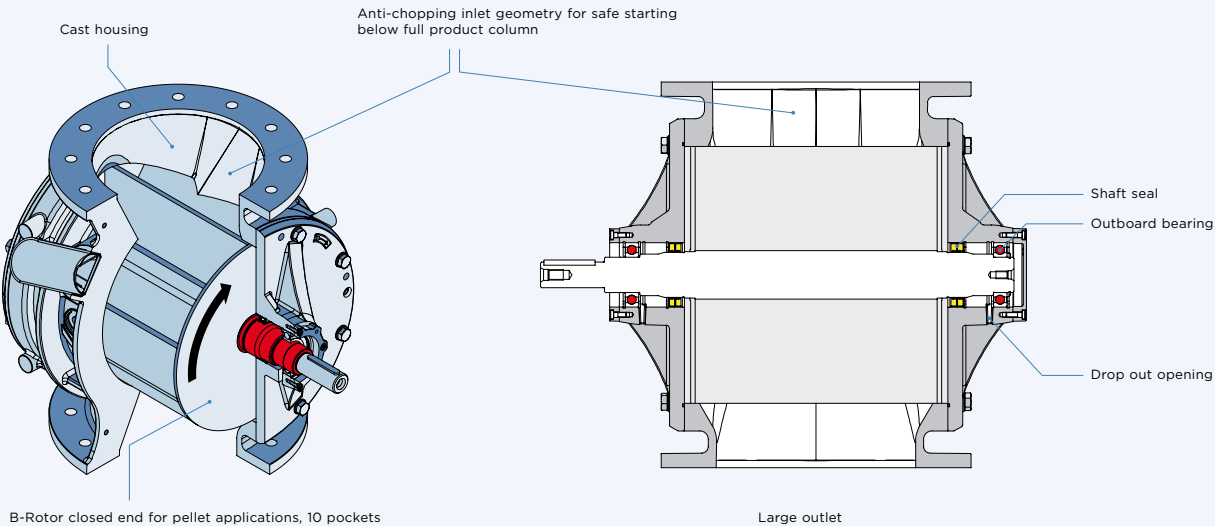


	Inlet*		Blow through channel		Mounting pattern				Other dimensions								Weight*** appr. kg	
	A (DIN)	A (ANSI)	Ø A	Ø W	J ⁺¹ ₋₁	N	P	R	H ⁺⁷ ₋₁	C ⁺¹ ₋₁	D	E	Y	V ⁺⁴ ₋₁	T**	U**	AL	SS
ZXQ 300	ND 300	12"	318	106	173	220	275	14	560	584	341	217	409	280	554	714	158	290
ZXQ 350	ND 350	14"	360	163	205	240	330	14	620	584	383	240	425	313	600	847	232	380
ZXQ 400	ND 400	16"	410	163	198	310	372	18	715	600	416	287	487	375	656	877	339	560
ZXQ 500	ND 500	20"	515	185	230	500	510	18	810	690	488	380	604	410	1020	985	/	876
ZXQ 600	ND 600	24"	610	209	280	654	540	23	955	810	557	455	669	470	1120	1146	/	1443
ZXQ 700	ND 700	28"	710	230	319	730	670	23	1200	960	709	528	872	580	1300	1355	/	2770

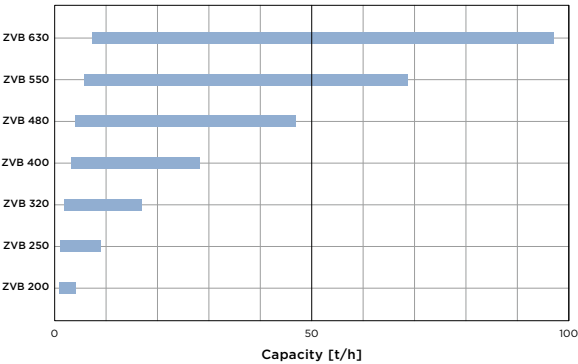


DISCHARGING VALVE FOR GRANULAR PRODUCTS

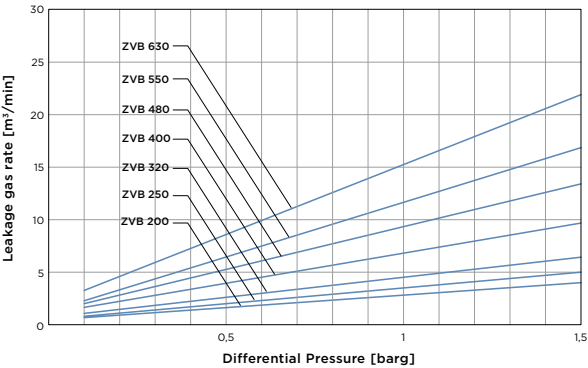
- _ Max. capacity through ideal ratio of rotor volume and inlet cross section
- _ Special inlet geometry designed for gentle pellet handling
- _ With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 1.5 barg (21 psi)



Performance diagram
PE/PP pellets with bulk density 520 kg/m³ and particle size 3 mm, $\Delta p = 0.8$ barg



Leakage gas diagram
(New, standard clearance 60°C, max. speed)



PRESSURE RANGE

PRESSURE SURGE PROOF

ATEX (OPTIONAL)

INLET FOR PELLETS

CAPACITY

1.5 barg (21 psi) system and differential pressure

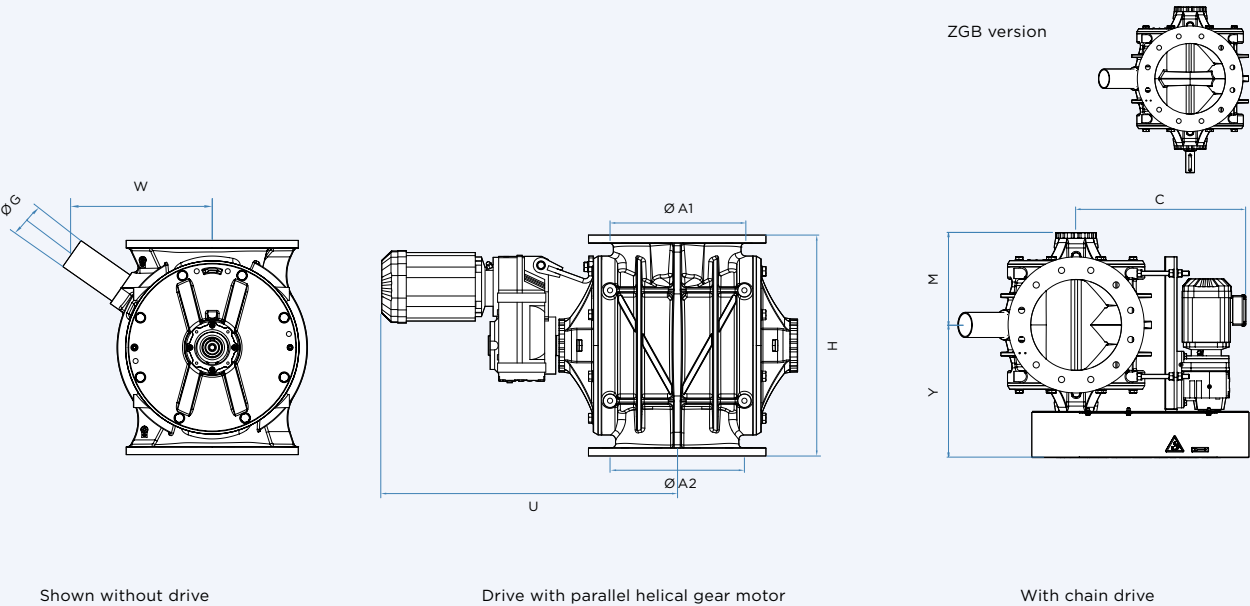
10 barg (145 psi), due to heavy duty design

Usable in Ex-Zones

Anti-chopping inlet geometry (patented) for safe starting below full product column

High filling efficiency by internal leakage gas venting

- OPTIONS AND ACCESSORIES**
- _ Rotor with shallow pockets
 - _ ZGB version (pellet deflection)
 - _ Wear protection
 - _ High temperature execution (T) up to 250°C



	Inlet*/Outlet*			Other dimensions							Weight*** appr. kg		
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1	Ø A2	H ⁵ ₋₁	C**	Y**	W	M**	U**	Ø G	AL	SS
ZVB 200	ND 150	6"	166	155	360	490	328	226	216	350	48,3	30	48
ZVB 250	ND 200	8"	213	207	450	515	347	278	235	639	60,3	35	66
ZVB 320	ND 250	10"	272	259	500	635	391	320	282	683	76,1	52	80
ZVB 400	ND 300	12"	322	310	600	700	470	393	327	760	88,9	117	188
ZVB 480	ND 350	14"	360	350	750	755	540	464	372	940	88,9	320	480
ZVB 550	ND 400	16"	410	400	850	785	590	537	425	984	108,0	414	670
ZVB 630	ND 500	20"	500	480	970	840	670	584	492	1041	108,0	500	1000

Dimensions in mm

* Drilled according to DIN PN 10 or ANSI 150 lbs

** Dimensions are not valid for high temperature executions and may vary depending on installed drive

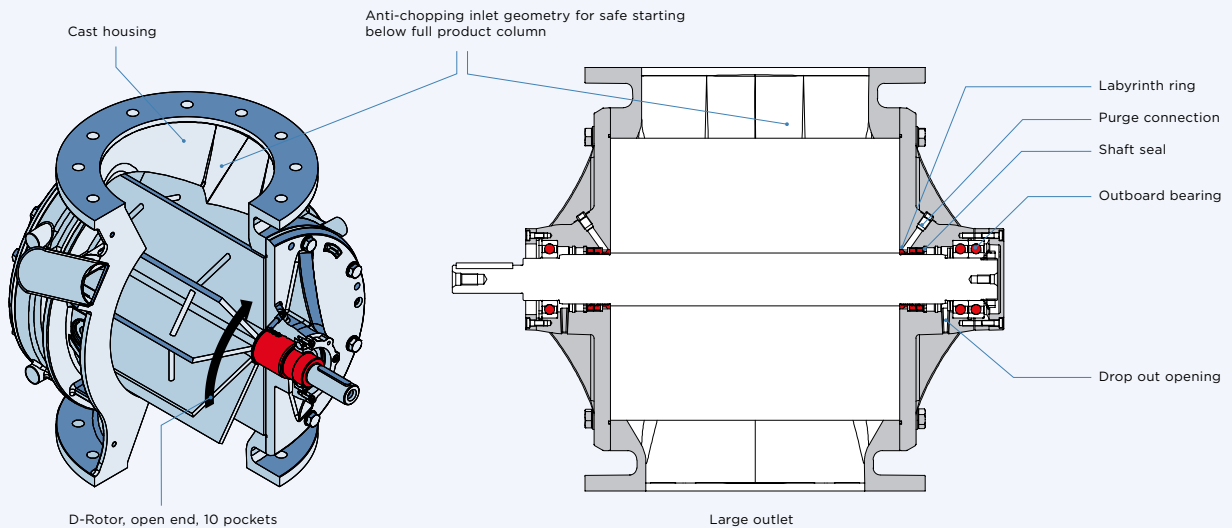
*** Without drive

28 >> Rotary Valve ZVD



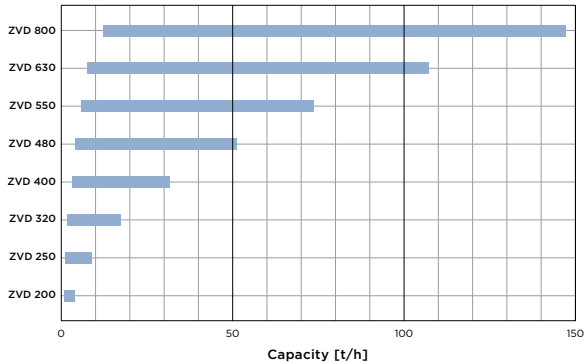
DISCHARGING VALVE FOR FINE- AND COARSE-GRAINED PRODUCTS

- _ Max. capacity through ideal ratio of rotor volume and inlet cross section
- _ Special inlet geometry purpose-built for gentle product handling
- _ With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 1.5 barg (21 psi)



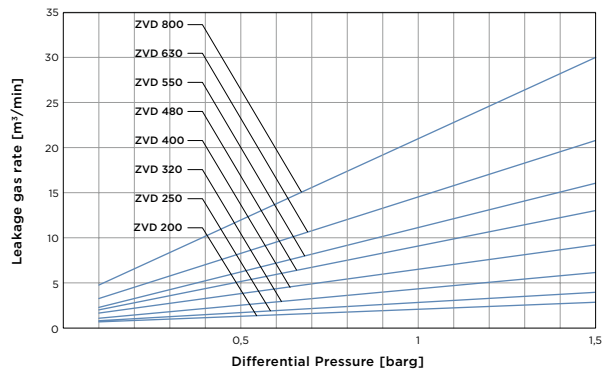
Performance diagram

PE/PP pellets with bulk density 520 kg/m³ and particle size 3 mm, $\Delta p = 0.8$ barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



- PRESSURE RANGE

PRESSURE SURGE PROOF

ATEX (OPTIONAL)

INLET FOR PELLETS

CAPACITY
- 1.5 barg (21 psi) system and differential pressure

10 barg (145 psi), due to heavy duty design

Usable in Ex-Zones and as protection system (flameproof for dust ST2)

Anti-chopping inlet geometry (patented) for safe starting below full product column

High filling efficiency by internal leakage gas venting

- OPTIONS AND ACCESSORIES
- Quick cleaning coupling with extraction device

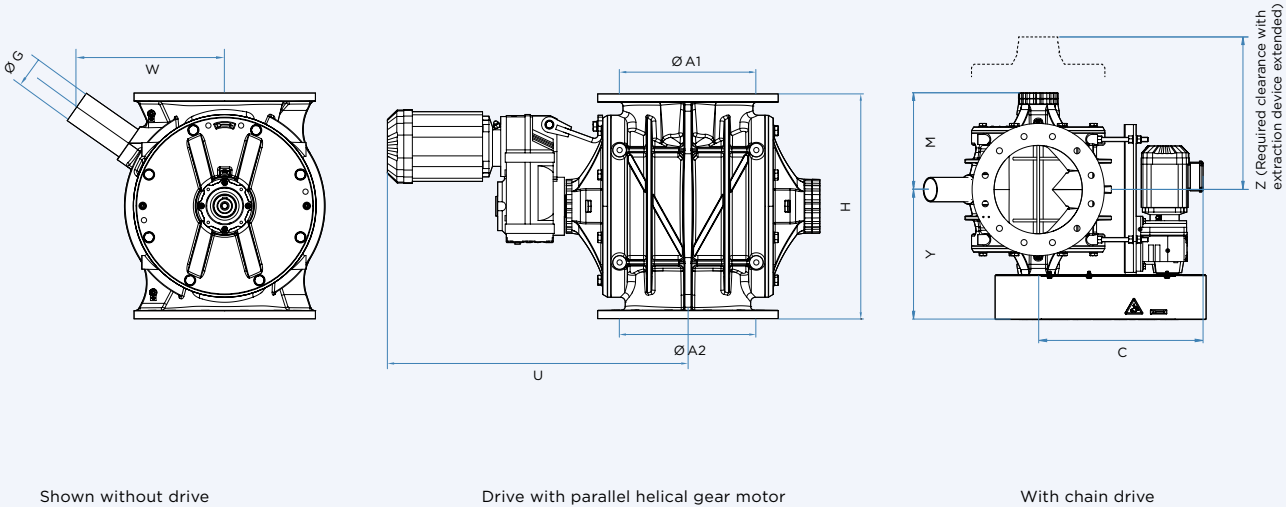
Rotor with shallow pockets

Wear protection

Scraper blades

X-rotor → ZVX or C-rotor → ZVC

High temperature execution (T) up to 250°C



	Inlet*/Outlet*				Other dimensions								Weight*** appr. kg	
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1	Ø A2	H ¹ _{A1}	C**	Y**	W	M**	Z**	U**	Ø G	AL	SS
ZVD 200	ND 150	6"	166	155	360	490	328	226	234	761	477	48,3	24	74
ZVD 250	ND 200	8"	213	207	450	515	347	278	253	786	521	60,3	30	121
ZVD 320	ND 250	10"	272	259	500	635	391	320	305	958	591	76,1	42	190
ZVD 400	ND 300	12"	322	310	600	700	474	393	352	1238	720	88,9	92	353
ZVD 480	ND 350	14"	360	350	750	755	540	464	415	1271	770	88,9	270	650
ZVD 550	ND 400	16"	410	400	850	785	590	537	470	/	950	108,0	370	860
ZVD 630	ND 500	20"	500	480	970	840	608	589	508	/	1010	108,0	700	1360
ZVD 800	ND 700	28"	700	680	1140	1380	800	756	561	/	1260	168,3	1420	2570

Dimensions in mm

* Drilled according to DIN PN 10 or ANSI 150 lbs

** Dimensions are not valid for high temperature executions and may vary depending on installed drive

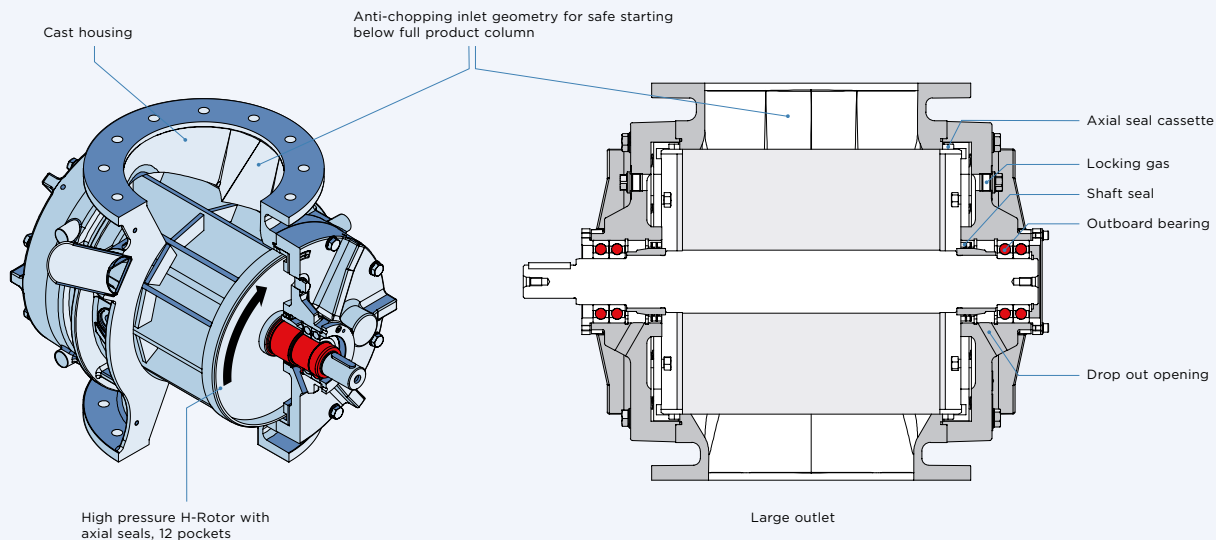
*** Without drive

30 >> Rotary Valve ZVH



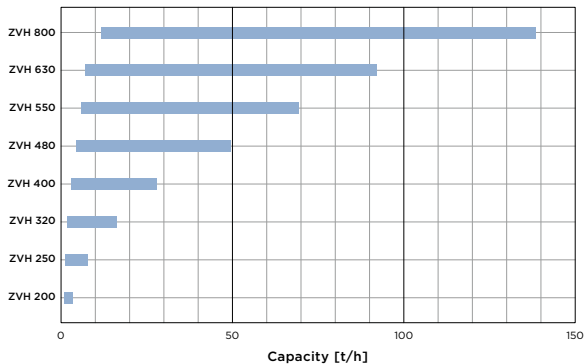
HIGH-PRESSURE DISCHARGING VALVE FOR GRANULAR PRODUCTS

- _ Max. capacity through ideal ratio of rotor volume and inlet cross section
- _ Special inlet geometry designed for gentle pellet handling
- _ With feeding shoe also suitable for feeding bulk materials into pneumatic conveying systems at up to 3.5 barg (51 psi)



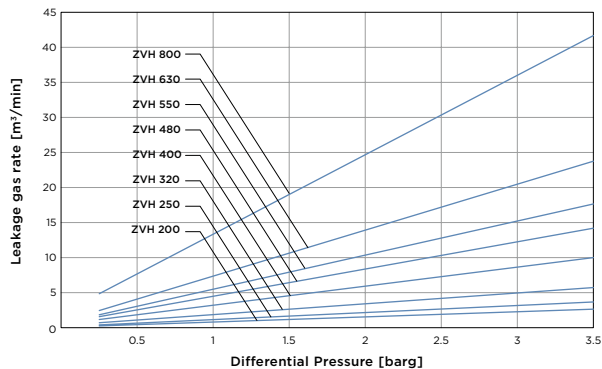
Performance diagram

PE/PP pellets with bulk density 520 kg/m³ and particle size 3 mm, $\Delta p = 2.0$ barg



Leakage gas diagram

(New, standard clearance 60°C, max. speed)



PRESSURE RANGE

PRESSURE SURGE PROOF

ATEX (OPTIONAL)

INLET FOR PELLETS

LOW LEAKAGE

CAPACITY

3.5 barg (51 psi) system and differential pressure

10 barg (145 psi), due to heavy duty design

Usable in Ex-Zones

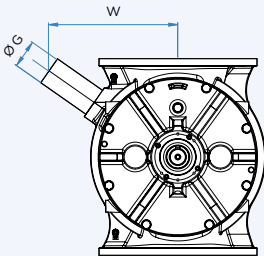
Anti-chopping inlet geometry (patented) for safe starting below full product column

High pressure rotor with 12 pockets and axial seals

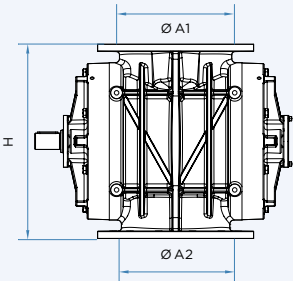
High filling efficiency by internal leakage gas venting

- OPTIONS AND ACCESSORIES**

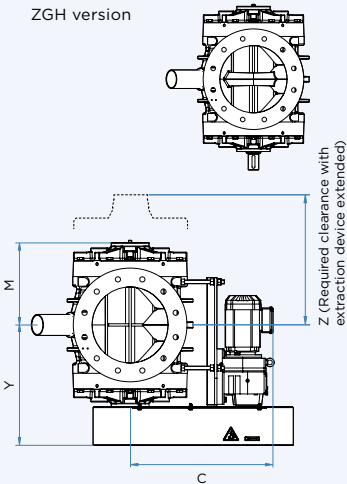
 - _ Quick cleaning execution with extraction device
 - _ Rotor with shallow pockets
 - _ ZGH version (pellet deflection)
 - _ Wear protection
 - _ High temperature execution (T) up to 250°C
 - _ Heated housing



Shown without drive



Shown without drive



With chain drive

	Inlet*/Outlet*				Other dimensions							Weight*** appr. kg	
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1	Ø A2	H ⁷ ₋₁	C**	Y**	W	M*	Z**	Ø G	AL	SS
ZVH 200	ND 150	6"	166	155	360	480	367	226	245	681	48,3	63,5	118
ZVH 250	ND 200	8"	213	207	450	510	391	278	272	755	60,3	85	156
ZVH 320	ND 250	10"	272	259	500	630	422	320	315	923	76,1	127	200
ZVH 400	ND 300	12"	322	310	600	705	510	393	359	1034	88,9	182	323
ZVH 480	ND 350	14"	360	350	750	800	560	464	420	1271	88,9	330	600
ZVH 550	ND 400	16"	410	400	850	805	627	542	480	1345	108,0	480	920
ZVH 630	ND 500	20"	500	450	970	855	682	589	530	/	108,0	690	1270
ZVH 800	ND 700	28"	700	680	1140	1380	880	756	610	/	168,3	1550	3050

Dimensions in mm

* Drilled according to DIN PN 10 or ANSI 150 lbs

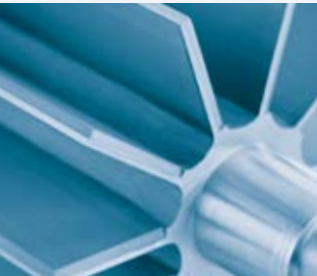
** Dimensions are not valid for high temperature executions and may vary depending on installed drive

*** Without drive

32>> Rotary Valves | Options

ROTOR AND HOUSING OPTIONS

_ For the individual adjustment of our rotary valves to your applications



CHAMFERED BLADES

- _ Reduction of the surface by relief grinding
- _ Decrease of the friction when handling powders



SCRAPER BLADES

- _ Overlapping blades at sides and circumference
- _ Applied for adhesive and sticky products
- _ For scraping off product layers in the housing bore
- _ For reduction of torque and operating noise



ROTOR WITH SHALLOW POCKETS

- _ For reduction of rotor volume
- _ For reduction of pulsation

MATERIALS

AC	Housing cast aluminum hard-coated	Rotor stainless steel
SS	Housing stainless steel	Rotor stainless steel
SC	Housing stainless steel, bore hard chrome plated	Rotor stainless steel
GG	Housing cast iron	Rotor mild steel
GC	Housing cast iron, bore hard chrome plated	Rotor mild steel
CC	Housing cast iron, inside hard chrome plated	Rotor stainless steel
NN	Housing cast iron, inside nickel plated	Rotor stainless steel

OPERATING TEMPERATURE

Standard version	-20°C up to 60°C
Option 1	up to 220°C
Option 2 (high temperature)	from 220°C

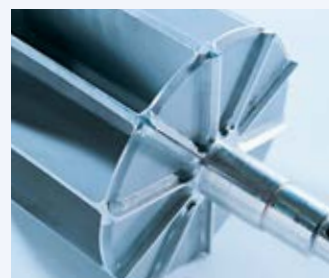
C-ROTOR

- _ Wear protected rotor with massive end plates
- _ Used for abrasive products



X-ROTOR

- _ Closed end rotor with additional blades on both sides
- _ Used for fibrous products



STATIC KNIFE AT THE PRODUCT INLET

- _ For cutting fibrous products and ground rigid materials
- _ For special applications (e.g. reactor discharge PE/PP)



34>> Rotary Valves | Quick Disassembling

ROTARY VALVE EXECUTIONS AND ACCESSORIES

_ For highest requirements regarding disassembling and accessibility



QUICK CLEANING .2 EXECUTION

- _ Single sided quick cleaning coupling at the rotor shaft on drive side
- _ Side cover and rotor can be extracted easily as unit from housing, no adjustments required
- _ Special design of coupling enables inserting the rotor in several insert positions without exact positioning



QUICK CLEANING .3 EXECUTION

- _ Double sided quick cleaning coupling at the rotor shaft
- _ Rotor can be extracted easily from housing and additionally detached from side cover



PLASTIC ENDPLATE FOR WET CLEANING

- _ Accessory for quick cleaning executions for use during wet cleaning (CIP)
- _ Dummy shaft to close area of shaft-sealings and bearings on drive side to prevent entry of liquids

EXTRACTION DEVICE
FULL ACCESS SYSTEM,
SINGLE-SIDED (FXS-1)

- _ Single-sided hinge device (to be combined with quick cleaning execution)
- _ Simple extraction and insertion of the rotor without hoisting devices
- _ Rotor can be swivelled aside easily
- _ Free access for cleaning and inspection



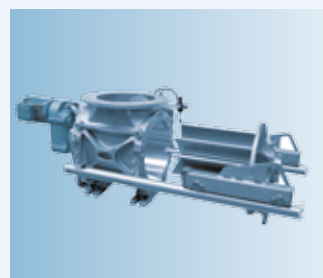
EXTRACTION DEVICE
FULL ACCESS SYSTEM,
DOUBLE-SIDED (FXS-2)

- _ Double-sided hinge device (to be combined with FXS-1 and quick cleaning execution)
- _ Additional hinge device on drive side
- _ Rotor and drive can be swivelled aside easily without hoisting devices
- _ Best access for cleaning and inspection



EXTRACTION DEVICE
AZV

- _ Single-sided extraction device on rails for large sizes and for rotary valves for pellets (to be combined with quick cleaning execution)
- _ For precise linear extraction and insertion of rotor without hoisting devices



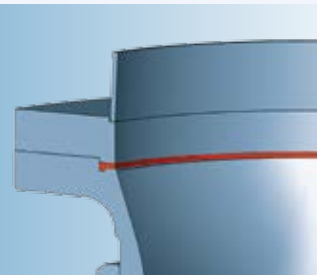
ROTARY VALVE EXECUTIONS AND ACCESSORIES

- _ With smooth shapes and surfaces
- _ For highest requirements regarding hygiene and cleanability



SANITARY VERSION (HYGIENIC EXECUTION)

- _ Designed according to EHEDG guidelines
- _ Material stainless steel
- _ Product wetted surfaces polished ($R_a = 0.8 \mu\text{m}$)
- _ Rotor with rounded pockets, chamfered blades and without stiffening bolts
- _ Gas purged shaft seals, FDA-conform



FLUSH END FLANGE GASKETS

- _ Flange design similar to DIN 11864
- _ Flush to product area
- _ FDA-conform
- _ Prevents product deposit and entry of fluids into sealing gap
- _ Supplied with weld-on counter flange
- _ Designed according to EHEDG guidelines



OPERATION WITHOUT LEAKAGE GAS VENTING

- _ Installation of ZXD-, ZFD- or ZRD-Rotary valve directly under silo without leakage gas venting
- _ Ideal for fluidizable products
- _ Easy planning, low height, low cost of investment
- _ Sanitary application - no product contamination caused by product remaining in leakage gas pipe

EHEDG or USDA certified Rotary valves



EHEDG EL CLASS 1

CERTIFIED:

ZRD-CIP

ZFD-CIP

- _ Discharging and metering rotary valve (ZRD-CIP) and blowthrough valve (ZFD-CIP) designed and certified for CIP* applications
- _ Capable to be integrated in fully automatic cleaning (CIP*), no disassembling of rotary valve required
- _ Materials resistant against cleaning agents
- _ Flush end sealings at the in- and outlet of the valve and between side covers and housing (patented gap free design, FDA conform)



EHEDG ED

CERTIFIED:

ZRD

ZXD

ZVD

- _ Discharging and metering rotary valve (ZRD, ZVD) and blowthrough valve (ZXD) certified for dry processes and dry cleaning practices
- _ Easy disassembling and cleaning of parts
- _ Easy access to inner areas
- _ Open end rotors in hygienic execution
- _ Gas purged shaft seals, FDA-conform

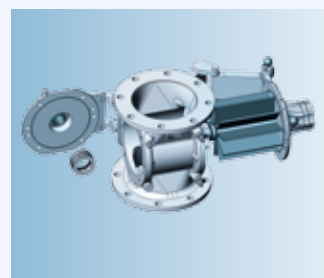


USDA APPROVED AND CERTIFIED:

ZRD-USDA

ZXD-USDA

- _ Rotary valve in quick disassembling execution with extractable sealing cassette
- _ Sealing rings can be taken out of sealing cassette for easy inspection and cleaning

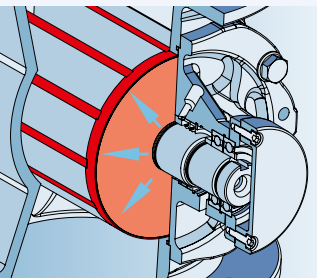


* CIP = Cleaning in Place

38» Rotary Valves | Wear Protection

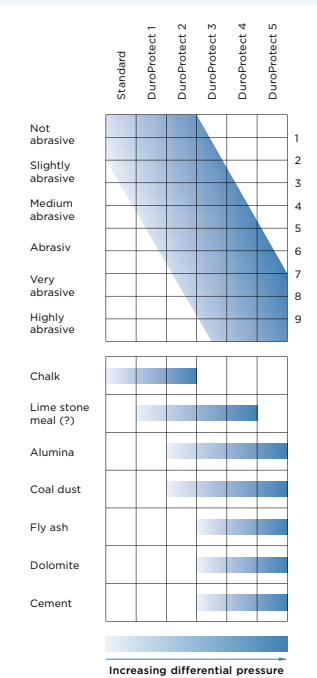
ROTARY VALVE EXECUTIONS

- _ Design incorporates erosive wear protection
- _ Wear resistant materials - adjusted to your application
- _ Particularly for applications within pneumatic conveying systems



WEAR PROTECTION BY DESIGN

- _ Closed end rotor with massive end plates
- _ Narrow gaps due to axially fitted rotor
- _ Seal purging protects sealing rings and hub from wear



DUROPROTECT® PROTECTION CONCEPT

- _ Development of protection concepts based on long-term studies in the Coperion test centre and out in the field
- _ Adapted to Mohs' hardness of bulk material resp. to wear characteristics of typical bulk materials
- _ Optimised for product properties (in particular abrasiveness) and operating conditions (particularly pressure difference)

SELECTION ACCORDING PRODUCT

WEAR RESISTANCE CONCEPT AVAILABLE IN 5 LEVELS FOR ROTARY VALVES FOR POWDERS

Wear resistance level	Standard	DUROPROTECT* 1	DUROPROTECT* 2	DUROPROTECT* 3	DUROPROTECT* 4	DUROPROTECT* 5
Housing	Cast iron	DUROCHROM*	DUROCHROM*	DUROCHROM*	DUROCHROM*	DUROCERA*
Rotor	D-rotor mild steel	D-rotor mild steel	C-rotor mild steel	C-rotor DUROCHROM*	C-rotor DUROCARB*	C-rotor DUROCARB*
Abrasiveness/ pressure difference						
	Low High					

DUROCHROM*
HOUSING + ROTOR

- _ Housing coated with hard chrome, coating thickness up to 400 µm
- _ Rotor end plates and circumference coated with hard chrome
- _ High wear resistance ensures long-term low leakage gas rates



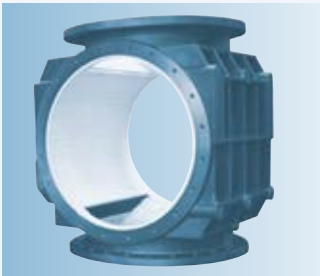
DUROCARB*
ROTOR

- _ Tungsten carbide welded on tip ends of rotor blades and end blades. Front end of end plates coated with hard chrome
- _ Tungsten carbide matrix is optimised to suit the particle size of the bulk material. This ensures a long service life of the rotor (picture alongside shows tungsten carbide welding before machining)



DUROCERA*
HOUSING

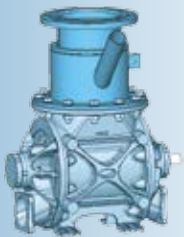
- _ Ceramic reinforcement by seamless lining with fitted solid ceramics at the housing for the technically highest possible wear protection
- _ Maximum wear protection ensures long-term low leakage gas rates



40>> Rotary Valves | Accessories

ROTARY VALVES ACCESSORIES

_ For optimising our rotary valves for your applications



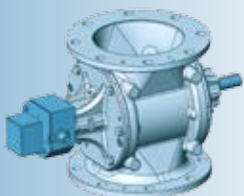
LEAKAGE GAS COLLECTOR

- _ Compact design for effective venting of the leakage gas for rotary valves for powders
- _ Allows high conveying capacity
- _ Ensures product flow into the rotary valve in applications with long silo outlet gravity pipes or reduced inlet cross-section



LEAKAGE GAS SEPARATOR

- _ Conical hopper for effective separation of the product from the leakage gas stream at pre-dosed operation of the rotary valve
- _ To depressurise the upstream metering system
- _ Allows discharging of leakage gas directly into a central dedusting system

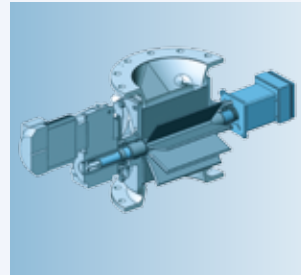


SPEED MONITOR

- _ For monitoring valve operation and rotor speed
- _ Execution for application in Ex-Zones (ATEX) available

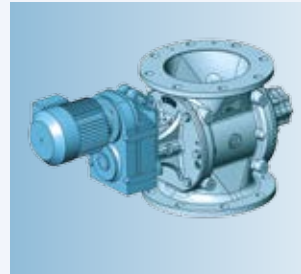
CONTACT CONTROL ROTORCHECK®

- _ Intelligent electronic device for continuous monitoring of undesirable contact between rotor and housing
- _ Prevents metal product contamination caused by seizing
- _ Protects from serious damage to the rotary valve
- _ Execution for application in Ex-Zones (ATEX) available



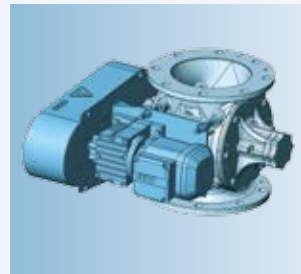
DIRECT DRIVE*

- _ Compact, easy to assemble drive
- _ Without chain overdrive and without clutch, therefore sanitary and easy to maintain
- _ Smooth, quiet operation



CHAIN DRIVE*

- _ Side-mounted drive with chain overdrive
- _ Subsequent speed adjustment possible by exchange of chain sprocket
- _ Suitable for high product temperatures



* All drives available for operation with frequency converter and as execution for application in Ex-Zones (ATEX)

42>> Rotary Valves | Accessories

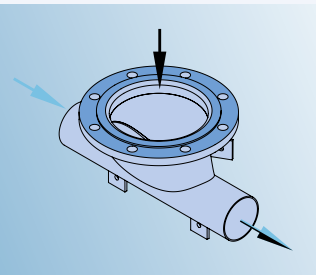
ROTARY VALVES ACCESSORIES

_ For optimising our rotary valves for your applications



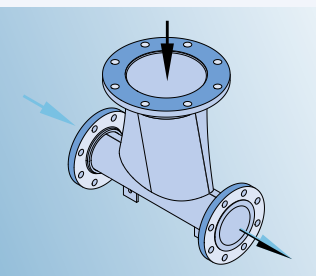
GAS PURGE SYSTEM

- _ Gas purged labyrinth ring to protect the shaft seal at powder applications
- _ Completely mounted with piping
- _ Recommended in case of system pressure and for sanitary applications



FEEDING SHOE FOR DILUTE PHASE CONVEYING

- _ Guarantees optimal feed of powders and pellets into the conveying pipe
- _ Design optimised for low pressure drop
- _ Various connecting nominal diameters available for each size, optional connecting flange at conveying pipe



FEEDING SHOE FOR SLOW-MOTION CONVEYING

- _ Guarantees optimal feed of pellets into the conveying pipe even at low conveying gas velocities
- _ Supports formation of plugs for stable conveying states
- _ Pressure range up 3.5 barg

HEATED HOUSING

- _ Heating with steam or circulated thermo-oil inside the housing up to 220°C
- _ For heating the rotary valve at product temperatures higher than 120°C
- _ Minimises leakage gas rates
- _ Optimised heat transfer for short pre-heating times



FEEDING STATIONS RCG AND FFZ

- _ Feeding station for dense phase conveying ROTORCONVEYOR® RCG or for dilute phase conveying FFZ
- _ Complete feeding station, supplied with rotary valve, feeding shoe and support stand, fully assembled and ready-to-install (options e.g. butterfly valve)
- _ Easy integration into conveying systems possible



44>> **Diverter Valves**

Granular products		Granular products and powders					
WEK	WET	WZK	WYK	WRK	WHK	WGV	DWR
							
6 barg	6 barg	5 barg	5 barg	4 barg	3 barg	1 barg	1 barg



>>Coperion diverter valves come with the assurance of decades of experience and process-know-how as well as with proprietary development and manufacturing with top quality materials.

- 

K-EXECUTION

Asymmetric design with 35° to 45° angle suitable for distributing and collecting in pneumatic conveying lines and in gravity pipes.
- 

T-EXECUTION

Rectangular design with 90° angle for silo filling.
- 

V-EXECUTION

Symmetric design with 50° angle for gravity lines.

TYPE CODE FOR DIVERTER VALVES



SELECTION MATRIX FOR DIVERTER VALVES

Product	Average particle size d 50	Application		
		Gravity pipe	Pneumatic conveying	
			Distributing valve	Collecting valve
Powder, fluff	Up to 1 mm	WGV WRK* WYK WZK WHK DWR	WZK WRK* WYK WHK DWR	WZK WYK WHK DWR
Granular products, uniform particles, regular particle shapes	1 mm to 10 mm	WGV WEK WHK WYK DWR	WEK/WET WZK WHK WYK DWR	WEK WZK WHK WYK DWR
Irregular particles, granular products with high percentage of fines	1 mm to 10 mm	WGV WHK	WZK WHK DWR	WZK WHK DWR

Blue = preferred

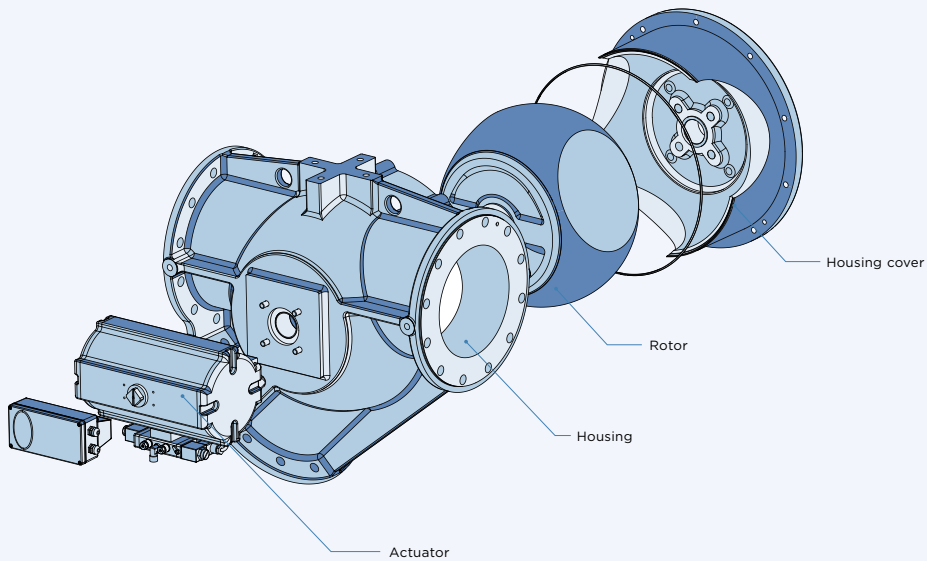
* For abrasive minerals

46>> Two-Way-Diverter Valve WEK

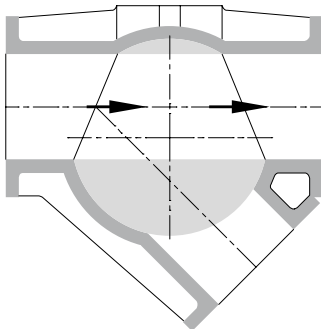


SINGLE CHANNEL DIVERTER VALVE FOR GRANULAR PRODUCTS

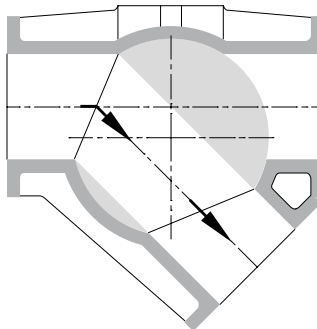
- _ In compact spherical design with 45° outlet
- _ Space-saving installation in pneumatic conveying lines or in gravity pipes at up to 6 barg



Straight through



Diverted



- PRESSURE RANGE**

PRESSURE SURGE PROOF (OPTIONAL)

OPERATION TEMPERATURE

APPLICATION

SEAL CONFIGURATION

MATERIAL OF CONSTRUCTION

6 barg (87 psi) system and differential pressure

10 barg (145 psi) due to heavy duty design (on request)

-20°C up to 100°C

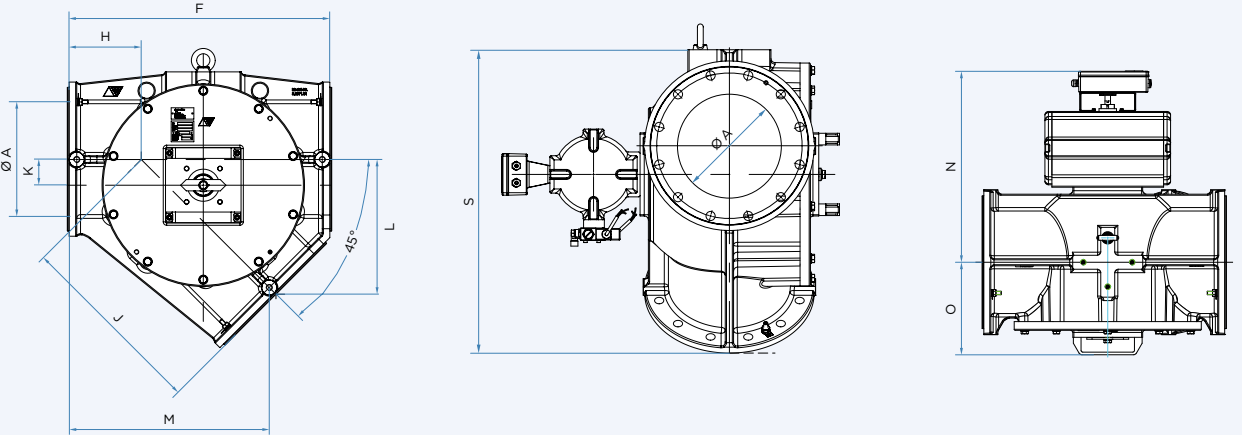
Suitable for fluid group 2 according PED (fluid group 1 on demand)

Seal free, tight clearance between rotor and housing

Cast aluminium, product wetted parts hard coated

- OPTIONS AND ACCESSORIES**

 - _ Cross seal between the outlets
 - _ Product wetted parts out of stainless steel
 - _ Quick-cleaning design
 - _ Switchable with product (individual approval required)
 - _ Actuator on the right-hand side



Shown with actuator on left-hand side

	Inlet*/Outlet*			Other dimensions									Weight appr. kg	
	A (DIN)	A (ANSI)	Ø A	F	H	J	K	L	M	N	O	S	AL	
WEK 108	ND 100	4"	108	390	103	287	40	203	306	378	144	410	39	
WEK 134	ND 125	5"	134	430	116	314	43	222	338	390	156	450	47	
WEK 150/162	ND 150	6"	150/162	500	144	356	48	252	396	429	180	501	65	
WEK 187	ND 175	7"	187	600	170	430	58	304	474	460	211	614	112	
WEK 200/213	ND 200	8"	200/213	600	170	430	58	304	474	460	211	614	103	
WEK 250/265	ND 250	10"	250/265	700	196	504	68	356	552	548	265	730	164	
WEK 300/316	ND 300	12"	300/316	800	205	595	85	421	626	622	290	853	239	
WEK 350	ND 350	14"	350	900	221	680	95	480	701	642	310	972	308	
WEK 400	ND 400	16"	400	1050	284	766	100	542	826	827	318	1080	465	

Dimensions in mm

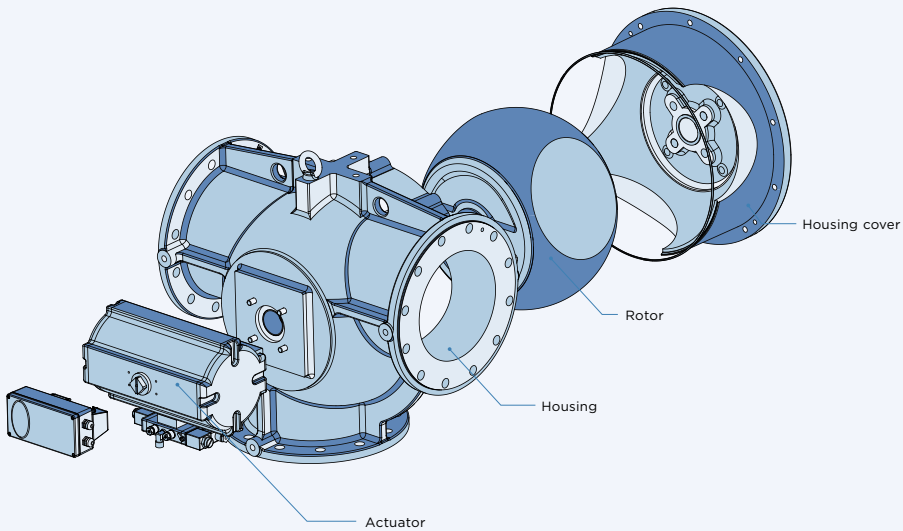
* Drilled according to DIN PN 10 or ANSI 150 lbs

48 >> Two-Way-Diverter Valve WET

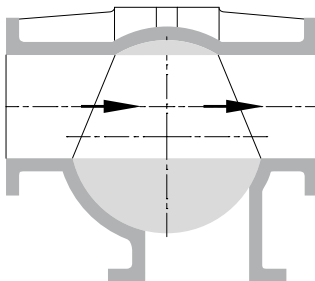


SINGLE CHANNEL DIVERTER VALVE FOR GRANULAR PRODUCTS

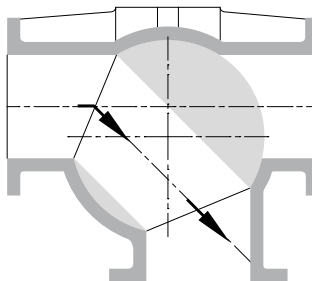
- _ In spherical design with 90° outlet
- _ Developed for conveying lines for silo feeding at up to 6 barg



Straight through



Diverted



- PRESSURE RANGE

PRESSURE SURGE PROOF
(OPTIONAL)

OPERATION TEMPERATURE

APPLICATION

SEAL CONFIGURATION

MATERIAL OF CONSTRUCTION
- 6 barg (87 psi) system and differential pressure

10 barg (145 psi) due to heavy duty design
(on request)

-20°C up to 100°C

Suitable for fluid group 2 according PED
(fluid group 1 on demand)

Seal free, tight clearance between rotor and housing

Cast aluminium, product wetted parts hard coated

- OPTIONS AND ACCESSORIES
- Applicable in Ex-Zones with additional accessories

—

Cross seal between the outlets

—

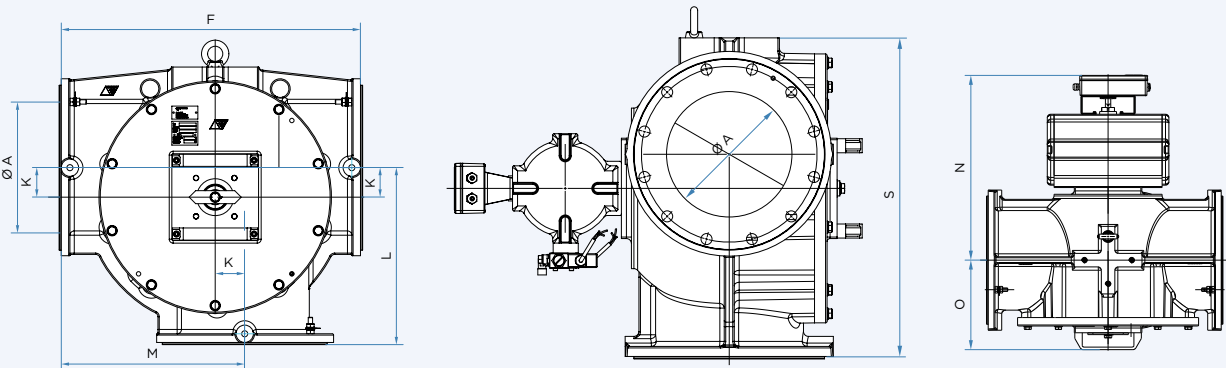
Product wetted parts out of stainless steel

—

Quick-cleaning design

—

Switchable with product (individual approval required)



Shown with actuator on left-hand side

	Inlet*/Outlet*			Other dimensions							Weight appr. kg	
	A (DIN)	A (ANSI)	Ø A	F	K	L	M	N	O	S	AL	
WET 150/162	ND 150	6"	150/162	500	48	288	308	405	180	440		70
WET 187	ND 175	7"	187	600	58	348	368	428	211	540		110
WET 200/213	ND 200	8"	200/213	600	58	348	368	428	211	540		110
WET 250/265	ND 250	10"	250/265	700	68	408	428	548	265	640		170
WET 300/316	ND 300	12"	300/316	800	85	475	495	590	290	740		250
WET 350	ND 350	14"	350	900	95	545	545	610	310	850		350

Dimensions in mm

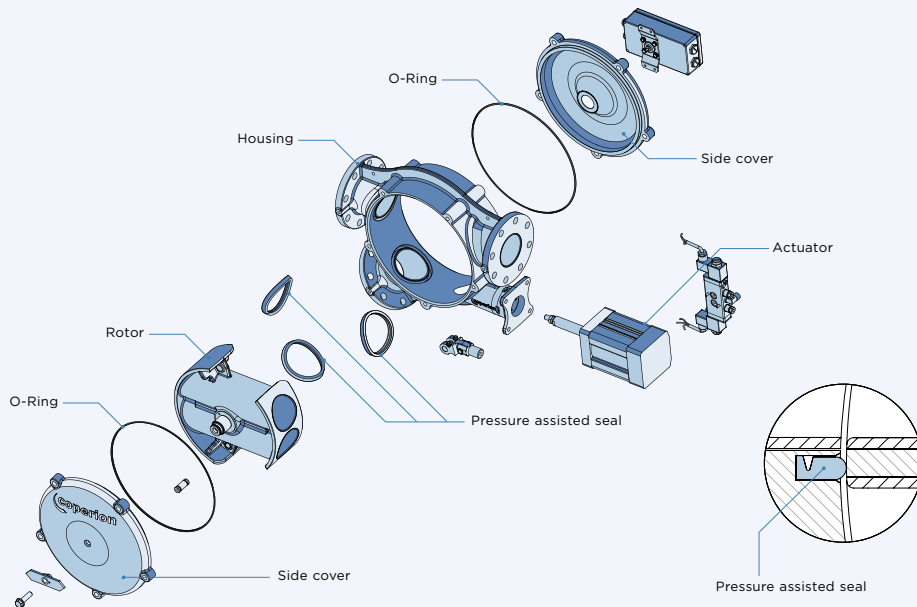
* Drilled according to DIN PN 10 or ANSI 150 lbs

50 >>> Two-Way-Diverter Valve WZK



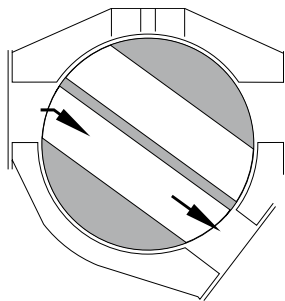
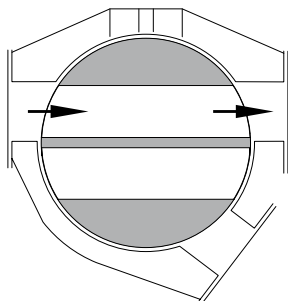
DUAL CHANNEL DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

- _ In cylindrical design with pressure assisted seals
- _ For installation in conveying lines or in gravity pipes at up to 5 barg
- _ Coperion's original - world-wide top selling diverter valve



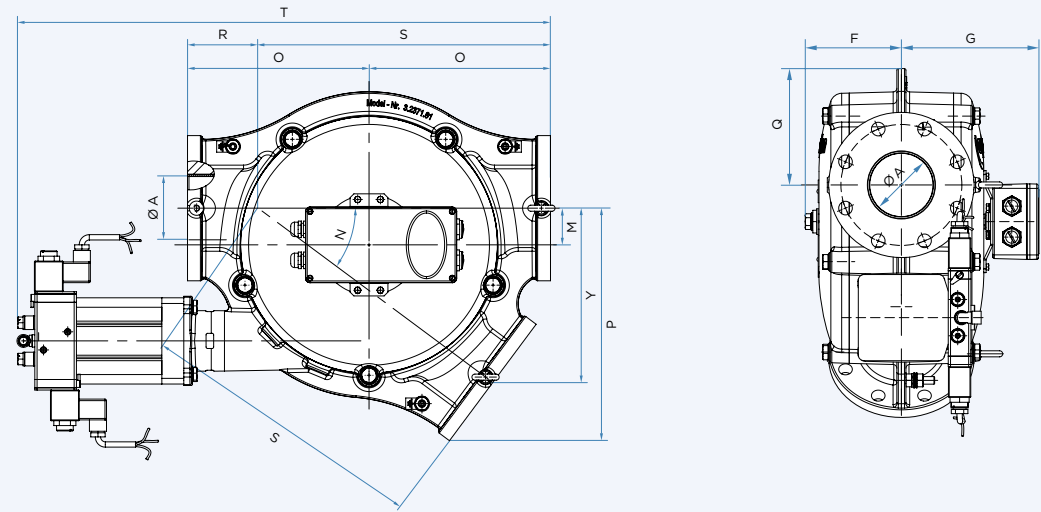
Straight through

Diverted



PRESSURE RANGE	5 barg (73 psi) system and differential pressure
PRESSURE SURGE PROOF (OPTIONAL)	10 barg (145 psi) due to heavy duty design (on request)
OPERATION TEMPERATURE	-20°C up to 100°C
APPLICATION	Suitable for fluid group 2 according PED (fluid group 1 on demand)
SEAL CONFIGURATION	Pressure assisted seal at each part
MATERIAL OF CONSTRUCTION	Cast aluminium with stainless steel pipe insert

- OPTIONS AND ACCESSORIES**
- _ Applicable in Ex-Zones with additional accessories
 - _ Wear protection
 - _ Various seal materials according to application
 - _ Signal box on right-hand side or left-hand side
 - _ Quick cleaning design



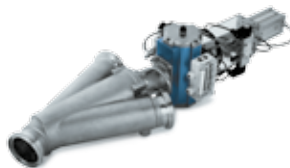
Shown with signal box on right-hand side

	Inlet*/Outlet*				Other dimensions											Weight appr. kg	
	A (DIN)	A (ANSI)	Ø A	Ø A (Option)	F	G	M	N	O	P	Q	R	S	T	Y	AL	
WZK 50	ND 50	2"	55.1	50.3	108	163	35	33.5°	185	232	127.5	69	301	604	166		28
WZK 65	ND 65	2.5"	70.9	68.1	121	176	42.5	36.7°	215	276	135	87	343	662	205		33
WZK 80	ND 80	3"	83.7	80.9	127	182	48.5	36.6°	240	308	154	93	387	705	231		39
WZK 100	ND 100	4"	109.1	101.7	146	201	60.8	35.4°	270	360	199	80	461	782	267		58
WZK 125	ND 125	5"	133.7	125.5	166	220	74	35.5°	320	424	235	89	551	906	320		89
WZK 150	ND 150	6"	162.3	154	185	240	88.5	36°	360	485	268	88	632	989	372		121
WZK 175	ND 175	7"	187.7	181.7	236	291	102	36°	425	574	332	111	739	1158	434		196
WZK 200	ND 200	8"	213.1	207.1	247	302	117	35°	500	640	393	129	871	1324	500		274
WZK 250	ND 250	10"	267.0	261	282	387	144	35.5°	600	776	457	152	1048	1512	609		376

Dimensions in mm

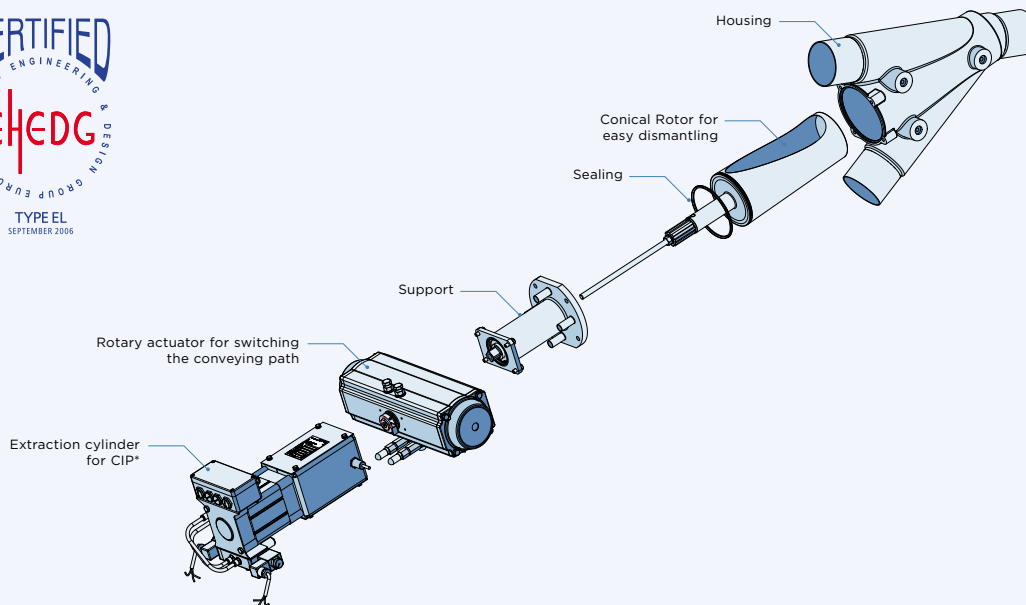
* Drilled according to DIN PN 10 or ANSI 150 lbs

52 >> Two-Way-Diverter Valve WYK



STAINLESS STEEL DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

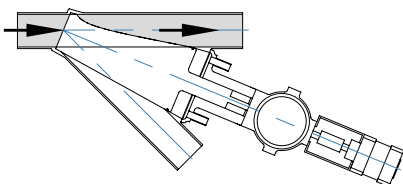
- _ Single channel diverter valve in conical design for easier dismantling
- _ In sanitary and wet cleanable CIP version
- _ For installation in conveying lines or in gravity pipes at up to 5 barg



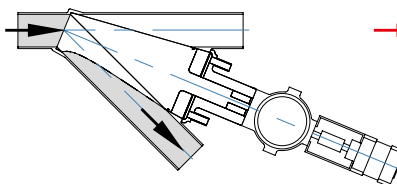
EHEDG ED certified standard version (without extraction cylinder)



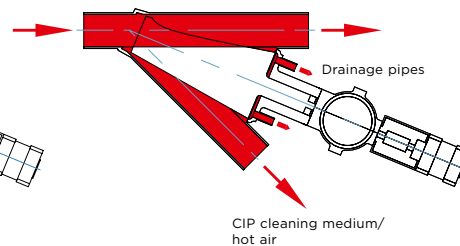
WYK-CIP:
Pneumatic Conveying
Straight through



Pneumatic Conveying
Diverted 45°



CIP*
Rotor extracted



* CIP: During automatic cleaning the rotor is extracted from the housing by extraction cylinder and completely flushed and purified by the cleaning medium.

PRESSURE RANGE 5 barg (73 psi) system and differential pressure

OPERATION TEMPERATURE -20°C up to 100°C

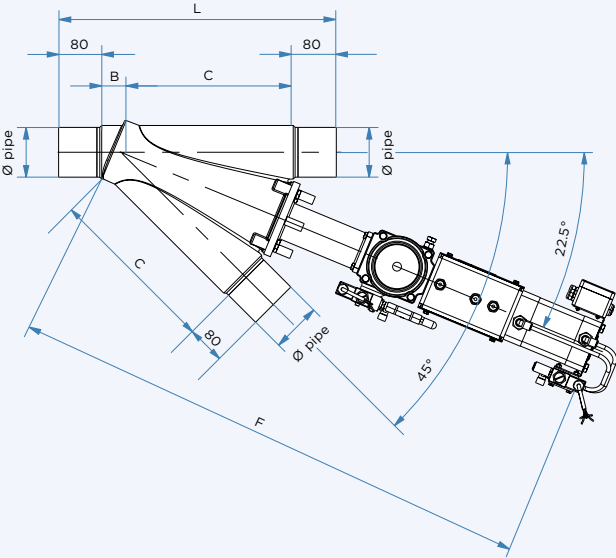
APPLICATION Suitable for fluid group 2 according PED (fluid group 1 on demand)

SEAL CONFIGURATION Elastomer seal, tight clearances between rotor and housing at CIP version

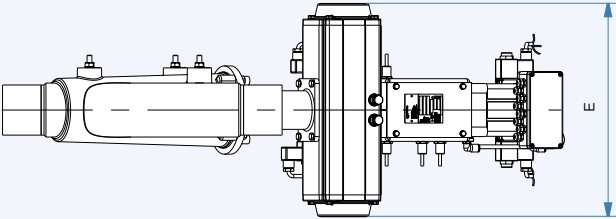
MATERIAL OF CONSTRUCTION Stainless steel

SURFACE Product wetted parts Ra = 0,8 µm

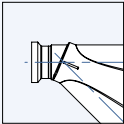
- OPTIONS AND ACCESSORIES**
- _ Available as CIP version (WYK-CIP) or as standard version (WYK)
 - _ EHEDG certified design for fully automatic and residue-free CIP (Cleaning In Place) without dismantling and without manual cleaning
 - _ Applicable in Ex-Zones (additional accessories required)



Shown with pipe sockets

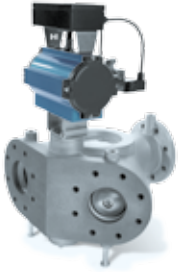


Connection variant



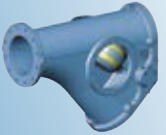
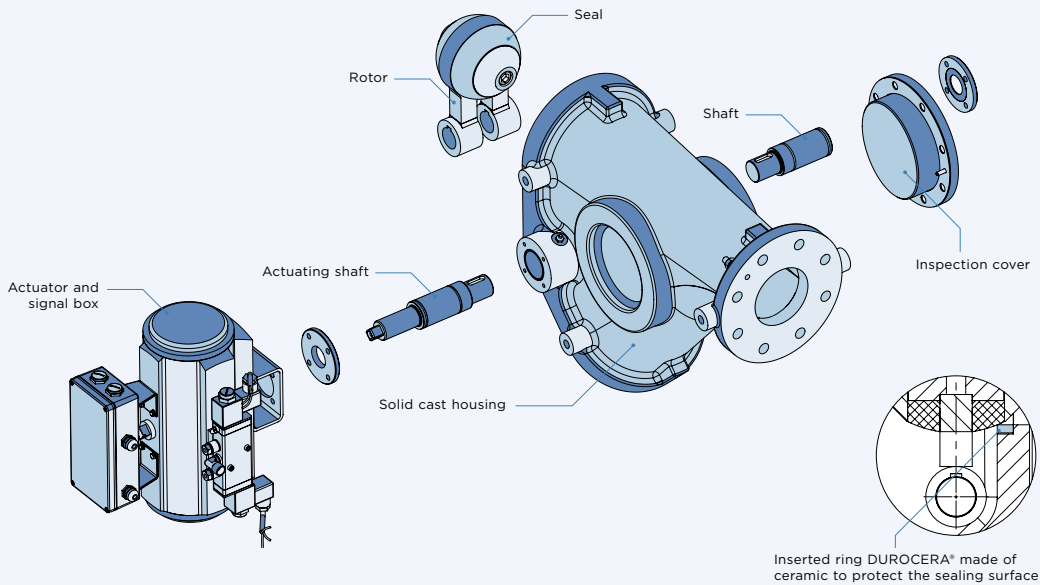
Pipe coupling (Option)
DIN 11851, DIN 11864-3 Form A

	Inlet/Outlet			Other dimensions						Weight appr. kg	
	A (DIN)	A (ANSI)	Ø pipe	B	C	E	F (WYK)	F (WYK-CIP)	L	WYK	WYK-CIP
WYK 65	ND 65	2 1/2"	70 x 2	40	295	382	596	925	495	26	35
WYK 80	ND 80	3"	85 x 2	50	335	454	654	1025	545	35	40
WYK 100	ND 100	4"	104 x 2	50	370	454	701	1100	580	43	50
WYK 125	ND 125	5"	129 x 2	60	485	496	791	1300	705	65	90



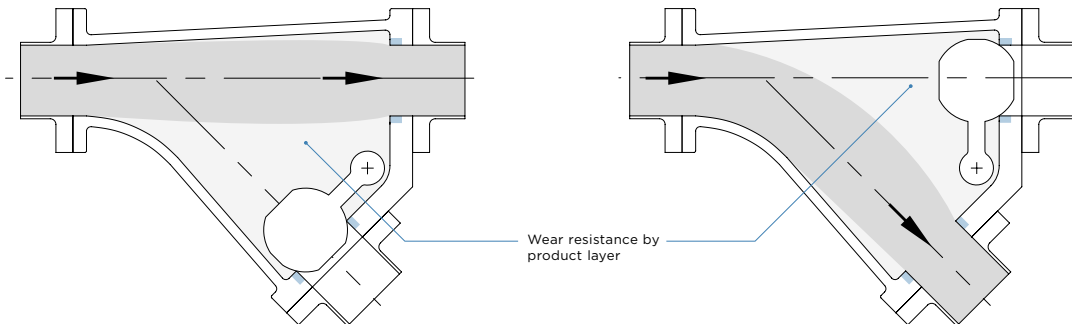
SOLID CAST IRON DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

- _ Wear-protected diverter valve for abrasive products
- _ For the compact installation in conveying lines or in gravity pipes at up to 4 barg



Straight through

Diverted



PRESSURE RANGE 4 barg (58 psi) system and differential pressure

PRESSURE SURGE PROOF (OPTIONAL) 10 barg (145 psi) due to heavy duty design (on request)

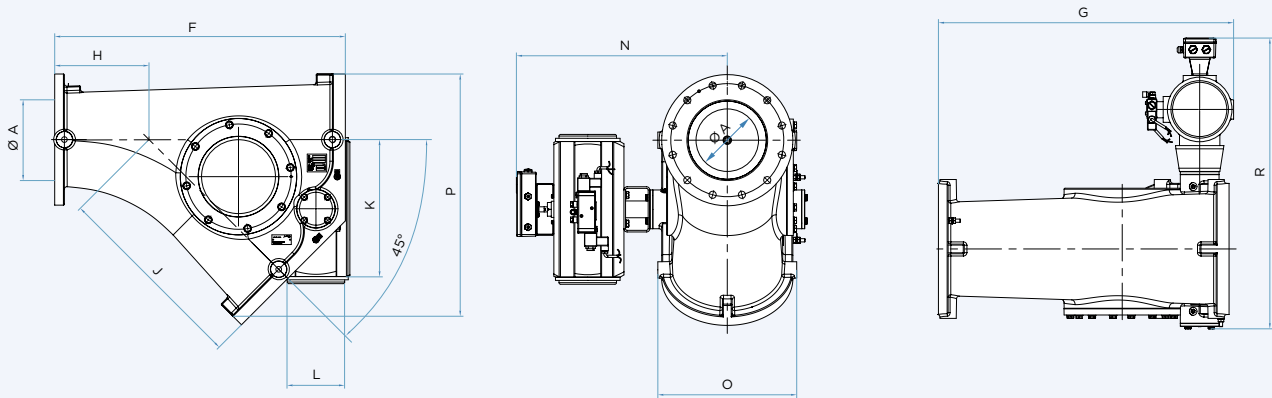
OPERATION TEMPERATURE -20°C up to 100°C

APPLICATION Suitable for fluid group 2 according PED (fluid group 1 on demand)

SEAL CONFIGURATION Rotor with elastomer seal

MATERIAL OF CONSTRUCTION Cast iron with wear protection rings made of ceramics

- OPTIONS AND ACCESSORIES**
- Applicable in Ex-Zones with additional accessories
 - Second inspection cover
 - Switchable with product (individual approval required)
 - Actuator on the right-hand side



Shown with actuator on left-hand side

	Inlet*/Outlet*			Other dimensions										Weight appr. kg	
	A (DIN)	A (ANSI)	Ø A	F	G	H	J	K	L	N	O	P	R	GG	
WRK 100	ND 100	4"	100	520	515	132	388	274	114	460	270	470	624		120
WRK 125	ND 125	5"	125	600	605	147	453	320	133	511	290	537	688		150
WRK 150	ND 150	6"	150	700	708	202	498	352	146	541	320	595	736		180
WRK 200	ND 200	8"	200	770	782	242	528	373	155	606	370	666	827		230
WRK 250	ND 250	10"	250	900	949	292	608	430	178	702	430	777	950		330

Dimensions in mm

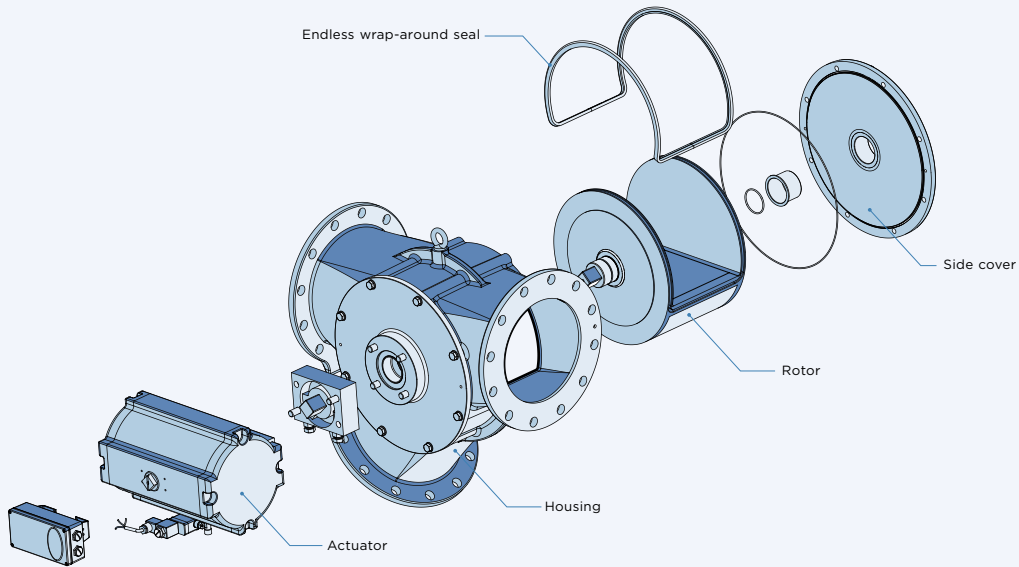
* Drilled according to DIN PN 10 and outlet with metric thread or ANSI 150 lbs and outlet with thread in inch

56 >> Two-Way-Diverter Valve WHK



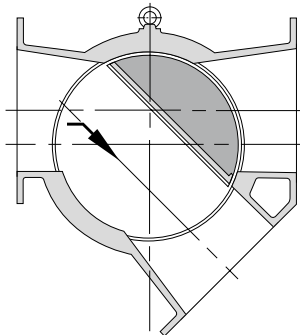
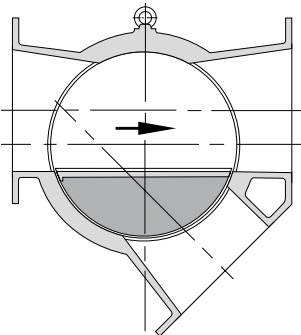
COMPACT SINGLE CHANNEL DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

- _ With sealed rotor and 45° outlet
- _ For space-saving installation in conveying lines or in gravity pipes at up to 3 barg



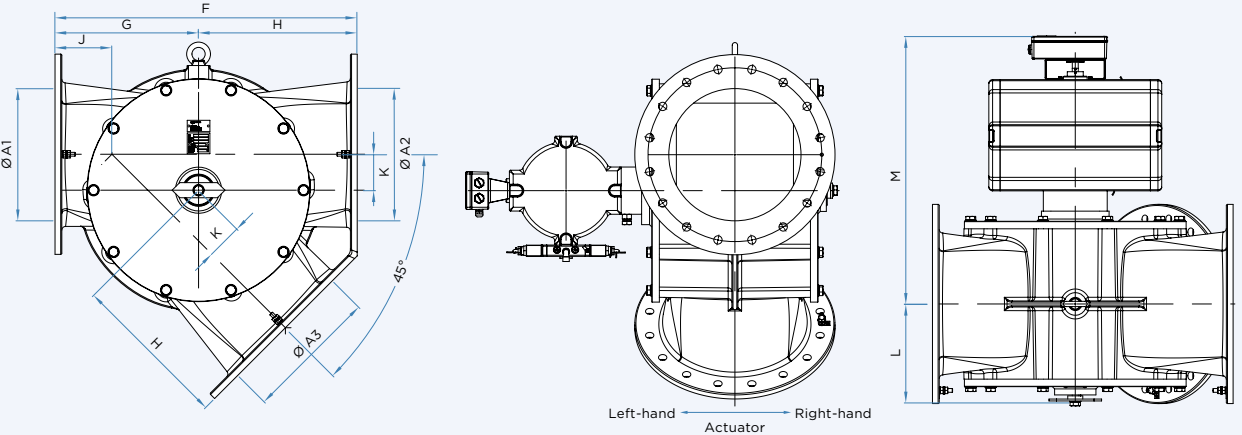
Straight through

Diverted



PRESSURE RANGE	3 barg (43 psi) system and differential pressure
OPERATION TEMPERATURE	-20°C up to 100°C
APPLICATION	Suitable for fluid group 2 according PED (fluid group 1 on demand)
SEAL CONFIGURATION	Endless wrap-around seal
MATERIAL OF CONSTRUCTION	Stainless steel

OPTIONS AND ACCESSORIES
_ Applicable in Ex-Zones with additional accessories _ Actuator on the left-hand or right-hand side _ Quick cleaning design _ Special execution for PTA/CTA applications



	Inlet*/Outlet*			Other dimensions										Weight appr. kg	
	A1/A2/A3 (DIN)	A1/A2/A3 (ANSI)		Ø A1	Ø A2	Ø A3	F	G	H	J	K	L	M	AC	SS
WHK 150	ND 150	6"		162	162	162	460	220	240	109	46	152	453		100
WHK 200	ND 200	8"		212	212	212	530	250	280	112	57	180	529		165
WHK 250	ND 250	10"		265	265	265	680	340	340	161	74	216	630		220
WHK 300	ND 300	12"		316	316	316	750	355	395	150	85	250	657	195	348
WHK 350	ND 350	14"		350	355	355	800	380	420	151	95	271	713		450
WHK 400	ND 400	16"		406	406	406	900	420	480	153	110	300	781		700

Dimensions in mm

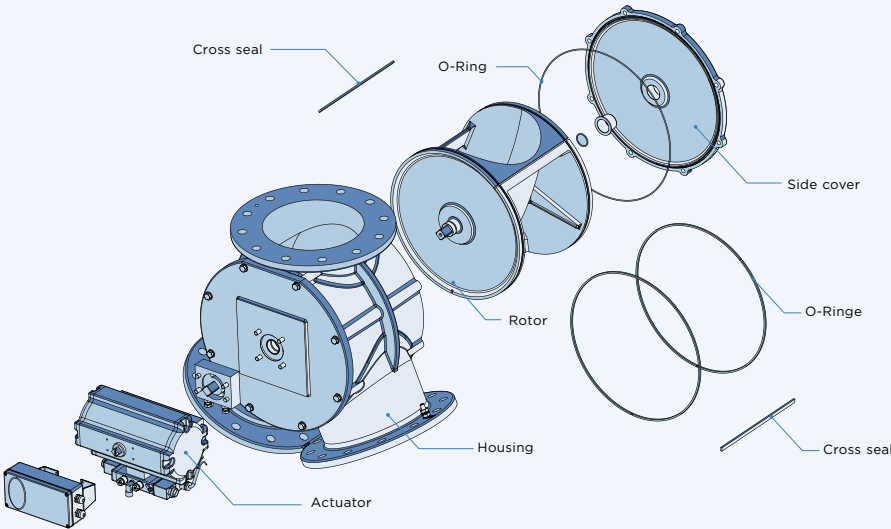
* Drilled according to DIN PN 10 or ANSI 150 lbs

58>> **Two-Way-Diverter Valve WGV**

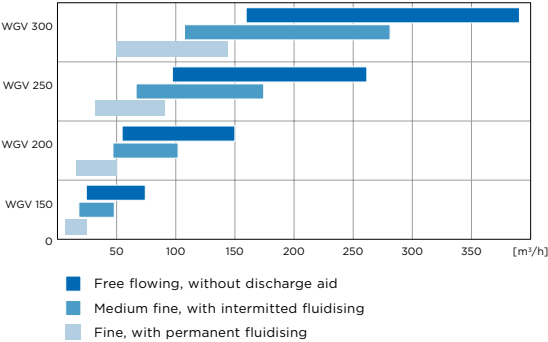


SINGLE CHANNEL DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

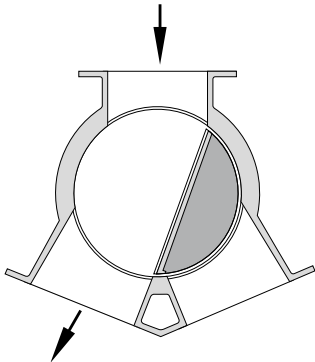
- _ Symmetrical design
- _ For distribution in gravity pipes at up to 1 barg system pressure



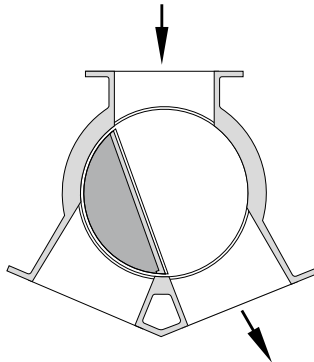
Flow capacity without counter current



Diverted left



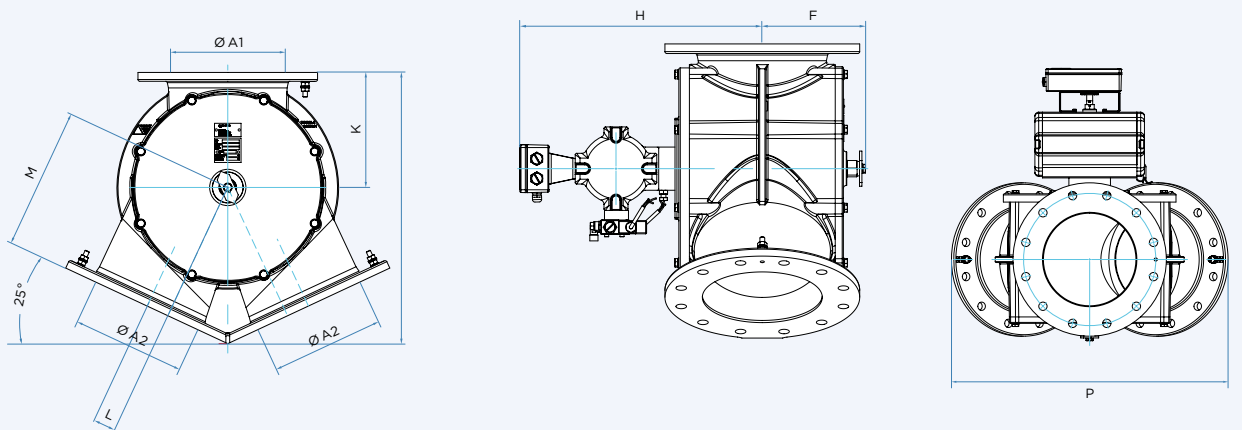
Diverted right



PRESSURE RANGE 1 barg (15 psi) system pressure
OPERATION TEMPERATURE -20°C up to 100°C
APPLICATION Suitable for fluid group 2 according PED (fluid group 1 on demand)
SEAL CONFIGURATION Cross seals on rotor between the outlets
MATERIAL OF CONSTRUCTION Cast aluminium

OPTIONS AND ACCESSORIES

- _ Applicable in Ex-Zones with additional accessories
- _ Hard coated
- _ Quick cleaning design



	Inlet*/Outlet*				Other dimensions							Weight appr. kg
	A1/A2 (DIN)	A1/A2 (ANSI)	Ø A1	Ø A2	F	H	K	L	M	P	R	AL
WGV 150	ND 150	6"	150	150	155	372	185	52	200	522	405	45
WGV 200	ND 200	8"	200	200	180	415	220	52	260	622	506	64
WGV 250	ND 250	10"	250	250	210	506	260	52	320	733	613	94
WGV 300	ND 300	12"	315	300	238	529	335	65	400	890	772	142

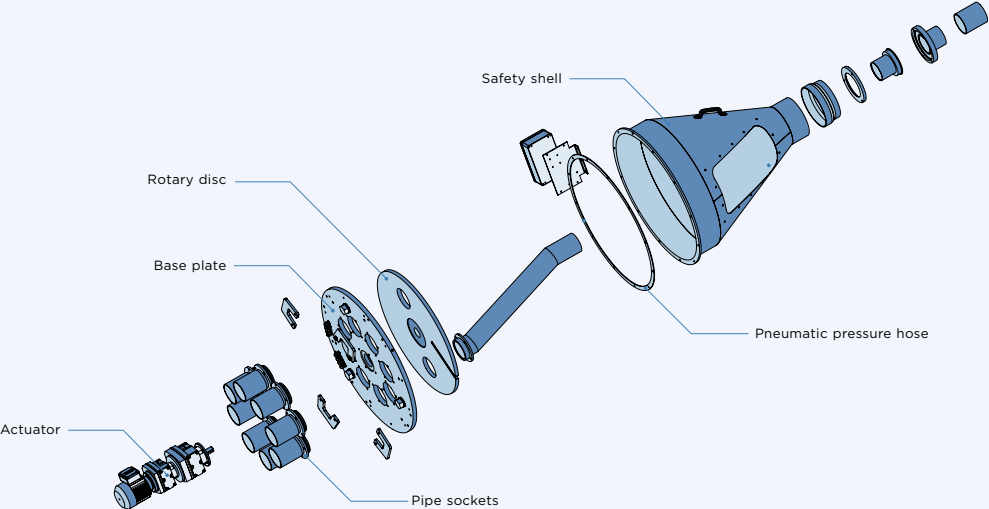
Dimensions in mm * Drilled according to DIN PN 10 or ANSI 150 lbs

60>>> **Multi-Way-Diverter Valve DWR**



MULTI-WAY DIVERTER VALVE FOR POWDERS AND GRANULAR PRODUCTS

- _ With rotary disc with up to 13 ports
- _ For installation in conveying lines at up to 1 barg



B5

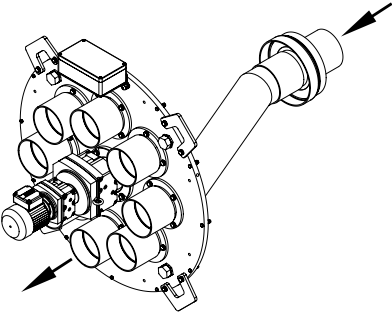
V1

V3

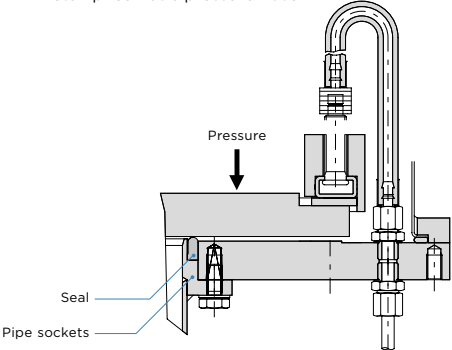
Possible installation positions



Function

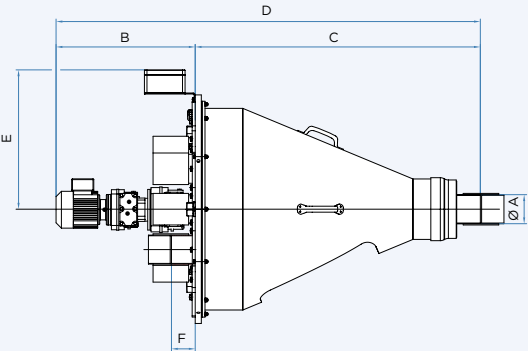
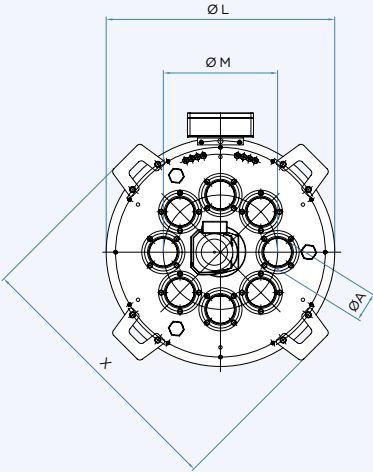


Detail pneumatic pressure hose



PRESSURE RANGE 1 barg (15 psi) system and differential pressure
OPERATION TEMPERATURE -20°C up to 100°C
APPLICATION Suitable for fluid group 2 according PED (fluid group 1 on demand)
SEAL CONFIGURATION Inserted and pressure assisted seal at each part
MATERIAL OF CONSTRUCTION Stainless steel

OPTIONS AND ACCESSORIES
_ Reinforced execution for 4 barg (58 psi) system and differential pressure (only DWR 11 up to ND 150)
_ ATEX execution for zone 22



	Inlet/Outlet				Other dimensions								Weight appr. kg	
	A (DIN)	A (ANSI)	ØA (pipe)	No. of ports	B	C	D	E	F	M	L	X	SS	
DWR 9	ND 50	2"	60.3 x 2.6	3 - 8	600	1085	1685	570	100	450	900	1060	310	
DWR 9	ND 65	2.5"	76.1 x 2.6	3 - 8	600	1085	1685	570	100	450	900	1060	310	
DWR 9	ND 80	3"	88.9 x 2.9	3 - 8	600	1085	1685	570	100	450	900	1060	310	
DWR 9	ND 100	4"	114.3 x 2.6	3 - 8	600	1115	1715	570	100	450	900	1060	310	
DWR 9	ND 125	5"	139.7 x 3.0	3 - 6	600	1115	1715	570	100	450	900	1060	310	
DWR 11	ND 50	2"	60.3 x 2.6	9 - 13	600	1180	1780	663	100	620	1100	1290	380	
DWR 11	ND 65	2.5"	76.1 x 2.6	9 - 13	600	1180	1780	663	100	620	1100	1290	380	
DWR 11	ND 80	3"	88.9 x 2.9	9 - 12	600	1180	1780	663	100	620	1100	1290	380	
DWR 11	ND 100	4"	114.3 x 2.6	9 - 11	600	1210	1810	663	100	620	1100	1290	380	
DWR 11	ND 125	5"	139.7 x 3.0	7 - 9	600	1210	1810	663	100	620	1100	1290	380	
DWR 11	ND 150	6"	168.3 x 3.0	3 - 8	600	1210	1810	663	100	620	1100	1290	380	
DWR 11	ND 200	8"	219.0 x 3.0	3 - 6	600	1205	1805	663	100	620	1100	1290	380	

Powders and granular products	
FUS/FUH	FUT
	
1,5/3,5 barg	4,5 barg



>>Coperion gate valves come with the assurance of decades of experience and process-know-how as well as with proprietary development and manufacturing with top quality materials.

Slide gate valves for powders and granular products, available as pneumatically or manually operated execution.

TYPE CODE FOR GATE VALVES



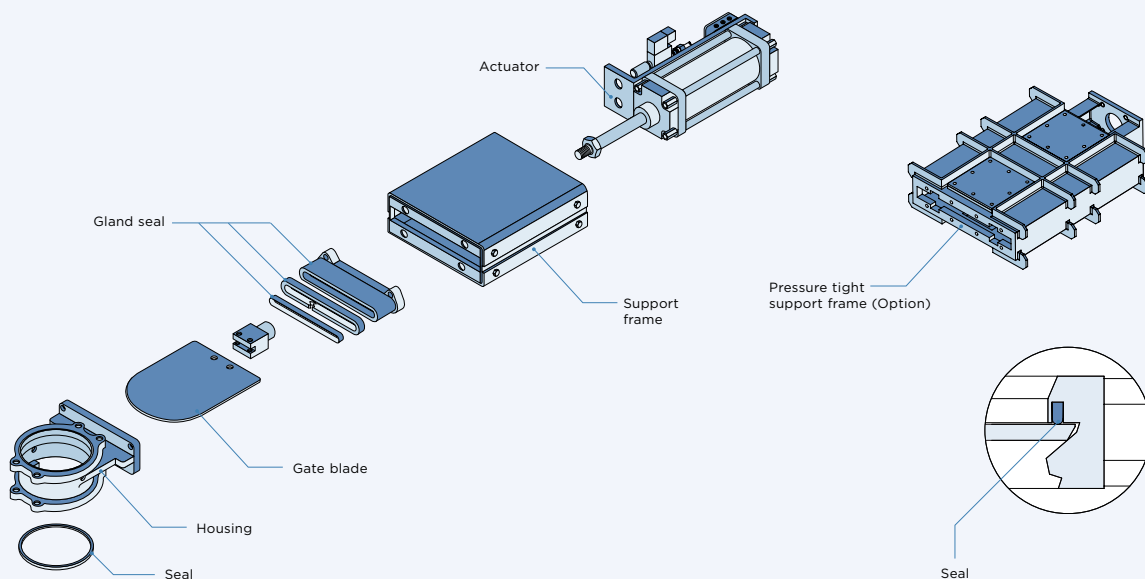
SELECTION MATRIX FOR GATE VALVES

Product	Average particle size d 50	Application		
		Silo outlet	Gravity pipe	Pneumatic conveying
Powder, fluff	Up to 1 mm	FUS/FUH	FUS/FUH	FUT
Granular products, uniform particles, irregular particles, granular products with high percentage of fines	1 mm to 6 mm	FUS/FUH	FUS/FUH	
Fibers, film scrap	Up to 10 mm	FUH	FUH	

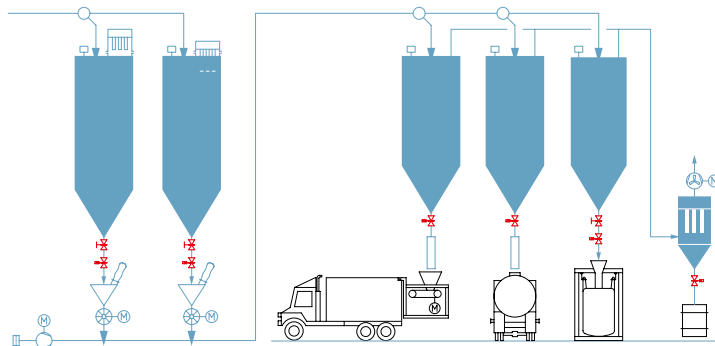


WAFER VALVES FOR POWDERS AND GRANULAR PRODUCTS

- _ Made of stainless steel with large free cross section and sealed gate blade
- _ For installation between two flanges in gravity pipes at up to 1.5 barg (FUS) and 3.5 barg (FUH)
- _ Low construction height



Application examples



PRESSURE RANGE FUH: 3.5 barg (51 psi), FUS: 1.5 barg (21 psi) system and differential pressure

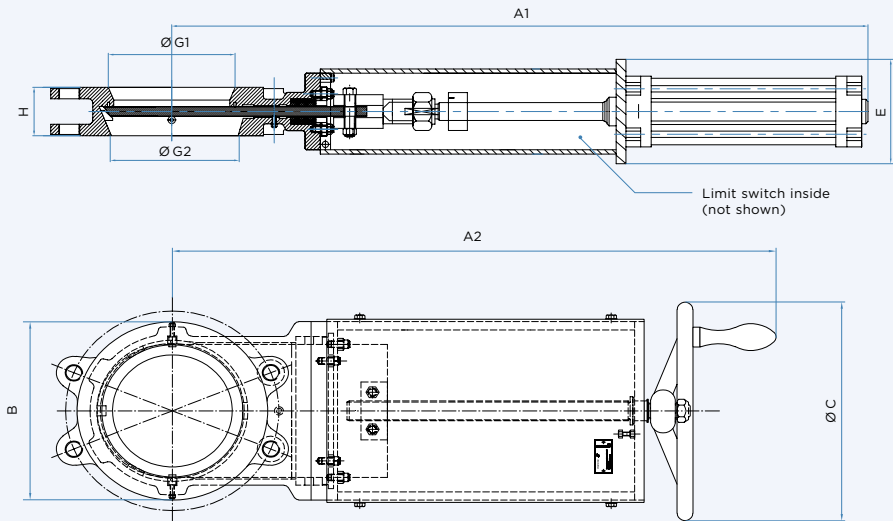
OPERATION TEMPERATURE -20°C up to 100°C

APPLICATION Suitable for fluid group 2 according PED (fluid group 1 on demand), for all bulk materials with d10 > 10 µm and d90 < 6 mm

SEAL CONFIGURATION Seal in the drop through opening, gland sealed to the outside

MATERIAL OF CONSTRUCTION Stainless steel

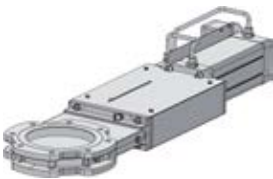
- OPTIONS AND ACCESSORIES**
- _ Manual or pneumatic version available
 - _ Installation position up to 30° to the horizontal
 - _ Pressure tight support frame (FUH: 5 barg/73 psi, FUS: 2.5 barg/36 psi)



	Flange*				Other dimensions			Manual actuator		Weight appr. kg		Pneumatic actuator	Weight appr. kg	
	G (DIN)	G (ANSI)	Ø G1	Ø G2	B max.	E max.	H	A2	Ø C	FUS	FUH	A1	FUS	FUH
FUS/FUH 100	ND 100	4"	108	110	203	203	51	558	203	18	28	724	26	28
FUS/FUH 150	ND 150	6"	162	163	265	265	57	645	265	27	40	877	36	43
FUS/FUH 200	ND 200	8"	212	213	301	265	70	731	265	40	46	1052	49	55
FUS/FUH 250	ND 250	10"	265	267	362	265	70	841	265	56	66	1272	66	76
FUS/FUH 300	ND 300	12"	316	318	464	340	76	948	340	70	85	1423	82	105
FUS/FUH 350	ND 350	14"	356	355	464	340	76	1052	340	94	109	1571	107	130
FUS/FUH 400	ND 400	16"	406	406	516	340	89	1274	340	138	153	1740	150	185
FUS/FUH 500	ND 500	20"	508	508	645	340	114	1513	340	226	245	2140	235	410
FUS/FUH 600	ND 600	24"	607	591	792	419	138	1720	340	285	545	2481	320	600
FUH 700	ND 700	28"	710	695	951	522	154	2085	500	/	600	2881	/	1000

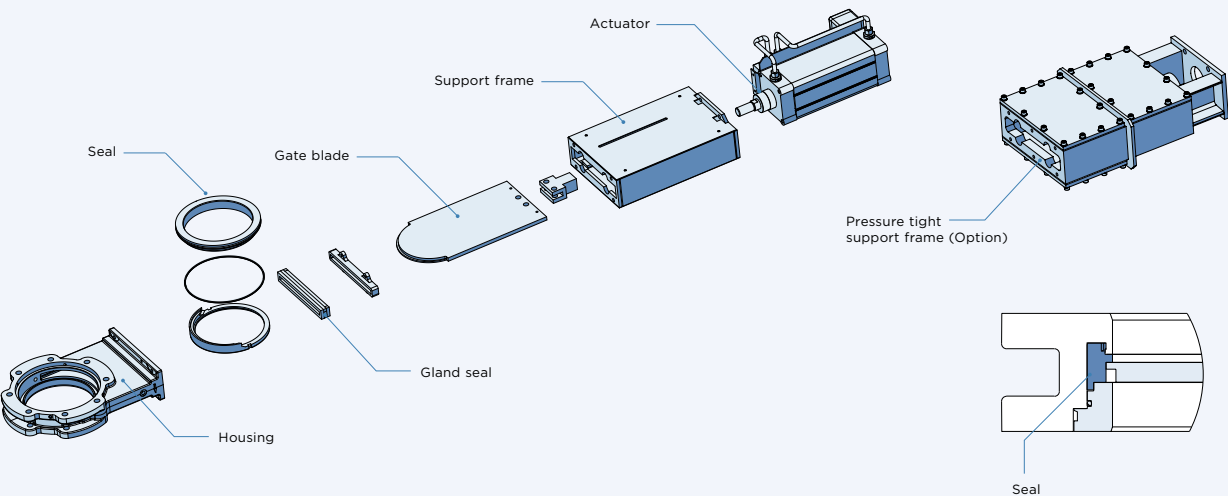
Dimensions in mm

* Drilled according to DIN PN 10 with metric thread or ANSI 150 lbs with thread in inch

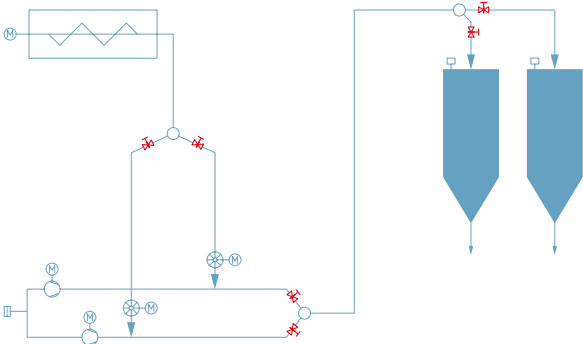


STAINLESS STEEL SLIDE GATE VALVE FOR POWDERS AND GRANULAR PRODUCTS

- _ With optimised free cross section without restriction of pipe diameter
- _ Particularly for installation in conveying lines at up to 4.5 barg
- _ Low construction height

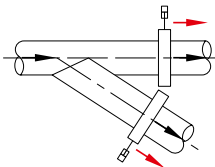


Application examples

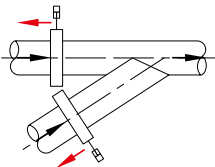


Installation positions considering pressure direction of the FUT slide gate valve

Y-pipe for distribution



Y-pipe for collection



- Conveying direction
→ Pressure direction

PRESSURE RANGE 4.5 barg (65 psi) system and differential pressure

OPERATION TEMPERATURE -20°C up to 100°C

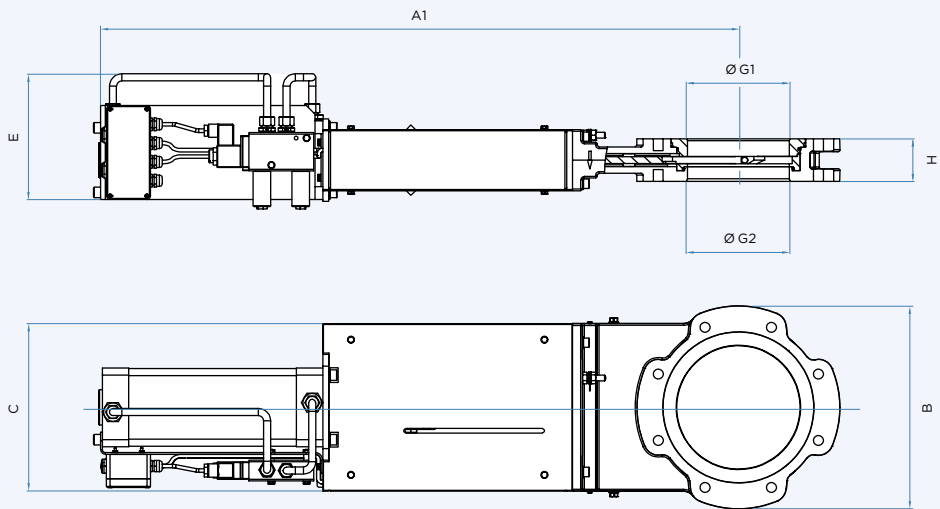
APPLICATION Suitable for fluid group 2 according PED
(fluid group 1 on demand), for all bulk materials
with d10 > 10 µm and d90 < 6 mm

SEAL CONFIGURATION Seal in the drop through opening,
Gland sealed to the outside

MATERIAL OF CONSTRUCTION Stainless steel

OPTIONS AND ACCESSORIES

- _ Pressure tight support frame (5 barg/73 psi)
- _ Connection flange with projection/recess



	Flange*				Other dimensions					Weight appr. kg	
	G (DIN)	G (ANSI)	Ø G1	Ø G2	B	C	E	H	A1	SS	
FUT 150	ND 150	6"	162	162	280	237	174	72	892		54
FUT 175	ND 175	7"	190	190	345	263	174	72	983		68
FUT 200	ND 200	8"	212	212	345	285	210	72	1097		72
FUT 225	ND 225	9"	232	232	406	325	210	80	1168		98
FUT 250	ND 250	10"	267	267	406	341	250	80	1320		110
FUT 300	ND 300	12"	318	318	485	400	250	83	1466		130
FUT 350	ND 350	14"	352	352	527	425	305	85	1584		190
FUT 400	ND 400	16"	402	402	596	490	350	97	1799		270

Dimensions in mm * Drilled according to DIN PN 10 with metric thread or ANSI 150 lbs with thread in inch

68>> Special Components

Granular products		Granular products and Powders				Powders
Elutriators	Deflection bend and blenders	Filters and separators	Air volume control unit	Samplers	Heat exchanger	Discharge devices
						



» Coperion special components come with the assurance of decades of experience and process-know-how as well as with proprietary development and manufacturing with top quality materials.

We master all process steps in detail and we are specialised to unite them for optimal process flows. With each component of Coperion you benefit from our experience in plant engineering.

ELUTRIATORS AND SEPARATORS

Separating dust, fibres, oversized pellets and streamer conglomerations from granular products – Coperion provides four different devices for a wide variety of applications, incorporating the practical experience from hundreds of systems installed all over the world.

BLENDERS

Homogenisation of granular products and powders – for high capacities Coperion offers two voluminous flow zone blenders which homogenise your product thoroughly and which are easy to clean.

FILTERS AND SEPARATORS

Each filter is different. But every one is just what you need. Based on more than 50 years of experience in plant engineering Coperion has developed and optimised a wide range of filters and separators for various applications in all process steps.

AIR VOLUME CONTROL UNIT

With a Coperion air volume control unit you will find the ideal settings for your pneumatic conveying system – suitable for every product, each capacity and all conveying line lengths.

SAMPLERS

Sampling of granular or powdered bulk materials – Coperion offers samplers for application in pneumatic conveying lines and gravity pipes as well as for sampling from silo and hopper cones.

HEAT EXCHANGER

For cooling and heating of bulk materials you will find various application concepts for all industries within Coperion's portfolio – each characterised by innovative and proven solutions.

70 >> Elutriators and Separators



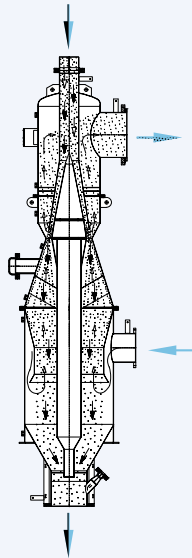
DIVERTING COUNTER-FLOW ELUTRIATOR UGS

- _ For pneumatic separation of dust and fibres from granular products (up to 120 t/h)
- _ Can be charged directly from dilute phase conveying
- _ Uses the kinetic energy of the conveying gas

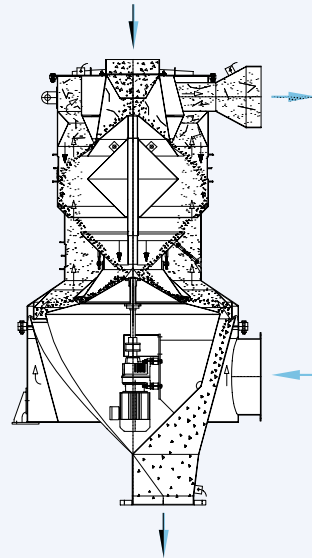


GRAVITY ROTATION SEPARATOR SRS

- _ For pneumatic-mechanical separation of dust and fibres from granular products (up to 75 t/h)
- _ Available as mobile elutriating unit
- _ Due to modular design number of elutriating zones can be selected
- _ High capacities at low construction height

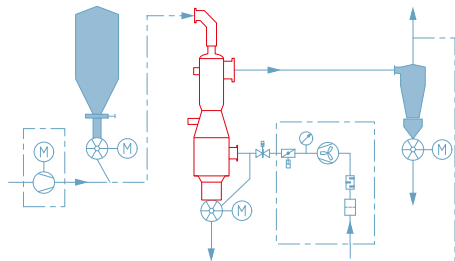


Diverting counter-flow elutriator UGS

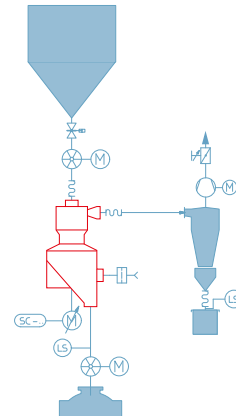


Gravity rotation separator SRS

Application example

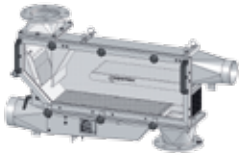


Application example



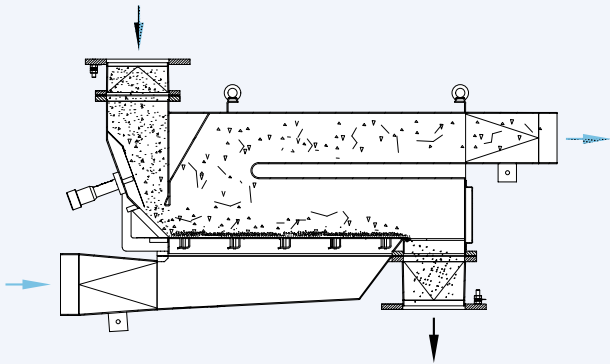
**HORIZONTAL FLUIDBED
SEPARATOR HFS**

- For pneumatic separation of dust and fibres from granular products in a fluidised bed (up to 40 t/h)
- Compact separator (heights from 650 mm) for most intensive and gentle cleaning
- Particularly applicable for difficult (soft, brittle, abrasive) products
- With integrated metering device

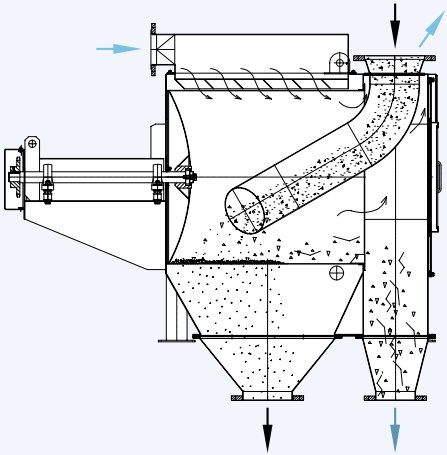


DRUM SIEVE MACHINE TSM

- For mechanical separation of oversized pellets and streamer conglomerations from granular products (up to 75 t/h)
- As single station or integrated into a multi-stage cleaning system
- No risk of clogging due to fully automatic cleaning of sieve surfaces
- Good accessibility

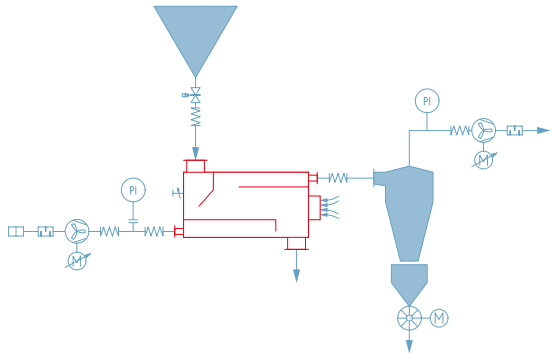


Horizontal fluidbed separator HFS

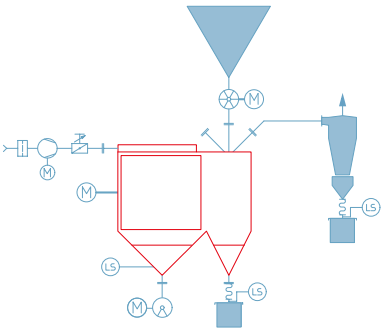


Drum sieve machine TSM

Application example



Application example



72 >> Filters and Separators



STATIC FILTERS FE, FI, FD, FA

Intake filters or safety filters with/without water separator for processing clean gas/conveying gas

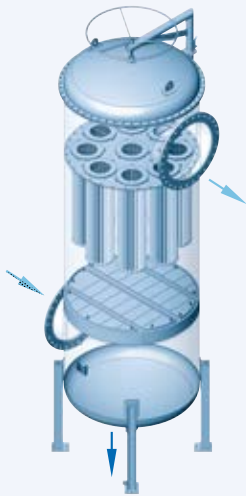
- _ Protection of product and plant parts
- _ Wide range, based on more than 50 years of experience in plant engineering, optimised for various applications (filter areas up to 400 m²)



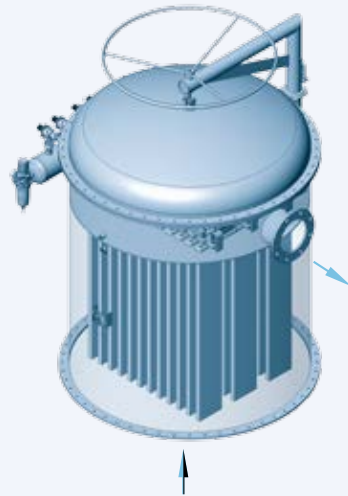
PULSE-JET FILTERS FB, FV

Process, aspiration, bin vent or silo filters with pulse-jet cleaning system for high concentrations of dust

- _ Separation of bulk material from the conveying gas at the end of a pneumatic conveying system
- _ Compact design united with large filter areas (up to 1000 m²)

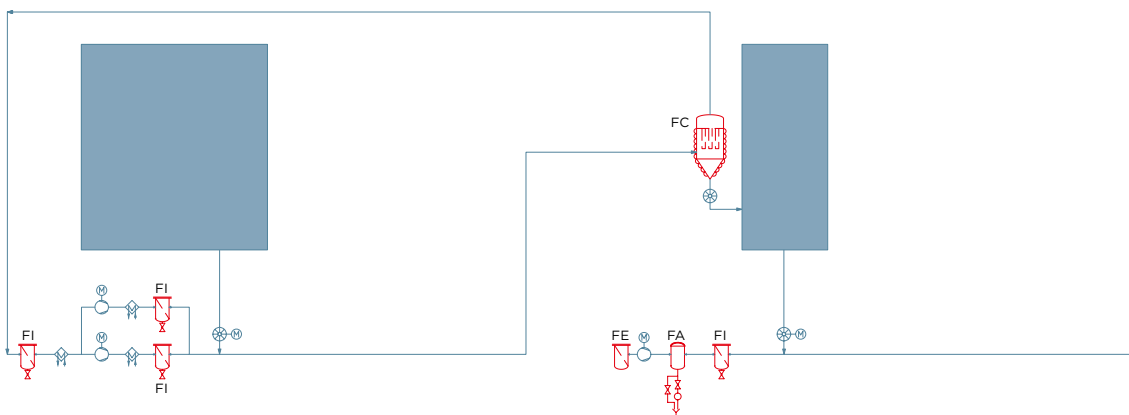


Safety filter with water separator FD



Bin vent filter FB

Application example





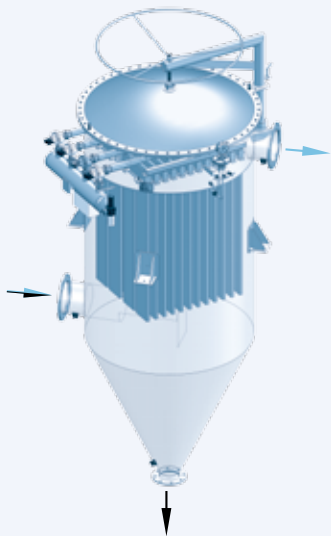
**TOTAL SEPARATORS AND
SPECIAL FILTERS FR, FC**

Filter unit with pulse-jet cleaning system, also available in individual design

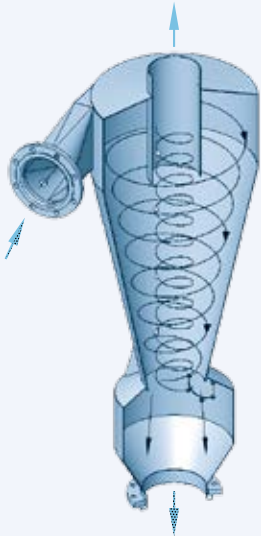
- _ Separating solids from a conveying gas downstream processes or at the end of conveying lines
- _ Maximum flexibility for various applications and operating conditions (filter areas up to 1000 m²)



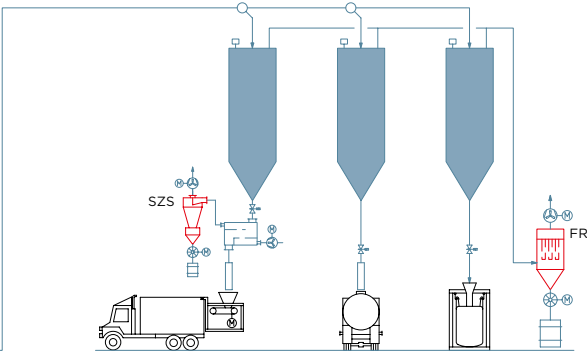
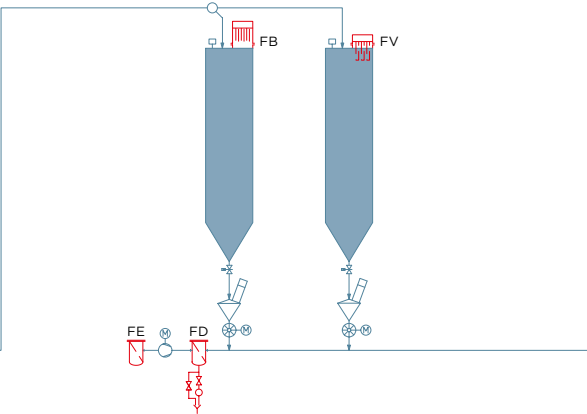
CYCLONE SEPARATORS SZ, SZS



Total separator FR



Cyclone separator SZ



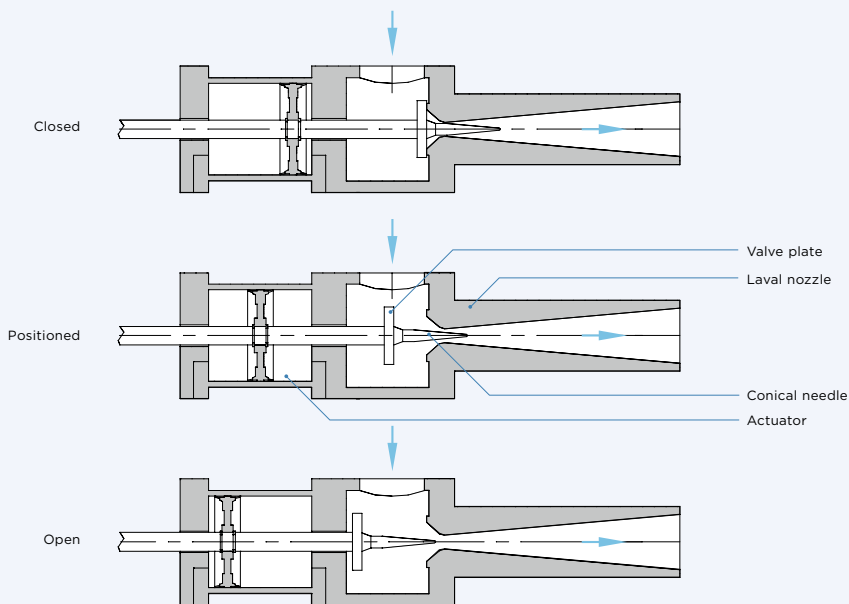
74 >> Air Volume Control Unit



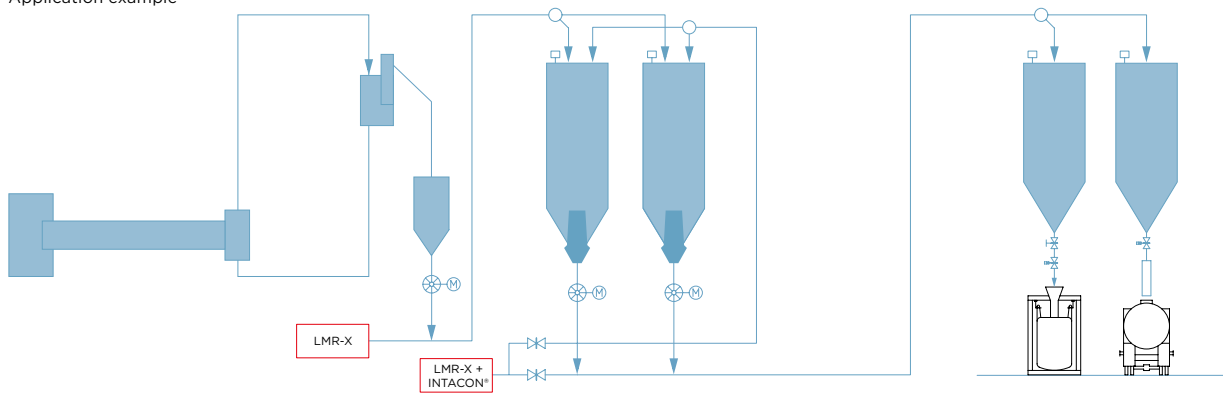
LMR-X

Air volume control unit LMR-X with a continuously variable air volume for pneumatic conveying systems of different lengths and capacities

- _ Laval nozzle with variable effective cross section due to adjustable conical needle
- _ Including shut off function
- _ Activation by a linear I/P positioner with 4-20 mA
- _ Compressor version or net version available
- _ Options: Contact manometer, pressure transmitter, safety valve, execution for application in Ex-Zones (ATEX)



Application example

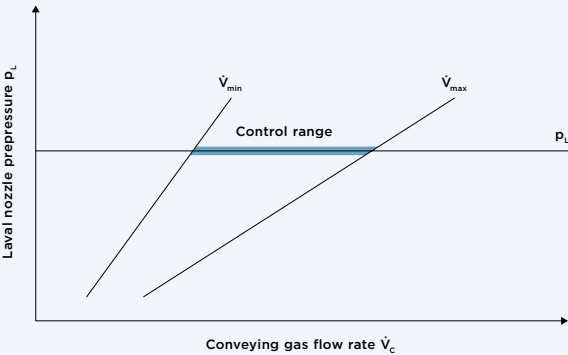


INTELLIGENT AIRFLOW CONTROL - INTACON®

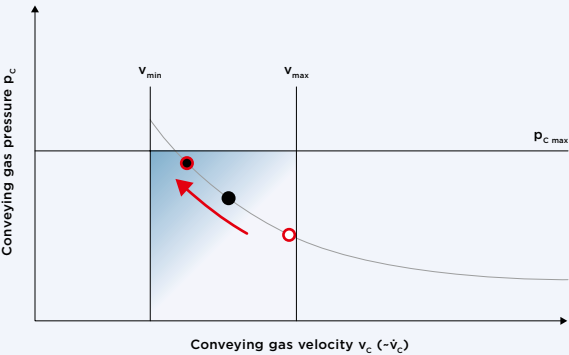
Intelligent control unit (in conjunction with LMR-X) for the fully automatic and optimal control of conveying pressure and gas volume - for each product, every throughput, all conveying line lengths and leakage gas rates, depending on the criteria of slow-motion phase conveying

- _ Conveying of each product with lowest possible gas velocities thus minimising product degradation and energy consumption
- _ By air volume control and limit monitoring prevention of operation beyond specified limits and of unstable operating conditions
- _ Easy start-up, accurate and safe operation of complex conveying systems with varying operating conditions

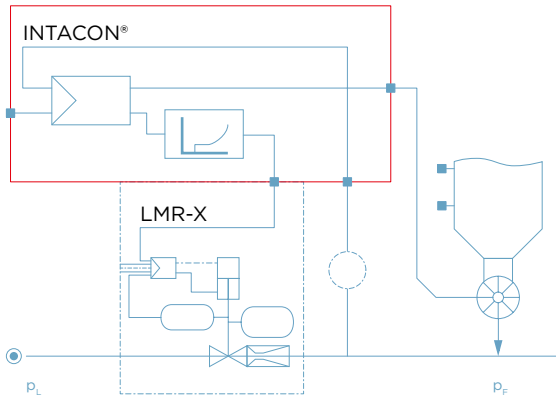
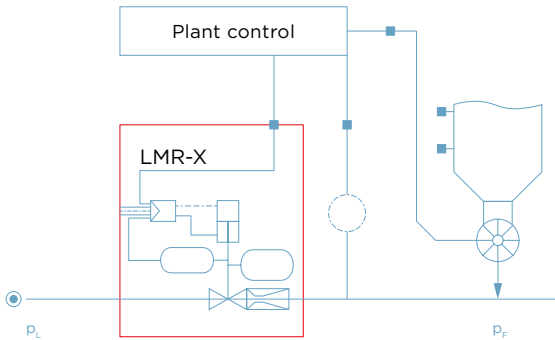
LMR-X



LMR-X with INTACON®



- Operating point set by operator (LMR-X)
- Operating point at the start (LMR-X with INTACON®)
- Stationary operating point (LMR-X with INTACON®)
- ➔ Optimisation of operating point by INTACON®
- Ideal operating range



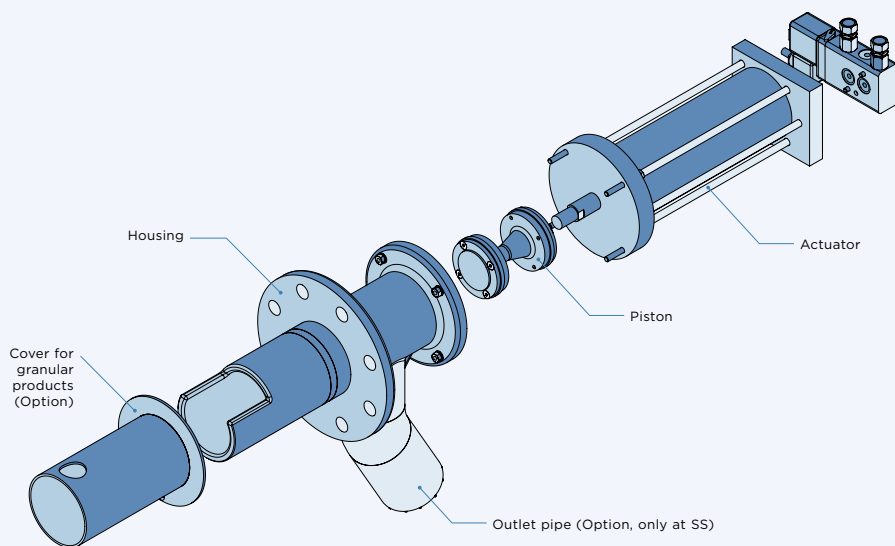
76 >>> Samplers



PN 80

- _ For sampling out of hopper cones or gravity pipes
- _ Pressure range ± 0.2 barg (2.9 psi) system and differential pressure (except S2 execution)
- _ Operation temperature -20°C up to $+80^{\circ}\text{C}$
- _ Double piston with 0.2 l volume activated by pneumatic actuator
- _ Installation position up to 30° to the horizontal
- _ Housing cast aluminum or stainless steel*, piston stainless steel
- _ Executions for granular products and powders
- _ Pistons for free flowing, abrasive or sticky products
- _ Food execution (quick cleaning, only with S2 piston)*
- _ Applicable in Ex-Zones with additional accessories*
- _ Control unit for cycle times*

*Option.



PISTON S0
For free flowing,
non abrasive
products



PISTON S1
For abrasive
products



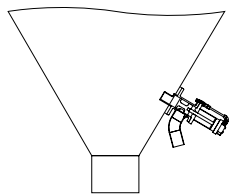
PISTON S2
For sticky
products and
high sanitary
requirements



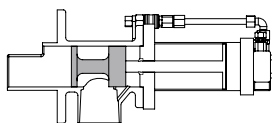
**FOOD EXECUTION
(QUICK CLEANING)**



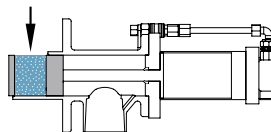
Installation example



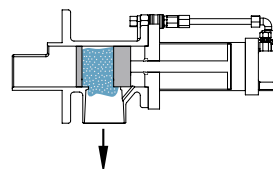
Closed



Sampling



Emptying





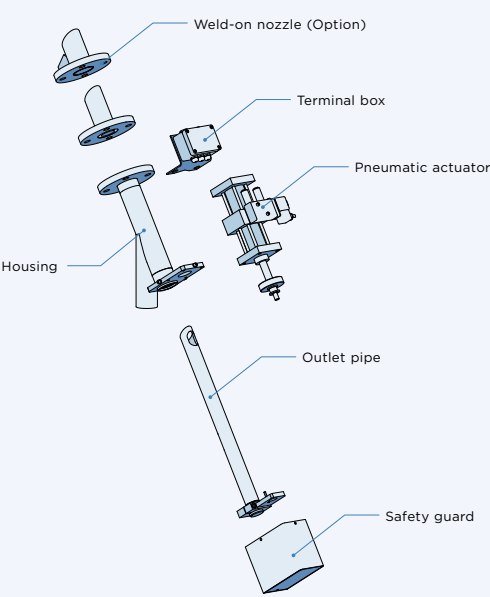
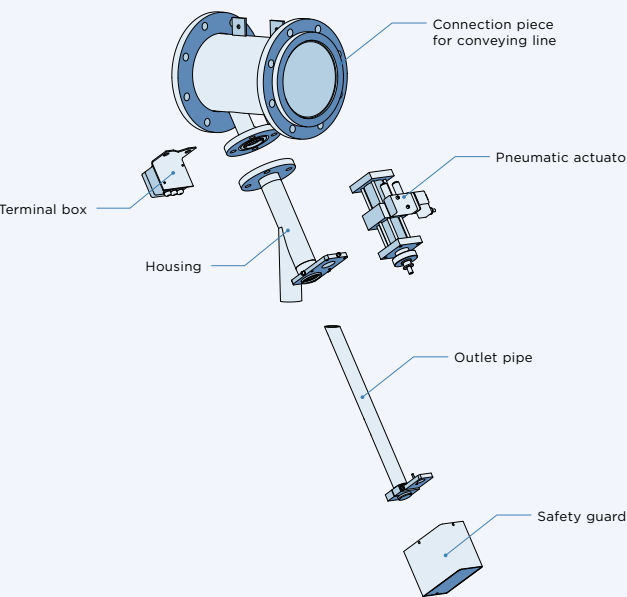
PN R

- _ For sampling out of pneumatic conveying systems and gravity pipes
- _ Variable sample size and sampling frequency
- _ For granular or powdery bulk materials having particle sizes from 0.3 to 5 mm
- _ Versions for horizontal and vertical conveying pipes available
- _ Applicable at up to 4 barg in the extraction chamber
- _ Operation temperature -20°C to +80°C

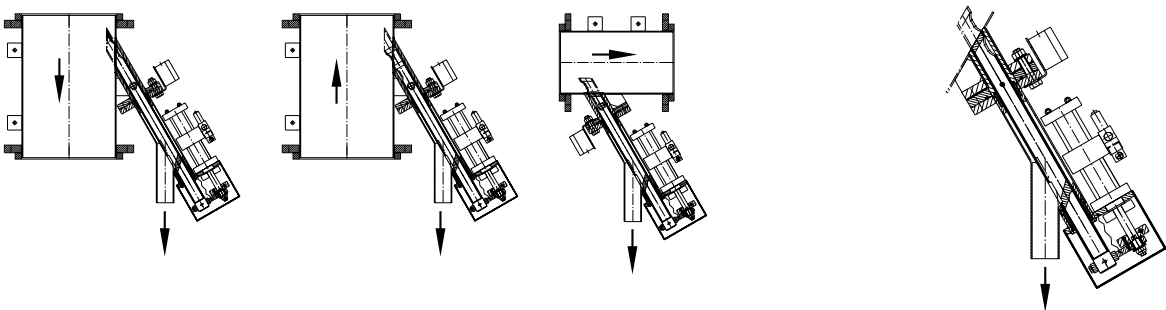


PN S

- _ For sampling out of silo and hopper cones
- _ Applicable at atmospheric conditions and at system pressure (air or nitrogen)
- _ Suitable for free flowing powders and granular products
- _ Optional with purge valve
- _ Operation temperature -20°C to +80°C



Executions



78>>

Deflection Bend and Blenders

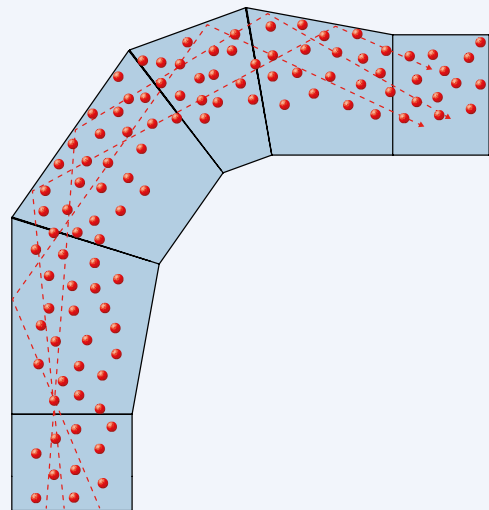


DEFLECTION BEND GAMMA-BEND® NT

- Segmented pipe bend for gentle dilute phase conveying of pellets

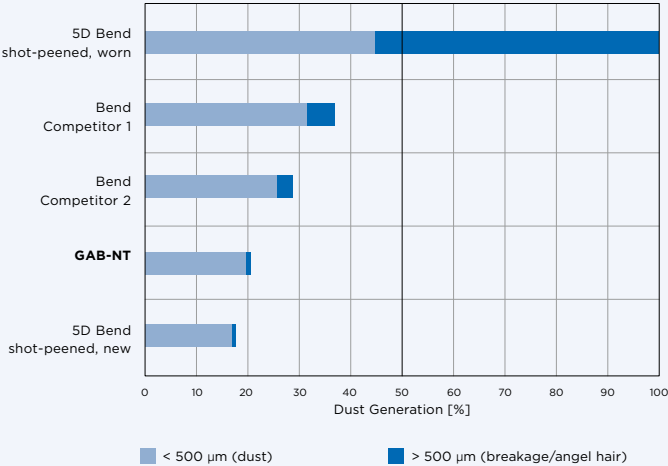
Directed double wall deflection in direction of the bend outlet

Wall deflection avoids generation of angel hair completely and reduces dust generation to a minimum
- Lowest pressure drop of all special bends
- Operating pressure up to 4,5 barg for all sizes
- Maintenance free - No rework required compared to standard bends with special surface treatment

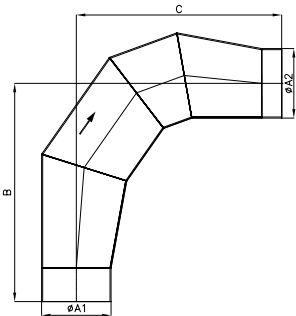


Double wall deflection within the Gamma-Bend® NT

Comparison of Dust Generation



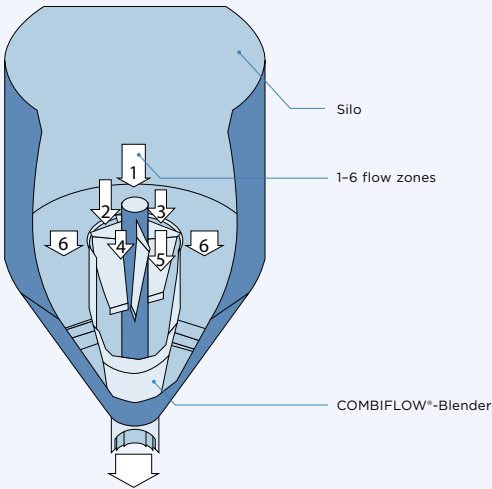
	Inlet/Outlet	Inlet	Outlet
	A1 / A2	B	C
GAB-NT- 80/88,9	88.9	330	330
GAB-NT-100/114,3	114.3	410	410
GAB-NT-125/139,7	139.7	460	460
GAB-NT-150/168,3	168.3	560	560
GAB-NT-200/193,7	193.7	620	620
GAB-NT-200/219,1	219.1	730	730
GAB-NT-225/236,0	236.0	760	760
GAB-NT-250/273,0	273.0	800	800
GAB-NT-300/323,9	323.9	1040	1040



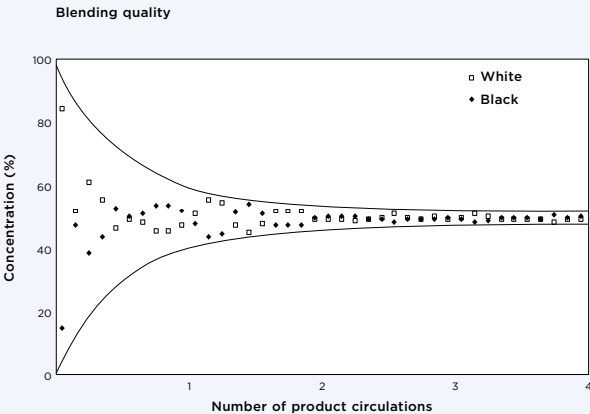


SILO CONE BLENDER CFB AND FCB

- _ COMBIFLOW®-Blender CFB: Static blender for granular products, with 6 flow zones at different velocities
- _ FLUIDCONE-Blender FCB: Static blender for powders with 5 flow zones at different velocities
- _ Retrofit, existing storage silos can be modified to blending silos
- _ For continuous or batch operation
- _ Thoroughly homogenised after 2 product circulations
- _ Material of construction Stainless steel
- _ Usable in combination with standard silo
- _ Easy to clean
- _ Self draining
- _ Options CFB: Degassing device, washing device
- _ Options FCB: Discharge aid



Silo cone blender CFB



Starting
conditions

Blending stages
by product circulation

Completely
homogenised

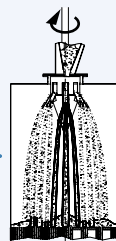
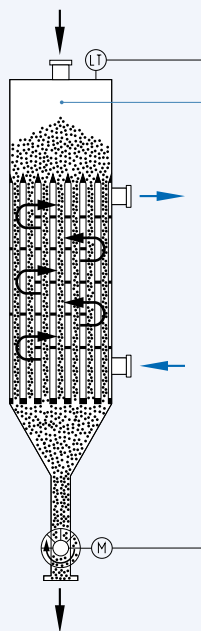


80 >> Heat Exchanger



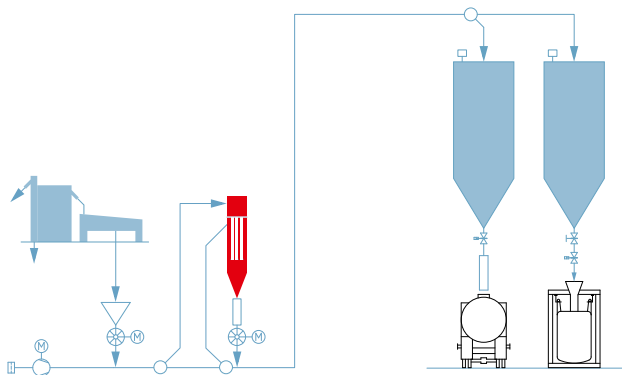
BULK-X-CHANGE® BXC

- _ Patented distributor plate at product inlet
- _ Applicable for free flowing bulk solids such as plastics, fertilisers, minerals, food ...
- _ Compact design without moving parts
- _ Controlled discharge at outlet with metering devices (e.g. Rotary valve)



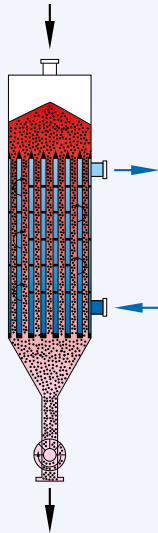
Option for special applications:
Rotating product distributor with air purging

Application example: Integration of the Bulk-X-Change® Inline Gravity in a pneumatic conveying system

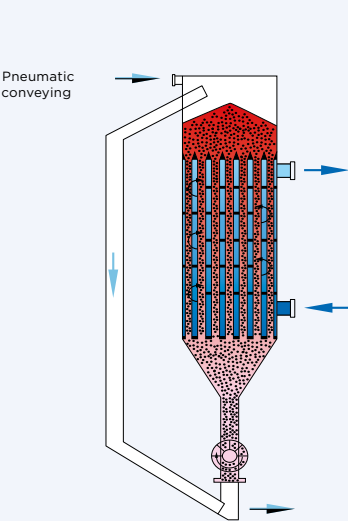


APPLICATION	Cooling and heating of free flowing bulk solids
FUNCTION	Tubular heat exchanger with vertical mass flow of bulk solids through pipes, cooling/heating medium at shell side
MATERIAL OF CONSTRUCTION	Stainless steel
SIZES	Individual sizes according thermal calculation

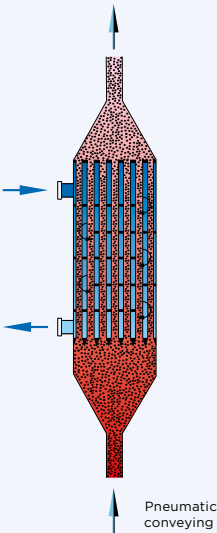
Bulk-X-Change® Gravity
for granular products/coarse powders



Bulk-X-Change® Inline Gravity
for granular products/coarse powders



Bulk-X-Change® Inline
for powders

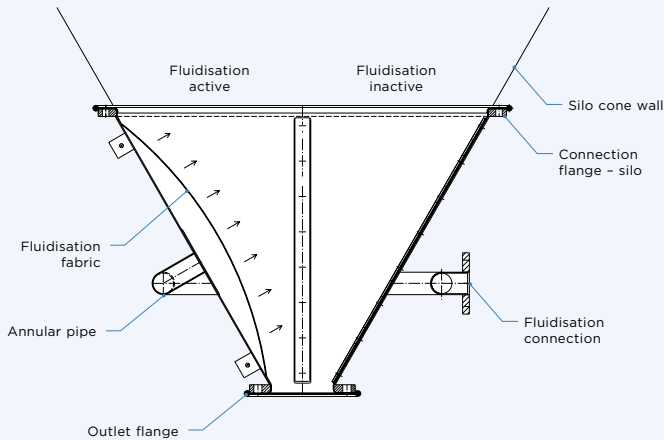


82 >> Discharge Devices

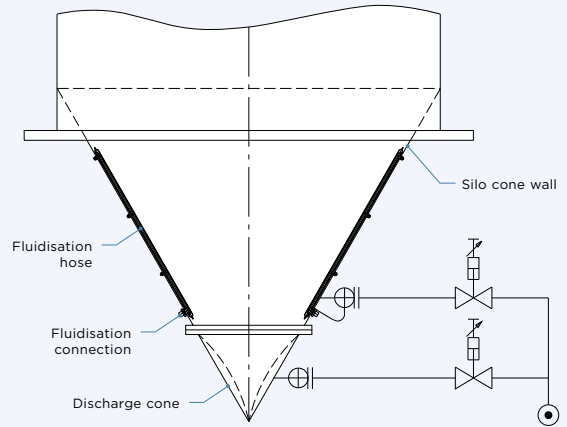
PULSE DISCHARGE SYSTEM ATI

Pneumatic discharge system for powdered bulk materials without or only poor free-flowing properties from silos and hoppers.

- _ Design according to bulk material's properties and operating conditions (flow properties, silo size, storage period, etc.)
- _ Prevention of segregation, bridging and funneling by fluidising and mechanical effects
- _ Operation with air reservoir or pulsator

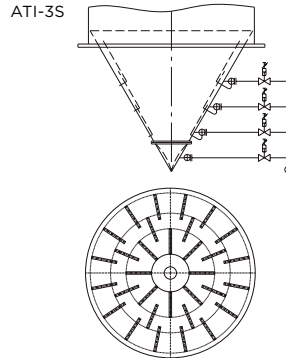
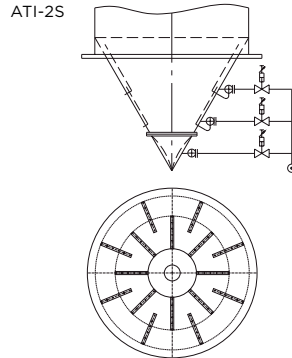
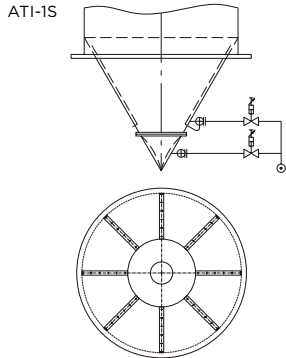


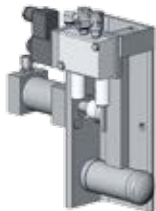
Discharge cone ATI



Discharge cone ATI with extension 1S
(1 row of hoses in the silo cone)

Extensions and arrangement of fluidisation hoses with 1, 2 or 3 rows of hoses

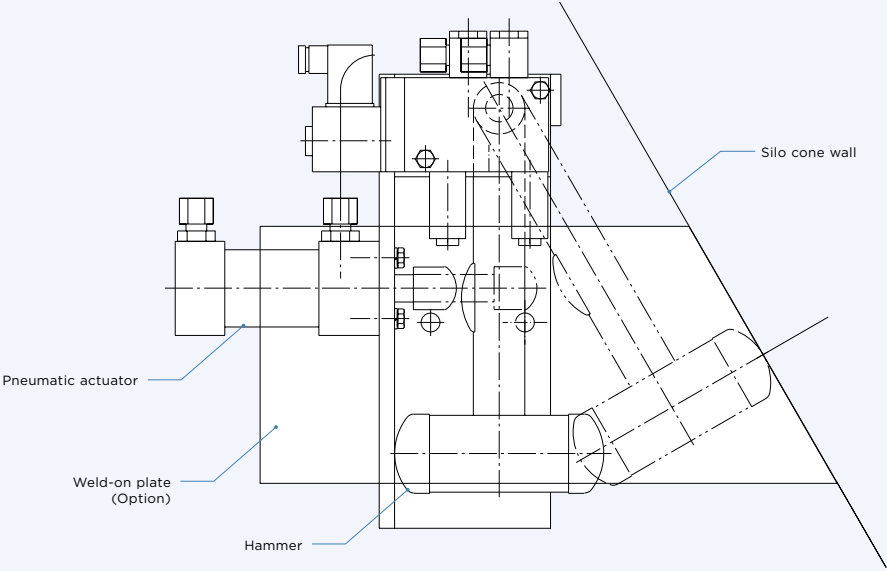




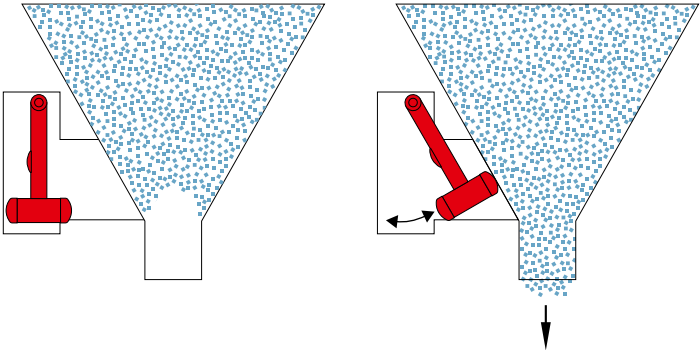
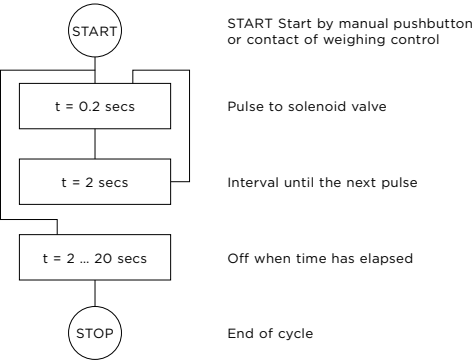
PNEUMATIC BEATER PK 125

Electro-pneumatically actuated discharge aid for weighing hoppers, silos etc.

- _ Electrical control implemented as a separate unit or incorporated into the overall control concept
- _ Robust design, low maintenance
- _ Easy to retrofit
- _ Can be combined with further beaters



Functional sequence



Legend



- | | | | |
|--|---------------|---|-----------|
|  | WATER, COLD |  | PLASTICS |
|  | WATER, HOT |  | CHEMICALS |
|  | GAS |  | FOOD |
|  | GAS + PRODUCT |  | MINERALS |
|  | PRODUCT | | |
|  | GAS + DUST | | |
|  | DUST | | |



Contact

Coperion GmbH

Niederbieger Strasse 9
88250 Weingarten, Germany
Tel.: +49 751 408-0
Fax: +49 751 408-200
info.cc-mh@coperion.com
www.coperion.com



Coperion GmbH

Compounding & Extrusion
Theodorstrasse 10
70469 Stuttgart, Germany
Tel.: +49 711 897-0
Fax: +49 711 897-3999
info.cc-ce@coperion.com

Coperion GmbH

Materials Handling
Niederbieger Strasse 9
88250 Weingarten, Germany
Tel.: +49 751 408-0
Fax: +49 751 408-200
info.cc-mh@coperion.com

Coperion GmbH

Service
Theodorstrasse 10
70469 Stuttgart, Germany
Tel.: +49 711 897-0
Fax: +49 711 897-3999
info.cc-se@coperion.com

info@coperion.com
www.coperion.com

> Europe

Belgium, Luxembourg, Netherlands
Coperion N.V.
Industrieweg 2, 2845 Niel, Belgium
Tel.: +32 3 870-5100
Fax: +32 3 877-0710

France
Coperion S.a.r.l.
20 chemin Louis Chirpaz
Bâtiment C
69130 Ecully, France
Tel.: +33 469 848 190
Fax: +33 469 848 199

Coperion K-Tron France S.a.r.l.
56 boulevard de Courcerin
77183 Croissy-Beaubourg, France
Tel.: +33 64 801 600
Fax: +33 64 801 599

Germany
Coperion GmbH
Germany West Office
Industriestrasse 71a
50389 Wesseling, Germany
Tel.: +49 2232 20700-10
Fax: +49 2232 20700-11

Coperion Pelletizing Technology GmbH
Heinrich-Krumm-Strasse 6
63073 Offenbach, Germany
Tel.: +49 69 989 5238-0
Fax: +49 69 989 5238-25

Coperion K-Tron Deutschland GmbH
Im Steinigen Graben 10
63571 Gelnhausen, Germany
Tel.: +49 6051 9626-0
Fax: +49 6051 9626-44

Italy
Coperion S.r.l.
Via E. da Rotterdam, 25
44122 Ferrara, Italy
Tel.: +39 0532 7799-11
Fax: +39 0532 7799-80

Coperion S.r.l.
Milan Office
Via XXV Aprile, 49
20091 Bresso (MI), Italy
Tel.: +39 02 241 049-01
Fax: +39 02 241 049-22

Russian Federation, CIS
OOO Coperion
Proezd Serebryakova 14,
Bld. 15, Office 219
129343 Moscow, Russian Federation
Tel.: +7 499 258 4206
Fax: +7 499 258 4206

Spain, Portugal
Coperion, S.L.
Balmes, 73, pral.
08007 Barcelona, Spain
Tel.: +34 93 45173-37
Fax: +34 93 45173-32

Sweden, Denmark, Finland, Norway
Coperion AB
Linnégatan 81
SE-114 60 Stockholm, Sweden
Tel.: +46 8 608-1818

Switzerland
Coperion K-Tron (Schweiz) GmbH
Lenzhardweg 43/45
5702 Niederlenz, Switzerland
Tel.: +41 62 8857-171
Fax: +41 62 8857-180

United Kingdom
Coperion Ltd.
Coperion K-Tron Great Britain Ltd.
Unit 4, Acorn Business Park
Heaton Lane
Stockport, SK4 1AS, United Kingdom
Tel.: +44 161 209 4810
Fax: +44 161 474 0292

> Asia

China
Coperion (Nanjing) Machinery Co. Ltd.
No. 1296 Jiyin Avenue
Jiangning District
Nanjing 211106, PR China
Tel.: +86 25 5278 6288
Fax: +86 25 5261 1188

Coperion International Trading (Shanghai) Co. Ltd.
Coperion Machinery & Systems (Shanghai) Co. Ltd.
Bldg. A2, 6000 Shenzhuan Road
Dongjing Town, Songjiang District
Shanghai 201619, PR China
Tel.: +86 21 6767 9505
Fax: +86 21 6767 9108

Coperion K-Tron (Shanghai) Co. Ltd.
Building A2-A3
No. 6000 Shen Zhuan Gong Road
Songjiang District
201619 Shanghai, PR China
Tel.: +86 21 6375 7925
Fax: +86 21 6375 7930

India
Coperion Ideal Pvt. Ltd.
Ideal House, A-35, Sector 64
201307 Noida (U.P.), India
Tel.: +91 120 4299 333
Fax: +91 120 4308 583

Japan
Coperion K.K.
4F, Leaf Square Shin-Yokohama Bldg.
3-7-3, Shin-Yokohama,
Kohoku-ku Yokohama,
Kanagawa 222-0033, Japan
Tel.: +81 45 595 9801
Fax: +81 45 595 9802

Saudi Arabia
Coperion Middle East Co. Ltd.
P. O. Box 821
Jubail - 31951, Saudi Arabia
Tel.: +966 3 341 1368
Fax: +966 3 341 1052

Singapore
Coperion Pte. Ltd.
Coperion K-Tron Asia Pte. Ltd.
8 Jurong Town Hall Road
#28-01/02/03 The JTC Summit
Singapore 609434
Tel.: +65 641 88-200
Fax: +65 641 88-203

Taiwan
Coperion (Nanjing) Machinery Co. Ltd.
Taiwan Branch Office
5F, No. 43, Alley 115
Chung San North Road Sec. 2
Taipei, Taiwan
Tel.: +886 2 2521 3580
Fax: +886 2 2521 1604

> America

South America
Coperion Ltda.
R. Arinos, 1000
RBCA - Royal Business Center
Anhanguera, Módulo 4
Parque Industrial Anhanguera
06276-032 Osasco - SP, Brazil
Tel.: +55 11 3874-2740
Fax: +55 11 3874-2757

USA, Canada, Mexico, NAFTA
Coperion Corporation
590 Woodbury Glassboro Road
Sewell, NJ 08080, USA
Tel.: +1 201 327-6300
Fax: +1 201 825-6494

Coperion Corporation
Wytheville Office
196 Appalachian Drive
Wytheville, VA 24382, USA
Tel.: +1 276 228-7717
Fax: +1 276-227-7044

Coperion Corporation
Houston Office
7900 North Sam Houston Pkwy, West
Suite 202
Houston, TX 77064, USA
Tel.: +1 281 449-9944
Fax: +1 281 449-4599

Coperion K-Tron Pitman, Inc.
590 Woodbury Glassboro Road
Sewell, NJ 08080, USA
Tel.: +1 856 589-0500
Fax: +1 856 589-8113

Coperion K-Tron Salina, Inc.
606 North Front Street
Salina, KS 67401, USA
Tel.: +1 785 825-1611
Fax: +1 785 825-8759

For more information about
the worldwide Coperion network,
visit www.coperion.com