

Lime Dosing

Continuous Single Shaft Mixers WAH

1



Description ▼

WAH is a Continuous Horizontal Single Shaft Mixer suitable for dry bulk solids (powders, granules, short fibres), dry bulk solids with liquids (conditioning & granulating), sludges and pastes.

WAH Mixers operate on the principle of a mechanically generated fluid bed. Ploughshare or shovel-shaped mixing tools rotate around a horizontal shaft close to the cylindrical drum casing lifting the components to be mixed from the product bed into the open mixing area. The quality of the mixture is achieved before the product reaches the mixer outlet.

Function ▼

The horizontal single shaft mixer WAH is based on the principle of mechanical fluidisation of the product.

The particular shape, position and rotation speed of the mixing tools, creates a centrifugal vortex motion which allows the products to be projected in a three-dimensional way and to merge with each other.

This ensures that components with different particle size and bulk density are perfectly blended and mixed with high precision within the shortest possible time.



Application ▼

MAP® stands for robust and efficient systems for the mechanical, chemical and thermal treatment of sludge, ashes, dust and other residual materials in the disposal lines of local authorities and the industrial sector.

MAP® products cover broad areas in the treatment of sludge, fly ash and residual materials.

- Treatment of sludges and slurries
- Treatment of soils
- Treatment of dusts and ashes
- Treatment of other residual materials / contaminated materials
- Power stations: mixing technology for the micro-granulation of fly ash
- Waste incineration plants
- Sewage sludge / Biosolids
- Moistening and conditioning

Benefits ▼

- ✓ Long-term experience in environmental application;
- ✓ High speed mixing (short mixing time);
- ✓ Durable machine;
- ✓ Minimum wear/low maintenance;
- ✓ Easy access to all internal parts of the machine for maintenance;
- ✓ High productivity.

Lime Dosing

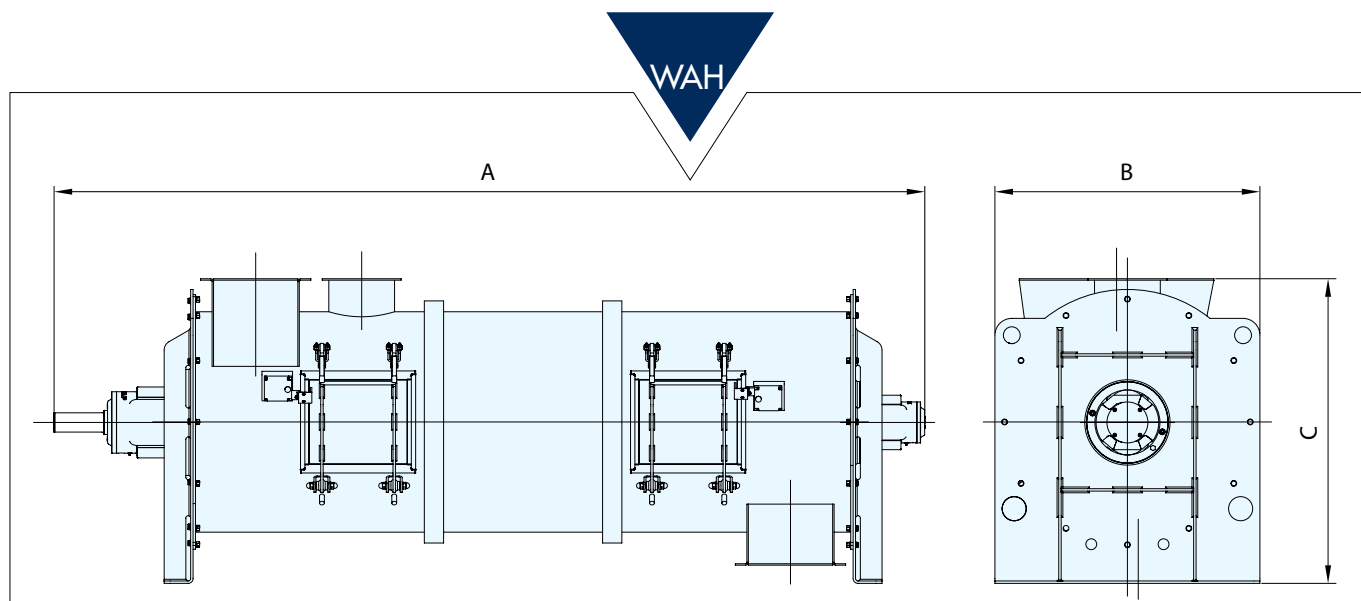
Continuous Single Shaft Mixers WAH




Technical Features / Performance ▼

- ▶ From 75 up to 15,000 litres volume
- ▶ Great variety of accessories and options available
- ▶ 304L / 316L SS, antiwear materials, antiwear material
- ▶ Adjustable front discharge
- ▶ Different mixing tools
- ▶ Specially design drive units
- ▶ Choppers and liquid injection

Overall Dimensions ▼



	A	B	C	50%  dm³/h Residence Time		Empty Weight (kg)
				60 s	180 s	
WAH 00075	1,690	485	556	2,022	674	210
WAH 00150	1,960	570	634	4,031	1,344	350
WAH 00300	2,220	670	801	7,892	2,631	580
WAH 00500	2,550	770	920	13,716	4,572	840
WAH 01000	3,140	930	1,118	27,993	9,331	1,390
WAH 01800	3,670	1,100	1,265	50,170	16,723	2,100
WAH 03000	3,920	1,340	1,472	82,577	27,526	2,800
WAH 04800	4,510	1,500	1,800	134,281	44,760	3,800
WAH 06000	4,816	1,600	1,860	165,708	55,236	4,500
WAH 08800	5,325	1,810	2,133	245,796	81,932	5,840
WAH 10500	5,580	1,910	2,237	295,322	98,441	6,600
WAH 15000	6,090	2,110	2,465	411,885	137,295	8,200

Dimensions in mm

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Continuous Twin Shaft Paddle Mixers MESC

2



Description ▼

MESC-type Twin Shaft Paddle Mixers (MESC-UM as conditioner with liquid injection) are equipped with two parallel counter-rotating intermeshing paddle shafts. The adjustable angle of inclination of the mixing paddles allows perfect adaptation to the different characteristics of the materials and to the requirements of the mixing process.

Function ▼

MESC-type Twin Shaft Paddle Mixers are used for mixing powders as well as for the neutralization or the conditioning of sludge with lime. MAP® stands for robust and efficient systems for the mechanical, chemical and thermal treatment of sludge, ashes, dust and other residual materials in the disposal lines of local authorities and industrial sectors.



Application ▼

MAP® products cover broad areas in the treatment of sludge, fly ash and residual materials.

- Treatment of sludge and slurry
- Treatment of soils
- Treatment of dusts and ashes
- Treatment of other residual materials / contaminated materials
- Power stations: mixing technology for micro-granulation of fly ash
- Waste incineration plants
- Sewage sludge / Biosolids
- Moistening and conditioning

Benefits ▼

- ✓ Long-term experience in environmental applications;
- ✓ Modular design with low maintenance costs;
- ✓ Durable machine;
- ✓ Easy access to all internal parts of the mixer for maintenance;
- ✓ High productivity.

Lime Dosing

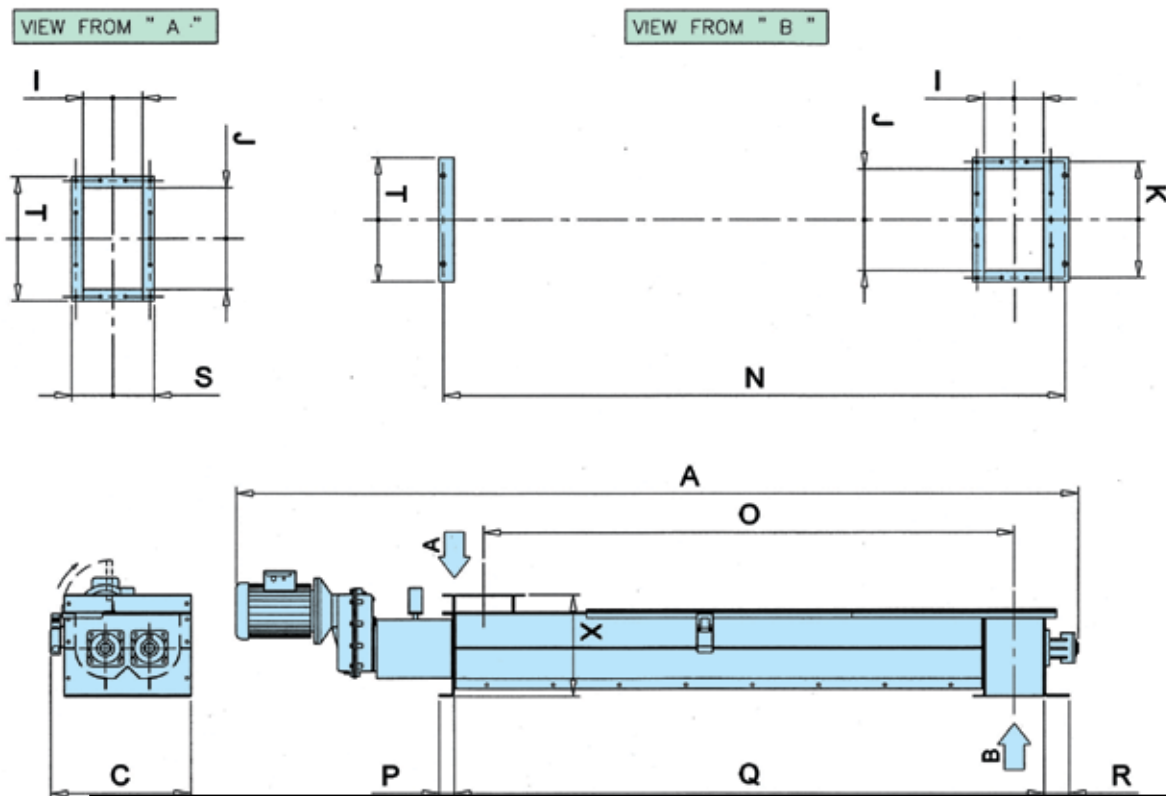
Continuous Twin Shaft Paddle Mixers MES-C



Technical Features / Performance ▼

- ▶ Capacity: from 3 to 70m³/h (1.8 to 41 cfm)
- ▶ 304L / 316L SS, antiwear materials
- ▶ Tools with anti-wear coating
- ▶ Equipment for liquid injection
- ▶ Great variety of accessories and options available

Overall Dimensions ▼



	A	B	C	I	J	K	N	O	P	Q	R	S	T	X	Inst. Power kW		Mixing Capacity m ³ /h	kg
MESC200	3,180	522.5	528	225	390	445	2,349	2,003	56	2,228	96	311	476	390	1.5	2.2	4 → 6	400
MESC300	4,414	742.5	755	325	595	655	3,439	3,004	70	3,329	100	433	703	540	3.0	4.0	7.5 → 12	700
MESC400	5,181	922.5	905	425	745	815	4,083	3,504	80	3,929	134	533	853	675	5.5	7.5	15 → 24	870
MESC500	5,934	1,147.5	1,130	525	950	1,027	4,679	4,004	90	4,529	120	653	1,078	870	7.5	15.0	25 → 34	1,050

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

WAMFLO®

Silo Venting Filters

3



Description ▼

WAMFLO® Dust Collectors have been specifically developed for venting pneumatically loaded silos containing sticky materials. WAMFLO® is equipped with a round stainless steel body (diameter 1,000mm) that contains vertically mounted round bag-type filter elements with polyester felt filter media. To keep the filter media clean an air jet cleaning system is integrated in the 304 stainless steel top cover.

Function ▼

WAMFLO® Dust Collectors are used for both venting and suction applications. Dust separated from the air flow by the round bags drops back into the silo, after an integrated automatic reverse air jet cleaning system has removed it from the filter elements.



Application ▼

WAMFLO® Dust Collectors are mainly used for venting of lime silos. The total filter surface amounts to 16 m².

Benefits ▼

- ✓ Compliance with health and safety standards;
- ✓ Dust emission < 10 mg/Nm³;
- ✓ Air volume 1,800 m³/h;
- ✓ Real filter surface 16 m²;
- ✓ Round bags available on after-market;
- ✓ Easy maintenance thanks to filter elements manually removable without tools;
- ✓ Durable thanks to stainless steel design and high quality filter media;
- ✓ Easy maintenance thanks to cleaning system integrated in weather protection cover;
- ✓ Round bags particularly suitable with sticky materials.

Lime Dosing

WAMFLO®

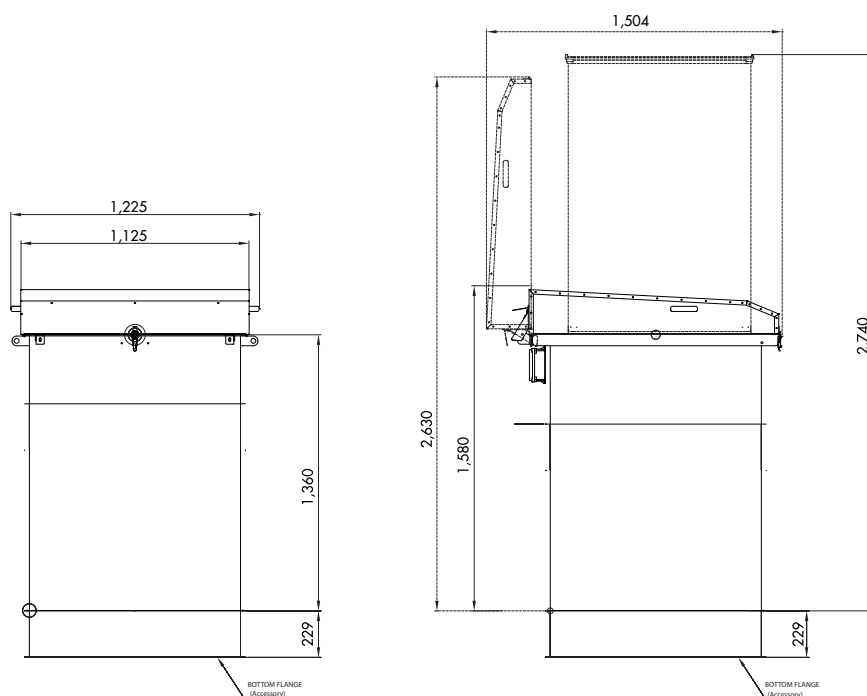
Silo Venting Filters



Technical Features / Performance ▼

- ▶ 304 SS flanged cylindrical body (Ø 1,000mm)
- ▶ Filter surface 16m² (more on request)
- ▶ Dust emission < 10 mg/Nm³
- ▶ Compressed air-jet cleaning system integrated in top cover
- ▶ Air volume: max 1,800 m³/h
- ▶ High cleaning efficiency due to "Full Immersion" solenoid valves integrated in aluminium air tank (corrosion-resistant) ensuring low-maintenance operation
- ▶ No tools for filtering element removal required

Overall Dimensions ▼



FILTER CODE	FILTER SURFACE (m ²)	Ø L	A	B	C
FNM4J16	16	1,038	1,692	2,351	1,859

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Butterfly Valves V2FF / V.FS

4



Description ▼

V2FF Silo Discharge Butterfly Valves are manufactured from a single-piece fabricated carbon steel body lined with WAM®'s polymer composite SINT®. Due to the four corner slots the integrated upper square flange can be adapted to different sizes of silo outlet flanges. The valve disc is manufactured from surface-treated carbon steel.

VFS Butterfly Valves consist of two high-pressure die-cast semi-bodies manufactured from aluminium alloy, a swivel disc in SINT® polymer composite or cast iron, and a pre-stressed elastomer seal. While V1FS has a top flange and a beaded bottom section suitable for the attachment of a flexible sleeve, the V2FS comes with an identical top and bottom flange.

Function ▼

For closing bins, hoppers and silos containing lime or powdery materials, Butterfly Valves are among the most widely used equipment worldwide. What used to be custom-built items for specific applications, have been turned by WAM® into a mass-produced industrial product with features that allow extremely versatile use.

Material flow is intercepted by activating a manual lever or a pneumatic or electric actuator turning the valve disc 90 degrees, thus closing the valve hermetically.



Application ▼

V2FF Silo Shut-Off Butterfly Valves are used wherever interception of gravity-fed powdery materials is required. They are fitted beneath hoppers, bins, or silos.

VFS Butterfly Valves are used where interception of gravity-fed or pneumatically conveyed dry materials is required. They are fitted beneath hoppers, bins, silos, screw feeder outlets, or in a 0.2 bar (29 PSI) pressure-proof version, on water scales outlets. Due to their special design and to the engineering materials used, they represent a particularly cost-effective yet most efficient solution.

Benefits ▼

- ✓ **Dust-tight (V.FS for water scales 0.2 bar pressure-proof);**
- ✓ **Quick fitting, retro-fitting and replacement;**
- ✓ **Modular design and easy maintenance thanks to small numbers of components;**
- ✓ **High flexibility thanks to interchangeable components;**
- ✓ **More durable thanks to special performance features.**

Lime Dosing

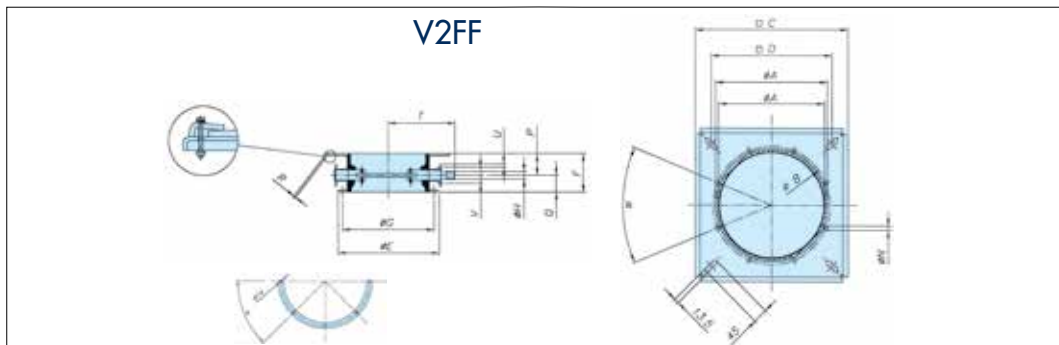
Butterfly Valves V2FF / V.FS



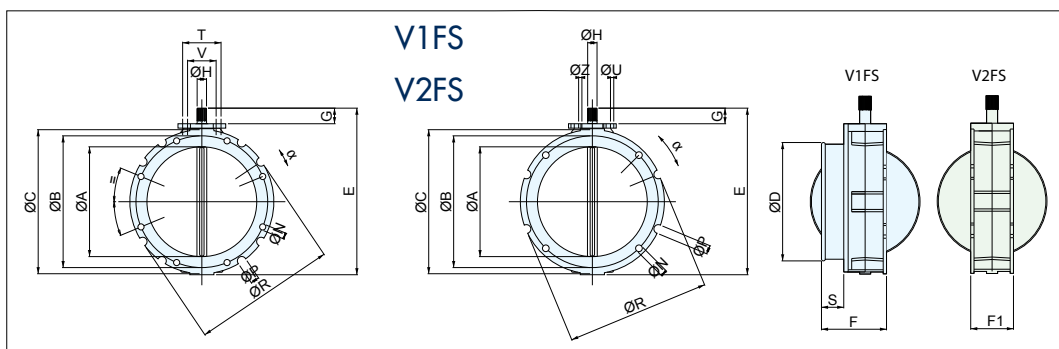
Technical Features / Performance

- ▶ V1FS with top flange and beaded bottom section suitable for fixing of flexible sleeve from 100 to 400mm (4 to 16 in)
- ▶ V2FS with identical top and bottom flange from 100 to 400mm (4 to 16 in)
- ▶ On request, VFS pressure-proof up to 0.2 bar (2.9 PSI) and max. temperature of 100° C (212° F)
- ▶ VFS with disc in cast iron or SINT®-coated
- ▶ Small number of components
- ▶ Easy part replacement

Overall Dimensions



TYPE	C	Ø a	Ø A	Ø B	Ø C	Ø D	Ø E	F	Ø G	Ø H DIN 5482	Ø N DRILLINGS	Nr of DRILLINGS	P	Q	R	α	T	U	V	kg
V2FF250F14N		255	275	375	400	322	328	100	300	22 x 19	13.5	8	50	50	6	45°	202	M 12	50	16
V2FF300F19N		310	325	400	450	370	378	100	350	22 x 19	13.5	8	50	50	6	45°	210	M 12	50	19



TYPE	Ø A	Ø B	Ø C	Ø D	E	F	FI	G	Ø H DIN 5482	N Drilling	P External grooves	Ø R	α	S	T	U	V	Z	kg
V1FS 100.	95	180	220	105	250	115	77	35	22x19	4 x Ø14	4 x Ø20	220	22°30'	40	80	M12	50	M10	4
V1FS 150.	150	200	228	163	290	115	77	35	22x19	4 x Ø14	4 x Ø20	228	22°30'	40	80	M12	50	M10	5
V1FS 200.	200	250	278	213	340	115	77	35	22x19	4 x Ø14	4 x Ø20	278	22°30'	40	80	M12	50	M10	6.5
V1FS 250.	250	300	328	263	390	115	77	35	22x19	8 x Ø14	8 x Ø20	325	11°15'	40	80	M12	50	M10	7.5
V1FS 300.	300	350	378	313	440	115	77	35	22x19	8 x Ø14	16 x Ø20	375	5°41'	40	80	M12	50	M10	9
V1FS 350.	350	400	440	363	530	123	85	50	28x25	8 x Ø14	8 x Ø20	440	10°	40	80	M12	-	-	16
V1FS 400.	400	470	530	413	580	123	85	50	28x25	8 x Ø14	16 x Ø20	530	4°30'	40	80	M12	-	-	20.5

Dimensions in mm

TYPE	Ø A	Ø B	Ø C	E	F	G	Ø H DIN 5482	N Drilling	P External grooves	Ø R	α	T	U	V	Z	kg
V2FS 100.	95	180	220	250	77	35	22x19	4 x Ø14	4 x Ø20	220	22°30'	80	M12	50	M10	4
V2FS 150.	150	200	228	290	77	35	22x19	4 x Ø14	4 x Ø20	228	22°30'	80	M12	50	M10	5
V2FS 200.	200	250	278	340	77	35	22x19	4 x Ø14	4 x Ø20	278	22°30'	80	M12	50	M10	6.5
V2FS 250.	250	300	328	390	77	35	22x19	8 x Ø14	8 x Ø20	325	11°15'	80	M12	50	M10	7.5
V2FS 300.	300	350	378	440	77	35	22x19	8 x Ø14	16 x Ø20	375	5°41'	80	M12	50	M10	9
V2FS 350.	350	400	440	530	85	50	28x25	8 x Ø14	8 x Ø20	440	10°	80	M12	-	-	16
V2FS 400.	400	470	530	580	85	50	28x25	8 x Ø14	16 x Ø20	530	4°30'	80	M12	-	-	20.5

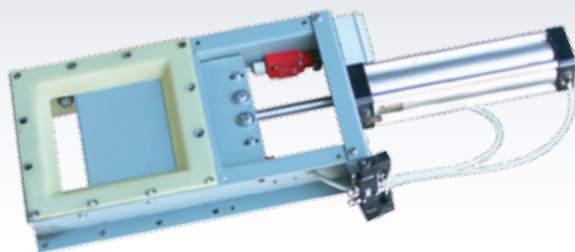
Dimensions in mm

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Slide Valves VL

5



Description ▼

VL-type Slide Valves consist of a two-piece carbon or stainless steel frame, which is partly coated with WAM®'s unique SINT® engineering polymer composite, and a sliding blade manufactured either from the same material or from carbon or stainless steel. The use of SINT® engineering polymer composites considerably increases resistance to abrasion compared to traditional valves.

Function ▼

VL Slides Valves are used where flow of a bulk solid or sludge caused by gravity or conveying has to be intercepted. Valves may be fitted to hopper or silo outlets, to the inlets and outlets of mechanical conveyors or to the inlet of telescopic loading spouts.



Application ▼

The special geometry of the VL Slide Valves and the different options of blade design enable their application in virtually all type of powder and processing plants where interception of gravity-fed or pneumatically conveyed dry materials is required. Typical applications are storage, conveying and processing lines. They are fitted beneath hoppers, bins, silos, screw or other type conveyors. Due to their special design and the engineering polymer materials used, they represent a particularly cost-effective yet most efficient solution.

Benefits ▼

- ✓ No contamination due to metal steel blade and valve frame coated with polymer material;
- ✓ Reduced crusting effects due to valve frame coated with low-friction polymer material;
- ✓ Dust-tight thanks to component geometry;
- ✓ Suitable for different materials in same configuration;
- ✓ Easy process integration;
- ✓ Time-saving maintenance thanks to small number of components;
- ✓ Optimum performance thanks to friction-free contact design (actuator torque is not wasted to win friction resistance).

Lime Dosing

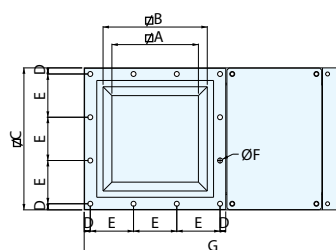
Slide Valves VL



Technical Features / Performance ▼

- ▶ Square (VLQ) or round (VLC) inlet from 150 to 400mm (6 to 16 in)
- ▶ Rectangular inlet for 300mm size (12 in)
- ▶ Dust-tight, max. temperature $T = 80^{\circ}\text{C}$ (176°F)
- ▶ Blade in mild or stainless steel or coated in SINT® engineering polymer
- ▶ Frame in mild or stainless steel
- ▶ Absence of stagnation points
- ▶ Friction-free contact design
- ▶ Safe sealing with no additional measures due to the all-round dust-tight seal lips incorporated in the polymer coating

Overall Dimensions ▼

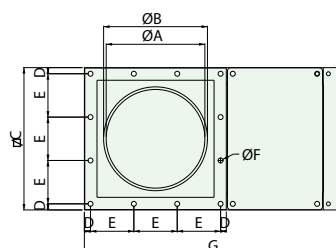


Square Cross Section Valves



TYPE	A	B	C	D	E	N°E	Ø F	Bolts	G	H	kg
VLQ0150..	120	175	261	15.5	115.0	2	12.5	M10	455	113	14
VLQ0200..	170	225	311	15.5	93.3	3	12.5	M10	555	113	18
VLQ0250..	220	275	361	15.5	110.0	3	12.5	M10	650	113	22
VLQ0300..	270	325	431	23.0	128.3	3	12.5	M10	765	113	30
VLQ0350..	320	375	481	18.0	89.0	5	12.5	M10	900	125	40
VLQ0400..	370	425	531	15.5	100.0	5	12.5	M10	1,000	125	46

1 Carbon Steel
3 304 Stainless Steel



Round Cross Section Valves



TYPE	A	Ø B	Ø C	D	E	N°E	Ø F	Screw	G	H	kg
VLC0150..	150	165	261	15.5	115.0	2	12.5	M10	455	113	14
VLC0200..	200	215	311	15.5	93.3	3	12.5	M10	555	113	18
VLC0250..	250	265	361	15.5	110.0	3	12.5	M10	650	113	22
VLC0300..	300	315	431	23.0	128.3	3	12.5	M10	765	113	30
VLC0350..	350	365	481	18.0	89.0	5	12.5	M10	900	125	40
VLC0400..	400	415	531	15.5	100.0	5	12.5	M10	1,000	125	46

1 Carbon Steel
3 304 Stainless Steel

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Spring-Loaded Pressure Relief Valves VCP

6



Description ▼

VCP Pressure Relief Valves consist of a cylindrical casing with a bottom flange to be connected with a spigot welded on the silo roof, a disc shape inner steel lid for negative pressure operation held in position by a central spring rod, an outside steel ring for excess pressure kept in position by three spring rods, gaskets, and a weather protection cover.

Function ▼

In the VCP Pressure Relief Valve, helical springs keep the valve lids closed when the pressure value remains within the preset limits. The three outside spring rods keep the external ring-shaped lid firmly closed as long as the force generated by the pressure inside the silo does not overcome the spring force. Once the pressure exceeds the preset value the lid is pushed up and the pressure can escape. The smaller lid covers the central circular opening of the external lid from below. It is held in the middle by a single spring rod and is pressed onto the external lid by the normal air pressure inside the silo. In the event of suction pressure, the spring is compressed and allows the lid to drop. The air entering the silo from outside ensures rapid pressure balance and pushes the central lid back up into the "closed" position.



Application ▼

VCP Pressure Relief Valves are the last resort when abnormal pressure conditions endanger the silo structure. This is why sudden excess or suction pressure inside the silo must be dealt with instantaneously. Even though ideally a Pressure Relief Valve should never have to go into action, it must be efficient and reliable if needed. With tens of thousands of units installed worldwide, VCP Pressure Relief Valves have given evidence of being totally reliable under the most different conditions.

Benefits ▼

- ✓ Safety for OEM and EU thanks to Atex certification zone 21;
- ✓ Lightweight design and reduced overall dimensions make handling extremely comfortable;
- ✓ High resistance to atmospheric agents;
- ✓ Easy to fit;
- ✓ Quick maintenance.

Lime Dosing

Spring-Loaded Pressure Relief Valves VCP

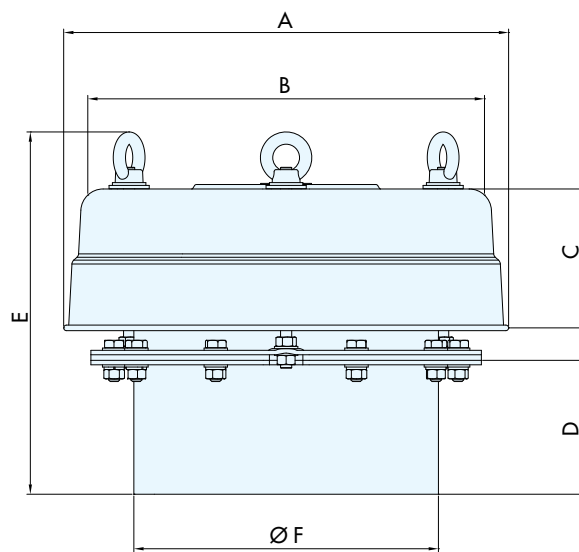


Technical Features / Performance ▼

- ▶ Carbon steel body (VCP...1C) painted RAL 7001 or 304 stainless steel body (VCP...2C)
- ▶ Two size: 273mm (11 in); 356mm (14 in)
- ▶ Weather protection cover in stainless steel
- ▶ In compliance with Atex Certification (zone 21) and HSE British Guideline
- ▶ Air volume up to 13,000m³/h (7,650 cfm)
- ▶ Setting range: excess pressure from 300 mmH₂O (0.44psi) up to 800 mmH₂O (1.16 psi)
- ▶ Setting range: negative pressure from -50 mmH₂O (0.07psi) up to -100 mmH₂O (0.15psi)
- ▶ No welding seams inside
- ▶ Equipment for inductive signalling sensors
- ▶ Protective bellows for springs
- ▶ Small number of components
- ▶ Easy part replacement
- ▶ Lightweight and easy to handle

Overall Dimensions ▼

	Size 273 mm	Size 375 mm
A	400	525
B	356	468
C	125	175
D	120	120
E	325	400
Ø F	273	356
kg	9.5	23



Lime Dosing

Plastic Pressure Relief Valve VHS-C

7

Description ▼

VHS Pressure Relief Valves consist of a cylindrically shaped body with clamp connection spigot to the silo, an exhaust outlet spout for duct connection, an elastic diaphragm able to re-establish pressure balance instantaneously, a counter-weight kit to keep the valve closed under normal conditions, and a weather protection cover.

Application ▼

VHS Pressure Relief Valves are the last safety net when abnormal pressure conditions endanger the silo structure. This is why sudden excess or suction pressure inside the silo must be dealt with instantly.

Even though ideally a VHS Pressure Relief Valve should never have to go into action, it must be efficient and reliable if needed.



Silo workspace using spring-loaded valve



Silo workspace using VHS valve

Benefits ▼

- ✓ Compliance with existing regulations
- ✓ Safety for people, plant and environment
- ✓ Maximum efficiency and minimum operating costs
- ✓ Quick and easy maintenance
- ✓ Easy handling thanks to light-weight design
- ✓ Attractive price

Lime Dosing

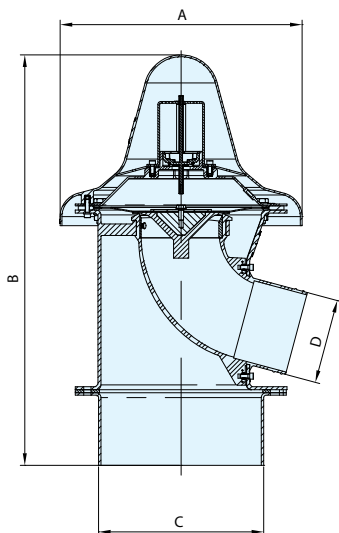
Plastic Pressure Relief Valve VHS-C



Technical Features / Performance ▼

- ▶ Body diameter 273mm (10 in)
- ▶ Exhaust outlet spout for connection with centralised suction system
- ▶ Preset for maximum negative pressure of - 0.005 bar (0.07 psi) and maximum excess pressure of + 0.05 bar (0.72 psi)
- ▶ Equipped for inductive signalling sensors
- ▶ Easy part replacement
- ▶ Lightweight
- ▶ Conveyed emissions
- ▶ Counterweight system never in contact with dust
- ▶ Body and cover made of engineering polymer
- ▶ Special properties of diaphragm and elbow prevent clogging, as well as formation of material crusts

Overall Dimensions ▼



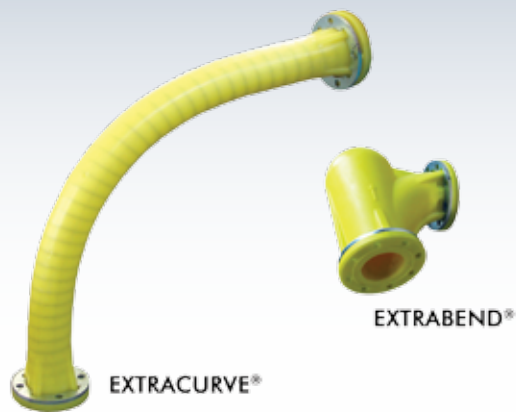
VHS273	Excess Pressure	Negative Pressure	kg
Standard-type	500 mm H ₂ O	-50 mm H ₂ O*	8.0
Option	300 ~ 1,000 mm H ₂ O*	-50 mm H ₂ O*	

A	B	C	D
Ø 366 mm	557 mm	Ø 273 mm	Ø 140 mm

Lime Dosing

EXTRABEND® and EXTRACURVE® Pipe Elbows

8



Description ▼

Short-radius EXTRABEND® and wide-radius EXTRACURVE® Pipe Elbows are inserted as a link in pneumatic silo filling pipes. Both models are manufactured from a one-piece SINT™ engineering polymer cast.

Wear-resistant EXTRABEND® and EXTRACURVE® Pipe Elbows deflect incoming powdery materials minimising degradation and elbow wear, avoiding at the same time any clogging or plugging.

Function ▼

The EXTRABEND® short-radius Pipe Elbow offers a substantially innovative geometry suitable to reduce wear during operation.

The body cavity next to the point of diversion generates an internal material turbulence which protects the elbow from wear caused by the material travelling through the duct.

The EXTRACURVE® represents the latest evolution in the development of wide angle pipe elbows. Due to its flexibility and adaptability installation has become quicker while durability is dramatically increased.



Application ▼

EXTRABEND® and EXTRACURVE® Elbows are used as a link in silo filling pipes and in ductworks of pneumatic conveying systems. They excel through their particular resistance to wear with abrasive materials.

Benefits ▼

- ✓ Long-life elbow with abrasive materials thanks to anti-wear SINT™ engineering polymer material;
- ✓ Reduced installation costs thanks to elastic properties (no extra work for connection on site is needed);
- ✓ Reduced installation and maintenance time because EB/EW are easy to handle thanks to lightweight design;
- ✓ Reduced costs for plant designing thanks to elastic properties (elastic elbows fit for different plant layouts);
- ✓ Considerable reduction of flow resistance, consequently energy saving pneumatic conveying.

Lime Dosing

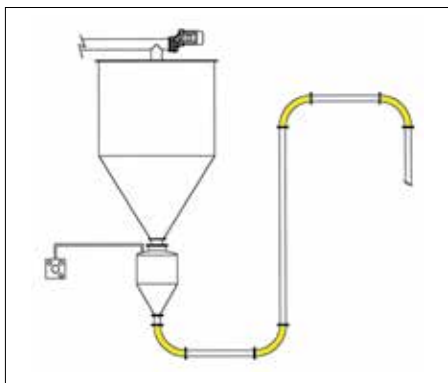
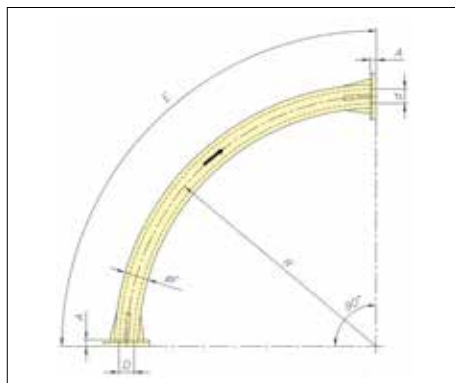
EXTRABEND® and EXTRACURVE® Pipe Elbows



Technical Features / Performance ▼

- ▶ SINT™ engineering polymer
- ▶ Max temperature: 80° C (176° F)
- ▶ Range from 2" to 4"
- ▶ Flexible and elastic
- ▶ PN-type connecting flanges
- ▶ Lightweight and easy to handle
- ▶ Up to 1.5 bar (22 PSI) in lean phase
- ▶ Reduced noise level

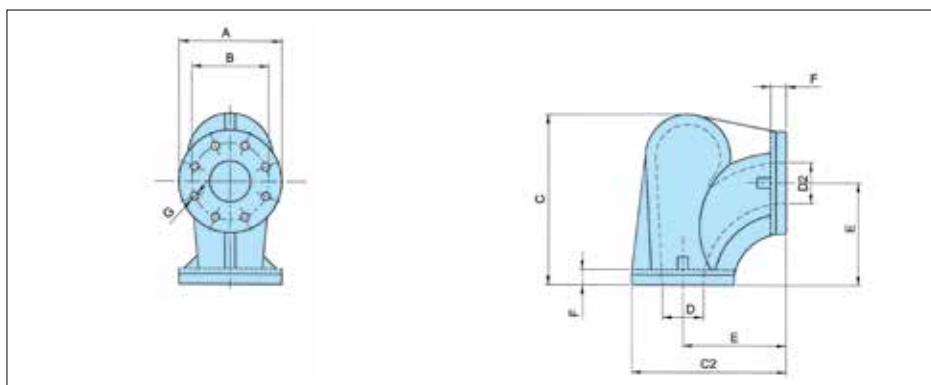
Overall Dimensions ▼



EXTRACURVE®

EW	A	Ød	ØD	E	ØF	R	kg
2"	23	52	55	1,400	85	900	7.3
3"	30	80	83	1,400	110	900	9.6
4"	30	105	108	1,400	140	900	13.4

Dimensions in mm



EXTRABEND®

Type	Ø Pipe	A	B	C	C2	Ø D	Ø D2	E	F	Ø G	Flange Drillings	kg
EB 2	2"	165	125	232	220	55	52	140	23	18	4	2
EB 3	3"	200	160	330	300	85	80	200	30	18	4	5
EB 4	4"	220	180	435	373	108	105	263	30	18	8	7

Dimension in mm

Lime Dosing

Micro-Batch Feeders MBF

9



Description ▼

The MBF Micro-Batch Feeder for continuous volumetric feeding of powdery materials consists of a casing entirely manufactured from stainless steel or steel-reinforced SINT® engineering polymer body, a horizontally mounted rotating agitator tool, a feeder screw beneath the agitator tool, a feeder pipe enclosing the protruding feeder screw, as well as one drive unit each for agitator and feeder screw.

Function ▼

MBF Micro-Batch Feeders are particularly suitable for poorly flowing materials which tend to clog, as well as for adhesive products. Fed through a bag opening hopper, a bulk bag discharger, or another feeding device, the agitator tool manages to keep the material flowing, reducing at the same time the possibility of formation of lumps or bridges. The size of the material particles is of utmost importance when choosing the type of feeder screw. Poorly flowing materials with cohesion or bridging problems are homogeneously fed into the feeding zone by the blending or agitator shaft which is shaped according to the product properties. Depending on the user's individual requirements, the MBF Micro-Batch Feeder can be supplied with alternative feeder screws and blending tools and with various accessories.



Application ▼

MBF, which come in various configurations, are suitable for feeding of granules or powders. Flexible design features enable feeding of lime, flocculants, polyelectrolyte or additives in general. A typical position within the plant is on top of a sludge conditioner or as part of a polyelectrolyte dosing station.

Benefits ▼

- ✓ Easy integration into the plant;
- ✓ Feeding of different additives with the same unit thanks to interchangeable components;
- ✓ Small number of parts ensures easy and quick maintenance;
- ✓ Independent drives for agitator and feeder tool leave all options open in terms of drive power and tool speed;
- ✓ Process reliability thanks to back-up by WAMGROUP® test labs;
- ✓ High degree of homogeneity of fed material due to blending/agitating tool;
- ✓ Easy and quick internal cleaning thanks to engineering SINT® polymer non-stick surface and quick-access inspection panel.

Lime Dosing

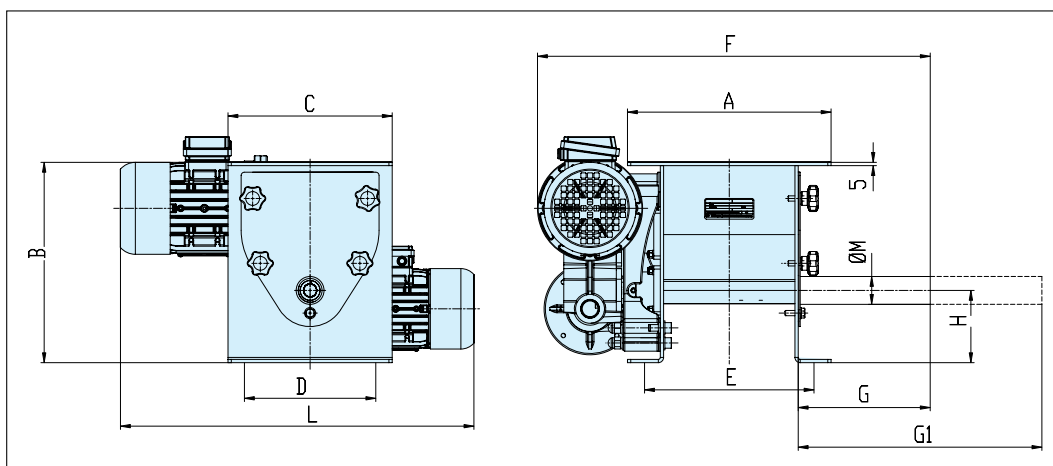
Micro-Batch Feeders MBF



Technical Features / Performance ▼

- ▶ Wide range of interchangeable machine components
- ▶ Suitable for powders or granular materials
- ▶ Compact design, small footprint
- ▶ 3 sizes available with feed rates ranging from 3 dm³/h to 4,000 dm³/h
- ▶ Agitator and feeder tool with independent drives
- ▶ Internal geometry guarantees smooth feeding of particularly difficult materials
- ▶ No residue dead spaces
- ▶ Quick-access inspection panel available on stainless steel units
- ▶ Contact surfaces in SINT® engineering polymer or 304 SS (316 option)
- ▶ Different types of shaft seals

Overall Dimensions ▼



MBF	A	B	C	D	E	F	G	G1	H	L	M	N	dm ³	kg
042	310	295	250	200	253	595	200	370	100	535	42	12.5	5	40
073	464	486	390	305	410	855	250	500	135	600	76	12.5	28	105
114	464	486	390	305	410	855	250	500	135	600	114	12.5	35	110

Dimensions in mm

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Bin Activators BA

10



Description ▼

The BA Bin Activator is a device of tapered conical shape that due to vibration facilitates material flow from hoppers or silos. It consists of a seamless carbon or stainless steel cone manufactured on a sheet metal lathe, a seamless SINT® engineering polymer seal with integrated upper and lower flange, suspensions for connection with the silo, as well as one or two electric vibrators.

Function ▼

One or two electric vibrators fitted to the unit generate vibration of the Bin Activator every time the feeding device beneath the silo is started for material extraction. During operation the Bin Activator describes a gyratory movement which is transmitted to the material inside the silo. The result is smooth material flow through the Bin Activator outlet into the downstream feeder.

BA Bin Activators are used in various applications to facilitate discharging of powdery materials from silos or hoppers. The use of this equipment ensures optimum feeding of the material causing "mass flow" inside the silo, thus avoiding bridging or rat holing phenomena.



Application ▼

Discharging of lime from silo.

The BA outlet is usually shut off by a rotary valve, slide valve or butterfly valve which is connected with a downstream screw conveyor or micro-batch feeder.

Benefits ▼

- ✓ No material residue thanks to appropriate design features;
- ✓ High resistance to corrosion with stainless steel version;
- ✓ High discharging performance;
- ✓ Reduced maintenance thanks to long-life seal material.

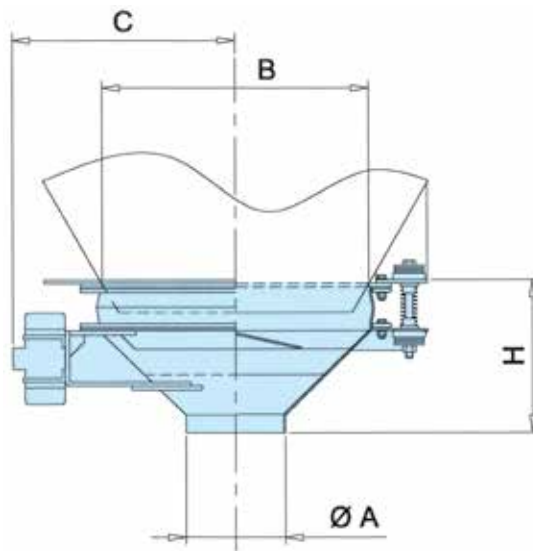
Lime Dosing Bin Activators BA



Technical Features / Performance ▼

- ▶ Diameters up to 2,350mm (8 ft)
- ▶ Fabricated parts available in 304L and 316 stainless steel
- ▶ No internal residue deadspace
- ▶ Suspensions suitable for positive or negative pressure silo filling
- ▶ Construction material: carbon or stainless steel
- ▶ Vibrating outlet cone fitted with outlet opening hatchway

Overall Dimensions ▼



TYPE	Size	Ø A* Standard	B	C	H	Motovibrators	kg
BA040	400	114	380	427	330	1	59
BA060	600	168	580	519	408	1	80
BA075	750	219	730	609	456	1	99
BA090	900	219	880	684	531	1	134
BA100	1,000	273	980	734	555	1	146
BA125	1,250	273	1,230	937	730	1	290
BA150	1,500	323	1,480	1,120	774	1	475
BA180	1,800	323	1,780	1,194	924	2	726
BA210	2,100	406	2,080	1,420	1,033	2	881
BA235	2,350	406	2,330	1,547	1,166	2	1,255
BA250	2,500	406	2,480	1,705	1,307	2	1,530
BA300	3,000	406	2,980	1,955	1,568	2	2,456

* Further outlet dimensions reported in Technical Catalogue

Dimensions in mm

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

Delumper DLP

11



Description ▼

The DLP Lump Breaker consists of a square cross section casing with upper and lower flange, two horizontal rotating shafts equipped with chopping knives, a grid to hold back lumps, four end bearing assemblies with integrated adjustable shaft sealing unit, an appropriately sized drive unit complete with power transmission.

Function ▼

The DLP Lump Breaker is the ideal device for breaking up material lumps which have formed during material handling or processing but are soft enough to be broken up.

The quick rotation of the special chopping knives through a fixed grid carry out the job. The presence of two rotor shafts results in high throughput rates.



Application ▼

To break up lumps in the powder or granular product.

In the presence of moisture, most powdery or granular products stored in silos, bags and FIBC form lumps that are more or less consistent and of different sizes. DLP is suitable to be installed at the outlet of a Bin Activator as well as a FIBC Discharger in order to brake any possible lump and reduce grain size from a maximum of 5 mm to the minimum original one.

In certain applications, it is therefore necessary to break up the lumps not only to reduce the grain size but also with the aim to make it as uniform as possible to facilitate further handling operations.

Benefits ▼

- ✓ Simple and compact solutions;
- ✓ Different sizes;
- ✓ Competitive price;
- ✓ Easy Maintenance;
- ✓ Strong Design.

Lime Dosing

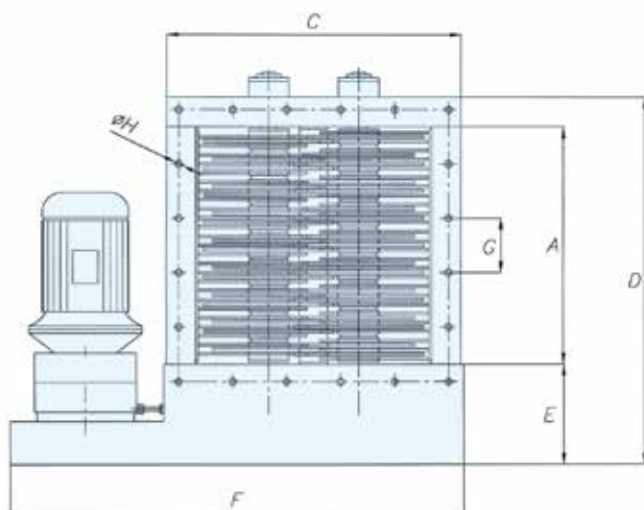
Delumper DLP



Technical Features / Performance ▼

- ▶ Construction material: Carbon steel, 304 L / 316 L stainless steel
- ▶ Available with de-dusting filter or equipped for centralised dust suction
- ▶ Filter element options: cartridges, round bags, elliptical bags
- ▶ Filter surface from 3 to 22 m² (32 to 237 sq ft)
- ▶ Collecting hoppers with different capacity volumes
- ▶ Support feet with possibility of height adjustment
- ▶ Available in ATEX version, zone 22
- ▶ Space-saving overall dimensions and compact user-oriented design
- ▶ Built-in fan-operated, air jet-cleaned, maintenance-friendly dust collector
- ▶ Through optional BINSWEEP® Rotary Discharging Device (see chapter) low overall height
- ▶ Favorable price-performance ratio

Overall Dimensions ▼



Approximate values



TYPE	A	B	C	D	E	F	G	Drillings-Bohrungen-Trous-Fori		m ³ /h	kW		kg
								Qty.	ØH				
DLP 035	375	320	490	640	210	800	89	20	12.5	25 ▶ 35	2.2	3.0	250
DLP 050	525	440	655	820	230	1010	120	20	15.5	40 ▶ 50	4.0	5.5	340

Lime Dosing

Manual Bag Openers RSM

12



Description ▼

The RSM Manual Bag Opener consists of a grille with a rest fitted to its front; the grille is mounted on top of a hopper which is supported by four feet. A fabricated hood with protection door fitted to its front covers the hopper and grille. RSM Bag Openers are manufactured in high-finish-grade materials and come with or without integrated de-dusting filter unit. In the version with integrated dust filter the filter elements are cleaned pneumatically by reverse air jet.

Function ▼

The operator puts the bag on the rest and pushes it on to the grille. He then slits the bag open with a vertical cut and shakes it empty. While the bag content is discharged through a hopper or by BINSWEEP® (optional), a special rotary discharging device, into any type of feeder, the built-in fan operated, air jet cleaned dust collector filters the dust generated during emptying. The empty bag is dropped in the chute on the side which leads into the optional COM-type Waste Bag Compactor (optional). Manual RSM Bag Openers are designed to minimize material residue. They are suitable for numerous customizations and satisfy a large number of applications due to their modular component design.



Application ▼

The RSM Manual Bag Opener represents the ideal solution for the emptying of bags containing powders or granules in a completely dust-free environment, such as lime, chemical salt, etc.)

- Pneumatic vibrator for specially equipped hoppers
- Special type hopper for fitting of BINSWEEP® Rotary Discharger (optional)
- Accessories for connection of COM-type Waste Bag Compactor (optional)

Benefits ▼

- ✓ Simple and compact solution, environmentally safe;
- ✓ Competitive price;
- ✓ Easy Maintenance;
- ✓ Strong Design;

Lime Dosing

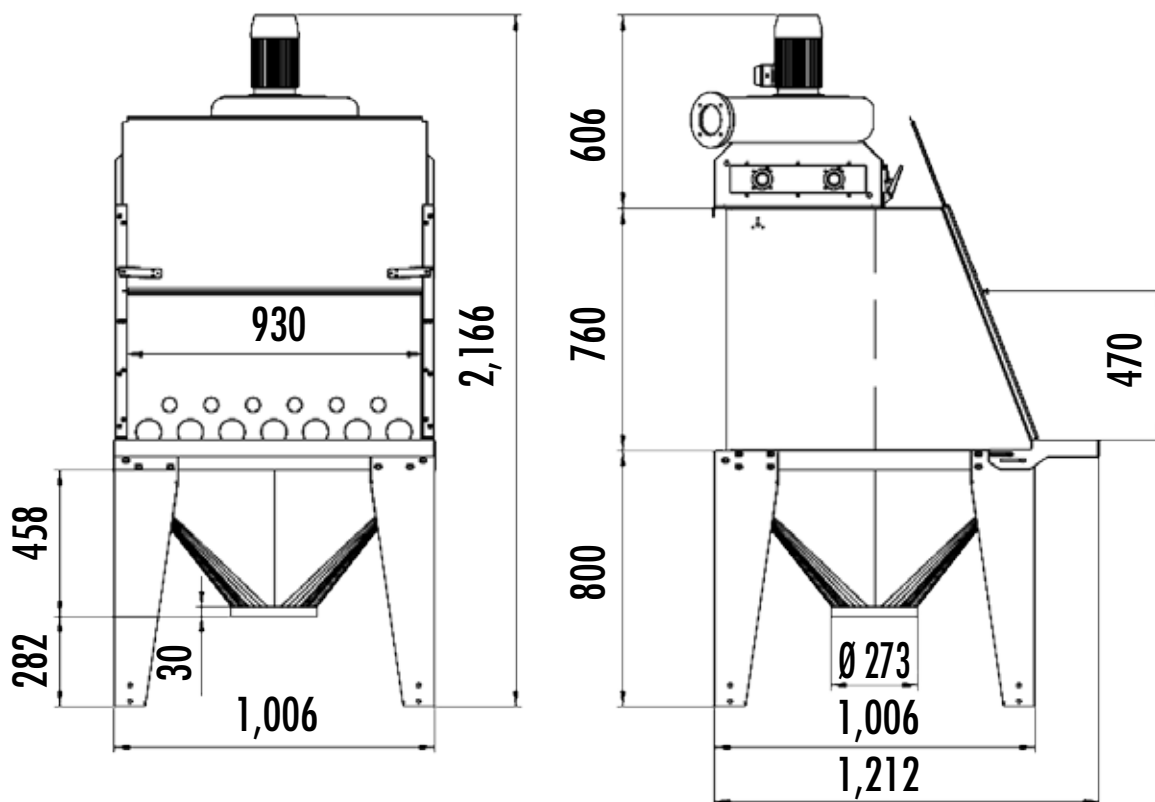
Manual Bag Openers RSM



Technical Features / Performance ▼

- ▶ Construction material: Carbon steel, 304 L / 316 L stainless steel
- ▶ Available with de-dusting filter or equipped for centralised dust suction
- ▶ Filter element options: cartridges, round bags, elliptical bags
- ▶ Filter surface from 3 to 22 m² (32 to 237 sq ft)
- ▶ Collecting hoppers with different capacity volumes
- ▶ Support feet with possibility of height adjustment
- ▶ Available in ATEX version, zone 22
- ▶ Space-saving overall dimensions and compact user-oriented design
- ▶ Built-in fan-operated, air jet-cleaned, maintenance-friendly dust collector
- ▶ Through optional BINSWEEP® Rotary Discharging Device (see chapter) low overall height
- ▶ Favorable price-performance ratio

Overall Dimensions ▼



* Depending on the height of the filter elements and on the type of support feet

** Depending on the hopper model

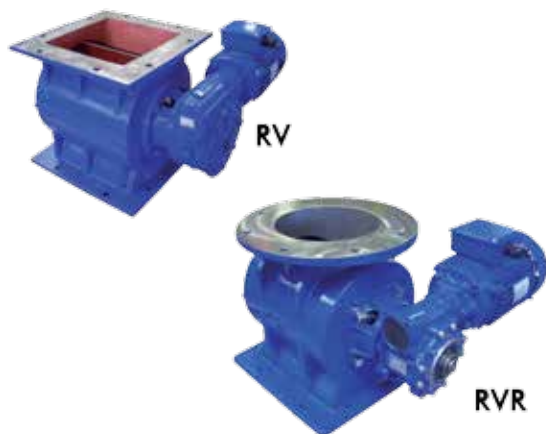
Further outlet dimensions reported in Technical Catalogue

This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

RV-RVR Drop-Through Rotary Valves

13



Description ▼

RV Drop-Through Rotary Valves consist of a tubular cast iron or stainless steel casing, a horizontally mounted rotor with a certain number of V-shaped cross section compartments, a drive unit and a casing cover opposite the drive end.

Function ▼

RV Rotary Valves have been developed for maximum versatility in application. They are suitable for controlled discharging and feeding of powdery or granular materials from silos, hoppers, pneumatic conveying systems, bag filter houses, or cyclones.



Application ▼

RV-RVR Rotary valves are fitted at the outlet of silos, bins or hoppers for feeding the discharged material with high accuracy into the downstream process.

Benefits ▼

- ✓ Air-purged seals;
- ✓ Atex zone 22-certified;
- ✓ Square or round flanges ensure system compatibility and match with WAM® flanges;
- ✓ Cast iron or SS, nickel coating, chrome-plated casing, as well as various rotor versions available to ensure the most appropriate configuration for application requirements;
- ✓ Quick integration into the process thanks to easy handling;
- ✓ Modular design and easy maintenance thanks to small number of components.

Lime Dosing

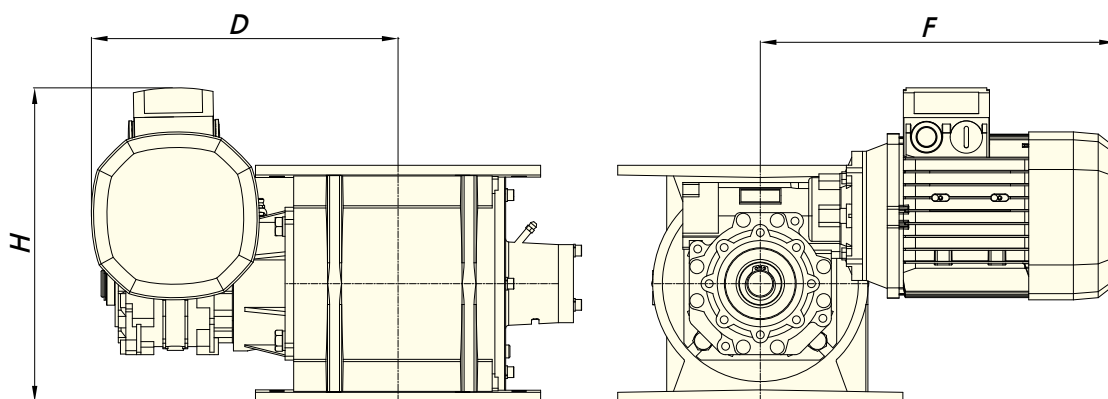
RV-RVR Drop-Through Rotary Valves



Technical Features / Performance ▼

- ▶ Capacity: 2.2 ~ 19.5 litres per revolution
(0.08 ~ 0.7 cu ft per revolution)
- ▶ Working temperature: - 20° C ~ 150° C (- 4° F ~ 300° F)
- ▶ Maximum differential pressure: 0.3 bar (4.4 psi)
- ▶ Cast iron or SS design
- ▶ Nickel coating or chrome-plated casing for abrasive materials available
- ▶ Rotor with beveled blades or replaceable tips available
- ▶ Sturdy compact structure
- ▶ Small footprint
- ▶ Drive unit mounted directly on shaft without further bearing assembly or coupling
- ▶ Square or round flanges and inlet spouts
- ▶ Compatibility with WAM® standard flanges on inlet and outlet

Overall Dimensions ▼



TYPE	D*	F*	H*		kW
			RV	RVR	
RV/RVR 02 30 rpm	294	350	318	333	0.5
RV/RVR 02 20 rpm					
RV/RVR 05 30 rpm	328		348	373	0.75
RV/RVR 05 20 rpm					0.5
RV/RVR 10 30 rpm	364	394	425		1.1
RV/RVR 10 20 rpm					0.75
RV/RVR 20 30 rpm	392	419	472		1.5
RV/RVR 20 20 rpm					1.1

This datasheet does not show the complete range but only the models most suitable for the application.



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Lime Dosing

Rotary Level Indicators ILT

14



Description ▼

ILT-type Bin Level Indicators are designed for electric signalling by rotary action of minimum or maximum material level inside bins, hoppers or silos.

Function ▼

As long as material is present, the paddle of the ILT Bin Level Indicator does not rotate. As soon as the material level sinks below the paddle radius, rotation restarts activating other system components. The top or side-mounted indicators are commonly used for materials having a bulk density ranging between 0.5t/m^3 (0.02 lb per cu in) and 2t/m^3 (0.08 lb per cu in).



Application ▼

Typically ILT Rotary Level Indicators are fitted on the cylindrical part of a silo at the desired maximum or minimum level. Equipped with an extension rod, they can also be mounted vertically into the roof plate.

Benefits ▼

- ✓ No material contact with the casing;
- ✓ Adjustable by resetting force spring in 3 positions;
- ✓ Double threaded fitting ensures system compatibility;
- ✓ Use with different materials in one single configuration;
- ✓ Easy and quick installation and replacement;
- ✓ Compact overall dimensions;
- ✓ Lightweight due to casing in aluminium alloy;
- ✓ Maintenance-free;
- ✓ Cost-effective.

Lime Dosing

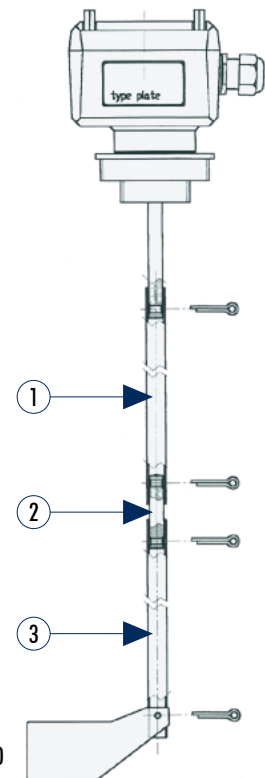
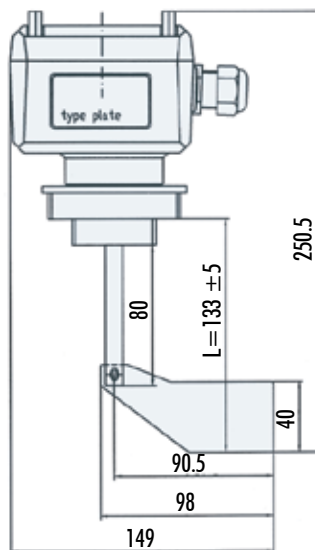
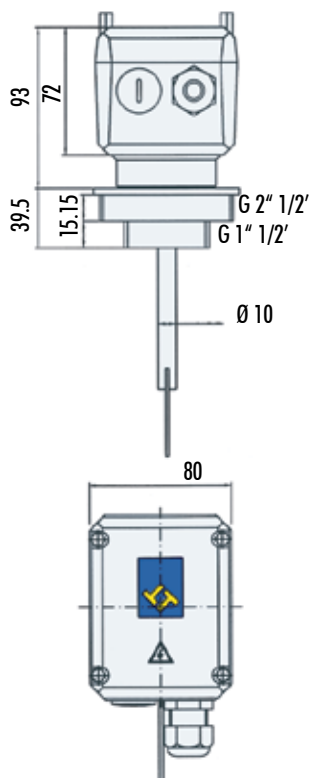
Rotary Level Indicators ILT



Technical Features / Performance ▼

- ▶ Voltages available: 24 V – 48 V (AC), 50-60 Hz;
110 V – 230 V (AC), 50-60 Hz; 24 V (DC)
- ▶ Signal output: Floating microswitch AC max. 250 V, 2 A
- ▶ Standard connection: thread G 1½" – G 2½"
- ▶ Enclosure: IP 66
- ▶ Working temperature inside vessel:
- 20 °C to 80 °C (- 4° F to 178° F)
- ▶ Vessel maximum pressure: max. 0.8 bar (12 PSI)
- ▶ Threaded fittings material: Plastic
- ▶ Rotating shaft and measuring paddle material: 304 stainless steel
- ▶ Casing material: Aluminium alloy
- ▶ Speed of measuring paddle: 1 rpm
- ▶ Friction clutch protection of gears from impacts
on measuring paddle
- ▶ Self-opening double paddle for light materials
- ▶ Flanged connection as option
- ▶ Modular shaft extension up to 3 metres (10 ft)
- ▶ External light

Overall Dimensions ▼



Lime Dosing

Continuous Level Measurement - ILS

15



Description ▼

A sensor weight, attached to a metal tape or rope, is electromechanically lowered into the vessel. Once the sensor weight rests on the material, the winding direction of the motor changes and the sensor weight is rewound to the upper stop position. As the weight is lowered, the distance is electronically measured.

A microprocessor converts the measured distance together with the programmed silo geometry into a volumetric output signal. This signal is updated each time the sensor weight is lowered.

Application ▼



Benefits ▼

- ✓ **Appropriate for nearly all kinds of bulk solids;**
- ✓ **Insensitive to:**
 - *Dielectricity and conductivity of the bulk material;*
 - *Dust inside the silo;*
 - *Changes in moisture of the bulk material;*
 - *Materials that tend to stick;*
- ✓ **No mechanical force on the silo top; sensor touches material only on its surface;**
- ✓ **Simple installation and commissioning;**
- ✓ **High-tech measurement; easy to understand;**
- ✓ **Highly accurate measurement.**

Lime Dosing

Continuous Level Measurement - ILS



Technical Features / Performance ▼

- ▶ **Silo pressure**
max. 0.3 bar (44 psi)
- ▶ **Temperature inside silo**
ILSC-ILSD: -40°C + 80°C (-40°F +176°F) standard
+ 150°C / + 250°C (+302°F / +482°F) option
ILSE - ILSF: -40°C + 80°C (-40°F +176°F)
- ▶ **Ambient temperature**
ILSC - ILSD: -20°C/ +60°C (-4°F +140°F) standard
-40°C / +60°C (-40°F + 140°F) with internal heater
ILSE - ILSF: -20°C/ +60°C (-4°F +140°F)
- ▶ Microprocessor-controlled measurement with intelligent supervision;
- ▶ Integrated tape cleaner for extremely difficult materials (tape version);
- ▶ Different sensor weights, suitable for all applications;
- ▶ Robust dual-chamber aluminium die-cast casing IP66, NEMA 4.

Technical Characteristics	ILSE / ILSF	ILSC / ILSD
Measurement of	Solids	Solids - Interface
Version	Rope - Tape	Rope - Tape
Remote Box	NO	Max. 10 Units
Measuring Range	Rope: 15/30 m Tape 15/30 m	Rope 30 m Tape 40 m
Process Temperature	-40°C / +80°C	-40°C / +250°C MAX
Process Pressure	+0.2 bar	+0.3 / 1.5 bar
Ex- Approval	ATEX II 1/2 D	ATEX II 1/2 D
Power	230 V AC 115 V AC 20...28 V DC	98...253 V AC 20...28 V DC
Process Connection	1 1/2" Thread Flange DN100	Flange DN 100
Diagnostics	4-20 mA	Relais, 4-20 mA Remote Box Diagnose History SD Card
Measurement Start	Internal Timer External Signal	Remote Box Internal Timer External Signal
Output	4-20 mA	0/4-20 mA MODBUS 5/10 cm Relay Pulse 1/2,5 cm opto pulse
Casing	Aluminium, Painted	Aluminium, Optionally Painted
IP Rating	IP 66	IP 66
Rope/Tape Cleaner	Tape Integrated	Tape Integrated
Motor	Standard	Standard Industrial
Number Of Pulleys	1	2

This datasheet might not show the complete range but only the models specialised for the application.

Lime Dosing

Probe Level Indicators ILK

17



Description ▼

ILK Level Probes are designed for level monitoring in bins, hoppers or silos by means of the capacitance variation detection around the probe.

Function ▼

When material is present near the probe, the electronic module detects the capacitance variation of the volume around the probe and switches the electro-mechanical contact.



Application ▼

ILK Capacitive Level Indicators are fitted upon the walls of a bin, silo or hopper, depending on the type of detection they're installed for.

Benefits ▼

- ✓ Simple and reliable (no moving parts);
- ✓ No product in contact with casing;
- ✓ Suitable for extremely light products;
- ✓ Pre-calibration enabling measurement in most applications with no additional calibration on-site;
- ✓ Adjustable sensitivity (4 ranges);
- ✓ Double-threaded fitting ensures system compatibility;
- ✓ Easy and quick installation and replacement.

Lime Dosing

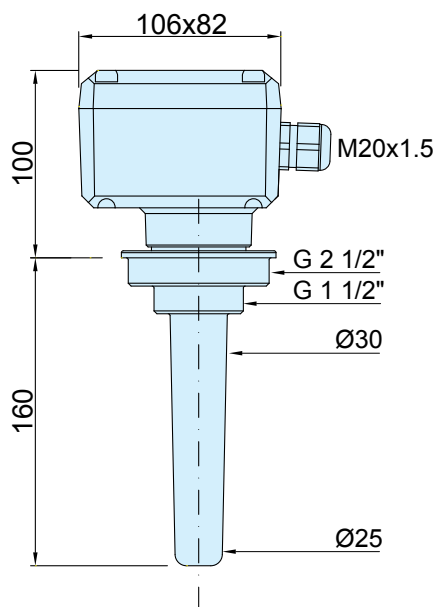
Probe Level Indicators ILK



Technical Features / Performance ▼

- ▶ Product sensitivity: Dielectric constant (Dk) > 1.6; max. grain size 30 mm
- ▶ Power supply: 21 ... 27 VDC ($\pm 10\%$); max. 1.5 W
- ▶ Signal Output: Floating relay SPDT AC max. 250 V, 3A non inductive DC max. 30V, 5A non inductive
- ▶ Standard connection: G 1½" - G 2½"
- ▶ Enclosure: IP66
- ▶ Process temperature - 40°C + 100°C (up to +120°C if ambient temp. is lower than 50°C)
- ▶ Ambient temperature - 40°C + 60°C
- ▶ Max. process pressure: 16 bar
- ▶ Thread fitting and probe material: fiberglass-reinforced plastic
- ▶ Casing material: aluminium alloy
- ▶ Adjustable signal delay from 0.5 s to 20 s
- ▶ Adjustable signal output logic

Overall Dimensions ▼



This datasheet does not show the complete range but only the models most suitable for the application.



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Lime Dosing

Silo Safety System KCS

19

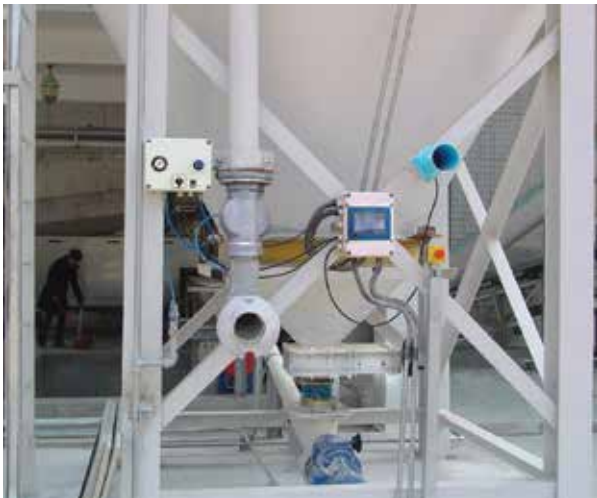


Description ▼

The KCS Silo Safety System for the safeguarding of silos consists of a central electronic monitoring and control unit which manages a series of silos and a component kit including, in the basic version one power panel for each silo, a silo pipe connection, a pinch valve, a tanker coupling with the filling pipe, a maximum level indicator, a differential pressure switch or electronic pressure meter, a pressure gauge for the venting filter, a pressure relief valve, and an audible alarm.

Function ▼

The KCS Silo Safety System can be used for silos which are filled by tanker with powdery materials. Damage to the silo or its accessories is most likely during the operation of tanker filling. This is due to the risk of overfilling or excess pressurisation. The KCS system, supplied in component form, prevents both overfilling and excess pressurisation, thus avoiding damage to the silo, to the venting filter or other accessories, as well as reducing the risk of dust emission into the atmosphere.



Application ▼

In Dry-Mix plants it is essential that each silo is equipped with the safety components described. The control panel should be installed in the central control room from where the plant operator can monitor up to 16 silos.

Benefits ▼

- ✓ Avoids harm to people and damage to the silo and its accessories;
- ✓ Reduces risk of air pollution;
- ✓ Eliminates risk of filling the wrong silo;
- ✓ Starts and stops filter cleaning automatically;
- ✓ Perfect dust emission control.

Lime Dosing

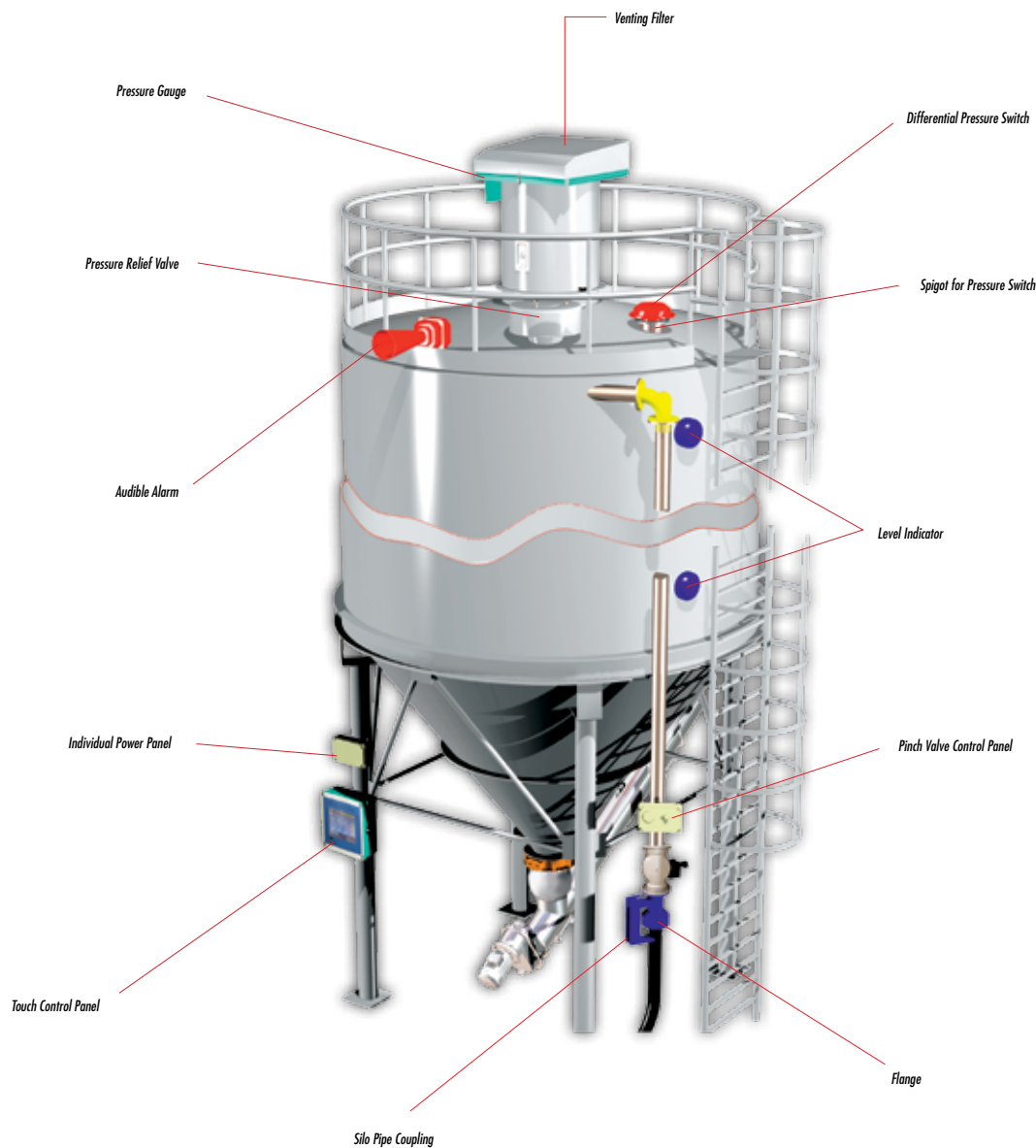
Silo Safety System KCS



Why invest in “KCS” ▼

- ▶ To avoid damage to silo and accessories;
- ▶ To reduce risk of air pollution;
- ▶ To eliminate risk of filling wrong silo;
- ▶ To start and stop filter cleaning automatically;
- ▶ To receive indication from pressure gauge whether filter may need attention;
- ▶ To benefit from control panel monitoring of:
 - Internal pressure of any silo;
 - Maximum level indicator free;
 - Presence of compressed air to venting filter (if air jet filter is used);
 - Presence of compressed air to pinch valve.

Components ▼



This datasheet might not show the complete range but only the models specialised for the application.

Lime Dosing

Pinch Valves VM / Pipe Connections KAT

22



Description ▼

The body of the VM Pinch Valve is manufactured from aluminium alloy. The sleeves are made from fabric-reinforced NR or NBR. The sleeve support bushes are either made from aluminium alloy or 304/316 stainless steel.

Function ▼

VM-type Pinch Valves are used for interception of the material flow in pneumatic conveying systems, or other pipelines. They can be also installed as a locking device for silo filling pipes. In the open position the internal cross section of the valve is identical with the connecting pipe diameter. By introducing compressed air through the threaded bore into the interior of the valve, the internal flexible sleeve is reshaped in such a way as to hermetically seal the passage.



Application ▼

VM Pinch Valves are mounted between the bottom end of the silo filling pipe and the KAT Pipe Connection for tanker filling. Should any abnormal conditions occur, such as excess pressure inside the silo or overfilling of the same, the VM Pinch Valve receives command for instantaneous closure, thus safeguarding the silo from any further filling or overpressurization.

Benefits ▼

- ✓ Full bore-through passage without any pressure loss and stagnation points;
- ✓ Particularly low air consumption;
- ✓ Easy and quick sleeve and bush replacement;
- ✓ Sleeves in fabric-reinforced NR;
- ✓ Compact overall dimensions;
- ✓ Lightweight due to valve body in aluminium alloy;
- ✓ No maintenance required except for periodic replacement of the sleeve and the bushes.

Lime Dosing

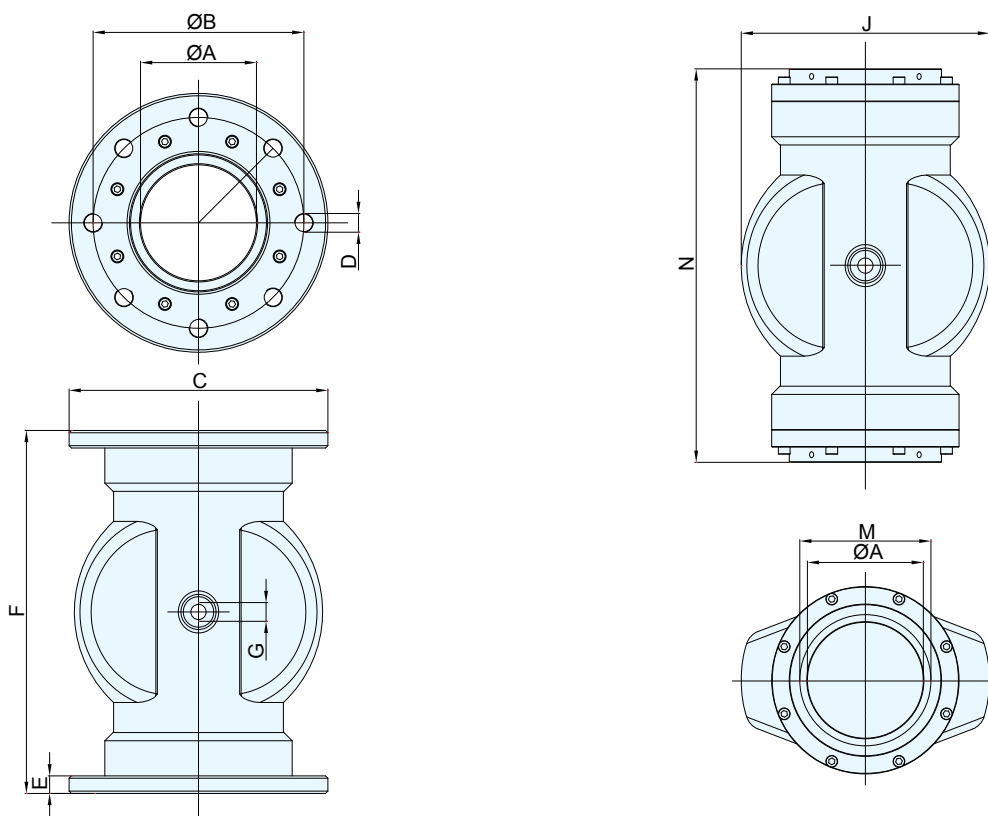
Pinch Valves VM / Pipe Connections KAT



Technical Features / Performance ▼

- ▶ Passage diameter 80mm or 100mm (3 or 4 in)
- ▶ Maximum working pressure: 3.5 bar (52 PSI)
- ▶ Maximum inflation pressure: 6.0 bar (90 PSI)
- ▶ Recommended maximum differential pressure: 2.5 bar (37 PSI)
- ▶ Sleeve material: NR
- ▶ Bush material: Aluminium alloy

Overall Dimensions ▼



TYPE	A	B	C	D		E	F	G	H	J	L	M	N	kg
				Ø	Qty.									
VM080	80	160	200	M 16	4	15	270	1/4"		180		3"	294	5.40
VM0100	100	180	220	M 16	8	15	310	1/4"		214		4"	334	7.60

Lime Dosing

Diverter Valves VAR

23



Description ▼

The VAR Diverter Valves consist of a cast aluminium body and cover and a rotary inner drum which closes one of the two outlet pipes as required.

The rotation of the inner drum is brought about by means of a pneumatic actuator.

The inner sealing is ensured by pneumatically inflatable gaskets.

Function ▼

The VAR Diverter Valves are suitable for conveying any kind of material, both in powder and granular form.

The pneumatic actuator which activates the inner rotary drum makes it possible to switch the outlet pipe and thereby divert the flow of material from one duct to another one.



Application ▼

The VAR Diverter Valves are fitted directly to the pneumatic conveying ducts whenever is needed to switch the flow of material to different production lines.

Benefits ▼

- ✓ No contamination due to the 304 stainless steel contact inserts;
- ✓ Minimum pressure drop thanks to inflatable seal;
- ✓ Minimum friction during diverting operation due to inflatable seal;
- ✓ ATEX-compliant pneumatic actuator and solenoid valves;
- ✓ Use with different materials in one configuration only;
- ✓ Quick process integration thanks to lightweight design and easy handling;
- ✓ Modular design and easy maintenance thanks to small numbers of components.

Lime Dosing

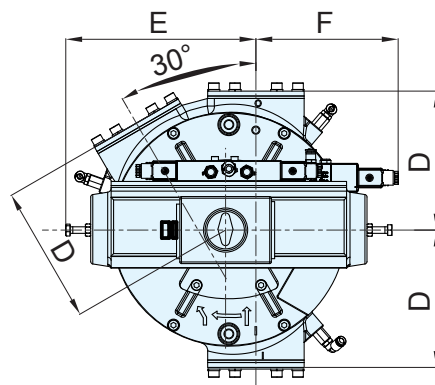
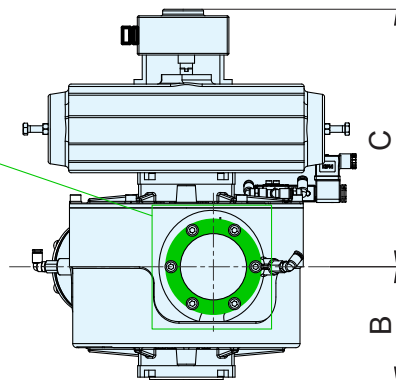
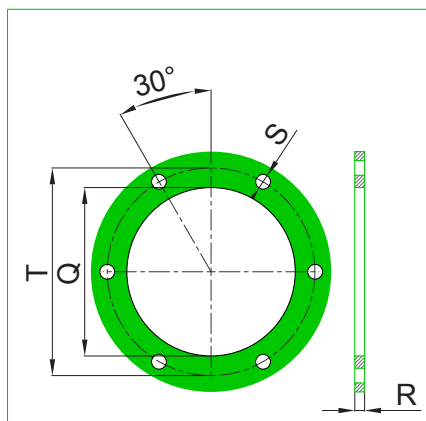
Diverter Valves VAR



Technical Features / Performance ▼

- ▶ Basic structure manufactured from cast aluminium
- ▶ Operating temperature: -20° C to 80° C (-4° F to 180° F)
- ▶ Diverter operating pressure: max. 3.5 bar (36 PSI)
- ▶ Inflatable seal closure pressure: max. 4 bar (58 PSI)
- ▶ Pneumatic actuator activation pressure: max. 8 bar (116 PSI)
- ▶ Range comprising diameters from 80mm to 150mm (3 to 6 in)
- ▶ Micro-switch box for signalling actuator position
- ▶ Electro-pneumatic actuator with different supply voltages: 24/48/110/230 V AC

Overall Dimensions ▼



Type	B	C	D	E	F	T	Q	R	S
VAR 080	142	314	169	260	174	103	82	6	9
VAR 100	148	320	209	266	160	127	102		11
VAR 125	181	386	242	299	191	158	127		
VAR 150	197	402	273	305	184	185	158		
VAR 175	216	453	313	432	197	217	177		
VAR 200	233	469	338	436	186	245	208		

Dimensions in mm

Lime Dosing

Diverter Valves - VAD

24



Description ▼

VAD Diverter Valves consist of an aluminium die-cast casing and a swivel flap that closes one duct or the other. The range suits common pipe standards used for pneumatic conveying. Internal sealing of the body is achieved through low friction gaskets.

Surface treatment is available to make the valves suitable for operation with different materials.

Function ▼

VAD-type Diverter Valves are suitable for use in pneumatic conveying lines for handling any type of product in powder or granular form. Through activation of the actuator direction of the material flow is changed. VAD-type Diverter Valves guarantee minimum pressure loss and contamination-free, pressure-proof operation.



Application ▼

VAD-type Diverter Valves are suitable for use in pneumatic conveying lines for handling any type of product in powder or granular form. Through activation of the actuator direction of the material flow is changed. VAD-type Diverter Valves guarantee minimum pressure loss and contamination-free, pressure-proof operation.

Benefits ▼

- ✓ **ATEX certified drives components;**
- ✓ **Manual, Pneumatic and Electric drives available;**
- ✓ **Same drives used also for WAM's valves reduces costs and spare parts;**
- ✓ **Square Counter-Flanges assures system compatibility;**
- ✓ **Using with different product with a single configuration;**
- ✓ **Quickly integration into the process thanks lightweight and easy to handle;**
- ✓ **Modular design and easy maintenance thanks to small numbers of components.**

Lime Dosing

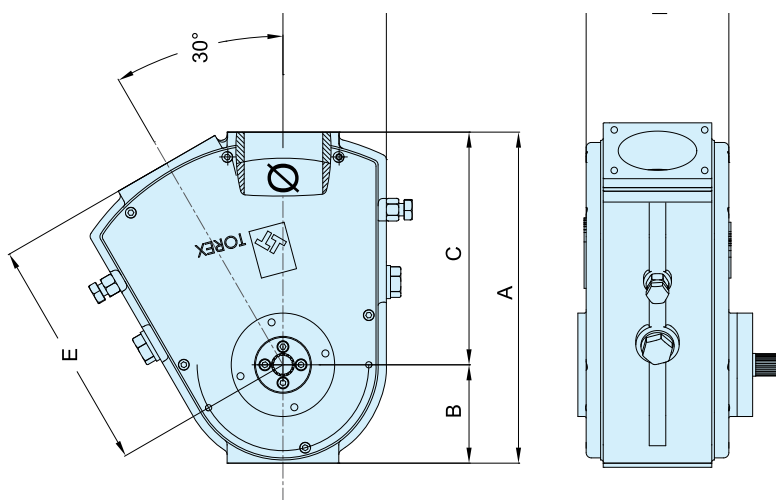
Diverter Valves - VAD



Technical Features / Performance ▼

- ▶ Lightweight design
- ▶ Compact overall dimensions
- ▶ Basic structure manufactured from cast aluminium
- ▶ Operating temperature: -20° C to 80° C (-4° F to 180° F);
- ▶ Diverter operating pressure: max. 2.5 bar (35 PSI);
- ▶ Low friction gaskets
- ▶ Pneumatic actuator activation pressure: max. 8 bar (116 PSI);
- ▶ Range from 50 mm up to 100 mm
- ▶ Micro-switch box for signalling actuator position
- ▶ Electro-pneumatic actuator with possibility of different supply voltages 24/48/110/230 V AC

Overall Dimensions ▼



							ACTUATOR CONNECTION
VAD	Ø	A	B	C	D	F	G
50	45	245	75	170	80	122	CP101 - AE04011 - CM4
80	76	320	95	225	100	135	
100	96	345	105	240	110	155	

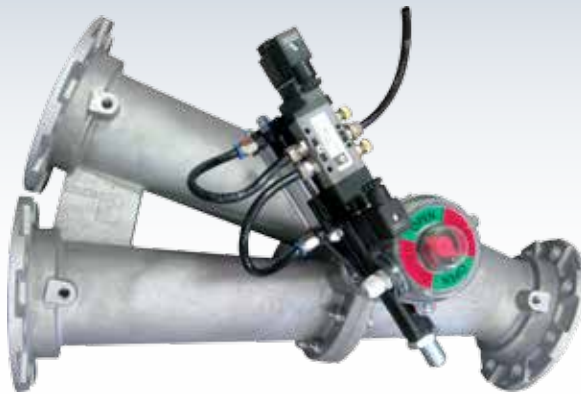
Dimensions in mm

This datasheet might not show the complete range but only the models most suitable for the application.

Lime Dosing

Flap Diverter Valve - VAB

25

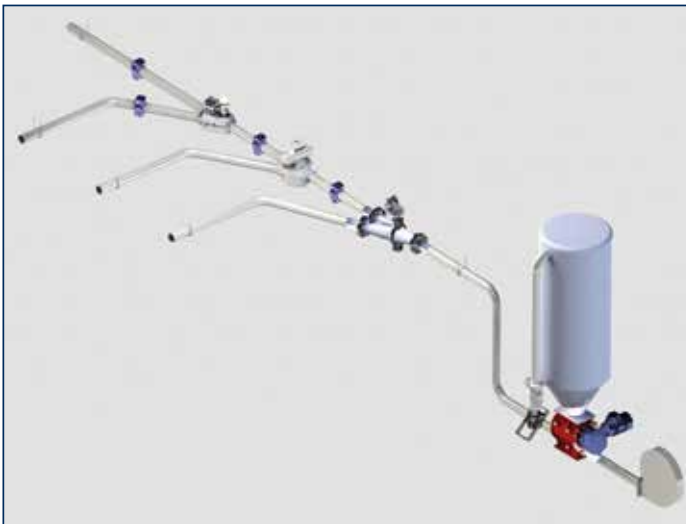


Description ▼

The VAB Flap Diverter Valve consists of a robust casing manufactured from two sections, divided in the middle of the flange for ease of access to the internal sealing flap. The flap components and actuating cylinder are connected to the drive shaft which is integrated into the valve body.

Function ▼

The VAB Flap Diverter Valve is designed to meet pneumatic conveying requirements to re-route powders, pellets or granules from one discharge point to another with minimum pressure drop and high sealing efficiency. The Flap Diverter Valve uses a swinging flapper to convey material from one duct to another.



Application ▼

VAB Flap Diverter Valves are fitted directly to the pneumatic conveying ducts when diverting the material flow to different pneumatic lines is needed.

Benefits ▼

- ✓ **Lightweight and easy to handle;**
- ✓ **Modular design for easy maintenance;**
- ✓ **Low pressure drop;**
- ✓ **Smooth internal surfaces - no sedimentation corners;**
- ✓ **Pneumatic, electric or manual actuator;**
- ✓ **7 sizes ranging from 50 to 200 mm;**
- ✓ **Flap Diverter Valve - VAB can be used as Diverter or Converter.**

Lime Dosing

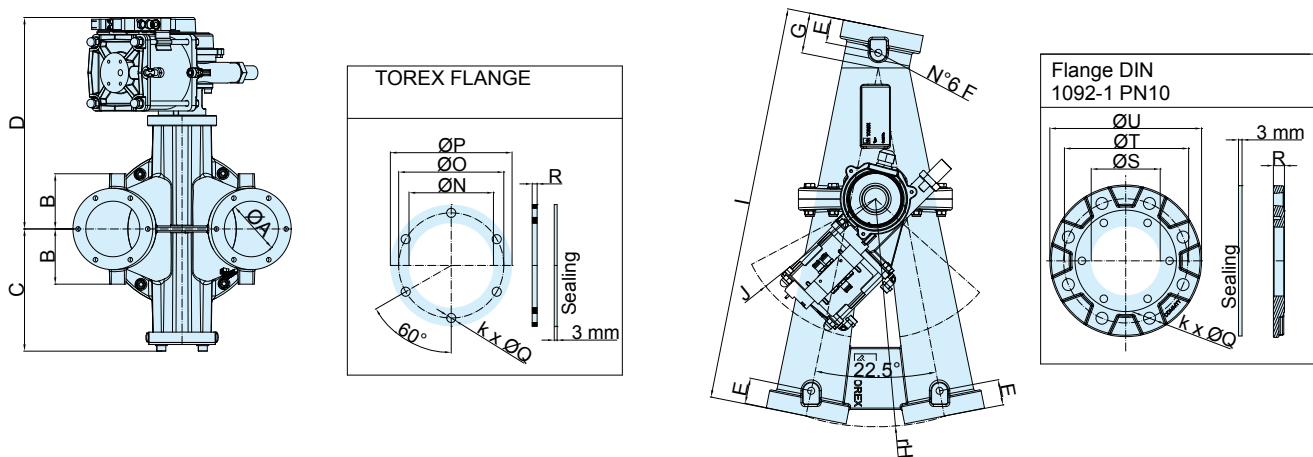
Flap Diverter Valve - VAB



Technical Features / Performance ▼

- ▶ Material: cast aluminium
- ▶ Moveable Flap: EPDM
- ▶ Working Temperature: from - 20°C to 80°C
- ▶ Working Pressure: Max. + 2.0 bar and -0.3 bar
- ▶ Actuators: Pneumatic (CP101 + MIC23), Electric (AE), Manual (CM)
- ▶ Diameter Range: 50 mm – 65 mm – 80 mm – 100 mm – 125 mm – 150 mm – 200 mm
- ▶ Atex Certification available for Group II Cat. 1D/3D C T 135°C

Overall Dimensions ▼



									Pneumatic Actuator		Electric Actuator	
Size	A	B	C	E	F	G	r H	I	D	r J	D	r J
50	50	60	153	32	70	45	448	493	281	205	363	275
65	65	70		37		47	497	545			305.5	
80	80	80	178			59	514	574	412.5			
100	100	90	203			559	629		495			
125	125	110	277	65	M16	74	639	712	330.5			290
150	156	125				74	745	818	402			
200	206	150				857	922					

Dimensions in mm

Lime Dosing

External Electric Vibrators MVE-Type

28



Description ▼

The range of MVE-type External Electric Vibrators is the result of fifty years of experience in vibrating technology for various industrial applications worldwide.

Function ▼

MVE-type External Electric Vibrators are used in a number of different applications: as material flow aids, for screening, conveying, cleaning, detaching, compacting and sorting.



Application ▼

MVE-type External Electric Vibrators are used in powder and granular material processing plants where flow aids are required. Typical applications are hopper emptying, de-stoning machines, vibro-separators, bin activators.

Benefits ▼

- ✓ **2-years-warranty including electric components;**
- ✓ **Ex-stock delivery;**
- ✓ **High quality/price ratio;**
- ✓ **Low maintenance.**

Lime Dosing

External Electric Vibrators MVE-Type



Technical Features / Performance ▼

- ▶ SKF Bearing
- ▶ Working temperature: -20° to 40°C (-4° F to 104° F)
- ▶ Standard voltage: 230/400V, 50Hz (264/460V 60Hz)
- ▶ Standard: Atex Ex II 3D CERTIFIED

Overall Dimensions ▼

TYPE	Dimensional Features																
	FIG.	Size	C (mm)		M (mm)		A	B	Ø G	Bores	D	E	F	H	I	L	N
			50Hz	60Hz	50Hz	60Hz	(mm)	(mm)	(mm)	Qty.	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
MVE 40/15	A	10	211		45		*	*	*	4	130	136	12	48	94	121	85
MVE 90/15	B	20	219		41		62-74	106	9	4	131	159	15	64	121	123	112
MVE 200/15	C	30	260		43		***	***	***	4	154	175	15	79	142	163	131
MVE 400/15	D	40	338		75		105	140	13	4	168	196	22	92	169	178	158
MVE 500/15	D	40	338		75		105	140	13	4	168	196	22	92	169	178	158
MVE 300/15	D	50	311		47		120	170	17	4	208	210	22	94	180	205	170
MVE 700/15	D	50	397		90		120	170	17	4	208	210	22	94	180	205	170
MVE 1100/15	D	50	451		112		120	170	17	4	208	210	22	94	180	205	170
MVE 1400/15	D	60	448		98		140	190	17	4	229	247	30	120	247	220	222
MVE 1700/15	D	60	448		98		140	190	17	4	229	247	30	120	247	220	222
MVE 2400/15	D	60	510	448	129	98	140	190	17	4	229	247	30	120	247	220	222
MVE 2500/15	D	70	522	486	123	105	155	225	22	4	272	284	40	140	267	250	235
MVE 3000/15	D	70	522	486	123	105	155	225	22	4	272	284	40	140	267	250	235
MVE 3800/15	D	75	588	538	140	115	155	255	23.5	4	302	318	35	147	295	273	264
MVE 4300/15	D	75	588		140		155	255	23.5	4	302	318	35	147	295	273	264
MVE 5500/15	D	80	603		130		180	280	26	4	332	360	37	167	345	304	310
TYPE	Dimensional Features																
	FIG.	Size	C (mm)		M (mm)		A	B	Ø G	Holes	D	E	F	H	I	L	N
			50Hz	60Hz	50Hz	60Hz	(mm)	(mm)	(mm)	Qty.	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
MVE 7200/15	D	85	605		120		200	320	28	4	385	410	49	200	422	325	378
MVE 9000/15	D	85	605		120		200	320	28	4	385	410	49	200	422	325	378
MVE 10000/15	E	90	726	646	160	120	125	380	38	6	452	430	44	204	422	367	378

Fig A

A	B	Ø G
mm	mm	mm
62 - 74	106	9
33	83-102	7

Fig C

A	B	Ø G
mm	mm	mm
80	110	11
90	125	13
124	110	11
135	115	11

Fig C

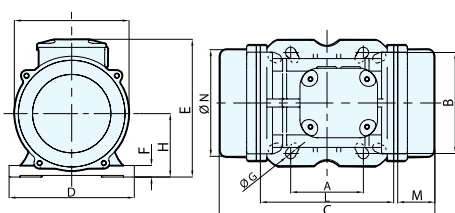


Fig D

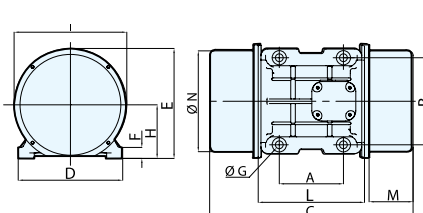
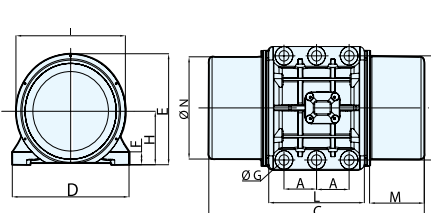


Fig E



This datasheet does not show the complete range but only the models most suitable for the application.

Lime Dosing

“VB” Vibrating Bin Aerators

29



Description ▼

Vibrating Bin Aerator types VB (VBE, VBI, VBM) combine product aeration under operating pressure reaching 6 bar (87 PSI) with an additional slight vibration on the silo wall (see rear for sizing, positioning and number of aerators). Due to its design, damage of the silo is impossible even with abrasive materials. An additional backstop valve is not required as, due to the work pressure ranging from 2 to 6 bar (29-87 PSI), no material can enter the zone beneath the elastic FDA-approved silicon lip. VB-type Vibrating Bin Aerators are used for the improvement of mass flow with powders and granular materials. A stainless steel shaft version (VBI) is available on request.

Function ▼

Compressed air is introduced into the stored material through the silicon lip which adheres to the inside silo wall. By varying the operating pressure within a range between 2 and 6 bar (29 to 87 PSI) the intensity of vibration of the elastic silicon lip can be changed. Due to interval operation and a maximum operation time of 5 seconds air consumption is very low.



Application ▼

VB Vibrating Bin Aerators fitted on silos, or storage, weigh or feed hoppers are widely used as fluidisation system in all the situation in which there are powdery materials to discharge.

Benefits ▼

- ✓ Two combined effects: vibration and aeration;
- ✓ No damage to the bin structure;
- ✓ Suitable for powdery and granular materials (non hygroscopic);
- ✓ Self-cleaning;
- ✓ Abrasion-resistant;
- ✓ Durable;
- ✓ Easy to fit;
- ✓ Maintenance-free.

Lime Dosing

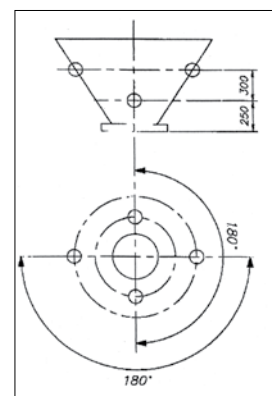
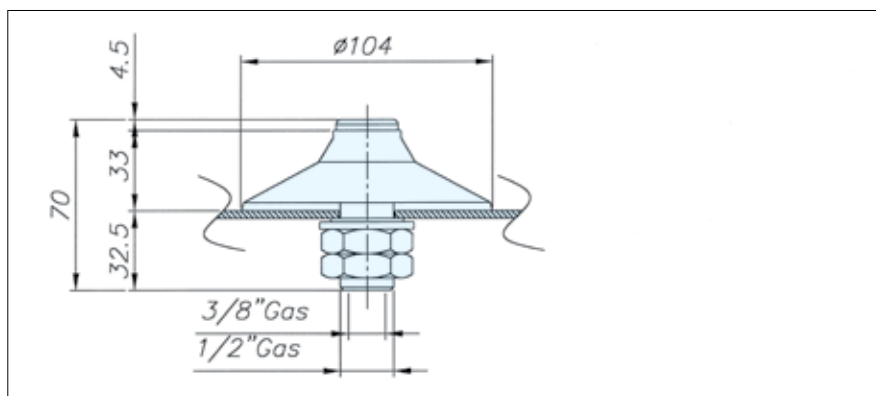
“VB” Vibrating Bin Aerators



Technical Features / Performance ▼

- ▶ Aluminum “anticorodal” shaft (304 SS on request – VBI-Type)
- ▶ Vibrating silicon membrane (FDA-approved)
- ▶ EPDM seal
- ▶ ½” Washer (galvanised steel)
- ▶ 2 nickel-plated brass ½” hexagonal nuts
- ▶ Working temperature: -40° C to 170° C (-40° F to 340° F)
- ▶ Working pressure: 2 to 6 bar (29 to 87 PSI)

Overall Dimensions ▼



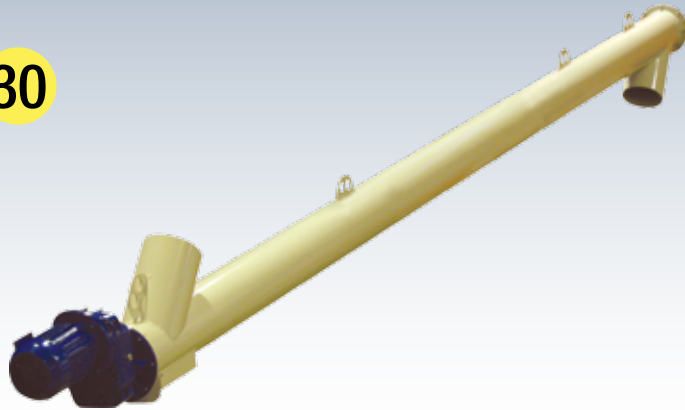
	Max. Air Consumption					
	2 bar (29 psi)		4 bar (58 psi)		6 bar (87 psi)	
	l / min	cfm	l / min	cfm	l / min	cfm
VB	100	3.53	150	5.29	250	8.82
VBE	100	3.53	150	5.29	250	8.82
VBM	70	2.47	90	3.17	120	4.23

This datasheet might not show the complete range but only the models most suitable for the application.

Lime Dosing

Tubular Screw Feeders TU

30



Description ▼

TU Tubular Screw Feeders are highly versatile offering numerous solutions for feeding and conveying powdery materials. They are manufactured from carbon steel with a suitable surface finishing. They are made up from a tubular trough that is equipped with at least one inlet and outlet spout, a welded flange at each tube end, helicoid screw flighting welded on a centre pipe with a coupling bush at each end, two end bearing assemblies complete with self-adjusting shaft sealing unit, a number of intermediate hanger bearings depending on the overall length of the screw conveyor. Furthermore, TU Tubular Screw Feeders are equipped with a gear motor that suits the application. They come in a medium-heavy-duty design.

Function ▼

TU Tubular Feeders are highly versatile and offer a variety of standard solutions for handling powders. A powdery material such as lime is discharged from a silo, picked up by the TU Screw Feeder and fed into a milk of lime dissolver.



Application ▼

Lime is stored in a silo from where it is discharged by means of a vibratory bin activator into a screw feeder which transfers the lime to a dissolver for the preparation of milk of lime.

Benefits ▼

- ✓ Easy installation;
- ✓ Durable;
- ✓ Small diameter;
- ✓ Great efficiency;
- ✓ Precise feed rates;
- ✓ Modular design offering great variety of options;
- ✓ Optimum price-performance ratio.

Lime Dosing

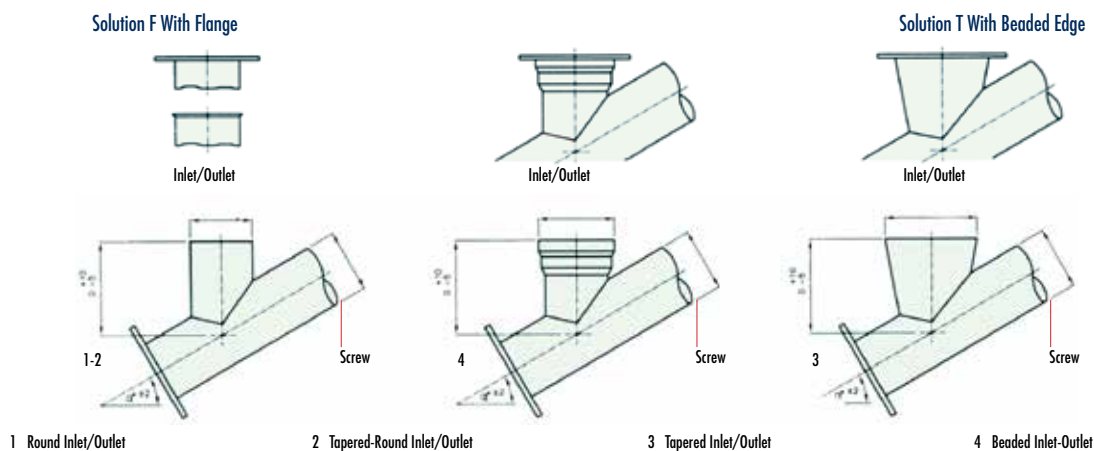
Tubular Screw Feeders TU



Technical Features / Performance ▼

- ▶ Powder-coated
- ▶ Wide range of outside tube diameters
- ▶ Outside tube complete with welded end flanges, one inlet, one outlet, inspection hatch beneath inlet and each intermediate hanger bearing
- ▶ Helicoid screw flighting welded on centre pipe
- ▶ End bearing assemblies complete with self-adjusting shaft sealing unit
- ▶ Splined shaft couplings
- ▶ Lifting eyes on each tube section
- ▶ Various types of screw flighting
- ▶ Reduced overall dimensions and compact design
- ▶ Small number of components and spare parts

Overall Dimensions ▼



Ø Screw	Ø Inlet/Outlet	*	Height "D" according to solution chosen																		kg		
			0°		5°		10°		15°		20°		25°		30°		35°		40°			45°	
			F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T		F	T
114	114 ○	1	120		120		120		120		120		170		170		170		170		220		2
	168	3	170	220	170	220	170	220	170	220	170	220	170	220	220		220		220		2		
	193	3	245	295	245	295	245	295	245	295	245	295	245	295	245	295	245	295	245	295	245	295	3
	219	3	225	275	225	275	225	275	225	275	225	275	225	275	225	275	225	275	225	275	245 •	275	3
139	114	1	145		145		145		145		145		145		145		195		195		245		2
	168 ○	4	210		210		210		210		210		245		245		245		295		195		3
	193	4	175	225	175	225	175	225	175	225	175	225	175	225	175	225	225		225			225	2
	219	3	250	300	250	300	250	300	250	300	250	300	250	300	250	300	250	300	300		300 •	300	3
168	168 ○	1	175		175		175		175		175		175		175		225		225		250		3
	193	1	230		230		230		230		230		290		290		290		350		350		5
	219	4	230		230		230		230		230		290		290		290		350		350		8
	273	3	325	375	325	375	325	375	325	375	175	375	325	375	325	375	325	375	325	375	375		5
193	168	3	200		200		200		200		200		200		200		200		250		275		3
	183 ○	1	175		175		175		175		175		225		225		225		275		300		5
	219	1	250		250		250		250		250		295		295		295		360		360		8
	273	4	250	300	250	300	250	300	250	300	250	300	250	300	250	300	300		300	300			5
219	323	3	290	340	290	340	290	340	290	340	290	340	290	340	290	340	290	340	340		340 •	340	7
	193	1	205		205		205		205		205		205		255		255		305		305		5
	219	1	205		205		205		205		255		255		395		395		395		395		8
	273	4	280		280		280		280		280		335		335		335		405		405		10

Beaded edges and flanges to be ordered as accessories

- For flange selection see catalogue
- Standard diameter unless specified otherwise

This datasheet does not show the complete range but only the models most suitable for the application.



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