

# Flour Milling

## Bin Activator BA BAEX



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### 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 of the Bin Activator 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 connected feeder.

BA Bin Activators are used in various applications in the flour milling industry 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 ratholing phenomena.



### Application ▼

#### Discharging of a variety of powders

Usually fitted in large numbers under the ground material storage silos or daily buffer silos/hoppers to discharge poorly flowing powders such as flours, starch or by-products.

The Bin Activator outlet is usually shut off by a slide valve or butterfly valve which is connected via flexible connection to a mechanical conveying device or loading bellow.

### Benefits ▼

- ✓ No material residue due to no deadends design;
- ✓ No material contamination thanks to foodgrade paint;
- ✓ High discharging performance;
- ✓ Reduced maintenance thanks to long-life seal material;
- ✓ Total operator safety according to ATEX directive.

# Flour Milling

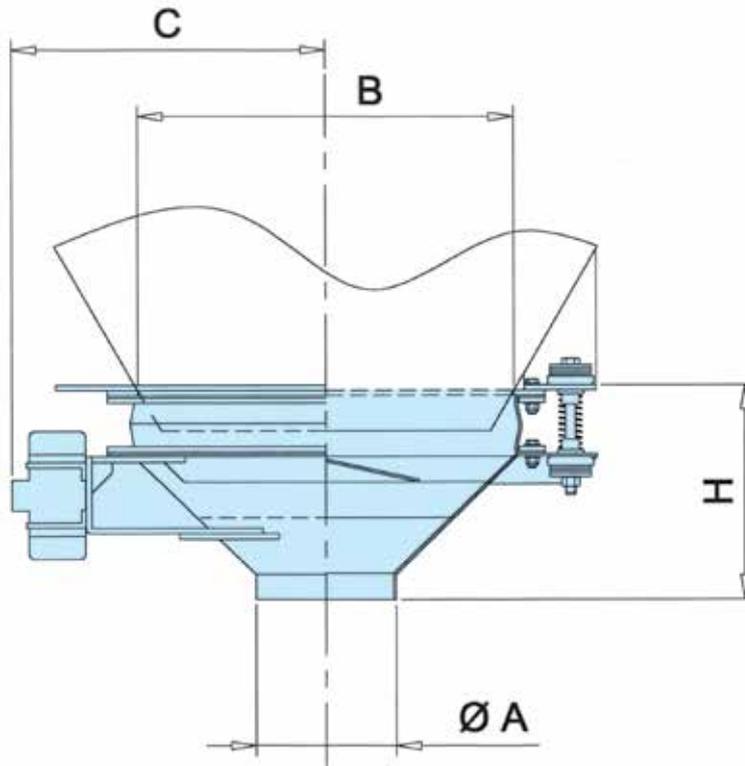
## Bin Activator BA BAEX



### Technical Features / Performance ▼

- ▶ Diameters up to 2,100mm
- ▶ Fabricated parts in food-grade, epoxy-painted mild steel
- ▶ FDA-approved seal on request
- ▶ No internal residue nests
- ▶ Smooth internal finishing
- ▶ ATEX-compliant

### 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

(\*) Further outlet dimensions reported in Technical Catalogue

Dimensions in mm

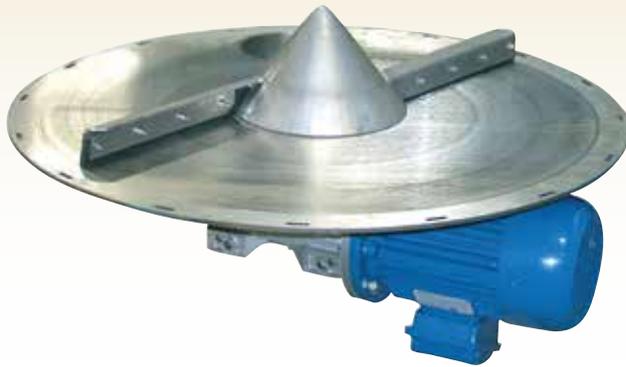
*This datasheet might not show the complete range but only the models most suitable for the application.*

# Flour Milling

## BINSWEEP® Rotary Dischargers BSN



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### Description ▼

The BINSWEEP® Rotary Discharger is a device through which powders or granular materials are discharged from small size bins or hoppers provided there is a low headload. Flanged on the outlet of the bin or hopper, BINSWEEP® has a bottom disc equipped with two rotating arms fixed at its centre. Scrapers are fitted on the lower end of the arms that move the material towards an outlet spout in the bottom plate. A gear motor that applies motion to the rotary arms is mounted outside in the bottom centre of the disc.

### Function ▼

The BINSWEEP® Rotary Discharger is an efficient discharging device for a variety of powders and granular materials. It is applicable to small bins or hoppers. Its low height reduces the overall dimensions of the system layout.

BINSWEEP® is frequently used for the recovery of dust from medium-size dust collectors and as a discharging device fitted beneath manual bag openers.



### Application ▼

The BINSWEEP® Rotary Discharger enables efficient discharging and cleaning of the material collecting hopper fitted beneath the manual bag opener. Thanks to BINSWEEP® the bags can be opened at a comfortable work height. In this way a special steep-angle underground hopper design can be avoided.

### Benefits ▼

- ✓ **Continuous, even discharging;**
- ✓ **Minimum space required;**
- ✓ **Low maintenance costs due to equipment components highly resistant to wear;**
- ✓ **Minimum material residue.**

# Flour Milling

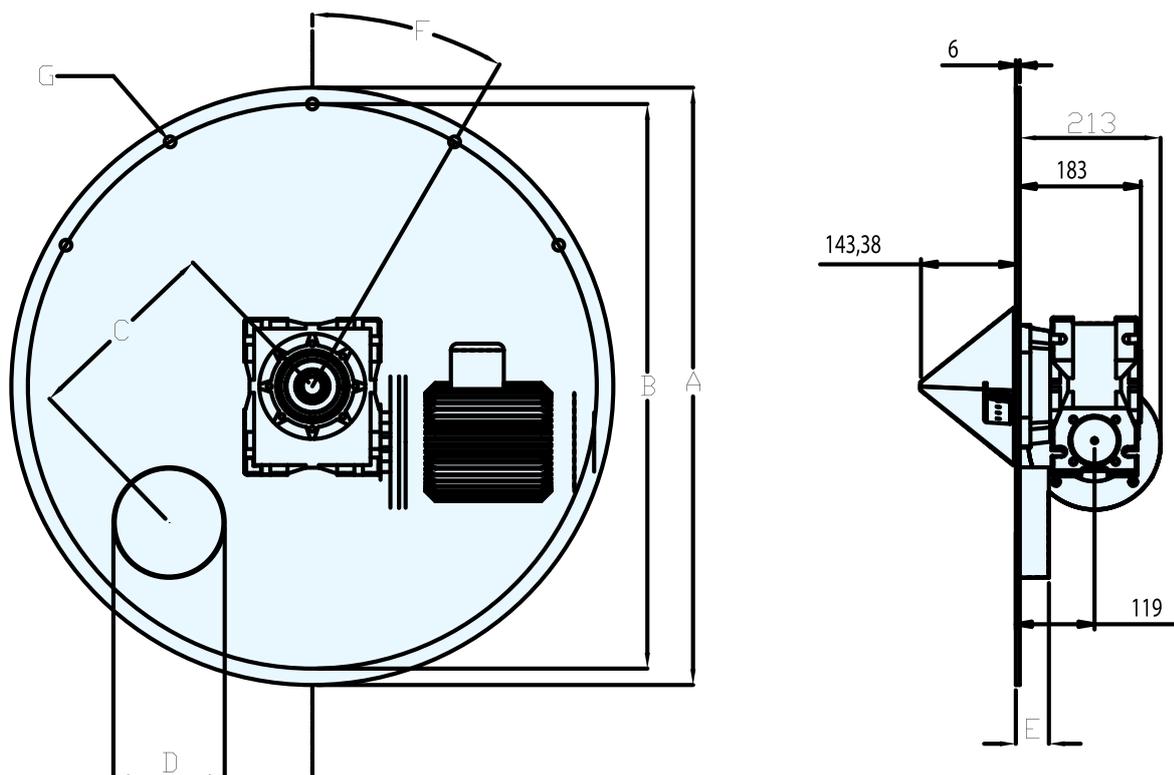
## BINSWEEP® Rotary Dischargers BSN



### Technical Features / Performance ▼

- ▶ Body material: mild steel or stainless steel;
- ▶ Low operating noise level

### Overall Dimensions ▼



	BSN 075	BSN 090
<b>A (mm)</b>	910	1,075
<b>B (mm)</b>	860	1,020
<b>C (mm)</b>	300	359
<b>D (mm)</b>	168	193
<b>E (mm)</b>	50	50
<b>Nbr. of G</b>	12	12
<b>Ø G (mm)</b>	16.5	16.5
<b>F</b>	30°	30°
<b>kW</b>	1.1 - 1.5	1.1 - 1.5
<b>RPM</b>	14	14

Further outlet dimensions reported in Technical Catalogue

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# Flour Milling

## BU Tapered Multiple-Shaft Screw Feeders



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### Description ▼

BU are screw feeders with tapered screws and tapered trough. They come with 2, 3, 4, 5 or 6 screws in a single trough.

In the basic configuration they consist of:

- One or more direct-mounted drives each drive powering two screws;
- Gear transmission;
- Modular trough;
- Tapered screws;
- Flow intercepting diaphragm to avoid material flushing;
- No intermediate bearings;
- Splined shaft couplings;
- Flanged end bearing assemblies opposite drive end;
- Mild steel design.

### Function ▼

| Feeding from silos containing flour, groats or by-products (bran, middlings).



### Applications ▼

BU Multiple-Shaft Screw Feeders are installed beneath flour, groat or by-product silos if bin activators cannot be used. BU feeders can be used instead of MMU-type Live Bin Bottoms. The advantage of BU over a live bin bottom is a more efficient extraction of the material as it eliminates the risk of jamming.

### Benefits ▼

- ✓ Progressive material feeding in the open trough part (inlet) ensuring accurate material flow from the silo;
- ✓ Modular trough design enables easy access to internal components without the need of drop bottom troughs and/or inspection hatches;
- ✓ Reduced, easy and quick maintenance;
- ✓ Low material residue.



# Flour Milling

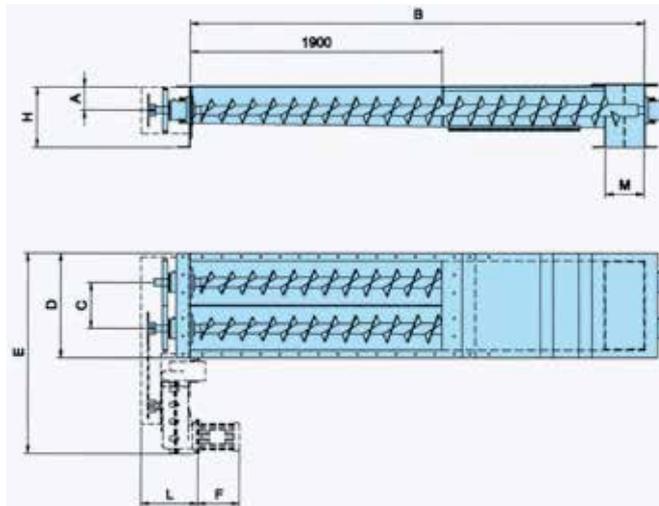
## BU Tapered Multiple-Shaft Screw Feeders



### Technical Features / Performance ▼

- ▶ Wide range from Ø 150 to 400 mm;
- ▶ Feed rates up to 200 m<sup>3</sup>/h;
- ▶ Modular overall length in steps of 500 mm;
- ▶ Variable length open trough section depending on silo outlet dimensions;
- ▶ Fixed tapered screw and trough length;
- ▶ Accurate finishing (no steps or niches);
- ▶ Direct drive (directly connected with screw) with either direct power transmission, linear shaft coupling, offset chain transmission, or offset belt transmission;
- ▶ End bearing assemblies with long-life lubricated bearings and adjustable Teflon<sup>®</sup> seals;
- ▶ Wide range of accessories and options: overflow hatches with safety grid, tubular trough inserts, trough feet, rotation detectors, flow intercepting diaphragms.

### Overall Dimensions ▼



Screw Ø	Gear Reducer	A	B	C	D	E *	F *	H	L *	M	N	kg
BU 150	S 41	115	2,500	165	433	845	391	260	232	175	343	216
	S 43	115	2,500	165	433	903	510	260	232	175	343	236
BU 200	S 43	135	3,000	220	535	1,023	491	320	275	225	445	356
BU 250	S 43	160	3,000	270	635	1,128	372	375	275	275	545	416
	S 45	160	3,000	270	635	1,195	670	375	275	275	545	476
BU 300	S 45	195	3,000	315	750	1,305	662	440	283	325	640	540
	S 47	195	3,000	315	750	1,325	666	440	283	325	640	606
BU 350	S 45	235	3,000	380	865	1,425	662	510	283	375	755	760
	S 47	235	3,000	380	865	1,448	666	510	283	375	755	920
BU 400	S 47	270	3,500	425	965	1,550	685	575	317	425	850	1,077
BU 500	S 47	340	3,500	520	1,175	1,778	685	720	317	525	1,045	1,234

\* Approx. dimensions

Dimensions in mm

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# Flour Milling

## COM Waste Bag Compactors



### Description ▼

The COM Bag Compactor for torn empty bags consists of a mild steel or stainless steel trough with appropriate surface finishing. The U-profile trough is longitudinally split in half to facilitate replacement of the SINT® liner that helps introduction and further compression of the broken bags. The Bag Compactor is equipped with a suitable direct drive unit. At the drive end the compactor is equipped with an end plate fixed to the end flange of the trough for assembly of the end bearing complete with flanged shaft coupling for the bag compacting screw. The other trough end is connected with a tapered pipe that facilitates the progress of the compacted broken bags. At the end of this pipe a polyethylene tube for disposal of the waste bags can be fitted.

### Function ▼

The COM Waste Bag Compactor receives entire empty bags or bag fragments from a bag emptying device compacting the bags to approximately one eighth of their original volume. Collected in a polyethylene hose that is periodically untied and cut, the waste bags can be easily disposed of.



### Application ▼

COM Waste Bag Compactors are fitted on the outlet of an RSM-210 Manual Bag Opener for the compaction and disposal of waste bag material.

### Benefits ▼

- ✓ Easy access to all parts due to modular design;
- ✓ Extra-heavy-duty shaftless compactor spiral able to handle waste bags of any type without adjustment;
- ✓ Detachable outlet safeguard in compliance with CE-regulations;
- ✓ Compactor does not have to be stopped for untying filled polyethylene tube;
- ✓ SINT® engineering polymer liner for better compression of the bags.

# Flour Milling

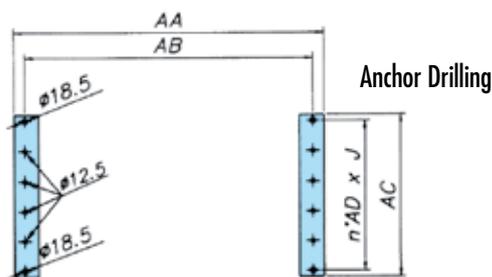
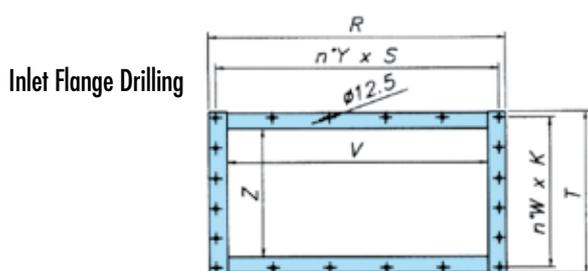
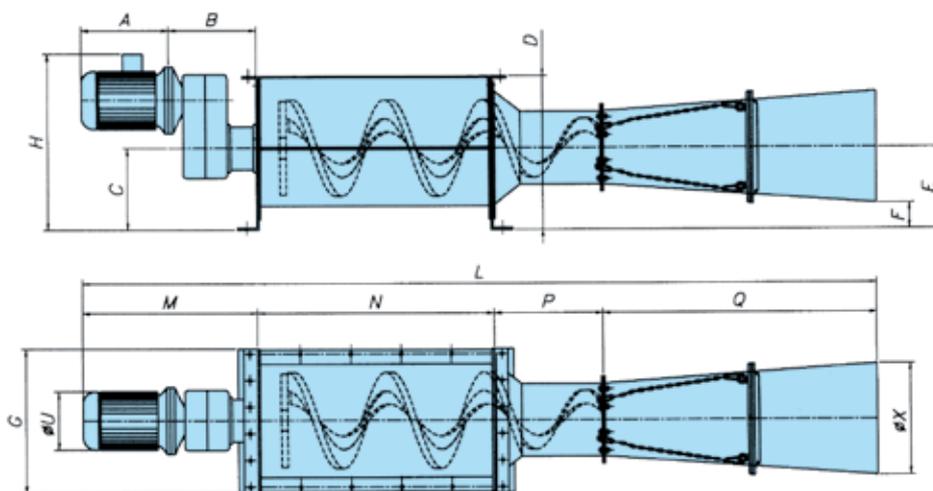
## COM Waste Bag Compactors



### Technical Features / Performance ▼

- ▶ Construction material: carbon steel or stainless steel;
- ▶ Complete with adjustable tensioning ring for polyethylene hose for disposal of waste bags;
- ▶ Heavy-duty shaftless compactor spiral supported at inlet end;
- ▶ Direct gear motor drive mounted at inlet end;
- ▶ ATEX zone 22 certification.

### Overall Dimensions ▼



Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	U	X	R	T	V	Z	AA	AB	AC	N°W	K	N°Y	S	N°AD	J
COM 030	320	320	245	440	245	67	435	600	2,436	640	496	300	1,000	218	357	584	435	484	325	624	564	435	3	128.3	4	136	3	128.3
COM 040	320	320	305	575	305	95	540	660	2,906	640	868	398	1,000	218	420	970	540	850	425	1,010	940	540	5	100	5	185	5	100

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# Flour Milling

## DCC - Loss-In Weight Screw Feeders



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### Description ▼

DCC Loss-In-Weight Screw Feeders consist of a micro-screw feeder in a food-grade polymer body with stainless steel guards and feeder pipe and an optional electronically operated scales pan mounted on load cells.

### Function ▼

Specially suitable for weigh-batch or continuous feeding of dry, flowable powders and granular materials. Weigh feeding is possible thanks to the combination with scales having an off-centre load cell which assesses any variation in weight in time adjusting the feed rate by varying the speed of both discharging and feeding device if used together with electronic controls.



### Application ▼

Wherever powders or granular materials have to be continuously fed and metered, DCC-type Loss-In-Weight Screw Feeders offer exceptional operating versatility due to a highly precise metering performance and excellent user-friendliness.

### Benefits ▼

- ✓ No product contamination due to 316 SS construction and food-grade plastic material;
- ✓ Non-stick body;
- ✓ Easily transformable from volumetric to weigh-batch system by adding BE-type scales;
- ✓ Works either in BATCH or CONTINUOUS mode;
- ✓ Various drive options offer wide range of feed rates or metering capacities;
- ✓ Easy strip down;
- ✓ Easy to clean;
- ✓ ATEX-certified drive components;
- ✓ Suitable for different materials in the same configuration;
- ✓ Available as complete metering system by adding ANSY 8010 Electronic Control;
- ✓ Possibility to extend the use of BE Scales and ANSY 8010 Electronic Control to MBF Microbatch Feeder series.

# Flour Milling

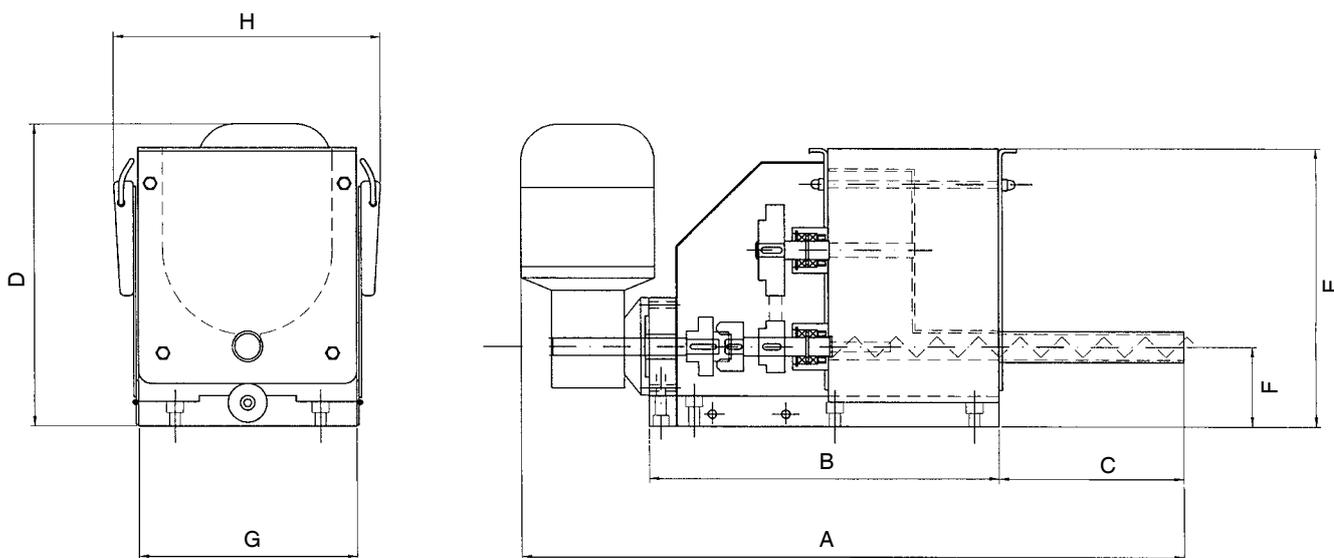
## DCC - Loss-In Weight Screw Feeders



### Technical Features / Performance ▼

- ▶ Feeder rates/metering capacities from 1.4 up to 244 dm<sup>3</sup>/h (0.049 CFH up to 8.616 CFH)
- ▶ Accuracy up to 0.9%
- ▶ Operating temperature: -10° C ~ 50° C (14° F ~ 122° F)
- ▶ Metal parts made from 316 SS
- ▶ Food-grade polymer-cast one-piece body ensures free material flow
- ▶ Variable speed drive supplied on request
- ▶ Lightweight design
- ▶ Compact overall dimensions

### Overall Dimensions ▼



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H
DCC 31	544	287	150	275	230	64	180	220
DCC 32	544	287	150	275	230	59	180	220

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# Flour Milling

## DVA Diverter Valves



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### Description ▼

DVA Diverter Valves consist of a casing in stainless steel lined with SINT® engineering polymer and a flap in SINT® engineering polymer with a steel core. The flap is activated by a manual lever, or by a pneumatic or electric actuator.

### Function ▼

DVA Diverter Valves are equipped with one inlet and two outlets for the diversion of the flow of powdery or granular materials. The engineering polymer materials used enable quick cleaning and maintenance apart from offering great resistance to abrasion.



### Applications ▼

DVA Diverter Valves are used in all types of powder or granular material processing plants where diversion of gravity flow or conveyed dry materials is required.

A typical application is at the end of a milling line or above a bagging machine or a packaging line for FIBCs.



### Benefits ▼

- ✓ **Contact between diverter flap and casing ensures dustproof sealing;**
- ✓ **Elastic outline of the SINT® flap ensures material transport without particle; breakdown, grinding or jamming;**
- ✓ **Suitable for different materials in the same configuration;**
- ✓ **Easy integration into the process thanks to light weight and easy handling;**
- ✓ **Modular design and easy maintenance thanks to small numbers of components.**

# Flour Milling

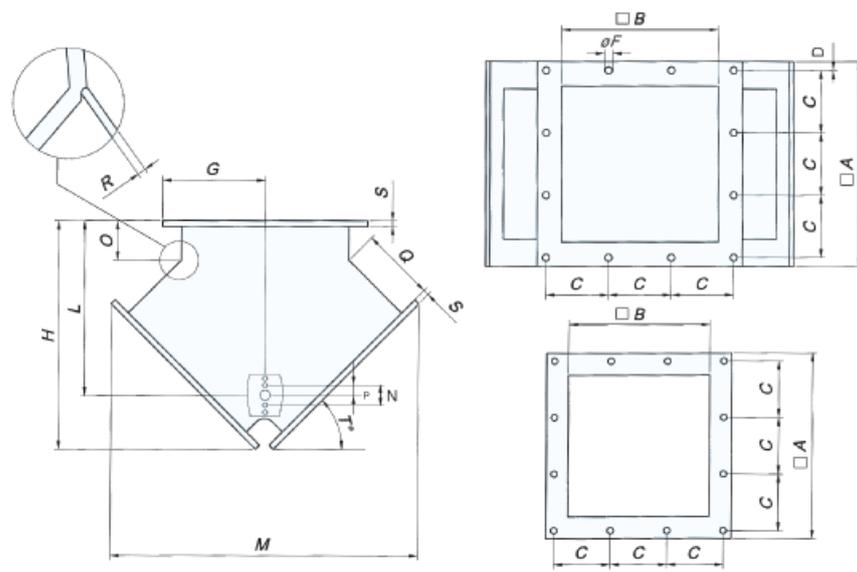
## DVA Diverter Valves



### Technical Features / Performance ▼

- ▶ Range: 150 ~ 300 mm (6 in ~12 in)
- ▶ Dust-tight; max. temperature T= 80°C (176°F)
- ▶ Sturdy 304 SS body completely lined with non-stick, wear-resistant SINT® engineering polymer
- ▶ Flexible casing and flap
- ▶ Easy part replacement

### Overall Dimensions ▼



TYPE	A	B	C	D	ØF	G	H	L	M	N	O	P	Q	R	S	T	kg
150	261	175	115	15	12.5	130.5	312	221	401	50	66	25	98	5	10	45°	12
200	311	225	93.3	15	12.5	155.5	358	267	472	50	66	25	114	5	10	45°	15
250	358	275	110	15	12.5	179	403	312	542	50	72	25	127	8	10	45°	19
300	433	325	128.3	24	12.5	216.5	465	358	645	50	66	25	152	8	10	45°	24

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# Flour Milling

## EXTRABEND® and EXTRACURVE® Pipe Elbows



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### Description ▼

Short-radius EXTRABEND® and wide-radius EXTRACURVE® Pipe Elbows are inserted as a link in pneumatic conveying ducts. Both models are manufactured from a one-piece SINT® engineering polymer cast. Wear-resistant EXTRABEND® and EXTRACURVE® Elbows deflect incoming powders, pellets or granular materials toward the outlet minimising material 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 in all types of dilute phase pneumatic conveying systems.

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 large-radius pipe elbows. Due to its flexibility and adaptability installation is quick while durability is highly 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 suitable for abrasive materials thanks to anti-wear SINT® engineering polymer material;
- ✓ Reduced installation costs thanks to elastic properties (no extra work for connection on site needed);
- ✓ Reduced installation and maintenance time since elbows are easy to handle thanks to lightweight design;
- ✓ Reduced costs for project designing thanks to elastic properties (elastic elbows fit different plant layouts);
- ✓ Considerable reduction of flow resistance, consequently energy saving pneumatic conveying.

# Flour Milling

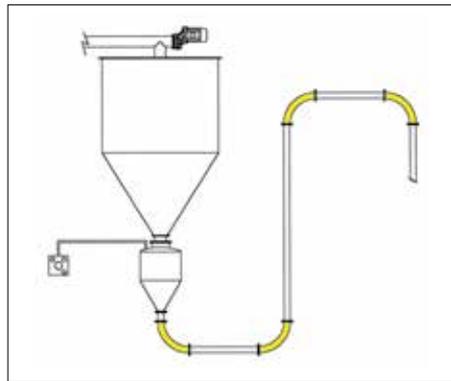
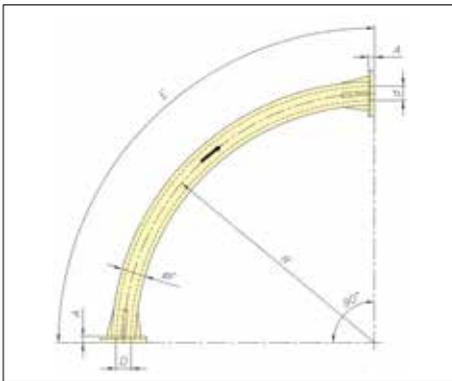
## EXTRABEND® and EXTRACURVE® Pipe Elbows



### Technical Features / Performance ▼

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

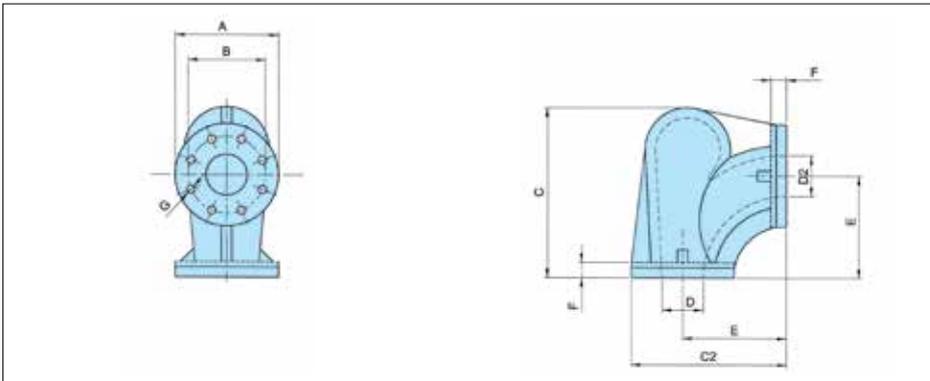
### Overall Dimensions ▼



**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 Piping	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

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# Flour Milling

## EC - EF Bucket Elevators



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### Description ▼

The EC and EF – series Bucket Elevators for vertical conveying of granular and powdery materials consist of a casing entirely manufactured from galvanized / painted mild steel. The machine consists of a head section with a rubber-coated pulley driven by a gear motor, a foot section with a squirrel cage pulley and a screw tensioning system for the belt and the intermediate sections. The material is conveyed by means of HDPE polyethylene buckets which are fixed to an oil-resistant rubber belt.

### Function ▼

EC and EF-series Bucket Elevators are designed for vertical conveying of materials such as cereals and similar products having a grain size between 1 and 13mm. Powders can be equally handled provided they are dry, free-flowing, non-abrasive having a repose angle of  $< 30^\circ$ .

EC and EF series have a high elevation speed (2.4 - 3.1 m/s) and a large number of buckets per meter.



### Application ▼

EC and EF bucket elevators, in their various sizes, find their most typical application in silo filling both in Cereals Storage Plants and Flour Milling Plants. EC and EF bucket elevators are also used in all those processes where vertical conveying is required. They are specially designed to handle all kinds of cereals, such as wheat, barley, corn, rice, soya and others, as well as powdery materials such as flour.

### Benefits ▼

- ✓ Solid and robust design;
- ✓ Easy installation thanks to modular components;
- ✓ Suitable for explosive environments;
- ✓ Totally enclosed equipment, dust tight construction;
- ✓ Low maintenance and small footprint;
- ✓ Outlet shape designed for highest discharge efficiency ;
- ✓ Matching complementary equipment (see Chain Conveyors).



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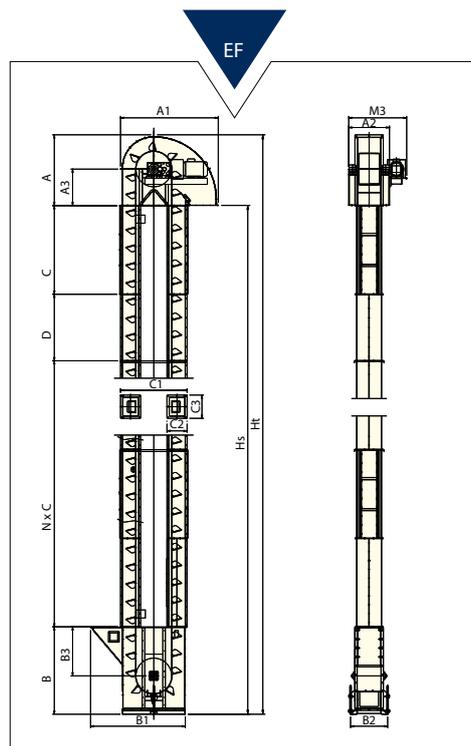
# Flour Milling

## EC - EF Bucket Elevators



### Technical Features / Performance ▼

- ▶ Throughput rates up to 1,400 m<sup>3</sup>/h
- ▶ Discharge heights up to 45m
- ▶ Inspection doors on foot, charge and discharge section
- ▶ Wide range of accessories as:
  - ATEX II3D T4 certification
  - Certified anti-explosion panels
  - Self cleaning foot
  - Electrical control systems
  - Vent outlet for de-dusting system
  - Anti-wear plates on foot and head section on request
  - Maintenance platform
  - 304/316 SS versions



### Overall Dimensions ▼

Model	EF 08	EF 09	EF 11	EF 20	EF 21	EF 29	EF 30	EF 32	EF 39	EF 40	EF 42	EF 43
m <sup>3</sup> /h	8	16	27	36	55	85	106	151	186	232	341	409
Granular Material	EC 08	EC 09	EC 11	EC 20	EC 21	EC 29	EC 30	EC 32	EC 39	EC 40	EC 42	EC 43
m <sup>3</sup> /h	10	20	33	45	69	107	133	188	232	291	336	409
h min./max.	3 ~ 45	3 ~ 45	3 ~ 45	3 ~ 45	3 ~ 45	3 ~ 45	4 ~ 45	4 ~ 45	4 ~ 45	4 ~ 45	4 ~ 45	4 ~ 45
Drum Diameter (mm)	250	250	320	400	400	400	400	500	500	500	610	610
Casing Cross Section	145 x 145	145 x 145	186 x 166	236 x 200	236 x 200	300 x 250	300 x 250	340 x 280	430 x 340	430 x 340	525 x 340	525 x 340
A	602	602	770	922	922	1,056	1,056	1,197	1,408	1,408	1,485	1,485
A1	822	822	1,028	1,224	1,224	1,422	1,422	1,632	1,896	1,896	1,980	1,980
A2	335	335	390	440	440	620	620	700	810	810	962	962
A3	300	300	400	450	450	740	520	600	700	700	745	745
M3	530	530	640	713	713	890	890	1,030	1,140	1,140	1,370	1,370
B	753	753	923	1,104	1,104	1,320	1,320	1,437	1,670	1,670	1,806	1,806
B1	812	812	941	1,135	1,135	1,372	1,372	1,504	1,746	1,746	1,885	1,885
B2	310	310	384	432	432	490	490	586	700	700	782	782
B3	400	400	450	550	550	720	720	750	790	790	1,000	1,000
C	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
C1	548	548	764	822	822	922	922	1,074	1,196	1,196	1,300	1,300
C2 x C3	209 x 209	209 x 209	230 x 250	264 x 300	264 x 300	336 x 386	336 x 386	364 x 424	426 x 516	426 x 516	426 x 611	426 x 611
D	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500	500-1,500
N	DEPENDENT ON HEIGHT											

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# Flour Milling

WAMFLO® Dust Collectors FN / FNX



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## Description ▼

The WAMFLO® FNDust Collector has been specifically developed for the flour milling industry. It is equipped with a round stainless steel body with a large, residue-free access door for easy filter element removal. The housing contains vertically mounted round bag-type filter elements with antistatic filter media. To keep the filter media clean an air jet cleaning system is integrated into the top cover.

## Function ▼

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



## Application ▼

WAMFLO® FN filters are mainly used for silo and weigh hopper venting in the finished product department. They are equipped with a centrifugal fan with a potential air volume capacity of up to 53 m<sup>3</sup>/min.

## Benefits ▼

- ✓ Running cost reduction;
- ✓ Residue-free access door;
- ✓ Round bags available in after market;
- ✓ Compliance with health and safety standards;
- ✓ Maintenance cost reduction;
- ✓ Safety for OEM and End User.



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# Flour Milling

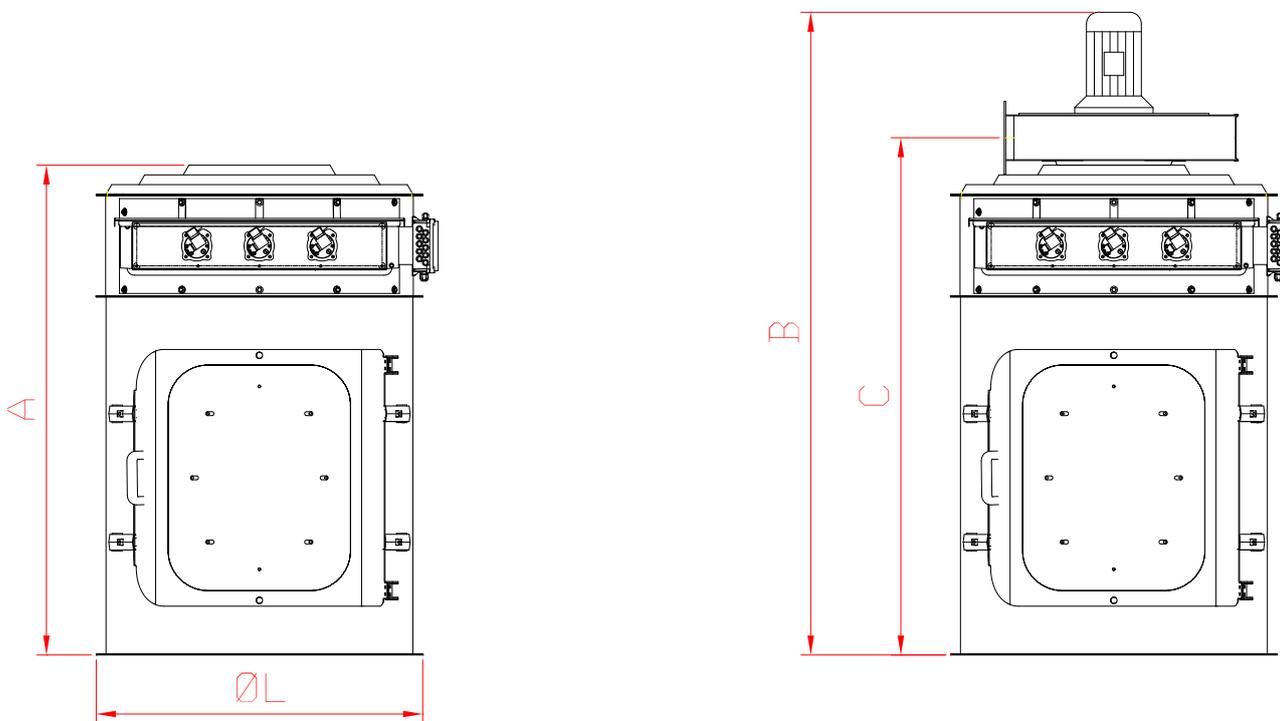
WAMFLO® Dust Collectors FN / FNX



## Technical Features / Performance ▼

- ▶ 304 SS flanged cylindrical body
- ▶ Filter surface from 5 to 21m<sup>2</sup>
- ▶ Low emission level due to B.I.A.-certified filter media
- ▶ Compressed air-jet cleaning system integrated into top cover
- ▶ High efficiency centrifugal fan
- ▶ Pred = 1 bar
- ▶ High cleaning efficiency due to "Full Immersion" solenoid valves incorporated in aluminium air tank (corrosion-resistant) for low maintenance operation
- ▶ Safe weather protection cover with lockable snap hook
- ▶ No tools for filtering element removal required
- ▶ Max. negative pressure: -0.5 bar (-7.3 PSI)
- ▶ Large access door for comfortable filter element removal

## Overall Dimensions ▼



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FILTER CODE	FILTER SURFACE (m <sup>2</sup> )	DIAMETER L	A	B	C
FNB2J05	5	603	1,666	2,221	1,809
FNB3J08	8	783	1,676	2,326	1,839
FNB3J11	11	783	2,156	2,806	2,319
FNB4J16	16	1,038	1,692	2,351	1,859
FNB4J21	21	1,038	2,172	2,831	2,339

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

# Flour Milling

## WAMAIR® Dust Collector FP / FPX



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### Description ▼

WAMAIR® FP Dust Collectors consist of a polygonal shape casing, specifically developed for de-dusting mechanical conveyors or grain handling in flour mills. The filters are equipped with horizontally inserted pocket filter elements with antistatic filter media, and a reverse air jet cleaning system integrated in the hinged access door.

### Function ▼

WAMAIR® Dust Collectors separate dust from the air flow by means of pocket filter elements. Dust drops down after an automatic reverse air jet cleaning device inside the front inspection door has removed it from the filter elements.



### Application ▼

WAMAIR® FP Dust Collectors have been specially developed for de-dusting mechanical conveyors for grains such as belt conveyors, chain conveyors and bucket elevators.

### Benefits ▼

- ✓ Filter dimensions match shape of conveyors;
- ✓ Compliance with health and safety standards;
- ✓ Filter elements available in after market;
- ✓ Safety for OEM and End User;
- ✓ Running cost reduction;
- ✓ Low energy consumption;
- ✓ Maintenance cost reduction.

**ATEX-compliant**



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# Flour Milling

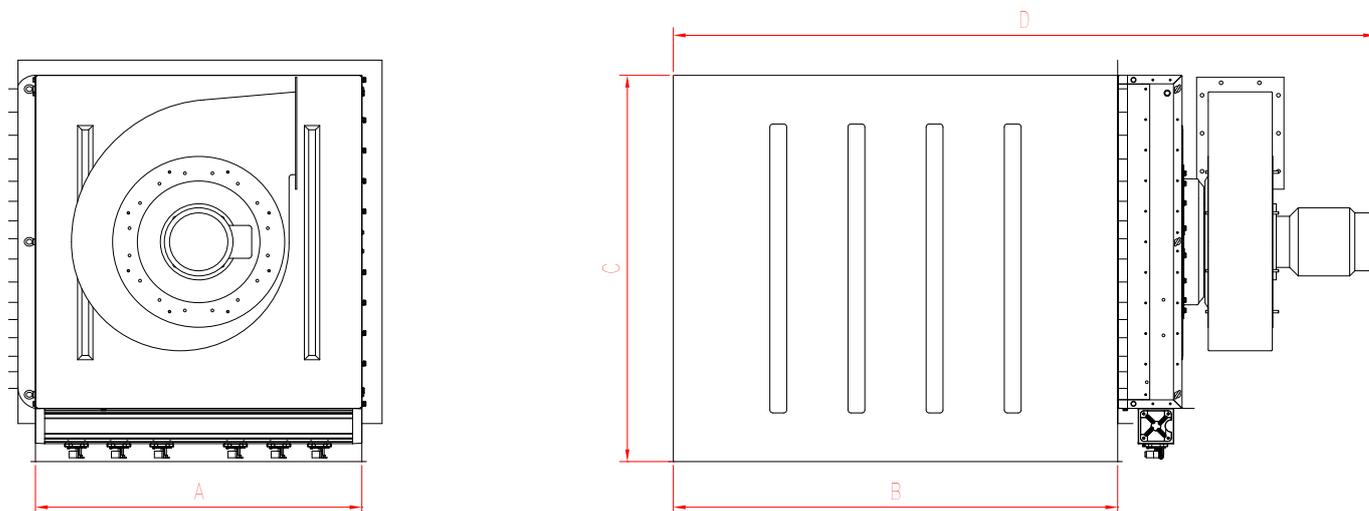
## WAMAIR® Dust Collector FP / FPX



### Technical Features / Performance ▼

- ▶ ATEX-compliant
- ▶ 304 SS polygonal body
- ▶ Filter surface from 5 to 30m<sup>2</sup>
- ▶ Low emission level due to B.I.A.-certified filter media
- ▶ Pred = 0.25 bar (3.6 PSI)
- ▶ Large access door for comfortable filter element removal
- ▶ High cleaning efficiency due to "Full Immersion" solenoid valves incorporated in aluminium air tank (corrosion-resistant) for low maintenance operation
- ▶ High efficiency centrifugal fan
- ▶ Fan integrated into access door

### Overall Dimensions ▼



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FILTER CODE	FILTER SURFACE (m <sup>2</sup> )	A	B	C	D
FPHT 2 05	5	570	950	825	1,820
FPHT 5 09	9	570	1,700	825	2,570
FPHT D 12	12	570	1,200	1,320	2,170
FPHT E 15	15	570	1,450	1,320	2,420
FPHT F 18	18	570	1,700	1,320	2,670
FPHT M 22	22	845	1,450	1,320	2,440
FPHT R 24	24	1,065	1,200	1,320	2,190
FPHT S 30	30	1,065	1,450	1,320	2,530

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

# Flour Milling

## ILT Rotary Level Indicators



11



### Description ▼

ILT-type Bin Level Indicators have been 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 0.5 t/m<sup>3</sup> (0.02 lb per cu in) and 2 t/m<sup>3</sup> (0.08 lb per cu in).



### Application ▼

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

### Benefits ▼

- ✓ No product contamination due to the 304 SS shaft; and measuring paddle, as well as non-toxic plastic fittings;
- ✓ No product contact with the casing;
- ✓ ATEX-zone 20/21-certified;
- ✓ Adjustable via resetting force spring in 3 positions;
- ✓ Double threaded fitting ensures system compatibility;
- ✓ Use with different materials in the same configuration;
- ✓ Easy and quick installation and replacement;
- ✓ Compact overall dimensions;
- ✓ Lightweight due to aluminium alloy casing;
- ✓ Maintenance-free;
- ✓ Cost-effective.

# Flour Milling

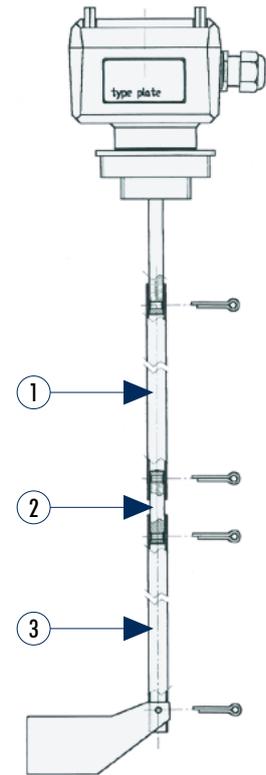
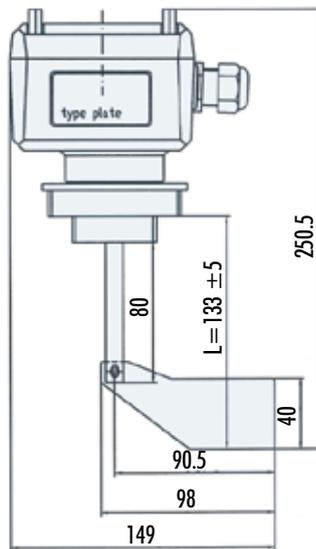
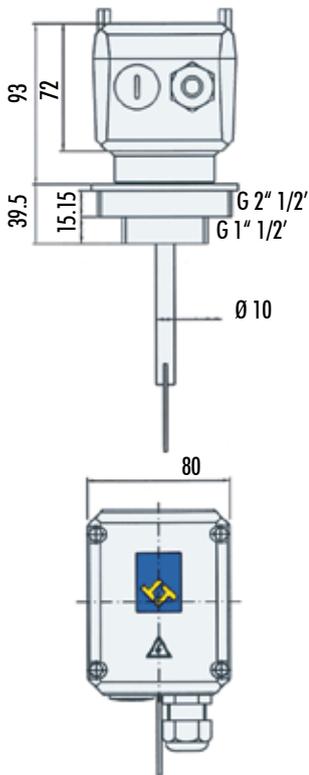
## ILT Rotary Level Indicators



### 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 1 1/2" – G 2 1/2"
- ▶ 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 fitting material: plastic
- ▶ Rotating shaft and measuring paddle material: 304 SS
- ▶ Casing material: aluminium alloy
- ▶ Speed of measuring paddle: 1 rpm
- ▶ Friction clutch protection of the gearing from impacts on measuring paddle
- ▶ Self-opening double paddle for light materials
- ▶ Flanged connection as option
- ▶ Modular shaft extension up to 3 m (10 ft)
- ▶ External light

### Overall Dimensions ▼



1: L = 500 / 1000

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

# Flour Milling

## Micro-Batch Feeders MBF



12



### 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, one drive unit each for agitator and feeder screw.

### Function ▼

MBF Micro-Batch Feeders for feeding of powdery materials are particularly suitable for poorly flowing materials which tend to clog, along with 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.



### Applications ▼

MBF, which come in various configurations, are suitable for feeding granules or powders.

Design flexibility enables feeding of flour, gluten, vitamin or additives in general.

Typical areas of application are production lines for enriched flours or for formulation of flours for special application lines.

Typical positions within the plant are on weighing scales for loss-in-weight installations next to the mixing system. Furthermore, they are positioned inside dosing stations on top of weighing scales upstream of the mixer.

### Benefits ▼

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

# Flour Milling

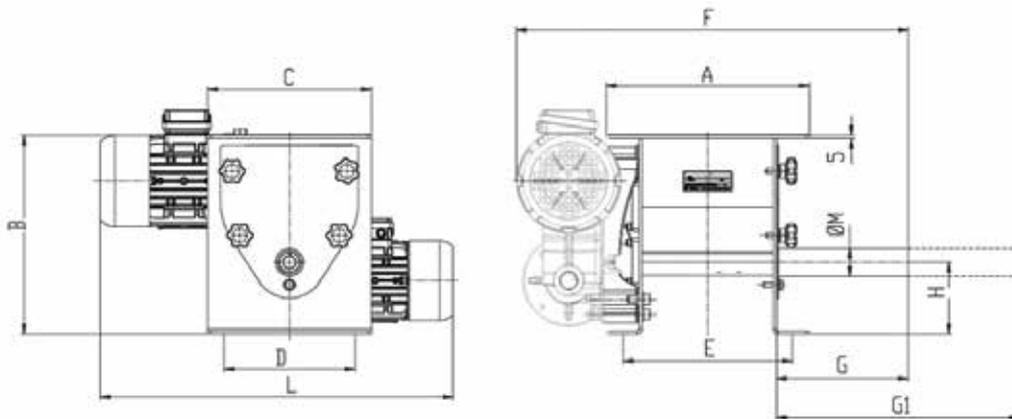
## Micro-Batch Feeders MBF



### 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 dm<sup>3</sup>/h to 4,000 dm<sup>3</sup>/h
- ▶ Agitator and feeder tool with independent drives
- ▶ Internal geometry ensures smooth feeding of particularly difficult materials
- ▶ No material residue
- ▶ Quick-access inspection panel available for stainless steel feeders
- ▶ Contact surfaces in SINT<sup>®</sup> engineering polymer or 304 SS (316 optional) material
- ▶ Different types of 304 SS shaft sealing systems

### Overall Dimensions ▼



MBF	A	B	C	D	E	F	G	G1	H	L	M	N	dm <sup>3</sup>	kg
042	310	295	250	200	260	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 might not show the complete range but only the models most suitable for the application.*

# Flour Milling

## MSC Trough Screw Conveyors



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### Description ▼

The MSC is a screw conveyor with a U-shaped trough. In its basic configuration it consists of:

- Direct drive, with offset chain transmission or belt transmission;
- Intermediate hanger bearings with self-lubricating bushes;
- Shaft couplings splined, or plines and bolted (with conditioned cereals), or bolted only (with stainless steel version);
- Flanged endearing assembly c/w long-life lubricated bearings opposite drive end;
- Adjustable Teflon® packing seals;
- Fabricated parts in powder-coated mild steel or 304 SS; Also available externally in 304 SS and internally in mild steel;
- ATEX-compliant.

### Function ▼

| Conveying flours and dry or moist cereals.



### Applications ▼

MSC Trough Screw Conveyors are used in flour mills in the following applications: cleaning, repose, milling, bagging and storage of flour and by-products (bran and middlings). In particular, they are used for:

- Conveying flour discharged from the plansifter;
- Conveying of flour discharged from bucket elevators for transfer to feed hoppers of bagging machines;
- Conveying of dry cereals from storage silos fed into the MSC by volumetric feeders or rotary valves;
- Conveying of moist cereals from repose silos fed into the MSC by volumetric feeders.

### Benefits ▼

- ✓ Easy access for cleaning especially with drop-bottom trough version;
- ✓ Time-saving maintenance;
- ✓ Low material residue;
- ✓ No risk of material blockage at outlet;
- ✓ Highly reliable;
- ✓ Easy integration into the plant.



# Flour Milling

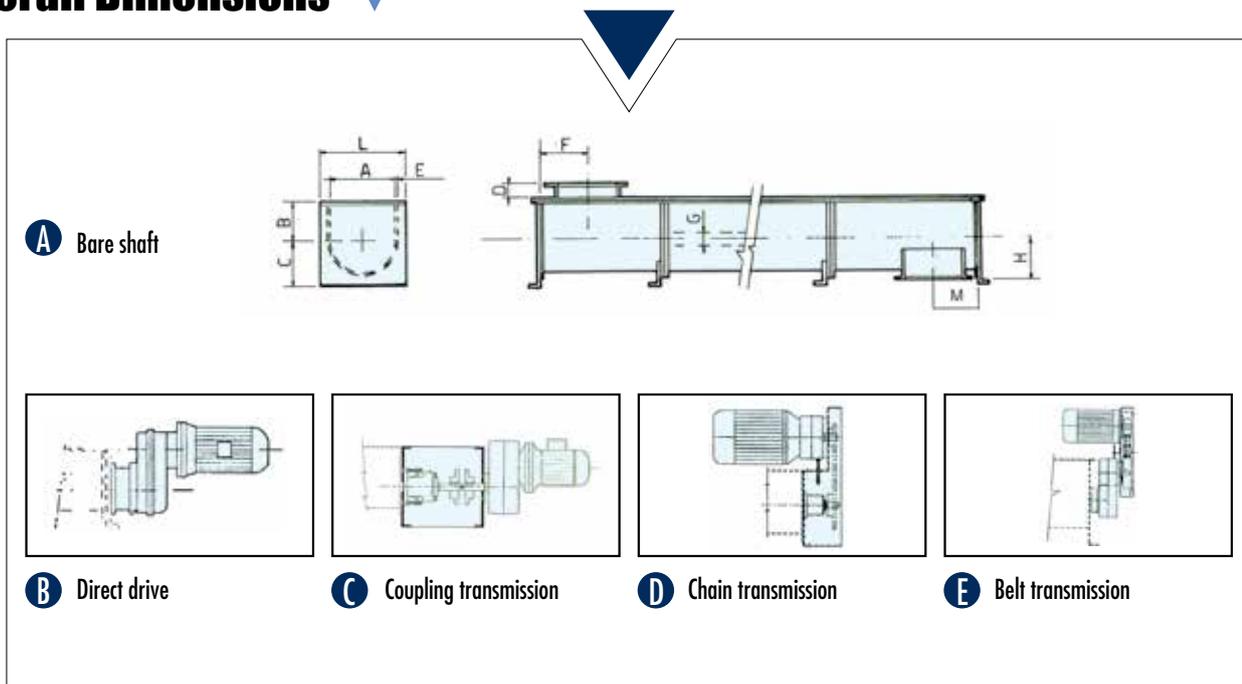
## MSC Trough Screw Conveyors



### Technical Features / Performance ▼

- ▶ Flight diameters from 150 to 400 mm;
- ▶ Throughput rates up to 100 m<sup>3</sup>/h;
- ▶ Up to 25 m long;
- ▶ Accurate finishing without steps or niches;
- ▶ Adjustable Teflon<sup>®</sup> shaft seals;
- ▶ Drop-bottom trough over entire length (on request);
- ▶ Drive unit directly connected to screw;
- ▶ End bearing assemblies with self-lubricating bearings;
- ▶ Wide range of accessories and options: inspection hatches, overflow hatches incl. safety grid, anti-stoppage membrane hatches, additional outlet spouts, trough feet, rotation control detectors, coupling or chain transmissions, emergency stoppage devices.

### Overall Dimensions ▼



Ø Screw	A	B	C	D	E	F min.	G	H	L	M
150	175	115	145	60	2	88	60	130	265	170
200	225	135	185	60	2	113	60	165	315	195
250	275	160	215	60	2	138	60	195	365	220
300	325	195	245	60	3	163	114	225	435	260
350	375	235	275	60	3	188	114	255	485	290
400	425	270	405	60	3	213	114	285	540	340

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

# Flour Milling

## MMU Live Bin Bottoms



14



### Description ▼

The MMU Live Bin Bottom is a multiple screw feeder that consists of 2, 3, 4, 5 or 6 parallel screws in a single trough casing. In its basic configuration it is equipped with:

- One or more direct drives, one each for two screws;
- Gear transmissions;
- Modular trough;
- Screws;
- Flow intercepting diaphragm to avoid material flushing;
- No intermediate bearings;
- Splined shaft couplings;
- Flanged end bearing assemblies opposite drive end;
- Mild steel design.

### Function ▼

| Extracting and feeding flour milling by-products (bran, middlings) from silos.



### Applications ▼

MMU Live Bin Bottoms are installed under the outlets of silos for bran and middlings in flour mills.

### Benefits ▼

- ✓ **Modular trough design enables access to all internal components without; need for drop-bottom troughs and/or inspection hatches;**
- ✓ **Easy, time-saving maintenance;**
- ✓ **Low material residue;**
- ✓ **Progressive feeding process.**

# Flour Milling

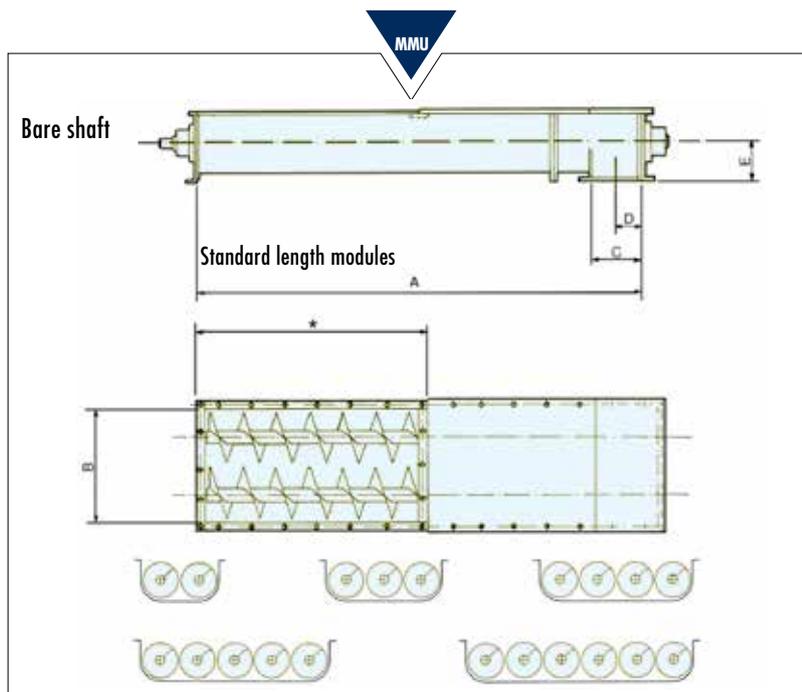
## MMU Live Bin Bottoms



### Technical Features / Performance ▼

- ▶ Flight diameter from Ø 150 to 400 mm;
- ▶ Feed rates up to 200 m<sup>3</sup>/h;
- ▶ Modular overall lengths in steps of 500 mm;
- ▶ Variable length open trough section depending on silo outlet dimensions;
- ▶ Accurate finishing (no steps or niches);
- ▶ Direct drive (directly connected with screw) with either direct power transmission, linear shaft coupling, offset chain transmission, or offset belt transmission;
- ▶ End bearing assemblies with long-life lubricated bearings and adjustable Teflon<sup>®</sup> seals;
- ▶ Wide range of accessories and options: overflow hatches incl. safety grid, tubular trough inserts, trough feet, rotation detectors, flow interception diaphragms.

### Overall Dimensions ▼



Ø	A (m)	B (mm)					C (mm)	D (mm)	E (mm)
		2 Screws	3 Screws	4 Screws	5 Screws	6 Screws			
150	1.5-2-2.5-3	340	505	670	835	1,000	172	86.0	145
200	1.5-2-2.5-3	445	665	885	1,105	1,325	222	111.0	185
250	1.5-2-2.5-3	545	815	1,085	1,355	1,625	262	131.0	215
300	2-2.5-3-3.5-4	640	955	1,270	1,585	1,900	315	157.5	245
350	2-2.5-3-3.5	755	1,135	1,515	1,895	2,275	370	185.0	275
400	2.5-3-3.5	850	1,275	1,700	2,125	2,550	417	208.5	305
500	2.5-3	1,045	1,565	2,085	2,605	3,125	512	256.0	380
600	2.5-3-3.5-4	1,245	1,865	2,485	3,105	3,725	607	303.5	465

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

# Flour Milling

## External Electric Vibrators MVE-Type



15



### Description ▼

The range of MVE-type External Electric Vibrators is the result of 50 years of experience in vibration technology for various industrial applications worldwide. OLI® External Electric Vibrators afford a guarantee of long-term durability reflecting the care taken over selection of components and the high level of precision adopted in manufacture.

### 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 all departments of a flour mill where flow aids are required. Typical applications are: **hopper emptying, de-stoner machines, vibro-separators, bin activators.**

### Benefits ▼

- ✓ **Oversized SKF bearings**
- ✓ **2-years-warranty including electric components**
- ✓ **Ex-stock delivery**
- ✓ **Certificates available: Ex/CE/ETL/GOST/Baseefa/IEC/IECEX**

### Technical Features / Performance ▼

- ▶ Casing in aluminium up to size 50 (included), cast iron from size 60
- ▶ Working temperature: -20° C to 40° C (-4° F to 104° F)
- ▶ Standard voltage: 230/400 V, 50 Hz (264/460 V, 60 Hz)
- ▶ 750 - 1,000 - 1,500 - 3,000 R.P.M. (900 - 1,200 - 1,800 - 3,600 R.P.M.)
- ▶ Motor protection: IP 66-NEMA 4
- ▶ Continuous duty: S1
- ▶ Insulation class: F
- ▶ Standard: ATEX Ex II 3D certified
- ▶ Standard: ETL (UL-CSA) Class II Div.2
- ▶ ATEX Exe II 2 GD increased safety range available
- ▶ Explosion-proof range available



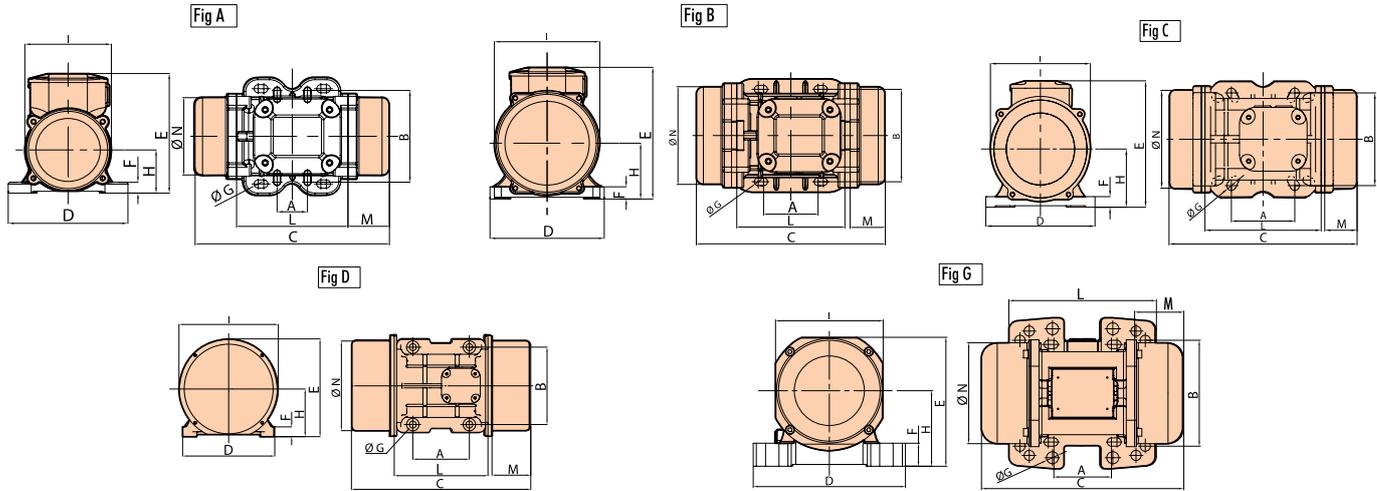
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# Flour Milling

## External Electric Vibrators MVE-Type



### Overall Dimensions



TYPE	Dimensional Features																
	FIG.	Size	C (mm)		M (mm)		A (mm)	B (mm)	Ø G (mm)	Holes (n°)	D (mm)	E (mm)	F (mm)	H (mm)	I (mm)	L (mm)	N (mm)
			50Hz	60Hz	50Hz	60Hz											
MVE 60/3	A	10	211	45	*	*	*	4	130	136	12	48	94	121	85		
MVE 100/3	A	10	211	45	*	*	*	4	130	136	12	48	94	121	85		
MVE 200/3	B	20	219	41	62-74	106	9	4	131	159	15	64	121	123	112		
MVE 202/3	G	23	218	53	**	**	**	4	164	140	25	82	116	159	110		
MVE 300/3	C	30	260	43	***	***	***	4	154	175	15	79	142	163	131		
MVE 400/3	C	30	260	43	***	***	***	4	154	175	15	79	142	163	131		
MVE 500/3	D	40	338	75	105	140	13	4	168	196	22	92	169	178	158		
MVE 700/3	D	40	338	75	105	140	13	4	168	196	22	92	169	178	158		
MVE 800/3	D	50	311	47	120	170	17	4	208	210	22	94	180	205	170		
MVE 1200/3	D	50	311	47	120	170	17	4	208	210	22	94	180	205	170		

Fig A

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

Fig G

A	B	Ø G
mm	mm	mm
62 - 74	106	9
65	140	13
115	135	11
135	115	11

Fig C

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

TYPE	Dimensional Features																
	FIG.	Size	C (mm)		M (mm)		A (mm)	B (mm)	Ø G (mm)	Holes (n°)	D (mm)	E (mm)	F (mm)	H (mm)	I (mm)	L (mm)	N (mm)
			50Hz	60Hz	50Hz	60Hz											
MVE 300/1E	D	50	397	90	120	170	17	4	208	210	22	94	180	205	170		
MVE 500/1E	D	50	441	112	120	170	17	4	208	210	22	94	180	205	170		
MVE 510/1E	D	50	451	112	120	170	17	4	208	210	22	94	180	205	170		
MVE 800/1E	D	60	448	98	140	190	17	4	229	247	30	120	247	220	222		
MVE 1100/1E	D	60	510	448	129	98	140	190	17	4	229	247	30	120	247	220	222
MVE 1500/1E	D	60	562	510	154	129	140	190	17	4	229	247	30	120	247	220	222
MVE 1600/1E	D	70	556	522	140	123	155	225	22	4	272	284	40	140	267	250	235
MVE 250/075D	A	50	405	100	120	170	17	4	209	240	28	103	195	205	167		
MVE 400/075D	A	50	467	131	120	170	17	4	209	240	28	103	195	205	167		
MVE 650/075D	A	60	478	105	140	190	17	4	234	267	31	124	238	234	222		
MVE 900/075D	A	63	538	135	140	190	22	4	234	267	31	124	238	234	222		
MVE 1300/075D	A	70	590	147	155	225	22	4	274	309	35	140	255	264	236		

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



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# Flour Milling

External Electric Vibrators MVE-Type (8-10 poles)



16



## Description ▼

The range of MVE-type External Electric Vibrators is the result of 50 years of experience in vibrating technology for various industrial applications worldwide. OLI® External Electric Vibrators afford a guarantee of long-term durability reflecting the care taken over selection of components and the high level of precision adopted in manufacture. This is a specialized product for application in the flour milling industry.

## Function ▼

| The OLI® range includes models at 8 poles suitable for 50 Hz and models at 10 poles suitable for 50 Hz and 60 Hz.



## Application ▼

MVE-type External Electric Vibrators have been developed for destoning machines, grain purifiers and similar equipment.

## Benefits ▼

- ✓ Oversized SKF bearings;
- ✓ 2-years-warranty including electric components;
- ✓ Ex-stock delivery.



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# Flour Milling

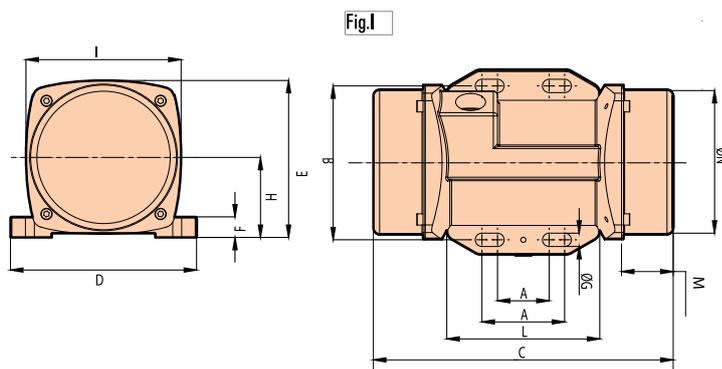
External Electric Vibrators MVE-Type (8-10 poles)



## Technical Features / Performance ▼

- ▶ Continuous duty: S1
- ▶ Insulation class: F
- ▶ Standard: ATEX Ex II 3D CERTIFIED
- ▶ Standard: ETL (UL-CSA) Class II Div.2 - GOST
- ▶ Cast iron casing
- ▶ Working temperature: -20° to 40°C (-4° F to 104° F)
- ▶ Standard voltage: 230/400V,50Hz (264/460V 60Hz)
- ▶ 600 - 750 R.P.M. (720 – 900 R.P.M.)
- ▶ Motor protection: IP66-NEMA 4

## Overall Dimensions ▼



TYPE	Dimensional Features																
	FIG.	Size	C (mm)	M (mm)	A (mm)	B (mm)	Ø G (mm)	Holes n°	D (mm)	E (mm)	E1 (mm)	F (mm)	H (mm)	H1 (mm)	I (mm)	L (mm)	N (mm)
8 POLES - 230-400V 50Hz - 750 RPM																	
MVE 1400/075	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265
MVE 1200/075	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265
10 POLES - 230-400V 50Hz - 600 RPM																	
MVE 1400/060	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265
MVE 1200/060	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265
10 POLES - 230-460V 60Hz - 720 RPM																	
MVE 1400/072	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265
MVE 1200/072	I	60	570	150	140	190	17	4	228	268	283	23	120	135	295	220	265

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



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# Flour Milling

## OT-Type External Pneumatic Vibrators



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### Description ▼

OT-Type External Pneumatic Turbine Vibrators develop frequencies of up to 42,000 r.p.m. and they are used wherever powdery materials have to be moved. OT-type Turbine Vibrators are installed on bins to prevent bridging or rat holing and for the improvement of material flow on chutes, screens and vibrating tables.

### Function ▼

OT-type Turbine Vibrators consist of an anodized "anticorodal" aluminum casing inside. A turbine with integrated flyweights rotates on two oversized ball bearings. For operation a 2/2-way-valve and filtered compressed air are required.



### Application ▼

OT Turbine Vibrators are used in **all departments of a flour mill** where flow aids are required. They are fitted to **FIBC discharger or storage, weigh and feed hoppers.**

### Benefits ▼

- ✓ Large amplitude even with low operating pressure;
- ✓ ATEX 22 compliance – Ex II 3D T100°;
- ✓ Suitable for powdery or granular materials;
- ✓ Great acceleration;
- ✓ High centrifugal force and vibration frequency;
- ✓ No damage on the structure of the bin;
- ✓ Low noise level;
- ✓ Low air consumption;
- ✓ Durable;
- ✓ Easy to install;
- ✓ Oil-free, maintenance-free operation.

# Flour Milling

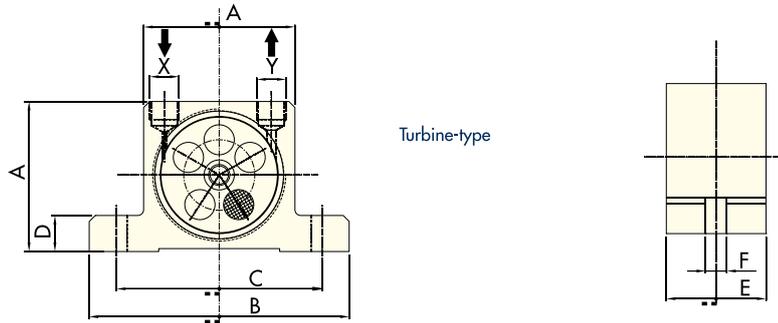
## OT-Type External Pneumatic Vibrators



### Technical Features / Performance ▼

- ▶ Galvanised steel cover
- ▶ Brass silencer
- ▶ Nickel-plated brass air nipple inlet
- ▶ Working temperature: -20° C to 120° C (-4° F to 250° F)
- ▶ Working pressure: 3 to 6 bar (44 to 88 PSI)

### Overall Dimensions ▼



TYPE	A		B		C		D		E		F		X-Y	📦	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		kg	lbs
OT 8	50	1.97	86	3.39	68	2.68	12	0.47	33	1.30	7	0.28	1/8"	0.250	0.55
OT 10														0.255	0.56
OT 10S														0.263	0.58
OT 13	65	2.56	113	4.45	90	3.54	16	0.63	42	1.65	9	0.35	1/4"	0.565	1.24
OT 16														0.580	1.28
OT 16S														0.614	1.35
OT 20	80	3.15	128	5.04	104	4.09	16	0.63	56	2.20	9	0.35	1/4"	1.090	2.40
OT 25														1.120	2.46
OT 25S														1.200	2.64
OT 30	100	3.94	160	6.30	130	5.12	20	0.79	73	2.87	11	0.43	3/8"	2.200	4.84
OT 36														2.300	5.06
OT 36S														2.530	5.57

TYPE	Vibrations			F.C. max.						Air consumption					
	2 bar=29 psi	4 bar=58 psi	6 bar=87 psi	2 bar=29 psi		4 bar=58 psi		6 bar=87 psi		2 bar=29 psi		4 bar=58 psi		6 bar=87 psi	
	Vpm			kg	lbs	kg	lbs	kg	lbs	l	CF	l	CF	l	CF
OT 8	34,000	38,000	42,000	110	242	205	451	292	641	45	1.6	81	2.9	110	3.9
OT 10	26,000	33,000	38,000	105	231	171	377	252	554	45	1.6	81	2.9	110	3.9
OT 10S	17,200	23,400	26,000	72	159	147	323	187	410	45	1.6	81	2.9	110	3.9
OT 13	24,500	28,500	31,000	202	444	263	579	300	659	122	4.3	204	7.2	285	10.1
OT 16	18,000	20,000	21,000	194	427	239	527	264	581	122	4.3	204	7.2	285	10.1
OT 16S	11,500	15,000	17,500	129	285	196	431	234	516	122	4.3	204	7.2	285	10.1
OT 20	14,500	19,000	23,000	251	552	404	888	526	1,157	184	6.5	318	11.2	452	16.0
OT 25	13,200	15,500	17,500	244	537	336	740	508	1,117	184	6.5	318	11.2	452	16.0
OT 25S	9,000	11,000	13,500	214	471	335	738	483	1,063	184	6.5	318	11.2	452	16.0
OT 30	11,000	12,500	14,500	351	771	721	1,586	781	1,718	322	11.4	542	19.1	749	26.5
OT 36	8,500	11,500	12,000	341	751	698	1,536	749	1,648	322	11.4	542	19.1	749	26.5
OT 36S	6,000	7,000	8,500	406	893	706	1,554	754	1,660	322	11.4	542	19.1	749	26.5

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# Flour Milling

## MARTSHOCK "PS" Pneumatic Hammers



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### Description ▼

PS-type MARTSHOCK Intermittent Electro-pneumatic Hammers belong to those flow aids that act destructively as bridge breakers. The mechanical energy released at regular intervals, at the moment of collision, is transmitted through the container wall to the stored material. MARTSHOCK Hammers are suitable for loosening of adhesive material crusts on walls, pipes or bins, and as bridge breakers in silos. The blow impulse leads to the complete detachment of the crusts or the collapse of a material bridge.

MARTSHOCK Hammers are particularly suitable for retrofitting to existing silo cones or hoppers as no emptying of the bin or drilling of the wall is required.

### Function ▼

The MARTSHOCK Pneumatic Hammer blows produce a violent impact on the wall on which the unit is fitted. It is suitable for all bin shapes and sizes.



### Application ▼

PS-type MARTSHOCK is used in all types of flour mills wherever in the process flow aids are required.

### Benefits ▼

- ✓ Suitable for powdery or granular materials even if hygroscopic;
- ✓ Avoids further compaction of the material to be handled;
- ✓ The intermittent hammering effect radically resolves all mass flow problems ;
- ✓ No damage on the bin structure;
- ✓ ATEX 22-compliant – Ex II 3D T100° (complete with ATEX accessories);
- ✓ Low-noise impact (with noise-abating accessories);
- ✓ Long durability;
- ✓ Easy maintenance;
- ✓ Lubrication-free.

# Flour Milling

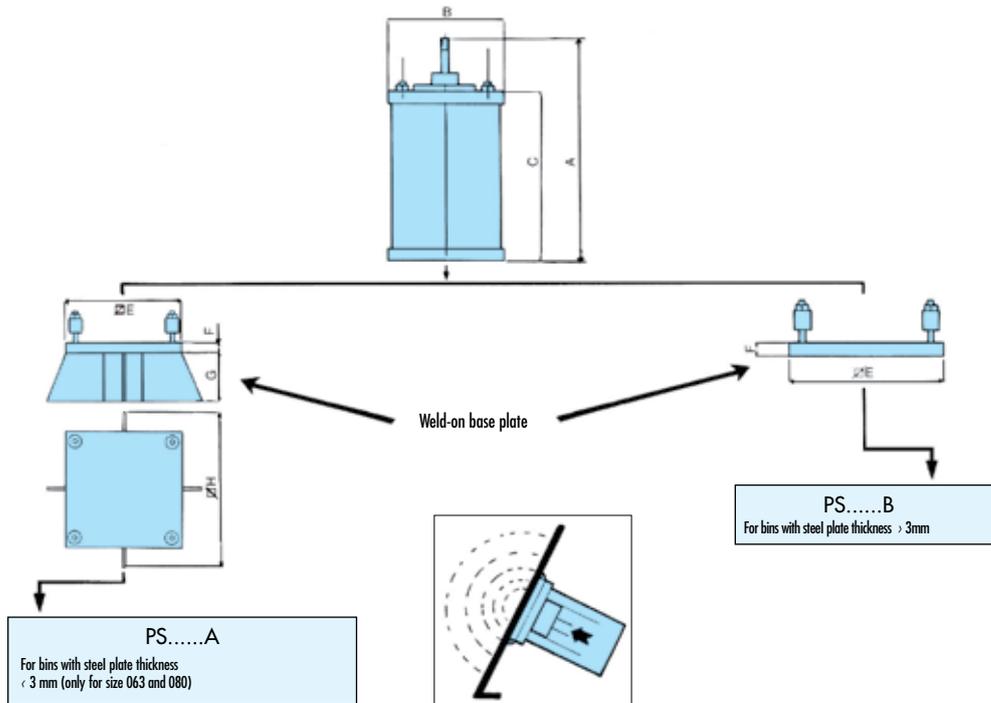
## MARTSHOCK "PS" Pneumatic Hammers



### Technical Features / Performance ▼

- ▶ Galvanised steel body
- ▶ Weld-on steel plate included (2 types with different thicknesses)
- ▶ 4 vibration dampers
- ▶ PVC gasket situated between weld-on steel plate and body
- ▶ Safety chain (to fix the body to the silo/hopper)
- ▶ Air inlet (PS 40: 1/8" – PS 63 - 80: 1/4")
- ▶ Electro-pneumatic kit
- ▶ Working temperature: -20° C to 80° C (-4° F to 180° F)
- ▶ Working pressure: 3 to 6 bar (44 to 88 PSI)
- ▶ Accessories:
  - ATEX 22 IP 65 coils (excluded BOB024CC15)
  - ATEX 22 and noise-abating components
  - Control panel for adjustment of operation/pause intervals
- ▶ Extension with 2 or 4 outputs

### Overall Dimensions ▼



TYPE	A	ØB	C	ØE	F	G	ØH	Air consumption NI per cycle		Air connection	Energy				kg	Packing
								3 bar			6 bar					
								J	kpm		J	kpm				
PSO40	245	115	175	130	20	60	160	0.6	1.3	1/8 pipe 8 mm	8.4	0.86	18.1	1.85	8.5	270x185x170
PSO63	281	150	213	160	20	75	220	1.17	2.3	1/4 pipe 8 mm	28.8	2.94	62	6.34	16.5	450x200x220
PSO80	340	200	266	200	25	94	250	2.3	4.8	1/4 pipe 8 mm	59.2	6.0	153	15.6	30	450x200x220

Dimension in mm

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

# Flour Milling

## RSM - RSMX Manual Bag Openers



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### Description ▼

The RSM Manual Bag Opener is manufactured from mild steel or stainless steel and 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.

For RSMX (ATEX-compliant version) special ATEX devices such as an acoustic alarm and a lamp warn the operator in case of an increase in temperature due to an overload of the fan motor.

### 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 may be discharged through a hopper or by BINSWEEP®, 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 into the chute on the side which leads into the optional COM-type Waste Bag Compactor (see COM).

Manual RSM Bag Openers are designed to minimise material residue. They satisfy a large number of applications due to their modular component design.



### Application ▼

RSM Manual Bag Openers are used to transfer raw materials such as additives contained in bags to the mixer or to silos for storage. The material is normally conveyed pneumatically or mechanically into the mixer or silo.

### Benefits ▼

- ✓ **Space-saving overall dimensions and compact user-friendly design;**
- ✓ **Built-in, fan-operated, air jet-cleaned, maintenance-friendly dust collector;**
- ✓ **With optional BINSWEEP® Rotary Discharging Device (see chapter);**
- ✓ **low overall height;**
- ✓ **Favourable price-performance ratio.**

# Flour Milling

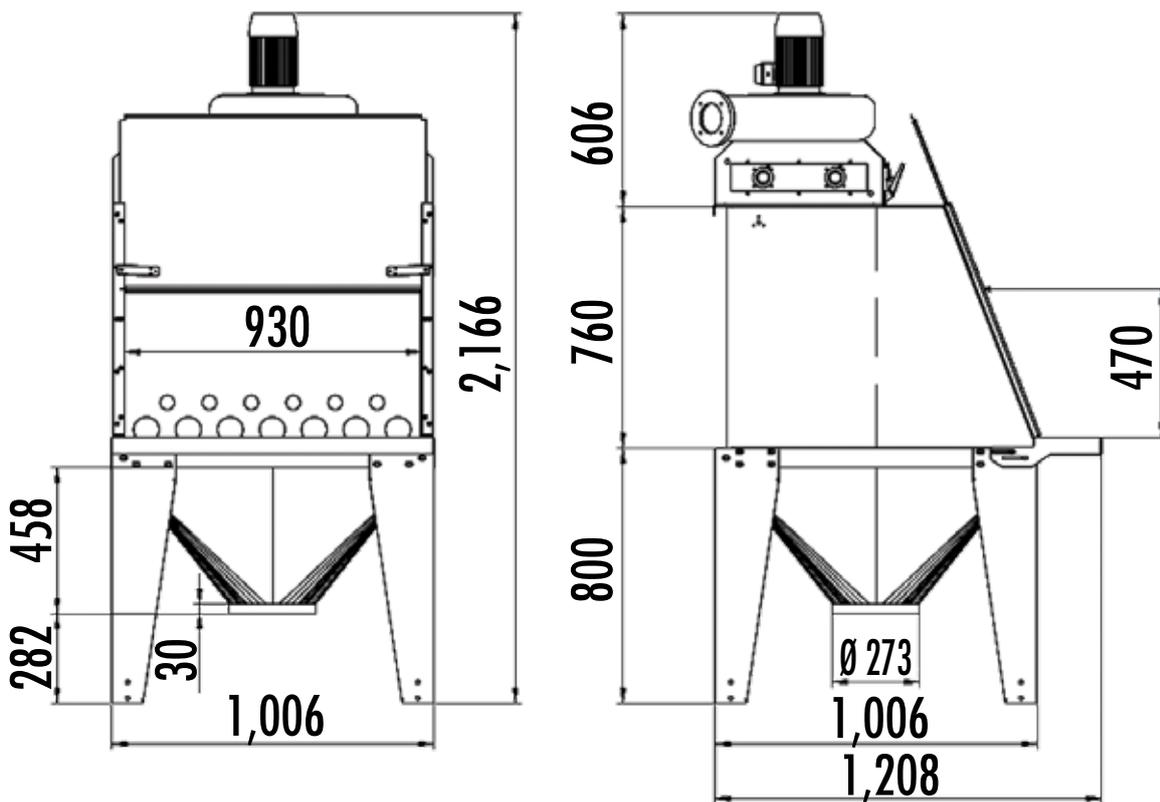
## RSM - RSMX Manual Bag Openers



### Technical Features / Performance ▼

- ▶ Construction material: mild steel or stainless steel
- ▶ Available with de-dusting filter or equipped for centralised dust suction
- ▶ Filter element options: round bags, elliptical bags with antistatic filter media in case of ATEX version
- ▶ Filter surface from 3 to 7m<sup>2</sup> (32 to 75 sq ft)
- ▶ Collecting hoppers with different capacity volumes
- ▶ Support feet with possibility of height adjustment
- ▶ ATEX-compliant for zone 22 on request

### 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 might not show the complete range but only the models most suitable for the application.*

# Flour Milling

## RV-RVR Drop-Through Rotary Valves



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### 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. In negative pressure applications they are fitted on screw conveyor outlets to prevent suction.

### Benefits ▼

- ✓ No product contamination due to the 304/316 SS design and air-blown sealing;
- ✓ ATEX zone 22-certified;
- ✓ Square or round flanges ensure system compatibility and match with WAM® flanges;
- ✓ Cast iron or 304/316 SS, nickel coating, 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 numbers of components.

# Flour Milling

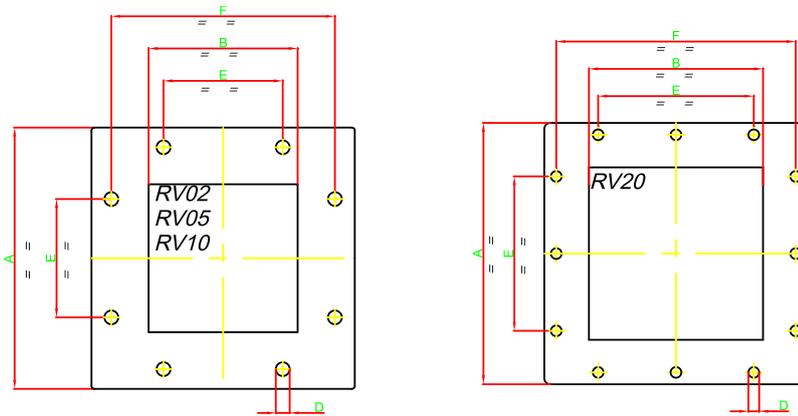
## RV-RVR Drop-Through Rotary Valves



### Technical Features / Performance ▼

- ▶ Capacity: 2.2 to 19.5 litres per revolution (0.08 to 0.7 cu ft per revolution)
- ▶ Working temperature: - 20° C to 150° C (- 4° F to 300° F)
- ▶ Maximum differential pressure: 0.3 bar (4.4 PSI)
- ▶ Cast iron or 304/316 SS design
- ▶ Nickel coating available
- ▶ Rotor with beveled blades available
- ▶ Easy access to internal mechanical parts
- ▶ 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
- ▶ Different materials and surface treatments available depending on material handled

### Overall Dimensions ▼



Type	A	B	C	D	E	VLQ-VLC-XBQ
RV02	265	150	230	12.5	/	150
RV05	320	200	280	12.5	93.3	200
RV10	375	250	330	12.5	110	250
RV20	440	300	385	12.5	128.3	300

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RVR

Standard Flange Drilling					
TYPE	A1	K	Ø	M	α
RV/RVR 02	285	240	160	8 x Ø 14	22.5°
RV/RVR 05	340	295	200	8 x Ø 14	22.5°
RV/RVR 10	406	350	265	12 x Ø 14	30°
RV/RVR 20	445	400	300	12 x Ø 18	15°

RV + RVR

TYPE	D*	F*	H*		Rating kW
			RV	RVR	
RV/RVR 02 10 rpm	287	368	233	248	0.37
RV/RVR 05 10 rpm	321		263	288	
RV/RVR 10 10 rpm	367	454	352		0.55
RV/RVR 20 10 rpm	395		400		0.75

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# Flour Milling

## RVS Blow-Through Rotary Valves



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### Description ▼

RVS Blow-Through Rotary Valves consist of a tubular cast iron or stainless steel casing, a horizontally mounted rotor with a certain number of oblique V-shaped cross section compartments, a drive unit and a casing cover at each end.

### Function ▼

Two compartments at a time of the continuously turning rotor are filled up with material through the inlet at the top of the Rotary Valve. After less than half a turn the material falls through the bottom opening into an air stream passing through a pneumatic conveying duct connected with the bottom part of the Rotary Valve.



### Application ▼

RVS Blow-Through Rotary Valves are usually fitted at the outlet of a bin, silo or hopper upstream of a pneumatic conveying duct into which they accurately feed the material.

### Benefits ▼

- ✓ No product contamination due to the 304/316 SS construction and air-injected seals;
- ✓ ATEX Zone 22-certified;
- ✓ 304 SS inserts for granules;
- ✓ Cast iron or 304/316 SS construction material, nickel coating and various other rotor versions available to offer the best configuration for the application;
- ✓ Pipe connections included simplify unit installation and removal.

# Flour Milling

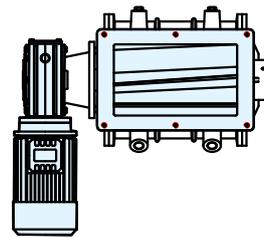
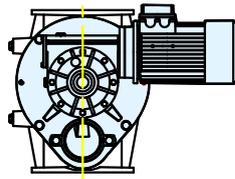
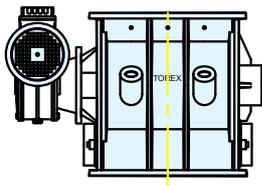
## RVS Blow-Through Rotary Valves



### Technical Features / Performance ▼

- ▶ Feed rates: 5, 9, 14, 20, 38 litres per revolution (0.17, 0.3, 0.5, 0.7, 1.3 cu ft per revolution)
- ▶ Working temperature: -20 °C to 150 °C (-4° F to 240° F)
- ▶ Maximum differential pressure: 0.8 bar (11.6 PSI)
- ▶ Cast iron or 304/316 SS construction
- ▶ Nickel coating available
- ▶ Rotor with beveled blades
- ▶ Easy access to internal mechanical parts
- ▶ Sturdy compact structure
- ▶ Small footprint
- ▶ Drive unit mounted directly on shaft without any further bearing assembly or coupling
- ▶ Rectangular inlet flanges
- ▶ Counterflanges to be welded on pneumatic duct
- ▶ Blade scraper installed inside the inlet to ease rotor movement
- ▶ Different construction materials and surface treatments available depending on material handled

### Overall Dimensions ▼



Dimensions in mm									Motor	
	Type	Q1	Q2	Q3	R1	R2	R3	H	kW	min-1
30 RPM	RVS/C35	890	558	332	740	217	523	530	2.2	1,400
	RVS/C20	705	444	261	608	181	426	447	1.5	1,400
	RVS/C15	605	390	215	588	162	426	399	1.1	1,400
	RVS/C10	572	372	200	560	140	420	339	0.75	1,400
	RVS/C05	505	342	163	550	130	420	335	0.55	1,400

Dimensions in mm									Motor	
	Type	Q1	Q2	Q3	R1	R2	R3	H	kW	min-1
20 RPM	RVS/C35	890	558	332	740	217	523	530	1.5	900
	RVS/C20	705	444	261	608	181	426	447	1.1	900
	RVS/C15	605	390	215	588	162	426	399	0.75	900
	RVS/C10	572	372	200	560	140	420	339	0.55	900
	RVS/C05	505	342	163	550	130	420	335	0.55	900

Dimensions in mm									Motor		Pre-Torque
	Type	Q1	Q2	Q3	R1	R2	R3	H	kW	min-1	
10 RPM	RVS/C35	890	558	332	740	217	523	530	1.1	900	NO
	RVS/C20	658	397	261	591	181	410	447	0.75	1,400	YES
	RVS/C15	585	370	215	572	162	410	399	0.55	1,400	YES
	RVS/C10	542	342	200	527	140	387	339	0.37	1,400	YES
	RVS/C05	475	342	163	517	130	387	335	0.37	1,400	YES

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



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# Flour Milling

## TCG Chain Conveyors

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### Description ▼

TCG Chain Conveyors are designed for conveying dry solids such as free flowing powders, granules, pellets and flakes. The hot galvanized painted frame consists of a tail and head section, as well as a number of modular intermediate sections. Tail and head section contain the driven and the transmission sprockets. Depending on the characteristics of the material handled and on the throughput rate required, the conveyor chain is either manufactured from pressed chain links with bent scrapers or as a forged link chain with welded scrapers. The chain guide is manufactured from polyzene.

### Function ▼

TCG Chain Conveyors are specially designed for conveying cereals, flours or similar materials. The material is dragged and conveyed by rectangular scraper flights along the bottom of the casing. The flights are fixed on a guided chain. TCG Chain Conveyors can have multiple discharge points through intermediate outlets equipped with an electrically operated slide valve specially designed for this purpose.



### Application ▼

TCG Chain Conveyors, in their various sizes, find their most typical application in silo filling both in Cereals Storage Plants and Flour Milling Plants. TCG Chain Conveyors are used for horizontal conveying to discharge into one or more silos. They are also used for extraction from pits or hoppers. They are particularly suitable for handling all kinds of cereals, such as wheat, barley, corn, rice, soya and others, as well as powdery materials such as flour.

### Benefits ▼

- ✓ **Solid and robust design;**
- ✓ **Easy installation thanks to modular components;**
- ✓ **Suitable for explosive environments;**
- ✓ **Totally enclosed equipment, dust tight construction;**
- ✓ **Low maintenance and compact arrangement;**
- ✓ **Matches complementary equipment (see Bucket Elevators).**

# Flour Milling

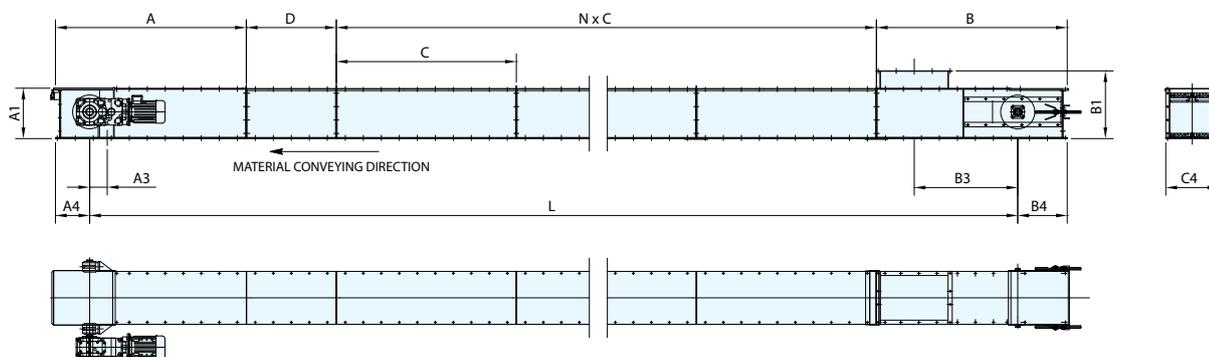
## TCG Chain Conveyors



### Technical Features / Performance ▼

- ▶ Throughput rates up to 1.000 m<sup>3</sup>/h
- ▶ Conveying lengths up to 100 m.
- ▶ Chain in pressed link chain with bent scrapers
- ▶ Completely bolted frame
- ▶ Wide range of accessories as:
  - ATEX II3D T4 certification
  - Forged link chain with welded scrapers
  - Self cleaning foot
  - Special casing (with double bottom, inlet for pit extraction, variation of inclination, flow control, inspection hatch)
  - Discharging slide valve
  - Electrical control systems
  - Vent outlet for de-dusting system
  - Stainless steel AISI304-316

### Overall Dimensions ▼



TYPE	TCG050	TCG100	TCG150	TCG200	TCG300	TCG400	TCG500	TCG600	TCG800
m <sup>3</sup> /h	87	130	210	280	404	533	670	800	1070
Max. length	100 m	100 m	100 m	100 m	100 m	100 m	100 m	100 m	100 m
Casing cross-section	200x290	300x290	300x420	400x420	500x550	660x550	Available on request	Available on request	Available on request
A	920	920	1,720	1,720	2,120	2,120			
A1	298	298	459	459	609	609			
A3	100	100	195	195	195	195			
A4	225	225	280	280	380	380			
B	920	920	1,720	1,720	2,120	2,120			
B1	343	343	555	555	804	804			
B3	800	800	100	100	1,150	1,150			
B4	332	332	385	385	548	548			
C	2,000	2,000	2,000	2,000	2,000	2,000			
C4	292	392	392	492	592	752			
D	1,400-600	1,400-600	1,400-600	1,400-600	1,400-600	1,400-600			
N	Variable depending on length								

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# Flour Milling

## UM Single Screw Feeders



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### Description ▼

In its standard version the UM Single Screw Feeder consists of:

- Direct drive, or with coupling, chain or belt transmission;
- U or (mainly) V-profile inlet trough section;
- Tubular conveying section;
- Flanged end bearing assembly opposite drive end;

UM Single Screw Feeders are available in food-grade powder-coated carbon steel or 304/316 stainless steel (316 SS only for a part of range with limitation in accessories).

### Function ▼

| Feeding flours or poorly flowing or packing materials.



### Applications ▼

UM Single Screw Feeders are designed specifically for flour. In flour mills they are also used for cleaning by-products such as bran. Mostly they are installed under silos for flour feeding connected with the outlet of a bin activator. The spout between the bin activator and the screw feeder is usually equipped with a level indicator as shown in the photo. For feeding bran or other by-products the UM Screw Feeders are directly connected to the silo.

### Benefits ▼

- ✓ Easy access for cleaning if equipped with drop-bottom trough;
- ✓ Easy, time-saving maintenance;
- ✓ Low material residue;
- ✓ Low risk of packing at discharge;
- ✓ Easy integration into the plant.



# Flour Milling

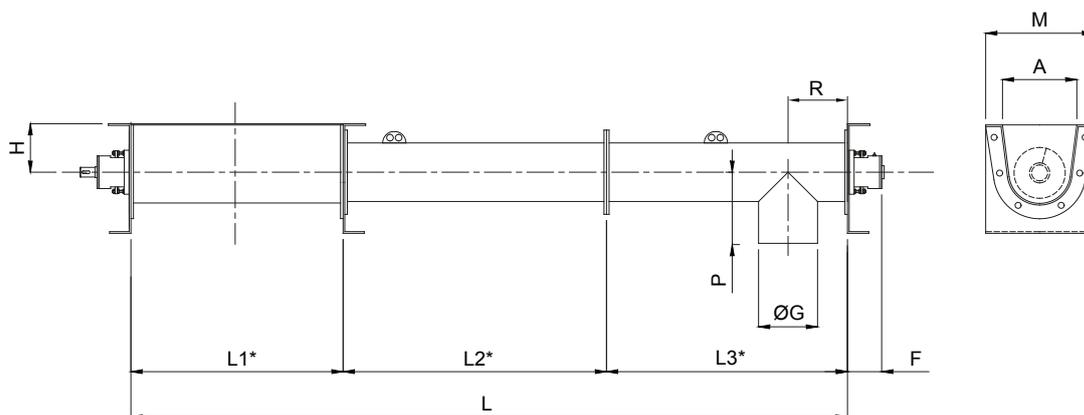
## UM Single Screw Feeders



### Technical Features / Performance ▼

- ▶ Flight diameters from 100 to 400 mm;
- ▶ Feed rates from 10 to 100 m<sup>3</sup>/h;
- ▶ High-quality finishing;
- ▶ Direct drive connected with screw;
- ▶ Intermediate bearings with self-lubricating polymer bushes;
- ▶ End bearing assemblies with self-lubricating bearings;
- ▶ Adjustable Teflon<sup>®</sup> shaft seals;
- ▶ Reduced clearance between screw and trough;
- ▶ Outlet spout with large opening for improved discharge;
- ▶ Wide range of accessories and options: drop-bottom trough, inspection hatches, rotation detectors, coupling transmission, chain transmission, belt transmission, emergency stop devices at feeder outlet end.

### Overall Dimensions ▼



Ø	A (UM)	A (UM)	F	G	H (UM)	H (UM)	M (UM)	M (UM)	P	R
100	/	175	114	114	/	115	/	261	120	*
120	/	175	114	131	/	115	/	261	145	*
150	175	375	124	168	115	175	261	481	175	*
200	225	425	124	219	135	200	311	531	205	*
250	275	525	124	273	160	225	361	651	260	*
300	325	525	151	323	195	250	433	653	260	220
350	375	625	151	406	235	270	483	753	300	270
400	425	730	162	457	270	290	533	898	350	280
500	525	/	180	558	340	/	653	/	400	340

L = MULTIPLE OF 500 mm

\* Please refer to technical catalogue

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# Flour Milling

## VAD Diverter Valves



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### 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 treatments are 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 powdery or granular form. Through activation of the actuator, direction of the material flow is changed. VAD-type Diverter Valves ensure minimum pressure loss and contamination-free, pressure-proof operation.



### Application ▼

VAD Diverter Valves are fitted directly to the pneumatic conveying ducts wherever it is necessary to divert the flow of material to different production lines.

### Benefits ▼

- ✓ **ATEX certified actuator components;**
- ✓ **Manual, Pneumatic and Electric actuators available;**
- ✓ **Same actuators as used for WAM® valves;**
- ✓ **Square counter-flanges ensure system compatibility;**
- ✓ **Suitable for different materials in the same configuration;**
- ✓ **Quick integration into the process thanks lightweight design;**
- ✓ **Time-saving maintenance thanks to small numbers of components.**

# Flour Milling

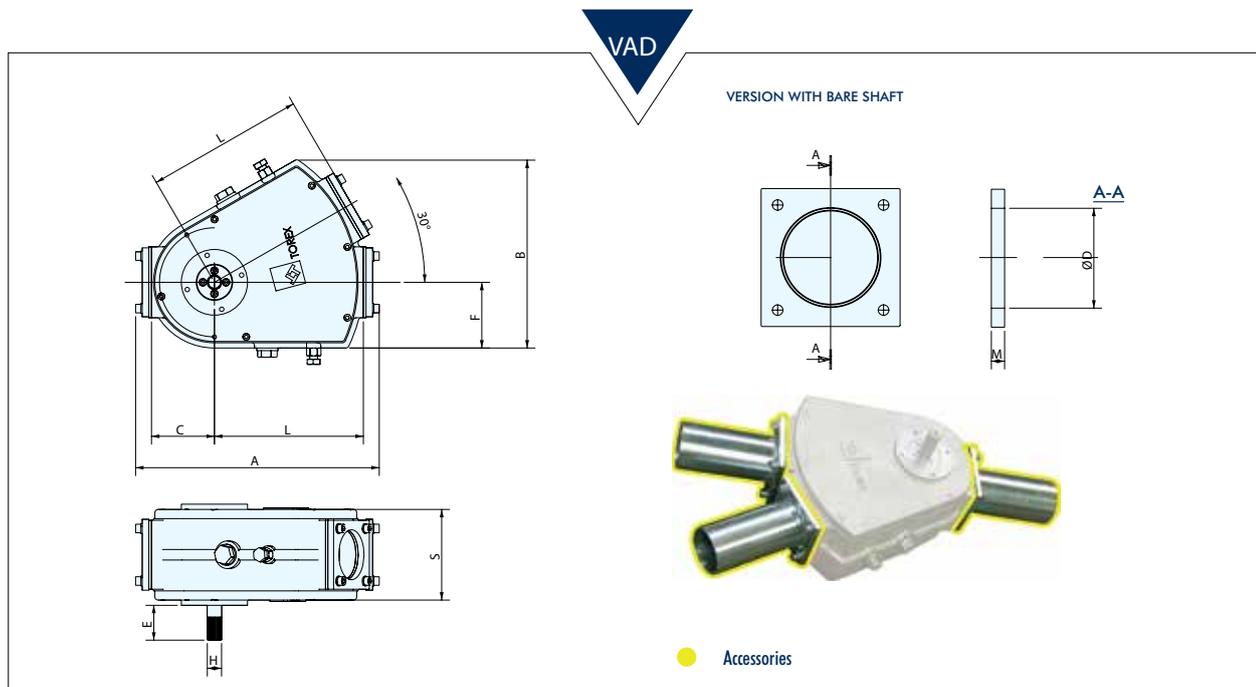
## VAD Diverter Valves



### 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 ▼



TYPE	D NOM. inches	D NOM.	L	A	B	C	E	F	H DIN 5482	S	kg	TYPE	Ø D NOM. inches	Ø D	M
VAD 050	1 ½"	50	170	289	224	75	52.5	80	Toothing 22x19	122	10.5	VAD 050	1 ½"	48	10
VAD 080	2 ½"	80	225	368	287	95	52.5	100		135	17.5	VAD 080	2 ½"	76	10
VAD 100	3 ½"	100	240	393	311	105	52.5	110		155	21.0	VAD 100	3 ½"	102	10

Dimensions in mm

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

# Flour Milling

## VAR Diverter Valves



25



### Description ▼

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 ▼

VAR Diverter Valves are suitable for conveying any kind of material, both in powdery 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 ▼

VAR Diverter Valves are fitted directly to the pneumatic conveying ducts wherever it is necessary to divert the flow of material to different production lines.

### Benefits ▼

- ✓ No contamination due to the 304 SS contact parts inserts;
- ✓ Minimum pressure drop thanks to inflatable seal;
- ✓ Minimum friction during diverting thanks to inflatable seal;
- ✓ ATEX-compliant pneumatic actuator and solenoid valves;
- ✓ Use with different materials in the same configuration;
- ✓ Quick integration into the process thanks to its light weight;
- ✓ Time-saving maintenance thanks to small numbers of components.

# Flour Milling

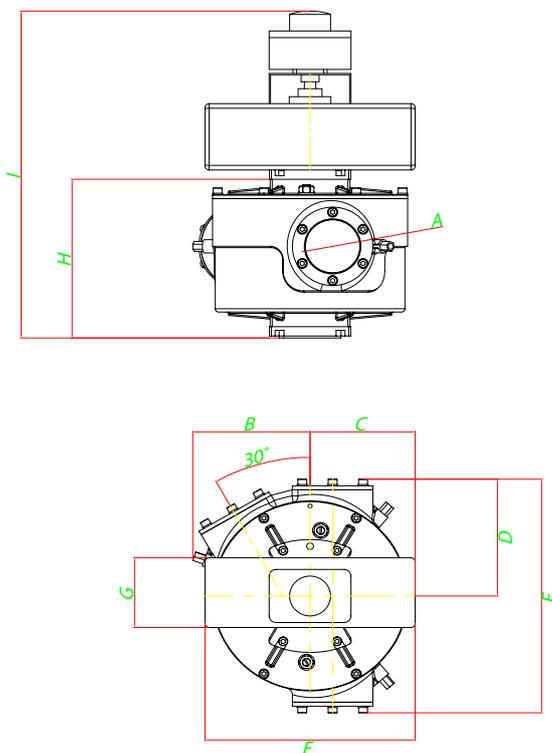
## VAR Diverter Valves



### 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)
- ▶ Diameters from 80mm to 150mm (3 to 6 in)
- ▶ Micro-switch box for signalling actuator position
- ▶ Electro-pneumatic actuator with possibility of different supply voltages 24/48/110/230 V AC

### Overall Dimensions ▼



Type	A	B	C	D	E	F	G	H	I	kg
80	80	172	154	176	352	338	106	239	488	30
100	100	198	169	218	436	338	106	265	514	40
125	125	229	192	249	498	384	123	351	613	60
150	150	260	192	278	556	384	123	383	645	78
175	175	310	266	321	642	532	148	421	725	115

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

# Flour Milling

## “VB” Vibrating Bin Aerators



26



### 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 are used in **all departments of a flour mill** where flow aids are required. They are fitted on **silos or storage, weigh or feed hoppers**.

### 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.**



# Flour Milling

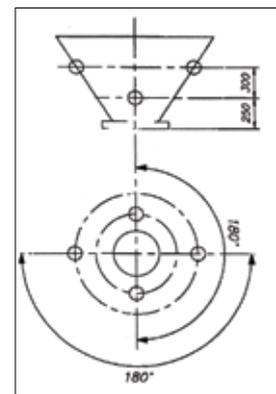
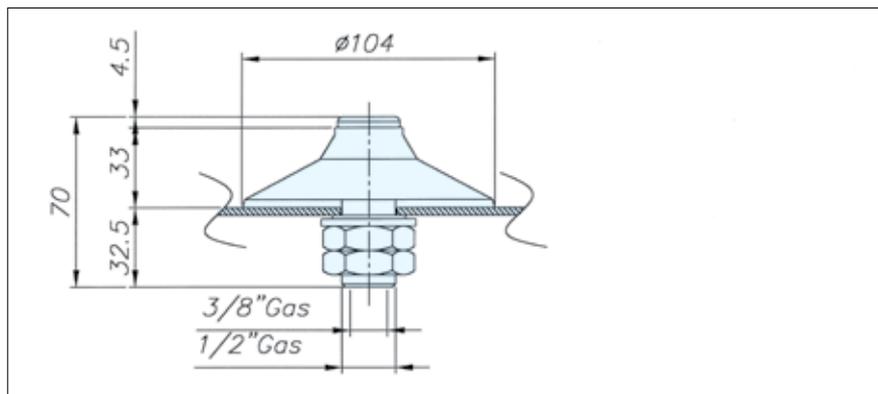
## “VB” Vibrating Bin Aerators



### 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
<b>VB</b>	100	3.53	150	5.29	250	8.82
<b>VBE</b>	100	3.53	150	5.29	250	8.82
<b>VBM</b>	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.*

# Flour Milling

## VFS Butterfly Valves



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### Description ▼

VFS Butterfly Valves consist of two high-pressure die-cast semi-bodies manufactured from aluminium alloy, a swivel disc in stainless steel or cast iron, and a pre-stressed elastomer seal or an integral 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 powders or granular materials, VFS 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.



### Applications ▼

VFS Butterfly Valves are used in all types of flour mills where interception of gravity-fed or pneumatically conveyed dry materials is required.

Typical applications are storage, transport and processing lines. They are fitted beneath hoppers, bins, silos, screw or other type conveyors, or to intercept pneumatic conveying ducts. Due to their special design and to the engineering materials used, they represent a particularly cost-effective yet most efficient solution.

### Benefits ▼

- ✓ **No contamination due to metal steel disc and NBR white seal;**
- ✓ **Dust-tight thanks to components geometry;**
- ✓ **Suitable for different materials in the same configuration;**
- ✓ **Safety for OEM and end user thanks to ATEX zone 22 certification;**
- ✓ **Quick integration into the process;**
- ✓ **Modular design and easy maintenance thanks to small numbers of components;**
- ✓ **High flexibility thanks to interchangeable components.**



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# Flour Milling

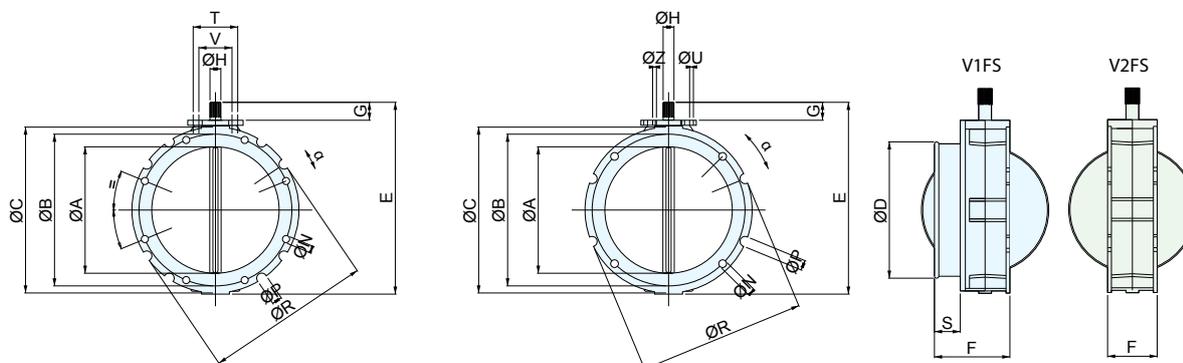
## VFS Butterfly Valves



### Technical Features / Performance ▼

- ▶ V1FS with top flange and beaded bottom section suitable for fixing of flexible sleeve from 100 ~ 400 mm (4 in ~16 in)
- ▶ V2FS with identical top and bottom flange from 100 ~ 400 mm (4 in ~16 in)
- ▶ Pressure-proof up to 0.2 bar (2.9 psi) and max temperature T = 100°C (212°F)
- ▶ Disc in SINT® engineering polymer FDA-approved, or stainless steel
- ▶ Absence of stagnation points
- ▶ White seals for standard or no contact with product application
- ▶ Interchangeable discs

### Overall Dimensions ▼



TYPE	Ø A	Ø B	Ø C	Ø D	E	F	G	Ø H DIN 5482	N Drilling	P External grooves	Ø R	α	S	T	U	V	Z	KR
V1FS 100.	95	180	220	105	250	115	35	22x19	N°4 x Ø14	N°4 x Ø20	220	22°30'	40	80	M12	50	M10	4
V1FS 150.	150	200	228	163	290	115	35	22x19	N°4 x Ø14	N°4 x Ø20	228	22°30'	40	80	M12	50	M10	5
V1FS 200.	200	250	278	213	340	115	35	22x19	N°4 x Ø14	N°4 x Ø20	278	22°30'	40	80	M12	50	M10	6.5
V1FS 250.	250	300	328	263	390	115	35	22x19	N°8 x Ø14	N°8 x Ø20	325	11°15'	40	80	M12	50	M10	7.5
V1FS 300.	300	350	378	313	440	115	35	22x19	N°8 x Ø14	N°16 x Ø20	375	5°41'	40	80	M12	50	M10	9
V1FS 350.	350	400	440	363	530	123	50	28x25	N°8 x Ø14	N°8 x Ø20	440	10°	40	80	M12	-	-	16
V1FS 400.	400	470	530	413	580	123	50	28x25	N°8 x Ø14	N°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	KR
V2FS 100.	95	180	220	250	77	35	22x19	N°4 x Ø14	N°4 x Ø20	220	22°30'	80	M12	50	M10	4
V2FS 150.	150	200	228	290	77	35	22x19	N°4 x Ø14	N°4 x Ø20	228	22°30'	80	M12	50	M10	5
V2FS 200.	200	250	278	340	77	35	22x19	N°4 x Ø14	N°4 x Ø20	278	22°30'	80	M12	50	M10	6.5
V2FS 250.	250	300	328	390	77	35	22x19	N°8 x Ø14	N°8 x Ø20	325	11°15'	80	M12	50	M10	7.5
V2FS 300.	300	350	378	440	77	35	22x19	N°8 x Ø14	N°16 x Ø20	375	5°41'	80	M12	50	M10	9
V2FS 350.	350	400	440	530	85	50	28x25	N°8 x Ø14	N°8 x Ø20	440	10°	80	M12	-	-	16
V2FS 400.	400	470	530	580	85	50	28x25	N°8 x Ø14	N°16 x Ø20	530	4°30'	80	M12	-	-	20.5

Dimensions in mm

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

# Flour Milling

## VG Slide Valves

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### Description ▼

The VG-type Slide Valve, which is entirely manufactured from carbon steel or stainless steel, ensures safe interception and excellent durability. The ideal equipment for heavy-duty applications, the VG Slide Valve is available in larger sizes and is equipped with two replaceable seals. In the VG version the Slide Valves have a square cross section, in the VGR version a rectangular one.

### Function ▼

VG Slide Valves are used in all those plant applications where interception of gravity material flow is required. The Valves are mounted on the outlets of hoppers, tanks, silos, mechanical conveyors, and on loading bellow inlets.



### Applications ▼

The geometry of the VG Slide Valves enable their application in all departments of a flour mill where interception of gravity-fed or pneumatically conveyed dry materials is required. Typical applications are storage, transport and processing lines. They are fitted beneath hoppers, bins, silos, screw or other type conveyors. Due to their special design, they represent a particularly cost-effective yet most efficient solution.

### Benefits ▼

- ✓ Suitable for different materials in the same configuration;
- ✓ Easy integration into the process;
- ✓ Time-saving maintenance thanks to small numbers of components;
- ✓ Quick maintenance and replacement of the scraper;
- ✓ Food-grade version;
- ✓ High quality standard;
- ✓ Equipped for manual, electropneumatic or gear motor actuator.

# Flour Milling

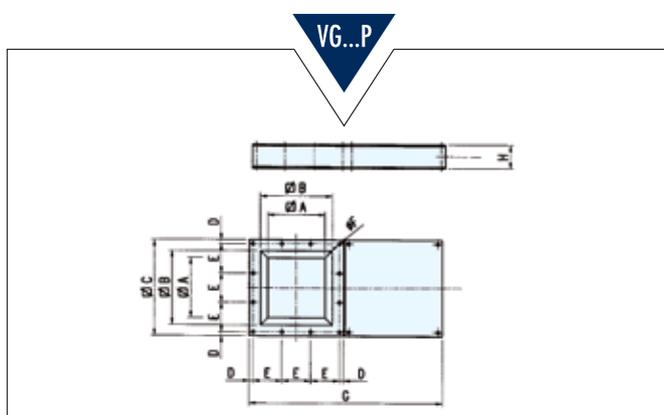
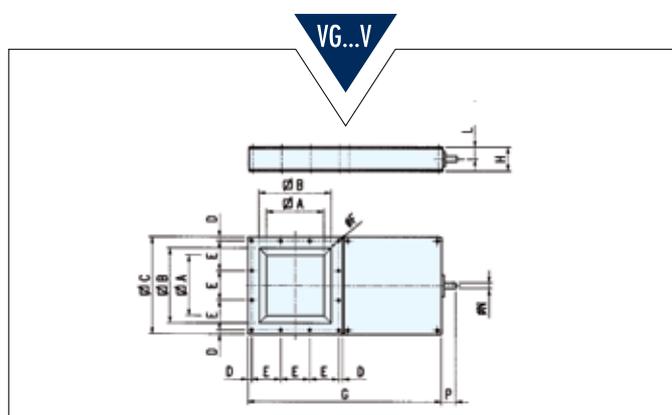
## VG Slide Valves



### Technical Features / Performance ▼

- ▶ Square (VG) inlet from 50 ~ 1,000 mm (1.64 ft ~ 3.3 ft)
- ▶ Rectangular inlet from 150 ~ 400 mm (0.5 ft ~ 1.3 ft)
- ▶ Blade and frame in mild or stainless steel
- ▶ Powder-coated

### Overall Dimensions ▼



TYPE	A	B	C	D	E	N° E	Ø F	Ø Bolts	G	H	L	Ø N DIN 5482	P	kg	
														VG...V	VG...P
VG 0500..	450	525	653	26.5	120	15	15.5	M 12	1,300	133	35	28 x 25	60	85	80
VG 0600..	550	625	753	26.5	140	15	15.5	M 12	1,500	133	35	28 x 25	60	110	104
VG 0700..	650	725	895	35.0	165	15	15.5	M 12	1,720	133	35	28 x 25	60	135	128
VG 0800..	750	825	995	35.0	185	15	23.0	M 12	1,920	133	35	28 x 25	60	180	172
VG 1000..	950	1,025	1,235	40.0	165	15	18.0	M 12	2,340	133	35	28 x 25	60	240	230

Dimensions in mm

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



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# Flour Milling

## VL Slide Valves



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### 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 caused by gravity or transport has to be intercepted. The valves may be fitted to hopper or silo outlets, to the inlets and outlets of mechanical conveyors or to the inlets of telescopic loading spouts.



### Applications ▼

The special geometry of the VL Slide Valves and the different options of blade design enable their application in all departments of a flour mill where interception of gravity-fed or pneumatically conveyed dry materials is required. Typical applications are storage, transport and processing lines.

They are fitted beneath hoppers, bins, silos, screw or other type conveyors.

Due to their special design and to the engineering 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;
- ✓ Dust-tight thanks to components geometry;
- ✓ Suitable for different materials in the same configuration;
- ✓ Safety for OEM and end user thanks to ATEX zone 22 certification;
- ✓ Easy integration into the process;
- ✓ Time-saving maintenance thanks to small numbers of interchangeable;
- ✓ Optimum performance thanks to friction-free contact design (actuator torque is not wasted in order to win friction resistance).

# Flour Milling

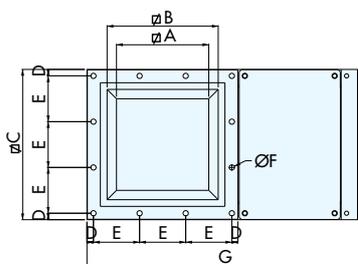
## VL Slide Valves



### Technical Features / Performance ▼

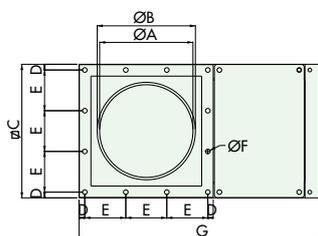
- ▶ Square (VLQ) or round (VLC) inlet from 150 ~ 400 mm (6 in ~16 in)
- ▶ Rectangular inlet for 300mm size (12 in)
- ▶ Dust-tight, max. temperature T = 80°C (176 F°)
- ▶ Blade in mild or stainless steel or coated in SINT® engineering polymer
- ▶ Frame in mild or stainless steel
- ▶ Absence of stagnation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

### Overall Dimensions ▼



**VLQ**

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



**VLC**

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

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# Flour Milling

## VM Pinch Valves

30



### Description ▼

The casing 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 or, especially with small valves, water under pressure through the threaded bore into the interior of the valve, the internal flexible sleeve is reshaped in such a way that the passage is hermetically sealed.



### Application ▼

VM Pinch Valves equally handle pneumatically conveyed powders, granules, fibres, dense mixtures and liquids. They are fitted directly to the pneumatic conveying ducts wherever needed to interrupt the flow of material.

### Benefits ▼

- ✓ No product contamination due to the 304/316 SS sleeve support bushes and white colour NBR sleeve;
- ✓ ATEX zone 22-certified;
- ✓ Full bore-through passage without any pressure loss and stagnation points;
- ✓ No contact between material handled and casing;
- ✓ Particularly low air consumption;
- ✓ Time-saving sleeve and bush replacement;
- ✓ Sleeves in fabric-reinforced NR or NBR;
- ✓ Compact overall dimensions;
- ✓ Lightweight due to valve body made from aluminium alloy;
- ✓ No maintenance required except for periodic replacement of sleeve and bushes.

# Flour Milling

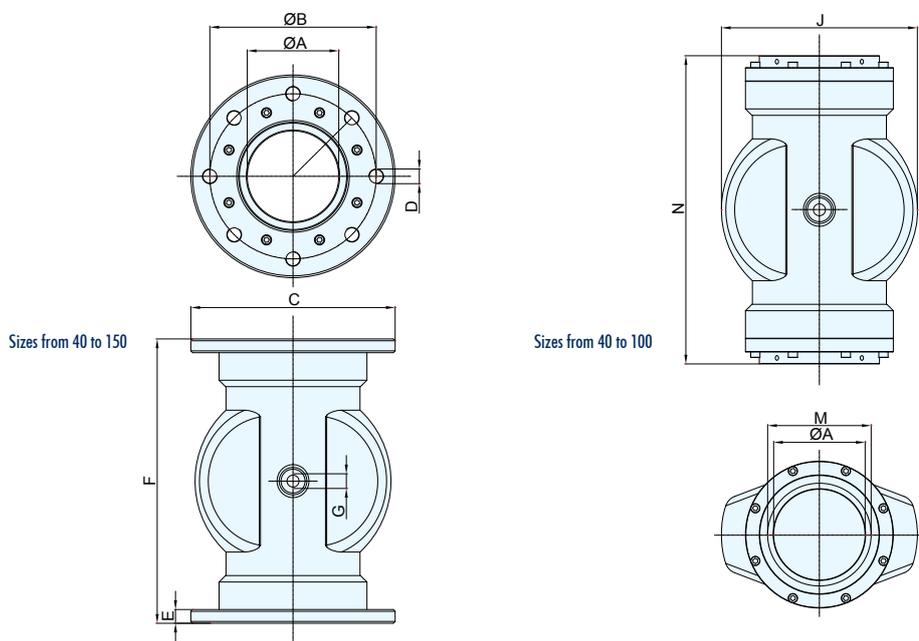
## VM Pinch Valves



### Technical Features / Performance ▼

- ▶ Passage diameter from 40mm to 150mm (1½ to 6 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)
- ▶ Different sleeve materials suitable for material handled: NR or NBR
- ▶ Different connections
- ▶ Different types of bushes suitable for material handled: aluminium alloy or 304/316 SS

### Overall Dimensions ▼



TYPE	A	B	C	D		E	F	G	H	J	L	M	N	kg
				Ø	n°									
VM040	40	110	150	M 16	4	12	178	1/8"		99		1 + 1/2"	202	2.2
VM050	50	125	165	M 16	4	15	190	1/4"		120		2"	214	3.4
VM065	65	145	185	M 16	4	15	225	1/4"		138		2 + 1/2"	230	4.0
VM080	80	160	200	M 16	4	15	270	1/4"		180		3"	294	5.4
VM0100	100	180	220	M 16	8	15	310	1/4"		214		4"	334	7.6
VM0125	125	210	250	M 16	8	15	350	1/4"		250				10.2
VM0150	150	240	285	M 16	8	18	396	1/4"		285				15.6

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

# Flour Milling

## WBH Batch-Type Single Shaft Mixers



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### Description ▼

Batch-type WBH Single Shaft Mixers consist of an horizontal, single shaft, equipped with ploughshare or shovel tools, housed in a tubular mixing drum, one or more inlets, an outlet with a central discharge port, a venting spout, two drum closing end plates that carry flanged end bearing assemblies complete with integrated, adjustable, shaft sealing unit, and a drive unit complete with power transmission.

### Function ▼

The horizontal single shaft ploughshare mixer WBH 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 ▼

For blending different types of flour or mixing flour with additives.

### Benefits ▼

- ✓ **Maximum mixing homogeneity;**
- ✓ **High-speed mixing;**
- ✓ **Low material residue;**
- ✓ **Minimum wear/low maintenance;**
- ✓ **Easy access to all internal parts;**
- ✓ **Top quality mixing;**
- ✓ **Attractive price.**

# Flour Milling

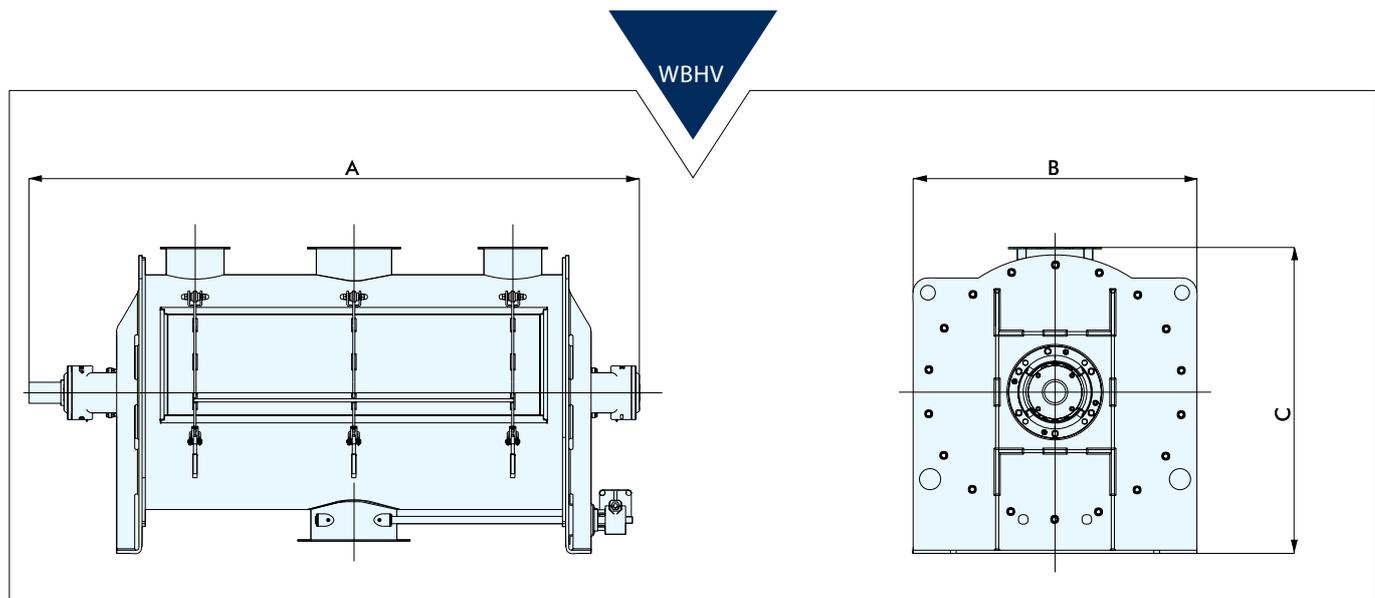
## WBH Batch-Type Single Shaft Mixers



### Technical Features / Performance ▼

- ▶ From 75 up to 15,000 litres volume capacity
- ▶ Different construction materials
- ▶ Bomb-bay discharge available (15° and 60°)

### Overall Dimensions ▼



TYPE	A	B	C	Usable Volume (dm <sup>3</sup> )	Empty Weight (kg)
WBHV 75	1,300	611	649	56	245
WBHV 150	1,460	670	754	105	350
WBHV 300	1,840	770	889	210	550
WBHV 550	2,150	930	1,075	385	840
WBHV 800	2,350	980	1,151	560	1,080
WBHV 1100	2,690	1,100	1,278	770	1,400
WBHV 2000	2,920	1,340	1,455	1,400	2,100
WBHV 3000	3,920	1,340	1,455	2,100	2,800
WBHV 4800	4,520	1,500	1,750	3,360	4,300
WBHV 6000	4,820	1,600	1,860	4,200	4,800
WBHV 8800	5,390	1,810	2,130	6,160	5,800
WBHV 10500	5,630	1,910	2,160	7,350	6,900
WBHV 15000	6,124	2,110	2,445	10,500	8,200

Dimensions in mm

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

# Flour Milling

## Continuous Single Shaft Mixers WAH



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### Description ▼

WAH is a Continuous Horizontal Single Shaft Mixer suitable for dry bulk solids (powders, granules, short fibres), dry bulk solids + 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 close to the horizontal, 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 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 ▼

Usually for blending different types of flour or mixing flour with additives.

### Benefits ▼

- ✓ **Maximum mixing homogeneity;**
- ✓ **High speed mixing (short mixing time);**
- ✓ **Low material residue;**
- ✓ **Minimum wear/low maintenance;**
- ✓ **Easy access to all internal parts of the mixer.**

# Flour Milling

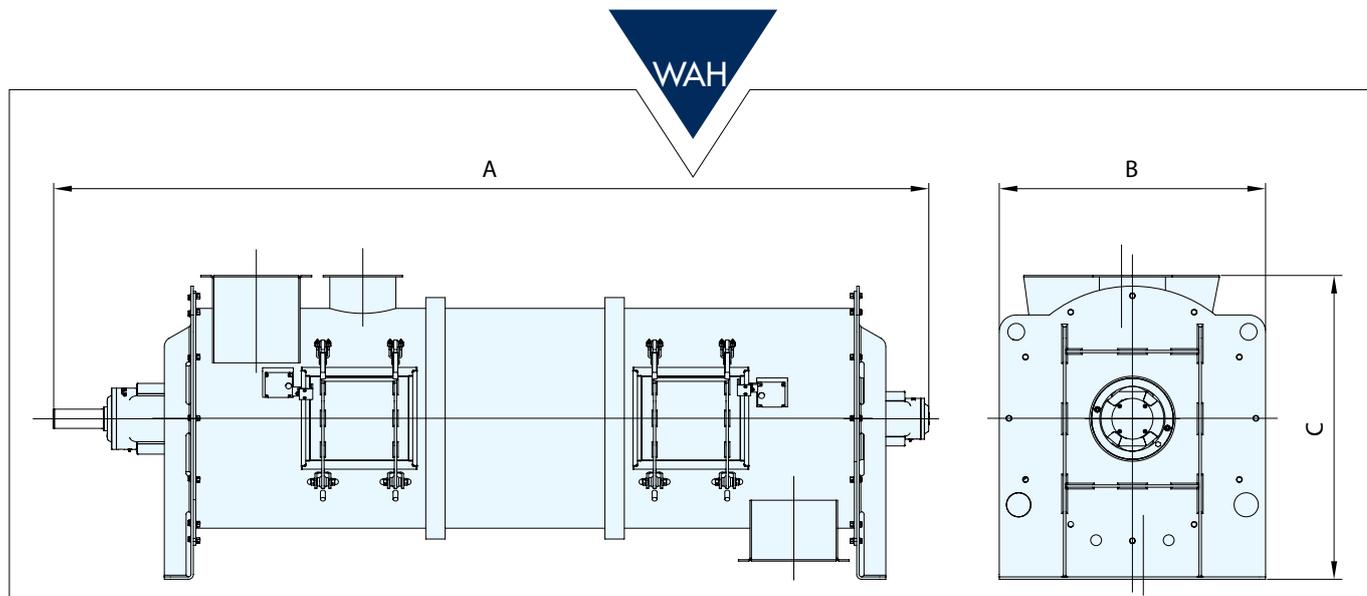
## Continuous Single Shaft Mixers WAH



### Technical Features / Performance ▼

- ▶ From 75 up to 15,000 litres gross volume
- ▶ Different construction materials
- ▶ Different types of mixing tools

### Overall Dimensions ▼



	A	B	C	50% $\phi$ dm <sup>3</sup> /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

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

# Flour Milling

## WBN Batch-Type Ribbon Blender



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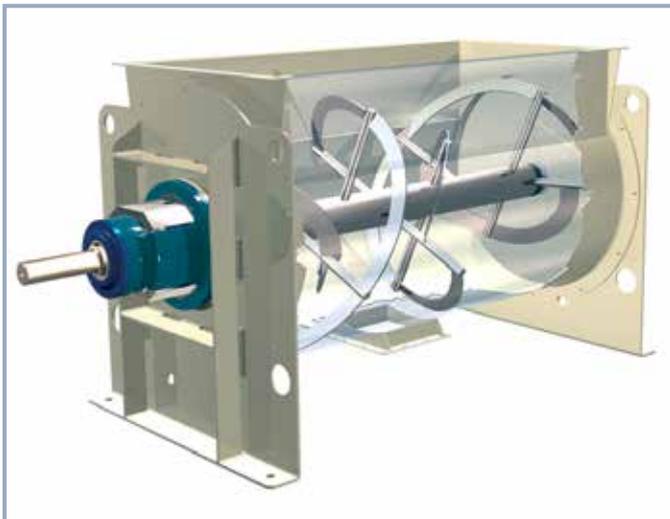


### Description ▼

WBN Batch-Type Ribbon Blenders consist of a horizontal, single shaft double counter-pitch ribbon screw housed in a tubular mixing drum, a central inlet or a rectangular shape inlet port across the entire length of the mixing drum, an outlet with central discharge, a venting spout, two drum closing end plates that carry flanged end bearing assemblies complete with integrated adjustable shaft sealing unit, and a drive unit complete with power transmission.

### Function ▼

The outer helix will move the material from both ends of the vessel towards the centre, while the inner helix will transfer the material towards both ends, performing a sort of convection mixing. The product is processed gently in a relative short mixing time.



### Application ▼

For blending different types of flour or mixing flour with additives.

### Benefits ▼

- ✓ Excellent mixing homogeneity;
- ✓ Mixing of fragile materials without particle damage;
- ✓ Low material residue;
- ✓ Minimum wear/low maintenance;
- ✓ Easy access to all internal parts;
- ✓ Attractive price.

# Flour Milling

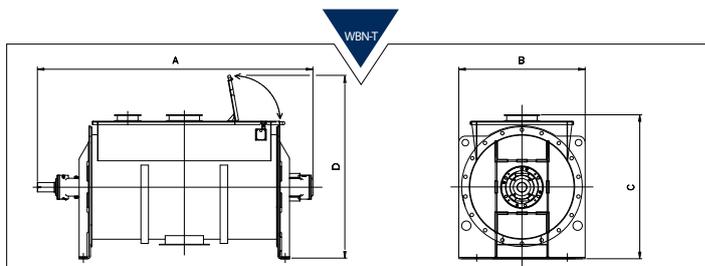
## WBN Batch-Type Ribbon Blender



### Technical Features / Performance ▼

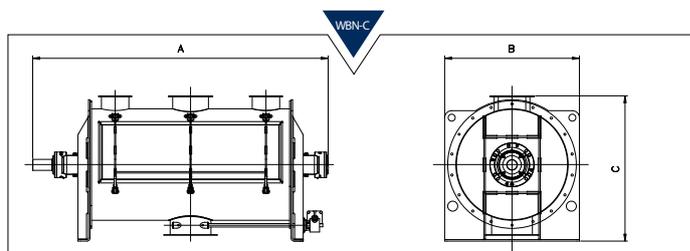
- ▶ From 75 up to 15,000 litres volume capacity
- ▶ Different construction materials
- ▶ Bomb-bay discharge available (15° and 60°).

### Overall Dimensions ▼



TYPE	A	B	C	D	Usable Volume (dm <sup>3</sup> )	Empty Weight (kg)
WBN-T 75	1,300	611	670	1,051	56	160
WBN-T 150	1,460	670	763	1,274	105	270
WBN-T 300	1,840	770	930	1,393	210	400
WBN-T 550	2,150	930	1,133	1,585	385	690
WBN-T 800	2,350	980	1,154	1,602	560	850
WBN-T 1100	2,690	1,100	1,260	1,754	770	1,200
WBN-T 2000	2,920	1,340	1,465	1,975	1,400	2,400
WBN-T 3000	3,920	1,340	1,465	2,090	2,100	2,700
WBN-T 4800	4,520	1,500	1,725	2,199	3,360	3,800
WBN-T 6000	4,820	1,600	1,876	2,325	4,200	4,400
WBN-T 8800	5,390	1,810	2,067	2,665	6,160	5,300
WBN-T 10500	5,630	1,910	2,413	2,862	7,350	6,900
WBN-T 15000	6,124	2,110	2,706	3,190	10,500	8,000

Dimensions in mm



TYPE	A	B	C	Usable Volume (dm <sup>3</sup> )	Empty Weight (kg)
WBN-C 75	1,300	611	649	56	160
WBN-C 150	1,460	670	754	105	270
WBN-C 300	1,840	770	889	210	400
WBN-C 550	2,150	930	1,075	385	690
WBN-C 800	2,350	980	1,151	560	850
WBN-C 1100	2,690	1,100	1,278	770	1,200
WBN-C 2000	2,920	1,340	1,455	1,400	2,400
WBN-C 3000	3,920	1,340	1,455	2,100	2,700
WBN-C 4800	4,520	1,500	1,750	3,360	3,800
WBN-C 6000	4,820	1,600	1,860	4,200	4,400
WBN-C 8800	5,390	1,810	2,130	6,160	5,300
WBN-C 10500	5,630	1,910	2,160	7,350	6,900
WBN-C 15000	6,124	2,110	2,445	10,500	8,000

Dimensions in mm

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

# Flour Milling

BELLOJET® ZA

Tanker Loading Bellows With Built-In Dust Filter



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## Description ▼

BELLOJET® ZA Loading Bellows are used for efficient, dust-controlled loading of dry, dusty bulk solids into tankers. The spouts are provided with inner tapered cones to contain the flow of material and an outer double bellows to provide for dust removal. At the lower end of the Loading Bellows, a polymer-coated SINT® cone with special sealing properties is provided for connection to the tanker. The BELLOJET® dust filtration system, which includes 8 cartridges to provide an overall surface area of 10 m<sup>2</sup> (108 sq ft), is equipped with a 2.2 kW (3.0 HP) fan.

## Function ▼

First the Loading Bellows is lowered from its stand-by position towards the inlet spout of the tanker. As soon as the bellows outlet cone has settled on the inlet spout of the tanker, the slack cable switch mounted outside the transmission box stops lowering of the bellows. The limit switch inside the transmission box stops both full extension and contraction of the bellows. Material loading is started by opening the silo outlet valve. During the filling of the tanker, the polymer SINT® coating of the outlet cone acts as a perfect dust seal. At the same time the filter fan continuously sucks dust through the external bellows into the integrated filter cartridges in the upper section of the unit and exhausts excess air. A slack cable switch activates further extension of the bellows as the tanker lowers under the increasing material weight. A level monitoring device installed in the centre of the outlet cone signals maximum material level in the tanker compartment and orders immediate closing of the silo outlet valve. Contraction of the bellows back to stand-by position starts after a delay of approximately 10 seconds in order to allow the filter to evacuate the remaining dust. Once the bellows is fully retracted, the cable limit switch inside the transmission box stops operation. The preset after shut-down cleaning cycle now provides for additional pulse-jet cleaning of the filter cartridges for another 10 minutes.



## Application ▼

BELLOJET® ZA Telescopic Loading Bellows are suitable for continuous loading at a maximum flow rate of 250m<sup>3</sup>/h (147 cfm) of bulk material. They are suitable for loading both finished products (flour) and by-products in bulk.

## Benefits ▼

- ✓ **No product contamination thanks to the following features:**
  - Double bellows which keeps the falling material separate from the dust
  - 304/316 stainless steel contact parts
  - White colour food-grade polyester internal/external chutes
  - Built-in filter unit which recycles the dust extracted into the tanker
  - ATEX zone 22 certification
  - Built-in dust filter reduces dust emission during filling operation
- ✓ **Flexible chute in Neoprene covered by Hypalon® makes bellows weather-proof, highly abrasion and temperature-resistant and durable;**
- ✓ **Reverse cone with inside level indicator indicates when tanker is full, raises loading bellows gradually and improves material distribution inside the tanker;**
- ✓ **Outlet can be equipped with an anti-spillage device which acts as a dust-tight stopper as the loading bellows is being raised and prevents that insects or birds enter inside the outlet;**
- ✓ **Two lifting cables outside the material flow raise and lower the loading bellows without any cable wear due to material friction and obstruction to material flow.**

# Flour Milling

**BELLOJET® ZA**

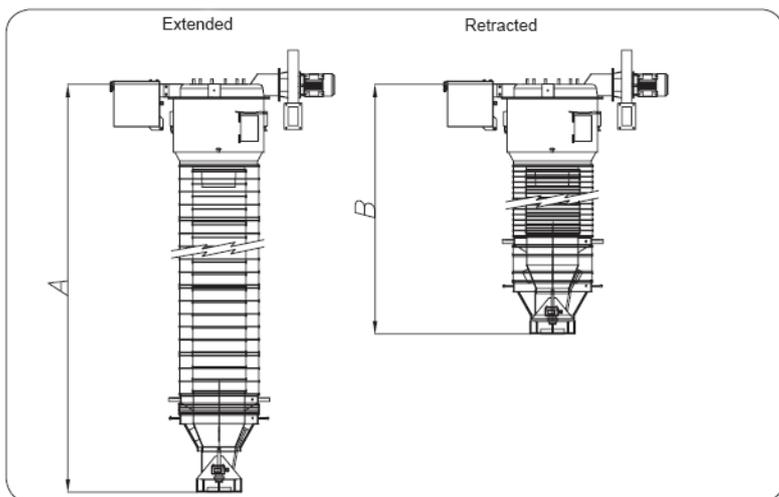
**Tanker Loading Bellows With Built-In Dust Filter**



## Technical Features / Performance ▼

- ▶ Inlet diameter: 300mm (12 in)
- ▶ Maximum flow rate: 250 m<sup>3</sup>/h (147 cfm)
- ▶ Working Temperature: - 20 °C up to 120 °C (- 4° F to 248° F)
- ▶ Hoisting system equipped with an 0.55 kW electric motor and gear reducer with belt transmission
- ▶ Upper/lower limit switch
- ▶ Slack cable limit switch
- ▶ Dust filtration system including 8 cartridges with polyester or antistatic media
- ▶ Filtering surface: 10 m<sup>2</sup> (108 sq ft)
- ▶ Dust suction fan equipped with an 2.2 kW (3.0 HP) electric motor
- ▶ Electronic filter cleaning panel
- ▶ Fabricated parts in carbon steel or 304/316 stainless steel
- ▶ Bellows manufactured from Neoprene/Hypalon® or white colour food-grade polyester
- ▶ Double bellows with optional internal steel cones for granules
- ▶ Rubber bottom outlet cone to ensure perfect sealing of the tanker hatch
- ▶ Control panel with remote control for fully automatic operation
- ▶ Available with rotary level indicator or vibrating level indicator
- ▶ Anti-spillage device on outlet
- ▶ 2 external hoisting cables

## Overall Dimensions ▼



\* = Order Form

*	A <sub>max</sub> [mm]	B <sub>min</sub> [mm]	[kg]
05	2,050	1,550	303
07	2,330	1,590	305
10	2,630	1,630	308
12	2,810	1,650	309
15	3,110	1,690	311
17	3,390	1,720	313
20	3,590	1,750	315
22	3,870	1,780	317
25	4,170	1,820	319
27	4,450	1,850	322
30	4,730	1,890	324
32	5,030	1,930	326
35	5,310	1,960	328

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

# Flour Milling

## ZG Tanker Loading Bellows



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### Description ▼

ZG Loading Bellows are used for efficient, dust-controlled loading of dry, dusty bulk solids into tankers. The spouts are provided with inner tapered cones to contain the flow of material and an outer double bellows to provide for dust removal. At the lower end of the Loading Bellows, a polymer-coated SINT® cone with special sealing properties is provided for connection to the tanker.

### Function ▼

ZG Telescopic Loading Bellows are suitable for continuous loading with a maximum flow rate of 250 m<sup>3</sup>/h (147 cfm) of bulk material. The outlet can be equipped with an anti-spillage device which acts as a dustproof stopper as the Loading Bellows is being raised. The equipment features a manual or an electric winch. A spigot on the header can be connected on site to an external de-dusting filter. First the Loading Bellows is lowered from its stand-by position towards the inlet spout of the tanker. As soon as the bellows outlet cone has settled on the inlet spout of the tanker, the slack cable switch mounted outside the transmission box stops lowering of the bellows. The limit switch inside the transmission box stops both full extension and retraction of the bellows. Material loading is started by opening the silo outlet valve. During the filling of the tanker, the polymer SINT® coating of the outlet cone acts as a perfect dust seal. The slack cable switch activates further extension of the bellows as the tanker lowers under the increasing weight of the material. A level control device installed in the centre of the outlet cone signals maximum material level in the tanker compartment and orders immediate closing of the silo outlet valve. Contraction of the bellows back to stand-by position starts after a delay of approximately ten seconds in order to allow the external filter to evacuate the remaining dust. Once the bellows is fully retracted, the cable limit switch inside the transmission box stops operation.



### Application ▼

ZG Telescopic Loading Bellows are suitable for continuous loading of both finished products (flour) and by products shipped in bulk.

### Benefits ▼

- ✓ **No product contamination thanks to:**
  - Double bellows which keep the falling material separate from the dust
  - 304/316 stainless steel contact parts
  - White colour food-grade polyester internal/external chutes
- ✓ **ATEX zone 22 certification;**
- ✓ **Flexible chute in Neoprene covered by Hypalon® makes bellows weather-proof, highly abrasion and temperature-resistant and durable;**
- ✓ **Reverse cone with inside level indicator indicates when tanker is full, raises loading bellows gradually, thus improving material distribution inside the tanker;**
- ✓ **Outlet can be equipped with an anti-spillage device which acts as a dustproof stopper as the loading bellows is being raised and prevents that insects or birds enter inside the outlet;**
- ✓ **2 lifting cables outside the material flow raise and lower the loading bellows without any cable wear due to material friction and obstruction to material flow.**

# Flour Milling

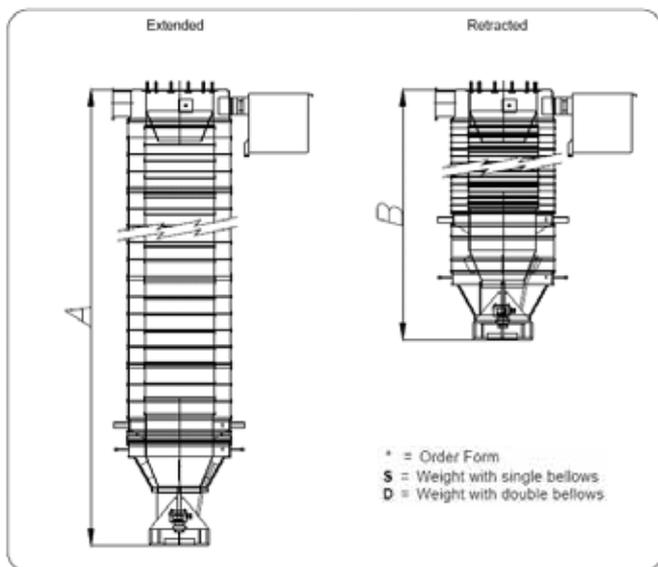
## ZG Tanker Loading Bellows



### Technical Features / Performance ▼

- ▶ Inlet diameter: 300mm (12 in)
- ▶ Maximum flow rate: 250 m<sup>3</sup>/h (147 cfm)
- ▶ Working Temperature: - 20 °C up to 120 °C (- 4° F to 248° F)
- ▶ Hoisting system equipped with an 0.55 kW electric motor and gear reducer with belt transmission
- ▶ Upper/lower limit switch
- ▶ Slack cable limit switch
- ▶ Fabricated parts in carbon steel or 304/316 stainless steel
- ▶ Bellows manufactured from Neoprene/Hypalon® or white colour food-grade polyester
- ▶ Double bellows with optional internal steel cones for granules
- ▶ Rubber bottom outlet cone to ensure a perfect sealing of the tanker hatch
- ▶ Control panel with remote control for fully automatic operation
- ▶ Available with rotary level indicator or vibrating level indicator
- ▶ Anti-spillage device on outlet
- ▶ 2 external hoisting cables

### Overall Dimensions ▼

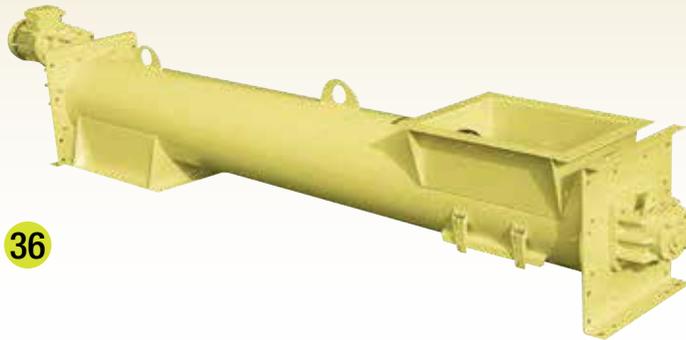


*	A <sub>max</sub> [mm]	B <sub>min</sub> [mm]	S [kg]	D [kg]
05	1,610	1,100	183	205
07	1,890	1,140	184	207
10	2,190	1,170	185	210
12	2,370	1,200	186	211
15	2,670	1,230	188	213
17	2,950	1,270	189	215
20	3,150	1,290	190	217
22	3,430	1,330	191	219
25	3,730	1,370	192	221
27	4,010	1,400	193	224
30	4,290	1,440	195	226
32	4,590	1,470	196	228
35	4,870	1,510	197	230
37	5,170	1,540	198	223
40	5,710	1,740	205	231
42	5,990	1,770	206	233
45	6,290	1,800	207	235
47	6,590	1,840	208	237
50	6,870	1,880	209	239
52	7,150	1,910	210	241
55	7,340	1,940	211	243
57	7,710	1,980	212	245
60	8,010	2,020	213	247

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

# Flour Milling

## CAO Tubular Trough Screw Conveyors and Feeders



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### Description ▼

CAO screw conveyors and feeders, in their standard configuration, consist of:

- gear reducer (direct, with chain, with belt or with coupling)
- inlet spout: round, square, rectangular or variable cross section
- cylindrical section casing in modular lengths made from mild steel
- outlet spout: round, square or rectangular
- flanged end bearing assembly at the opposite end of the power transmission

CAO screw conveyors and feeders are available in carbon steel with a food-grade powder-coated finish.

### Function ▼

In flour mills CAO-type screw conveyors and feeders are used for conveying/feeding flour and/or by-products even if these materials show poor flowability and a tendency to pack under pressure.



### Application ▼

The most typical application for CAO screw feeders is under bins or silos beneath the bin activator outlet.

As a conveyor CAO is used to collect material from UM-type screw feeders (see picture).

### Benefits ▼

- ✓ **Easy to clean when equipped with drop-bottom trough;**
- ✓ **Quick and easy maintenance;**
- ✓ **Minimum material residue;**
- ✓ **Low risk of packing at discharge;**
- ✓ **Easy to integrate into the plant.**

# Flour Milling

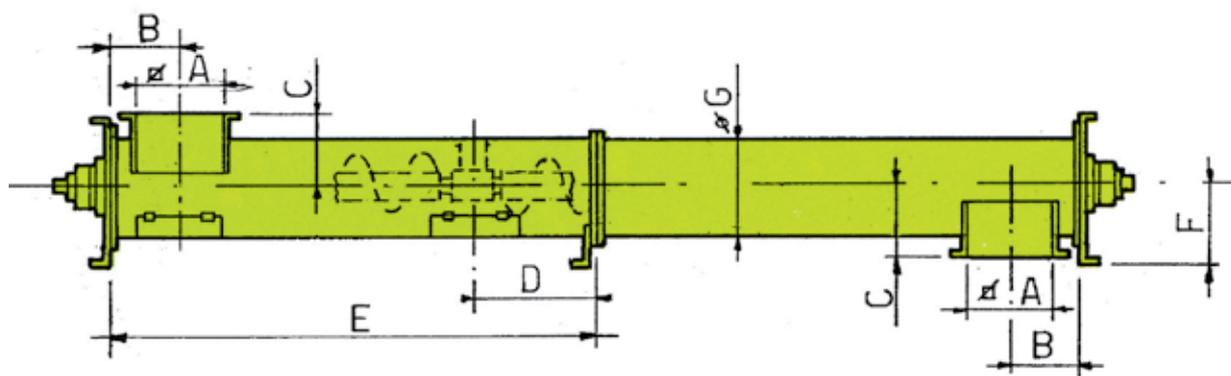
## CAO Tubular Trough Screw Conveyors and Feeders



### Technical Features / Performance ▼

- ▶ Wide range from 100 to 500 mm;
- ▶ Throughput/feed rates: 10 ~ 100 m<sup>3</sup>/h;
- ▶ High-quality finish-grade;
- ▶ Gear reducer directly connected with the screw;
- ▶ Intermediate bearing with self-lubricating plastic bush;
- ▶ End bearing with self-lubricating bearings;
- ▶ Adjustable packing gland made of Teflon®;
- ▶ Reduced clearance between screw and trough;
- ▶ Wide range of accessories and options: drop-bottom trough, inspection hatches, rotation indicator bracket, coupling transmission, chain transmission, emergency stoppage device.

### Overall Dimensions ▼



Screw Ø	A	B	C	D	E (max)	F	G
100	175	230	130	200	3,300	145	114
120	175	230	130	200	3,300	145	139
150	175	230	140	200	3,300	145	168
200	225	260	165	200	3,300	185	219
250	275	280	195	200	3,300	215	273
300	325	320	225	300	3,800	245	323
350	375	340	265	300	3,800	275	406
400	425	370	295	300	3,800	305	457
500	525	430	350	300	3,800	380	558

N.B.: Dimensions depending on transmission type B, C or D and may change size of drive installed.

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

# Flour Milling

## Pressure Reliefe Valve - VCP



37



### 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.



### Applications ▼

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;
- ✓ No contamination due to metal steel discs and EPDM white seal;
- ✓ Suitable for different materials in the same configuration;
- ✓ Easy to handle and fit thanks to lightweight design and reduced overall dimensions;
- ✓ Time-saving maintenance due to few components.



# Flour Milling

## Pressure Relieve Valve - VCP

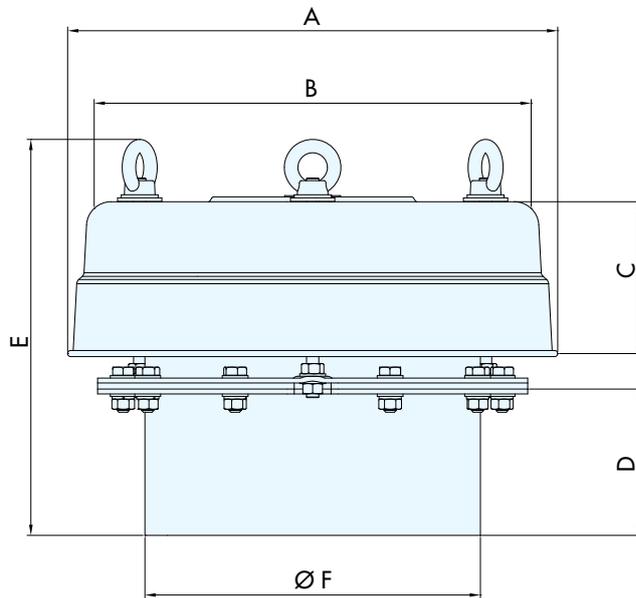


### Technical Features / Performance ▼

- ▶ Carbon steel body (VCP...1C) painted RAL 7001 or 304 SS body (VCP...2C)
- ▶ Two sizes: 273mm (11 in); 356mm (14 in)
- ▶ Weather protection cover in stainless steel
- ▶ In compliance with ATEX certification (zone 21) and HSE British Guidelines
- ▶ Air volume up to 13,000m<sup>3</sup>/h (7,650 cfm)
- ▶ Setting range: overpressure from 300 mmH<sub>2</sub>O(0.44psi) up to 800 mmH<sub>2</sub>O(1.16 psi)
- ▶ Setting range: negative pressure from -50 mmH<sub>2</sub>O(0.07psi) up to -100 mmH<sub>2</sub>O (0.15psi)
- ▶ No welding seams inside
- ▶ Pre-equipped for inductive signalling sensors
- ▶ Protective bellows for spring
- ▶ White seals for standard or no contact with product application
- ▶ Interchangeable discs

### 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



# Flour Milling

## Pressure Relief Valves VHS

38



 EC 1935/2004-certified



### Description ▼

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

### Function ▼

For some time, tighter safety regulations in industrialised countries have ensured stricter enforcement of rules regarding the safeguarding of silos and bins against both excess and negative pressure. There is no question that other countries will have to follow this example.

The counterweight-loaded VHS-type Pressure Relief Valve has one decisive advantage over other types of pressure relief valve. Due to the moment of inertia of the helical springs on those traditional pressure relief valves, pressure balance is re-established extremely quickly but not instantaneously.

The VHS, on the other hand, does the job in real time. Through an interplay of pressure on different surface areas on both sides of a diaphragm fitted inside the valve housing, perfect pressure balance is achieved. In the event of excess pressure this interaction enables air from inside the silo to flow back into the atmosphere; in case of suction pressure the air penetrates from the atmosphere into the silo.



### Applications ▼

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.

### Benefits ▼

- ✓ Safety for people and the environment thanks to the possibility to convey emissions;
- ✓ The special properties of the diaphragm help avoid blockage, as well as the formation of material crusts;
- ✓ The working principle of the VHS Pressure Relief Valve itself is innovative.  
Its special double-acting diaphragm pervious to air sees to both excess and suction pressure relief;
- ✓ No failure thanks to counterweight system never in contact with dust;
- ✓ Quick and easy maintenance due to few components;
- ✓ Easy to handle and fit thanks to lightweight design and reduced overall dimensions.

# Flour Milling

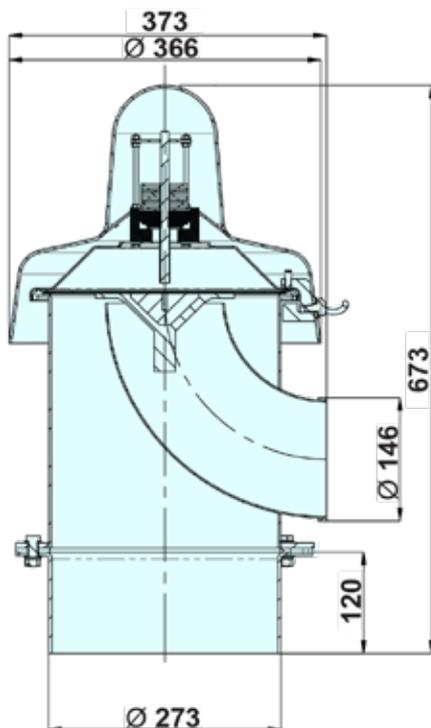
## Pressure Relief Valves VHS



### Technical Features / Performance ▼

- ▶ Carbon steel casing (VHS2731B), painted RAL 7001 (silver-grey) or in 304 stainless steel (VHS2732B)
- ▶ Body diameter = 273mm (10 in)
- ▶ Air volume up to 5,000Nm<sup>3</sup>/h (2,950 cfm)
- ▶ Exhaust outlet spout for connection with centralised suction system
- ▶ These valves are preset for a maximum negative pressure of -0.005 bar (0.07 psi) and a maximum excess pressure of 0.05 bar (0.72 psi)
- ▶ Should customer requirements be different, the valves can be set at a maximum excess pressure ranging from 0.02 bar (0.29 psi) to 0.08 bar (1.16 psi)
- ▶ Weight: 16 kg (35 lbs)
- ▶ Pre-equipped for inductive signalling sensors
- ▶ Small number of components
- ▶ Easier part replacement
- ▶ Lightweight and easy to handle
- ▶ Conveyed emission
- ▶ Compliance with European Regulation (EC) No.

### Overall Dimensions ▼



TYPE	Excess Pressure	Negative Pressure	kg
VHS273	300 ~ 1,000 mm H <sub>2</sub> O*	-50 mm H <sub>2</sub> O*	22

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

# Flour Milling

## External Pneumatic Vibrators S-Type

41



### Description ▼

S-Type External Pneumatic Ball Vibrators develop frequencies of up to 35,000 r.p.m. They are used wherever powdery materials have to be moved. S-type Ball Vibrators are installed on bins to prevent bridging or rat holing and for the improvement of material flow on chutes, screens and vibrating tables.

### Function ▼

S-type Ball Vibrators are used for emptying without bridging (hoppers, bins), assisting the flow of material from chutes, as well as for the prevention of adhesion on pipes or plates.



### Application ▼

S-type Ball Vibrators are used in all types of powdery or granular material processing plants where flow aids are required.

Typical application are the discharge of cereal powders, starch and additives from small hoppers or silos, or cleaning of pipes in the plant. They are fitted to FIBC discharger or storage, weigh and feeding hoppers.

### Benefits ▼

- ✓ Large amplitude even with low operating pressure;
- ✓ ATEX compliance – Ex II 2GD;
- ✓ Variable frequency;
- ✓ Generates vibrations with high frequency and low amplitude;
- ✓ Solves all mass flow problems;
- ✓ Maintenance-free;
- ✓ Durable;
- ✓ Lubrication-free;
- ✓ Low air consumption;
- ✓ Casing in anodised aluminium.

# Flour Milling

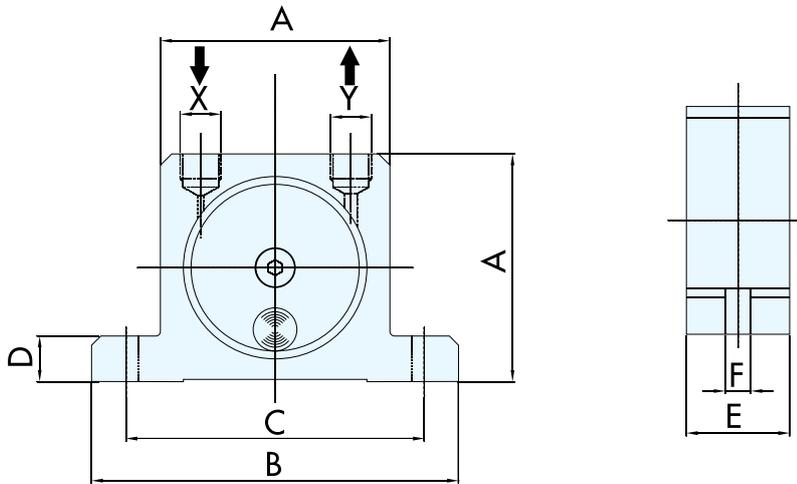
## External Pneumatic Vibrators S-Type



### Technical Features / Performance ▼

- ▶ Galvanised steel cover
- ▶ Brass silencer
- ▶ Nickel-plated brass air nipple inlet
- ▶ Working temperature: -20° C ~ 120° C (-4° F ~ 250° F)
- ▶ Working pressure: 3 ~ 6 bar (44 to 88 psi)

### Overall Dimensions ▼



TYPE	A		B		C		D		E		F		X-Y	kg	lb
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
S8	50	1.97	86	3.39	68	2.68	12	0.47	20	0.79	7	0.28	1/8"	0.13	0.29
S 10									25	0.98					
S 13	65	2.56	113	4.45	90	3.54	16	0.63	28	1.10	9	0.35	1/4"	0.26	0.57
S 16									30	0.66					
S 20	80	3.15	128	5.04	104	4.09	16	0.63	33	1.30	9	0.35	1/4"	0.53	1.17
S 25									38	1.50				0.63	1.39
S 30	100	3.94	160	6.30	130	5.12	20	0.79	45	1.77	11	0.43	3/8"	1.13	2.49
S 36									50	1.97				1.34	2.95

TYPE	Vibrations			F.C. max.						Air Consumption					
	2 bar=29 psi	4 bar=58 psi	6 bar=87 psi	2 bar=29 psi		4 bar=58 psi		6 bar=87 psi		2 bar=29 psi		4 bar=58 psi		6 bar=87 psi	
	Vpm			kg	lb	kg	lb	kg	lb	l/min	CF/min	l/min	CF/min	l/min	CF/min
S8	25,500	31,000	35,000	13	29	26	57	36	79	83	2.9	145	5.1	195	6.9
S 10	22,500	28,000	34,000	25	55	47	103	71	156	92	3.2	150	5.3	200	7.1
S 13	15,000	18,500	22,500	32	70	55	121	87	191	94	3.3	158	5.6	225	7.9
S 16	13,000	17,000	19,500	45	99	80	176	110	242	122	4.3	200	7.1	280	9.9
S 20	10,500	14,500	16,500	72	158	122	268	172	378	130	4.6	230	8.1	340	12.0
S 25	9,200	12,200	14,000	93	205	157	345	205	451	160	5.7	290	10.2	425	15.0
S 30	7,800	9,700	12,500	151	332	247	543	321	706	215	7.6	375	13.2	570	20.1
S 36	7,300	9,000	10,000	206	453	315	693	405	891	260	9.2	475	16.8	675	23.8

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



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# Flour Milling

## External Pneumatic Impact Vibrators P-Type

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### Description ▼

P-type External Pneumatic Impact Vibrators are particularly robust and are used for detaching material incrustations inside pipes or bins. In areas where noise prevention is not a priority P-type Vibrators are the best value.

### Function ▼

P-type Piston Vibrators are used in powdery and granular material processing plants where flow aids are required. They produce an extremely high impact force and they are particularly suitable for use on silos, hoppers and conveying pipes to avoid the formation of bridges and to prevent rat holing.



### Application ▼

P-type Piston Vibrators are used in all types of powdery and granular material processing plants where flow aids are required.

### Benefits ▼

- ✓ Impacts like a rubber hammer;
- ✓ Ex II 3GD compliance (with noise-abating accessories);
- ✓ Vibration with high peak acceleration;
- ✓ Low noise versions with elastomer insert (air-cushioned version);
- ✓ Can operate mounted in any position;
- ✓ Optimal START and STOP behaviour;
- ✓ No damage to the structure of the bin;
- ✓ Maintenance-free, when used with filtered/lubricated air;
- ✓ Low air consumption;
- ✓ Durable.

# Flour Milling

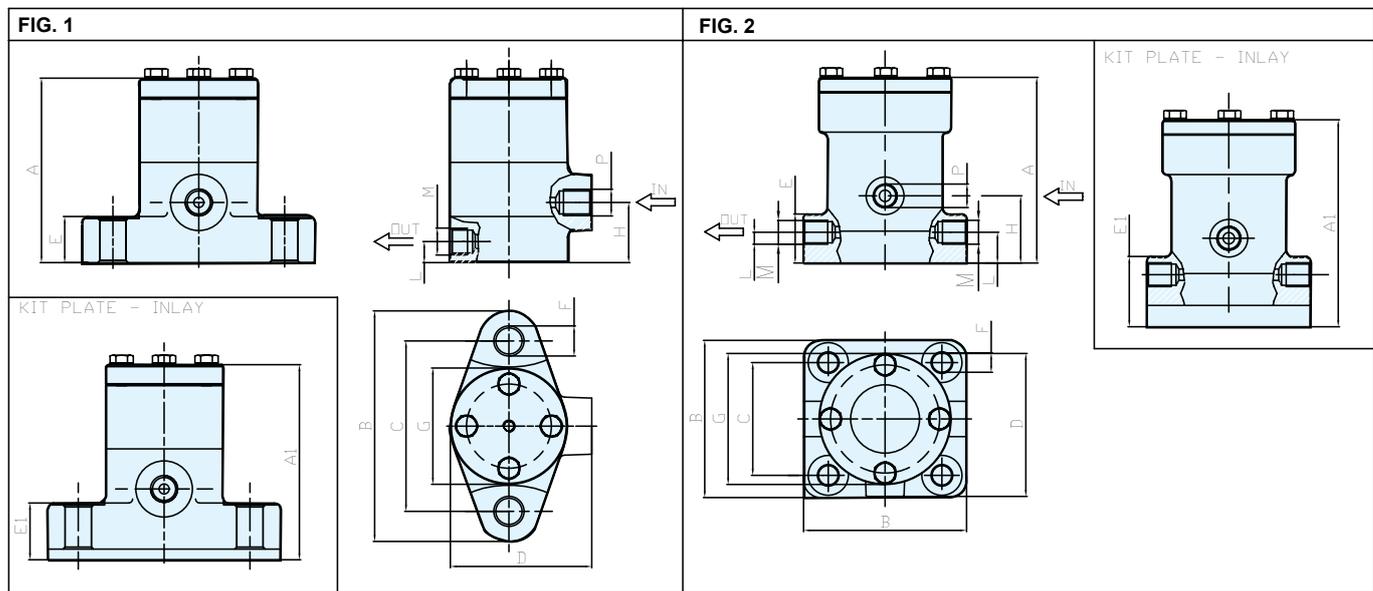
## External Pneumatic Impact Vibrators P-Type



### Technical Features / Performance ▼

- ▶ Anodised aluminium "anticorodal" cover
- ▶ Brass silencer
- ▶ Hardened steel piston
- ▶ G25 cast iron casing
- ▶ Nickel-plated brass air nipple inlet
- ▶ Working temperature: -20° ~ 200°C (-14° F ~ 392° F)
- ▶ Working pressure: 3 ~ 6 bar (44 ~ 88 psi)

### Overall Dimensions ▼



		DIMENSIONS																												
TYPE	Fig.	A		A1		B		C		D		E		E1		F		G		H		P	L		M	N		WEIGHT		
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		mm	in	mm	in	mm	in	kg	lbs
P25	1	92	3.62	102	4.01	115	4.52	85	3.34	70	2.75	22	0.86	32	1.26	13	0.51	58	2.28	30	1.18	1/4"	10.5	0.41	1/4"	25	0.98	2.2	4.9	
P40	1	121	4.76	134	5.27	148	5.8	110	4.33	91	3.58	24	0.94	37	1.46	16.5	0.65	75	2.95	45	1.77	3/8"	16	0.63	3/8"	35	1.37	4.5	9.9	
P60	2	163	6.41	183	7.2	138x142	5.43x5.59	99x99	3.9x3.9	125	4.92	28	1.1	48	1.89	17	0.67	115	4.52	60	2.36	1/2"	27	1.06	2x1/2"	60	2.36	11	24.3	

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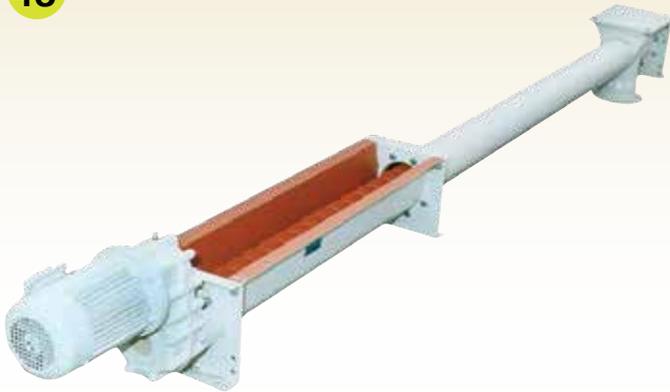


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# Flour Milling

## Single Shaft Screw Feeders SU

43



### Description ▼

According to the cross section of the silo outlet, SU-type Single Shaft Screw Feeders are available with standard U-shaped or with flared V-section trough. For flour milling and similar products a heavy-duty version is recommended.

### Function ▼

| Feeding poorly flowing or packing materials (flour, derivatives and mineral additives, cereals, coarse powders, fine powders, mash, bran)



### Applications ▼

SU Single Shaft Screw Feeders are designed specifically for flour milling milling. Mostly they are fitted under silos for flour feeding, connected to the outlet of a bin activator. The spout between the bin activator and the screw feeder is usually equipped with a level indicator. For feeding bran or other by-products the SU Single Shaft Screw Feeders is directly connected to the silo.

### Benefits ▼

- ✓ **Easy access for cleaning if equipped with drop-bottom trough;**
- ✓ **Easy maintenance;**
- ✓ **Low material residue;**
- ✓ **Low risk of packing at discharge;**
- ✓ **Easy integration into the plant.**



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# Flour Milling

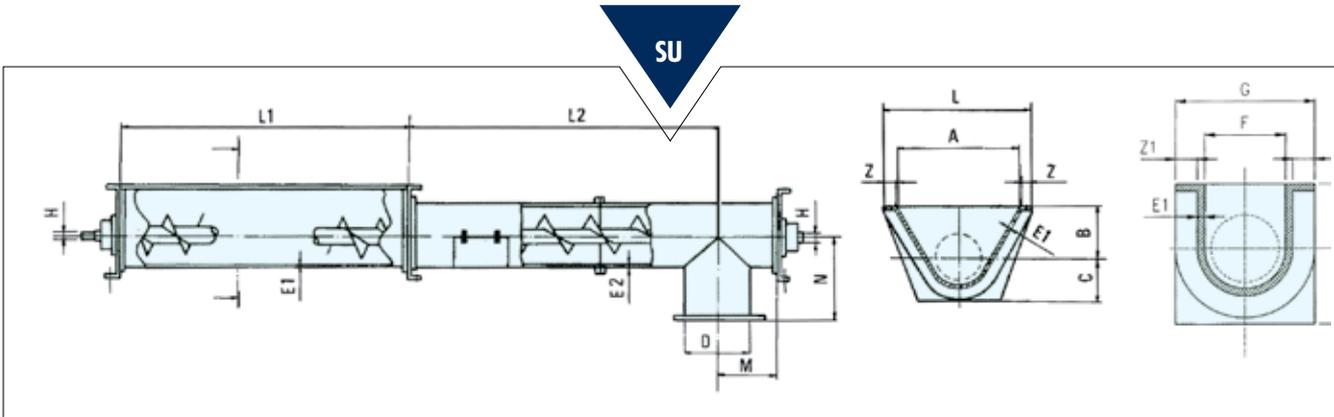
## Single Shaft Screw Feeders SU



### Technical Features / Performance ▼

- ▶ Wide range of screw diameters from 100 to 400 mm;
- ▶ Feed rates from 10 to 100 m<sup>3</sup>/h;
- ▶ High quality finishing;
- ▶ Direct drive connected with screw;
- ▶ Intermediate bearings with self-lubricating polymer bushes;
- ▶ End bearing assembly equipped with long-life lubricated bearings;
- ▶ Adjustable Teflon<sup>®</sup> shaft seals;
- ▶ Reduced clearance between screw and trough;
- ▶ Outlet spout with large opening for improved discharge;
- ▶ Wide range of accessories and options: drop-bottom trough, inspection hatches, rotation detectors, coupling transmission, chain transmission, belt transmission, emergency stop device at feeder outlet end.

### Overall Dimensions ▼



Screw Ø	Trough U-V		Tubular Trough Ø															
	L1	E1	Ø	E2	L2	A	B	C	D	F	G	H	L	M	N*	Q	Z	Z1
100	500 750 1,000	2	114	3	VAR.	175	115	145	114	-	-	25	265	120	120	-	40	-
120	500 750 1,000	2	139	3	VAR.	175	115	145	168	-	-	25	265	120	210	-	40	-
150	500 750 1,000 1,250	2	168	4	VAR.	375	175	145	168	175	265	35	485	140	175	115	50	40
200	500 750 1,000 1,250	2	219	4	VAR.	425	200	185	219	225	315	35	540	160	205	135	50	40
250	500 750 1,000 1,250	2	273	4	VAR.	525	225	215	273	275	365	35	655	180	250	160	60	40
300	500 1,000 1,250 1,500	3	323	4	VAR.	525	250	245	323	325	435	55	655	220	300	195	60	50
350	1,000 1,250 1,500	3	406	5	VAR.	625	270	275	406	375	485	55	755	280	360	235	60	50
400	1,000 1,250 1,500	3	457	5	VAR.	730	290	305	457	425	540	55	900	320	420	270	80	50

Dimensions mm

\* For cylindrical outlet (in compliance with WAM<sup>®</sup> standard)



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# Flour Milling

## FIBC Dischargers SBB

44



### Description ▼

The SBB-type FIBC Dischargers consist of a steel frame complete with a material discharge hopper and an upper mobile cross bar for lifting of the filled up bag by forklift truck into the Discharger.

### Function ▼

SBB is a modular system for discharging Flexible Intermediate Bulk Containers (Big Bags) in different configurations depending on the application. Easy introduction of the FIBC into the support frame and dust-free discharging along with a variety of options make SBB extremely user-friendly.

The four loops of the FIBC are attached to the hooks of the detached cross bar that has previously been laid on top of the FIBC. The cross bar with the attached FIBC is then picked up by a forklift truck and introduced into the frame of the SBB Discharger. Once the FIBC has settled on the rubber seal of the discharge hopper the outlet closing rope of the FIBC can be pulled open through the inspection hatch of the discharge hopper.



### Application ▼

Discharging of a variety of powders.

Usually employed in large numbers in flour milling plants to discharge additives from bulk bags both to fill silos or mixers.

The SBB FIBC Discharger outlet is shut off by a slide valve or butterfly valve which is connected to a mechanical conveying device or a pneumatic conveying system.

### Benefits ▼

- ✓ No material residue thanks to appropriate design features and finishing;
- ✓ No material contamination thanks to stainless steel contact parts on request;
- ✓ High discharging performance;
- ✓ Frame available for different ways of loading the FIBCs;
- ✓ Complete discharging from the bag corners thanks to pneumatic shaking system;
- ✓ Excellent quality/price ratio.

# Flour Milling

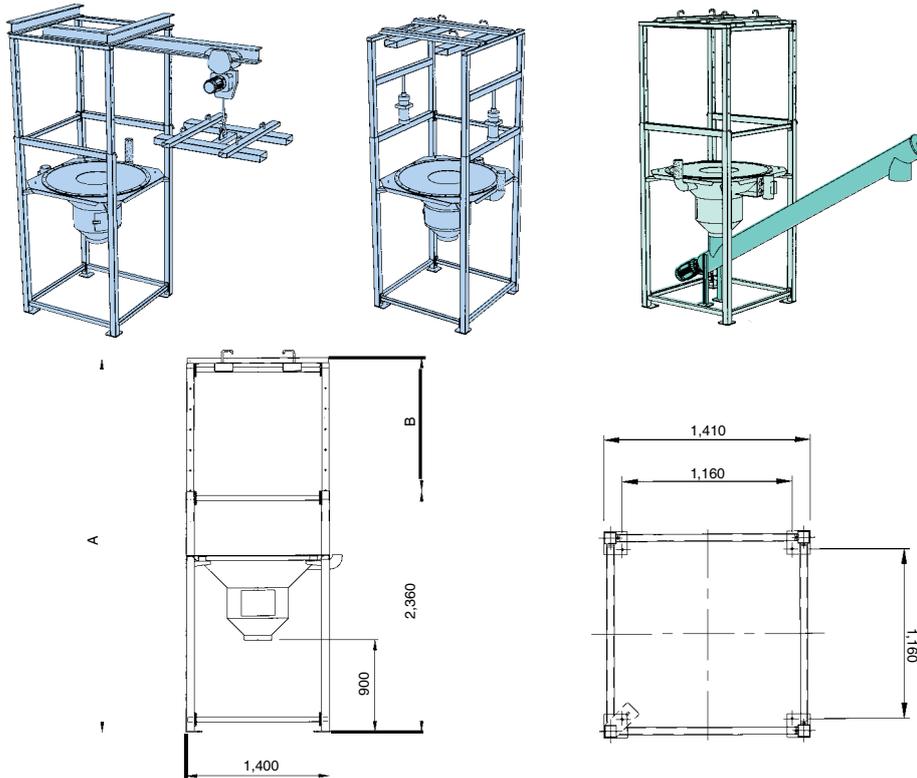
## FIBC Dischargers SBB



### Technical Features / Performance ▼

- ▶ Construction material: Carbon steel, 304L / 316L SS
- ▶ Available in two different hopper sizes: 1,250 mm (4 ft) or 1,500 mm (5 ft) diameter vibrating cone fitted with outlet opening hatchway
- ▶ Frame Versions available:
  - With height adjustment for FIBC loading by forklift truck
  - For overhead crane loading
  - With monorail for installation of a hoist
- ▶ Hopper complete with
  - Access hatch for FIBC opening
  - Electric vibrator as material discharge aid
- ▶ 273 mm (11 in) diameter discharge outlet, flanged on demand
- ▶ Vibration dampening
- ▶ Rubber dust seal
- ▶ Problem-free complete discharging from bag corners even with compressed powders
- ▶ Door sensor limit switch available on request

### Overall Dimensions ▼



TYPE	A	B	C	Max. Bulk Bag Dimensions		
				L	W	M (max.)
SBB01.1.X	3,668	1,884	1,308	1,000	1,000	1,800
SBB01.2.X	4,108	2,234	1,658	1,000	1,000	2,200

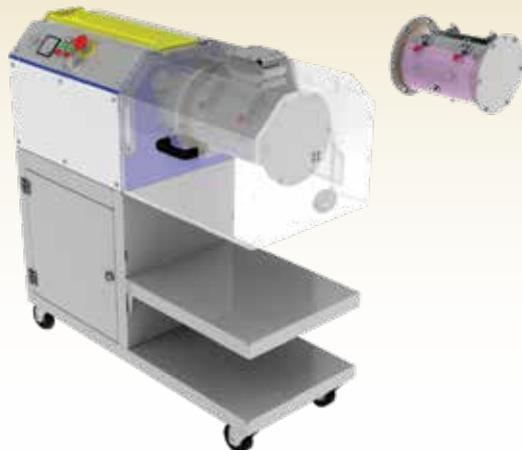
*Dimensions in mm*

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

# Flour Milling

## Laboratory Mixer MLH

45



### Description ▼

The MLH Laboratory Batch Mixer consists of a stand-alone drive unit with incorporated frequency inverter, an easily replaceable horizontal mixing shaft supported at the drive end only, and an equally easily replaceable, revolving mixing vessel complete with inlet/outlet.

### Function ▼

MLH Laboratory Batch Mixers operate on the principle of a mechanically generated fluid bed. Consequently, it is possible to test using different mixing technologies: mixing, moistening/coating, agglomeration/granulation, as well as reaction/drying. This ensures efficient product and process development as required by the industry today. The quick change of drum size combined with a rich basic equipment package ensures use in a variety of applications. In some cases, to obtain the desired mixing effect, a separately driven high-speed chopper can be installed.



### Application ▼

The MLH Laboratory Mixer is suitable for a variety of mixing technologies:

- powder + powder = mixing
- powder + liquid = granulation/agglomeration
- powder + liquid = mixing/moistening/coating
- powder + liquid = drying

### Benefits ▼

- ✓ Short mixing time;
- ✓ Ideal for product and process development;
- ✓ Table top or free standing;
- ✓ Variety of options;
- ✓ Easy to use and maintain;
- ✓ Stainless steel construction;
- ✓ Easy to clean;
- ✓ Quick and easy shaft replacement;
- ✓ Ergonomic handling;
- ✓ Attractive price.

# Flour Milling

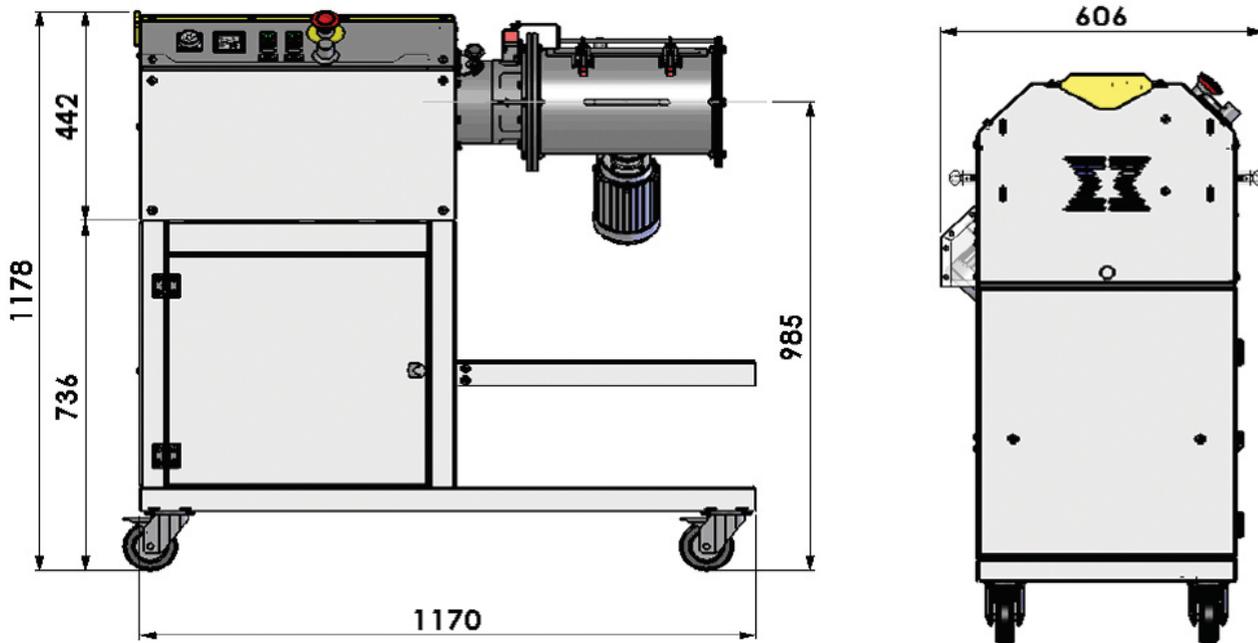
## Laboratory Mixer MLH



### Technical Features / Performance ▼

- ▶ From 6 up to 30 litres volume
- ▶ Different construction materials
- ▶ Chopper and liquid injection
- ▶ Variety of options and accessories available

### Overall Dimensions ▼



MLH 12	
Total volume	12 litres
Minimum Working Volume	2.5 litres
Maximum Working Volume	9.6 litres
Drive Power Installed	1.1 kW
Rotation Speed	25 ~ 450 rpm
Chopper Power Installed	0.12 kW
Chopper Rotation speed	1,450 rpm
Weight	260 kg

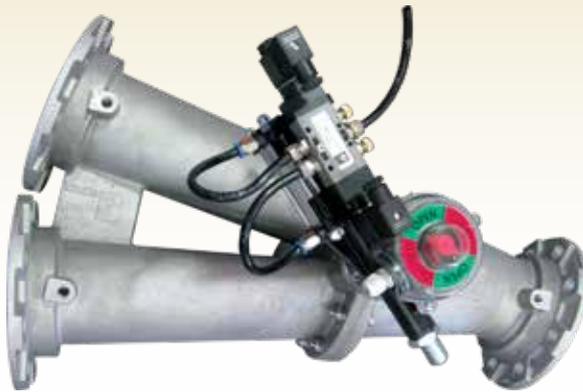
*This datasheet does not show the complete range but only the models most suitable for the application.*

# Flour Milling

## Diverter Valves VAB



46

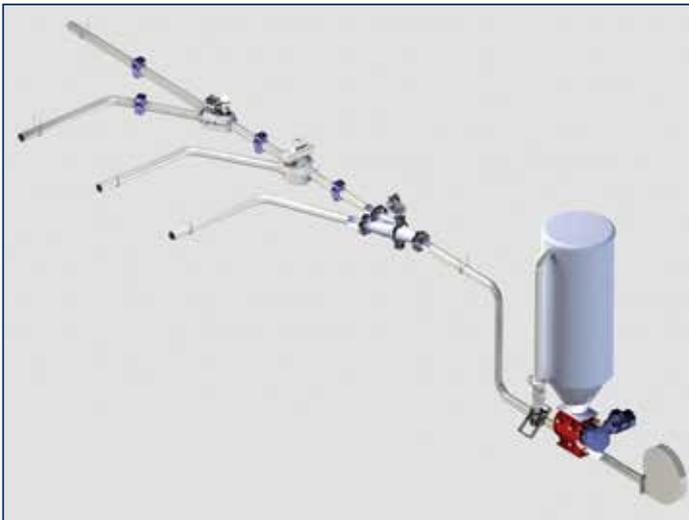


### Description ▼

The VAB Flap diverter Valve consist of a robust body manufactured in two sections, split at a centre flange for ease of access to the internal sealing flap. The flap components and actuating cylinder are connected to the drive shaft which in turn is integrated into the valve body.

### Function ▼

Two-way flap type diverter valve, is designed to meet the pneumatic conveying industry's requirement to re-route powder, pellets or granules from one discharge point to another with minimal pressure drop and high sealing efficiencies. The flap diverter valve uses a swinging flapper to divert material from one duct to another one.



### Application ▼

The VAB Flap 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 Nickel Plating food certified;
- ✓ Use with different materials in a one configuration only;
- ✓ Quick integration into the process thanks to its light weight and easy handling;
- ✓ Modular design and easy maintenance thanks to small numbers of components;
- ✓ Small divert angle of 22.5°;
- ✓ Low pressure drop – minimal transition effect;
- ✓ Smooth internals - no lodgment points;
- ✓ Various actuators available, Pneumatic, electric and manual types;
- ✓ Available in 7 size ranging from 50 up to 200 mm;
- ✓ ATEX Compliance Group II Cat. 1D/3D c T135°C.

# Flour Milling

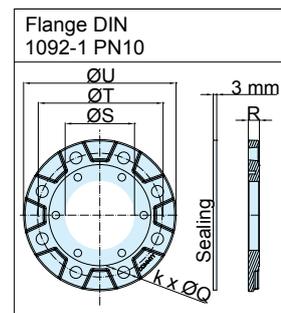
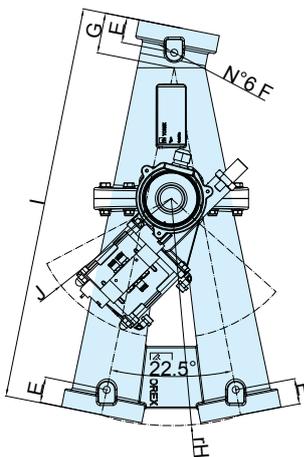
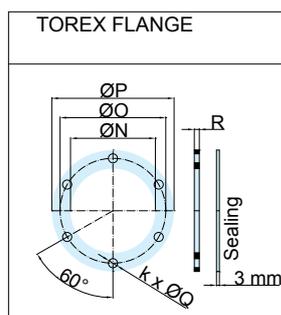
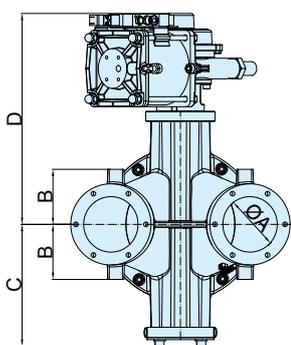
## Diverter Valves VAB



### Technical Features / Performance ▼

- ▶ Material of construction: Aluminum Casting
- ▶ 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: It will be available in the following diameter:  
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
- ▶ It can be used either diverter or converger

### Overall Dimensions ▼



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

Dimensions in mm

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# Flour Milling

## Silo Safety System KCS



### Description ▼

KCS is a system supplied in components which are fixed to the silo for monitoring pressure and level of material level inside the silo.

**The components are:**

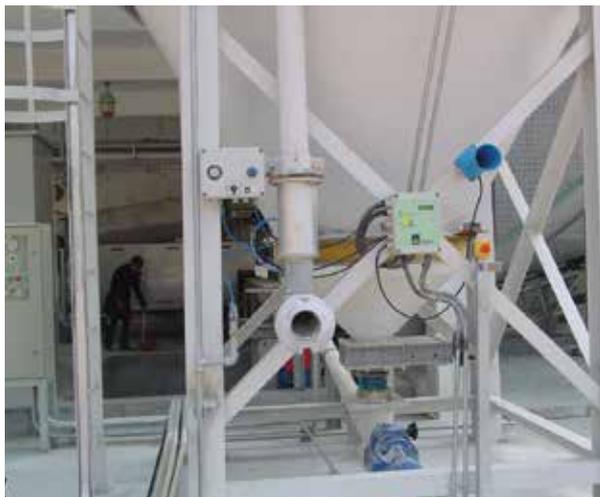
- ILTA0 - Rotary paddle level indicator (min./max. level)
- IPE - Electronic pressure meter (measures real-time pressure inside the silo)
- IPM - Mechanical pressure switch (indicates excess pressure inside the silo)
- IPX - Stub pipe connected to silo (to be welded on the silo for fixing IPE or IPM)
- KAT-080 A - Kit for pipe connection to tanker (for 80mm diam. filling pipe)
- KAT 100 A - Kit for pipe connection to tanker (for 100mm diam. filling pipe)
- KAT 100 B - Kit for pipe connection to tanker (for Italian market)
- LS 1 - Audible alarm
- PF12 - Filter pressure switch (measures presence of air in the air tank)
- SC 1 - Control panel (monitoring of up to 32 silos)
- SP 1 - Power panel (one for each silo)
- ST 1 - Integrated control/power panel
- VM..A. - Pinch valve (interrupts silo filling in case of emergency)
- VMX01 N - Pinch valve control unit with box (actuates pinch valve)
- XKF... - Connector flange (counter flange for pinch valve)

**Additional recommended equipment:**

- Pressure Relief Valve VCP / VHS
- WAMFLO® Venting Filter

### Function ▼

The system, supplied in component form, prevents overfilling or excess pressurisation, thus avoiding damage to the silo, to the venting filter or any other accessory, at the same time reducing the risk of dust emission.



### Applications ▼

The KCS can be used for different kind materials stored in silos or bins, where the process status has to be monitored and controlled. It suits all applications in which silos or bins are filled using horizontal or vertical type tankers.

### Benefits ▼

- ✓ Avoids damage to silo and accessories;
- ✓ Reduces risk of air pollution;
- ✓ Eliminates risk of filling the incorrect silo;
- ✓ Starts and stops filter cleaning automatically;
- ✓ Receives indication from electronic pressure meter whether filter may need attention;
- ✓ **Benefits 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.

# Flour Milling

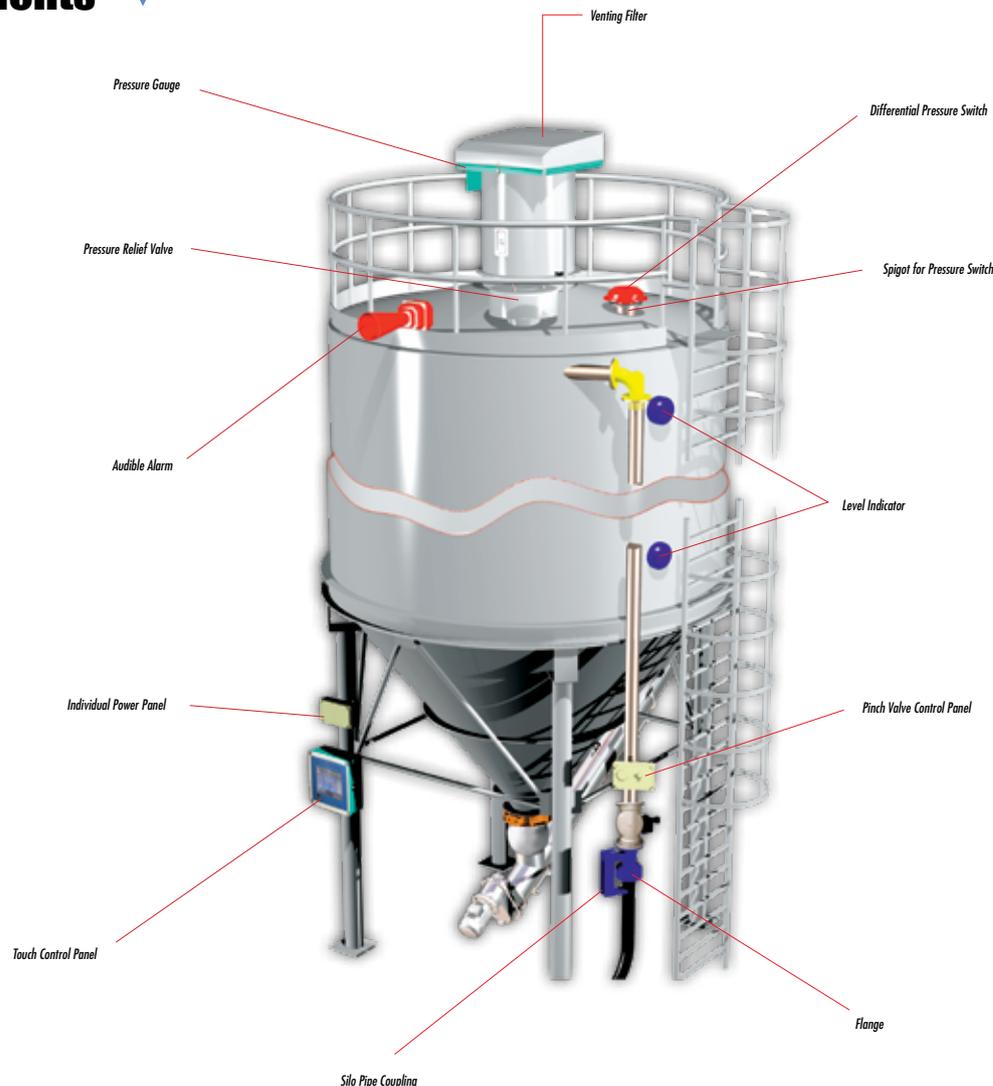
## Silo Safety System KCS



### Technical Features / Performance ▼

- ▶ **Graphic display interface**  
The display and software logic presents information in written form.
- ▶ **Menu in different languages** (English, French, German, Dutch, Spanish and Italian)  
The messages provided by the system are included in the selected language. The language can be changed at any time.
- ▶ **Parallel handling of silos**  
The new KCS System simultaneously monitors up to 16 silos separately. In the event of an alarm in one of the 16 silos the KCS System automatically displays the silo concerned, simultaneously displaying a message concerning the type of fault.
- ▶ **ST1 integrated panel**  
Combines logical and functional features of the SC1 and SP1 panels making it possible to economise when a plant with just one silo has to be monitored.
- ▶ **Software updating easy and economical**  
As regards the internal logic of the SC1 and ST1 panels, software can be easily and rapidly updated using a portable PC. Software can also be transmitted by e-mail, ensuring quick, specific operation.
- ▶ **Self-diagnostics function of the SC1 and ST1 panels**  
Enables testing of all outputs of the panel concerned, so that, in the event of a fault, it is possible to locate it.
- ▶ **Greater safety against undesirable intrusion**  
The system is protected by means of a four-digit electronic code entered from the keyboard.
- ▶ **Possibility of extension**  
KCS Systems installed in a plant to which additional silos are connected can be easily extended at any time.
- ▶ **Versatility**  
Each silo is controlled separately. Each silo can have a configuration suitable for the specific use. Functioning of the related equipment of each silo is not affected by the settings made for the other silos.
- ▶ **Adaptability to existing plant**  
The KCS System is designed to be easily integrated with components of another make already installed on the plant, since not all users require a complete system.
- ▶ **Easy detection of faults**  
In the event of faults, the mimic panel enables identification of the component that caused the alarm status.
- ▶ **Prompt delivery**  
When the controlling body obliges the user to upgrade the plant to the new emission standards, time is money.
- ▶ **Filter check**  
If the silo is provided with a REVERSE AIR JET FILTER together with an ELECTRONIC PRESSURE METER, the control mimic panel also functions as the "check panel" for the filter.
- ▶ **Maintenance-free**  
None of the components requires any maintenance.

### Components ▼



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