RELIABILITY IS ESSENTIAL
100% quality for your success

Bulk material handling components

www.zeppelin-systems.com
Zeppelin Systems, the world leading plant manufacturer for high quality bulk material handling, has remarkably grown over the past 60 years. We cover the demands of a wide range of industries and supply all plant manufacturing services from one single source, whether basic engineering, in-house production of components, final assembly or comprehensive customer service. Thanks to our financial strength and our global network, we have long been a reliable partner for our customers.

Every Zeppelin plant is developed according to the clients’ specific requirements, and realized, thanks to our customized innovative processes and technologies.

The knowledge we have acquired over more than 60 years of plant manufacturing and the world’s largest network for bulk material handling is the key to providing ideal solutions, whatever the challenge; after all, your success is our goal.

Zeppelin plant engineering – business fields

Polyolefin Plants
Plants for plastics producers and forwarders

Plastics & Rubber Plants
Plants for the plastics processors and rubber industry

Food Processing Plants
Plants for the food, confectionery and baking industry

Mixing Technology
HENSCHEL-Mixers®, mixing systems

Silos
Storage silos, mixing silos, process silos

Components
Rotary feeders, diverter valves, discharge and dosing units, sifters, filters …

Service
Spare parts, customer service and consulting

Modernization/Revamping
Optimization of production lines and plant controls

Quality Service
Measurement, testing and welding technology, non-destructive testing, calibration services, QM consulting services and training
EXCEPTIONAL

BULK MATERIAL HANDLING COMPONENTS
FOR THE BEST PLANTS

The whole works for all applications
- Rotary feeders
- Diverter valves
- Rotary sifters
- Vibratory cones and bottoms
- Filters
- Vacuum hoppers
- Fluidizing beds
- Discharge and dosing module KOKEISL
- Dosing and feeding screws
- Samplers

Whether for the food or rubber industries, for plastics producers or processors – high-quality components play a crucial role. We know that and this is why we supply components 100% handcrafted by Zeppelin.

Zeppelin quality – one you can rely on
We develop and manufacture all components that have an influence on the quality of your bulk material ourselves. From test series in our technology centers to design and production through to first-class service, we do what is necessary to meet your high demands in regards to functionality.

The whole knowledge of the company is applied already in the development of the components. Thanks to the close contact to our customers around the world, we are always a step ahead in technological trends. When it comes to developing new processes or optimizing current ones, one name is at the top of the list: Zeppelin.
Complex Zeppelin process technology with self-made key components

Components:
- Vibratory cone and bottom
- Aeration cone
- Fluidizing bed
- KOKEISL
- Dosing and conveying screw
- Rotary feeder
- Diverter valve
- Rotary sifter
- Filter

Product overview
Zeppelin rotary feeders transport the customers’ bulk material from the containers and silos into the pneumatic conveying system. Particular attention is paid to detail so that everything runs smoothly. This is why we provide our customers with the optimal rotary feeder for every task – whether for powders or pellets. High degree of filling, ideal sizes, friendly product handling, innovative sealing systems, minimal leakage – perfection you can rely on.

### Application overview

<table>
<thead>
<tr>
<th>Low pressure</th>
<th>Medium Pressure</th>
<th>High pressure</th>
<th>Purge gas</th>
<th>Recommended material</th>
<th>Rotor design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge rotary feeder A1</td>
<td>Discharge rotary feeder AG1</td>
<td>Blow through rotary feeder G1</td>
<td>High pressure rotary feeder GH</td>
<td>Stainless steel</td>
<td>Stainless steel casted casing</td>
</tr>
<tr>
<td>Medium pressure rotary feeder GA</td>
<td>Medium pressure rotary feeder GD</td>
<td>Medium pressure rotary feeder GD</td>
<td>Medium pressure rotary feeder GD</td>
<td>Stainless steel chilled casting</td>
<td>Stainless steel chilled casting</td>
</tr>
<tr>
<td>High pressure rotary feeder GH</td>
<td>High pressure rotary feeder GH</td>
<td>High pressure rotary feeder GH</td>
<td>High pressure rotary feeder GH</td>
<td>Stainless steel chilled casting</td>
<td>Stainless steel chilled casting</td>
</tr>
</tbody>
</table>

### Max. differential pressure (bar [g])

| | Low pressure | Medium pressure | High pressure | Purge gas |
| | 1.0 | 1.0 | 1.5 | 3.5 |

### Products

#### Pellets
- ABS, EPO, HDPE, LDPE, PA, PBT, PP, PS
- PC, PET

#### Powder
- S-PVC, E-PVC, silica, silica acid, chalk, compound PVC, PE, PP
- PTA, titanium dioxide*
- Carbon black

#### Food
- Fleur
- Starch
- Sugar

#### Minerals/abrasives
- SAP (superabsorber)
- Powdered limestone
- Sawdust
- Cement

#### Design
- Discharge
- Blow-through

#### Extras
- Heating/cooling
- Quick cleaning
- Flameproof (protective organ)
- ATEX design

* Please contact our sales components department

### Notes
- Different material combinations of housing and side plates only possible for GH series
- For powdered sugar
- Durni coated
- Tungsten carbide coating
- Only for sizes up to 320
- Subject to modifications without notice
Low pressure rotary feeders

Discharge rotary feeder A1/AG11

Blow through rotary feeder D

Medium pressure rotary feeders

Medium pressure rotary feeder CFM

High pressure rotary feeders

High pressure rotary feeder CFH

Application
Used for dosing bulk material and as feeding device in pneumatic dilute phase conveying systems

For feeding bulk material into pneumatic dilute phase conveying systems

For feeding bulk material and as feeding device in pneumatic dilute phase conveying systems or for feeding and discharge of bulk material in processing plants

Bulk materials
Powder, pellets

Powder

Powder, pellets

Powder

Operating pressure
-1.0 to +1.0 bar (g)

-1.0 to +1.0 bar (g)

-1.0 to +3.5 bar (g)

-1.0 to +3.5 bar (g)

Temperature range
Optional

From -52 to +250°C

From -52 to +250°C

From -52 to +250°C

From -52 to +250°C

Sizes
160 to 500 mm

160 to 500 mm

200 to 750 mm (160 from 2017)

200 to 850 mm (160 from 2017)

Capacities
2.6 to 87 L

2.6 to 87 L

7 to 280 L

6.5 to 400 L

Materials
Aluminium/stainless steel/gray cast iron

Aluminium/stainless steel/gray cast iron

Aluminium/stainless steel

Aluminium/stainless steel

Accessories
Optional: Direct drive, leakage gas collector, feeding chutes, support frame, quick cleaning version

Optional: Direct drive, leakage gas collector, support frame, quick cleaning version, ATEX design, flame-proof, 160 to 320L, additional accessories upon request

Optional: Direct drive, leakage gas collector, feeding chutes, support frame, ATEX design, additional accessories upon request

Optional: Direct drive, leakage gas collector, feeding chutes, support frame, ATEX design, additional accessories upon request

Subject to modifications without notice
DIVERTER VALVES

With Zeppelin diverter valves, your product is always on the right track. We know the ways best. Whether rectangular shaped or symmetrical, our diverter valves are flexible and can be tailored on demand to the customer needs. Here too, our customers’ bulk materials are given top priority and are handled with care by Zeppelin components. We have designed sealing systems that reduce maintenance work to a minimum and developed hardened inserts that increase the service life. You can rely on our proven premium quality and maximum efficiency in daily operations.

<table>
<thead>
<tr>
<th>Application overview</th>
<th>Low pressure</th>
<th>High and medium pressure</th>
<th>Medium pressure</th>
<th>Inflatable Seal</th>
<th>Recommended material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diverter valve ZMV</td>
<td>Diverter valve ZST</td>
<td>Diverter valve VS</td>
<td>Diverter valve Y</td>
<td>Diverter valve M</td>
</tr>
<tr>
<td>Maximum operating pressure** [bar (g)]</td>
<td>1.5</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>3.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pellets</td>
</tr>
<tr>
<td>ABS, EPDM, HDPE, LDPE, LLDPE, PA, PBT, PP, PS</td>
</tr>
<tr>
<td>PC, PET</td>
</tr>
<tr>
<td>Powder</td>
</tr>
<tr>
<td>S-PVC, E-PVC, silica, silica acid, chalk, compound PVC, PE, PP</td>
</tr>
<tr>
<td>PTA</td>
</tr>
<tr>
<td>Titanium dioxide*</td>
</tr>
<tr>
<td>Carbon black</td>
</tr>
<tr>
<td>Food</td>
</tr>
<tr>
<td>Flour</td>
</tr>
<tr>
<td>Starch</td>
</tr>
<tr>
<td>Sugar</td>
</tr>
<tr>
<td>Minerals/abrasives</td>
</tr>
<tr>
<td>SAP (superabsorber)</td>
</tr>
<tr>
<td>Powdered limestone</td>
</tr>
<tr>
<td>Sawdust</td>
</tr>
<tr>
<td>Cement</td>
</tr>
<tr>
<td>Coal dust</td>
</tr>
<tr>
<td>Design</td>
</tr>
<tr>
<td>Directing valve</td>
</tr>
<tr>
<td>Collecting valve</td>
</tr>
<tr>
<td>Hose valve</td>
</tr>
<tr>
<td>Wear resistant</td>
</tr>
</tbody>
</table>

* Please contact our sales components department

** In the active leg

Subject to modifications without notice
**Application**

- **Diverter valve for directing or converging the product flow in pneumatic conveying systems and gravity pipes**

**Bulk materials**

- **Powder, pellets**
- **Powder, pellets, specifically for silo feeding**

**Operating pressure**

- **-1.0 to +1.5 bar (g)**
- **-1.0 to +6.0 bar (g)**

**Temperature range**

- **-20 to +120°C (standard)**
- **-52 to +180°C**

**Diverting angle**

- **35°**
- **90°**
- **2 x 45° (symmetrical)**

**Sizes (diameters)**

- **56 to 163 mm**
- **100 to 350 mm**
- **150 to 350 mm**

**Materials**

- **Housing aluminium, parts in contact with product stainless steel/rotary plug cast aluminium with stainless steel pipe**
- **Housing aluminium/rotary plug with stainless steel insert Housing with stainless steel insert (from 2017) [150/188/303]**
- **Housing aluminium/rotary plug with stainless steel insert Housing with stainless steel insert (from 2017) [150/188/303]**

**Accessories**

- **ATEX design, additional accessories upon request**
- **Optional: ATEX design, inflatable seal, additional accessories upon request**
- **Optional: ATEX design, inflatable seal, additional accessories upon request**

**Diverting valves**

- **Low pressure diverter valves**
  - **Two-channel diverter valve**
  - **Diverter valve ZWV**

- **High and medium pressure diverter valves**
  - **Single channel diverter valve**
  - **Diverter valve TST**
  - **Single channel diverter valve**
  - **Diverter valve VST**
  - **Single channel diverter valve**
  - **Diverter valve Y**
## High and medium pressure diverter valves

### Single channel diverter valve
**Diverter valve M**

**Application**
Diverter valve for directing or converging the product flow in pneumatic conveying systems and gravity pipes

**Bulk materials**
Powder, pellets

**Operating pressure**
-1.0 to +3.5 bar (g)

**Temperature range**
-10 to +120°C (standard)

**Diverting angle**
4 x 45° (symmetrical)

**Sizes (diameter)**
150 bis 350 mm

**Materials**
Housing aluminium/rotary plug aluminium

**Accessories**
Optional: ATEX design, inflatable seal, additional accessories upon request

---

### Single channel diverter valve, wear resistant
**Diverter valve ZWR**

**Application**
Diverter valve for directing or converging the product flow in pneumatic conveying systems and gravity pipes

**Bulk materials**
Powder, pellets, abrasive products

**Operating pressure**
-1.0 to +6.0 bar (g)

**Temperature range**
-52 to +180°C

**Diverting angle**
35°

**Sizes (diameter)**
50 to 250 mm

**Materials**
Housing aluminium/parts in contact with product stainess steel

**Accessories**
Optional: ATEX design, wear protected stainless steel insert, additional accessories upon request

---

### Medium pressure diverter valves

### Two-way hose-type diverter valve ZWS

**Application**
Diverter valve for directing or converging the product flow in pneumatic conveying systems and gravity pipes

**Bulk materials**
Powder, pellets, adhesive powders with poor flowability

**Operating pressure**
-1.0 to +4.0 bar (g)

**Temperature range**
-10 to +80°C (standard)

**Diverting angle**
39°

**Sizes (diameter)**
50 to 225 mm

**Materials**
Housing aluminium/stainless steel inserts

**Accessories**
Optional: ATEX design, additional accessories upon request

---

### Three-way hose-type diverter valve DWS

**Application**
Diverter valve for directing or converging the product flow in pneumatic conveying systems and gravity pipes

**Bulk materials**
Powder, pellets, adhesive powders with poor flowability

**Operating pressure**
-1.0 to +4.0 bar (g)

**Temperature range**
-10 to +80°C (standard)

**Diverting angle**
35°

**Sizes (diameter)**
50 to 225 mm

**Materials**
Housing aluminium/stainless steel inserts

**Accessories**
Optional: ATEX design, additional accessories upon request
**DISCHARGE AND DOSING**

**Fluidizing beds, aeration cones and vibratory cones/bottoms**

Trouble-free is best – and this is achieved by providing our customers’ products with the right assistance. Reliable, tried and tested – perfect!

**Application overview**

<table>
<thead>
<tr>
<th>Discharge hoppers</th>
<th>Discharge modules</th>
<th>Conveying screws</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerating cones B7</td>
<td>Vibratory cones VT</td>
<td>Dosing and conveying screws</td>
</tr>
<tr>
<td>Fluidizing bed FB</td>
<td>Vibratory bottom VB</td>
<td>Zeppelin dosing and conveying screws</td>
</tr>
<tr>
<td>Discharge module KOKEISL KA</td>
<td>KOKEISL KAD</td>
<td>✓</td>
</tr>
<tr>
<td>Dosing and conveying screw DS</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Products**

**Pellets**

- ABS, EPM, HDPE, LDPE, LLDPE, PA, PET, PP, PS
- PC, PET

**Powder**

- S-PVC, E-PVC, silica, silica acid, chalk, compound PVC, PE, PP
- PTA, titanium dioxide* ✓ ✓ ✓ ✓ ✓
- Carbon black ✓ ✓ ✓ ✓ ✓

**Food**

- Flour ✓ ✓ ✓ ✓ ✓
- Starch ✓ ✓ ✓ ✓ ✓
- Sugar ✓ ✓ ✓ ✓ ✓

**Minerals/abrasives**

- SAP (superabsorber) ✓ ✓
- Powdered limestone ✓ ✓ ✓ ✓
- Sawdust ✓ ✓ ✓ ✓
- Cement ✓ ✓ ✓
- Coal dust ✓ ✓ ✓

* Please contact our sales components department

**Discharge and dosing module KOKEISL**

The exact amount is key – mostly in the food and plastics industries. The KOKEISL technology: innovative and ideal for a reliable discharge and precise dosing of bulk material with poor flowability. Don’t go for less – after all, your product’s formula is your capital!

**Dosing and conveying screws**

Perfectly in motion – the Zeppelin dosing and conveying screws are the ideal components for dosing and transporting your bulk material. They can be used in conveying systems as well as for precise scale dosing. 100% stainless steel, easy to clean, precise conveying and dosing – 100% Zeppelin!
### Aeration cone BTS

- **Application**: Cone with discharge aid for non-free flowing bulk material by fluidization. Combined with mechanical movement of the fluidizing cloth.
- **Activating the product flow and conveying bulk material with poor fluidity**

### Vibratory cone/ vibratory bottom VT/VB

### Fluidizing bed FB

- **Pneumatic fluidization system for a gentle discharge of well fluidizable bulk material**

### Discharge and dosing module KOKEISL KA/KAD

- **Filling and dosing various bulk materials out of silos and containers to other containers**
- **Dosing and conveying of dry, powdery and pelletized bulk material and feeding of scales**

### Dosing and conveying screw DS

- **Subject to modifications without notice**

<table>
<thead>
<tr>
<th>Specification</th>
<th>BTS</th>
<th>Vibratory cone/VT/VB</th>
<th>FB</th>
<th>KOKEISL KA/KAD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application</strong></td>
<td>Cone with discharge aid for non-free flowing bulk material by fluidization. Combined with mechanical movement of the fluidizing cloth.</td>
<td>Activating the product flow and conveying bulk material with poor fluidity</td>
<td>Pneumatic fluidization system for a gentle discharge of well fluidizable bulk material</td>
<td>Filling and dosing various bulk materials out of silos and containers to other containers</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td>Housing aluminium, parts in contact with product stainless steel or electropolished</td>
</tr>
<tr>
<td><strong>Hopper inclination angle</strong></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Sizes (diameter)</strong></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Outlet diameter</strong></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Outlet diameter</strong></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Inlet cone, outlet cone</strong></td>
<td></td>
<td></td>
<td></td>
<td>Optional: cleaning flap starting from DS 100, bearing purge gas, speed control, ATEX design</td>
</tr>
<tr>
<td><strong>Optional accessories</strong></td>
<td>Pressure tank, valves, Optional: ATEX design</td>
<td>Optional: shock pressure resistant design, ATEX design, shut-off valve</td>
<td>Optional: ATEX design</td>
<td>Optional: cleaning flap starting from DS 100, bearing purge gas, speed control, ATEX design</td>
</tr>
<tr>
<td><strong>Optional accessories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Rotary Sifters**

Everything under control. Zeppelin rotary sifters are the ideal tool for processing bulk material. They can be used as preliminary sieve before silos, as final sieve underneath bag filling stations and containers or as inline sifter for pressure-tight operations up to 0.8 bar (g) in pneumatic conveying systems. Our rotary sifters ensure reliable removal of foreign matter and precise particle size verification.

### Application Overview

<table>
<thead>
<tr>
<th>Application</th>
<th>Rotary sifter RS</th>
<th>Drum screen TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>As preliminary sieve before silos or bag filling stations, as final sieve underneath containers or as inline sifter for pressure-tight operations in pneumatic conveying systems. For continuous separation of streamers (angel hair) and agglomerates from plastic pellets.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bulk Materials

- **Powder, Pellets**
- **Pellets**

### Operating Pressure

- -0.5 to +0.8 bar (g)

### Temperature Range

- -20 to +40°C

### Sizes

- **(L x W x H)**
  - 3: 1686 x 430 x 480 mm
  - 7: 2044 x 680 x 690 mm
  - 1000: 3000 x 1400 x 2100 mm
  - 1400: 4100 x 1800 x 2700 mm
  - 2000: 4800 x 2500 x 3300 mm
  - 2800: 5500 x 3200 x 5200 mm

### Inlet Connection

- Square 250 x 250 mm

### Mesh Size

- Wedge wire
  - 0.6 to 1.0 mm
- Plastic mesh
  - 0.6 to 4.0 mm
- Perforated sheet
  - 2.5 to 14 mm

### Materials

- Machine housing and parts in contact with product: stainless steel/steel housing and lid, aluminium/screen cloth/plexiglass, wedge wire screen or perforated sheet
- Stainless steel
- Housing: aluminium/drum screen/steel 1.4301, sandblasted or electropolished

### Accessories

- Inspect right or left side for RS 7
- Optional: sifter drum purge system, sifter drum monitoring Screen-D-Tect, fine material collecting cone, cyclone, coarse material outlet with shut-off valve, double valve, support frame, ATEX design

### Products

- **Pellets**
  - ABS, EPDM, HDPE, LDPE, LLDPE, PA, PBT, PP, PS
  - PC, PET

- **Powder**
  - S-PVC, E-PVC, silica, silica acid, chalk, compound PVC, PE, PP
  - PTA, titanium dioxide

- **Carbon black**

### Food

- Flour
- Starch
- Sugar

### Minerals/abrasives

- SAP (superabsorber)

### Special Equipment

- Sifter drum purge system
- Sifter drum monitoring Screen-D-Tect

*Please contact our sales components department*
FILTERS

The aim of our filter systems: exceed our customers’ expectations. Whether with our conventional filter product range or with jet venting filters – pure air is sustainable. We know this and we can do it. You tell us your parameters and we will provide you with the matching system.

<table>
<thead>
<tr>
<th>Application overview</th>
<th>Jet filter</th>
<th>Filter element finish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jet filter</td>
<td>Filter element finish</td>
</tr>
<tr>
<td></td>
<td>AE/EB/EBUS</td>
<td>AE/EB/EBUS</td>
</tr>
<tr>
<td></td>
<td>JEB/JS</td>
<td>JEB/JS</td>
</tr>
<tr>
<td></td>
<td>UEB/US</td>
<td>UEB/US</td>
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<td></td>
<td>DE/DS</td>
<td>DE/DS</td>
</tr>
<tr>
<td></td>
<td>PTFE</td>
<td>PTFE</td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pellets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABS, EPO, HDPE, LLDPE, PA, PBT, PP, PS</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PC, PET</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flour</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Starch</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Salt</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sugar</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Minerals/abrasives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP (superabsorber)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Powdered limestone</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sawdust</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cement</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Coal dust</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Filter elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleated cartridges</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Filter bags</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Replacement on raw gas side</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Replacement on clean gas side</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Extras</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic jet cleaning</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Differ. pressure measurement</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Shock-pressure resist. up to 1 bar</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Vacuum operation</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

2 For powdered sugar

Subject to modifications without notice
**Jet silo venting filter AE**

- **Application**: For the continuous filtering of pneumatic conveying air from continuously operating hoppers and silos.
- **Bulk materials**: Powder, pellets.
- **Operating pressure**: 0 to +0.1 bar (g).
- **Temperature range**: -20 to +60°C.
- **Size (housing diameter)**: 795 to 955 mm.
- **Filter surface**: 22.5 to 30.0 m².
- **Cartridges**: Cartridges with clamping fixture.
- **Materials**: Housing stainless steel; pleated cartridges antistatic polyester felt with or without PTFE coating.
- **Accessories**: ATEX design, automatic jet cleaning; optional: differential pressure measurement, shock pressure resistant up to 1.0 bar, sound insulation.

**Jet venting filter JEB/JS**

- **Application**: For the continuous filtering of pneumatic conveying air from continuously operating hoppers and silos.
- **Bulk materials**: Powder, pellets.
- **Operating pressure**: 0 to +0.1 bar (g).
- **Temperature range**: -20 to +60°C.
- **Size (housing diameter)**: 400 to 1272 mm.
- **Filter surface**: 4.0 to 40 m².
- **Cartridges**: Cartridges with bayonet joint.
- **Materials**: Housing stainless steel; pleated cartridges antistatic polyester felt with or without PTFE coating.
- **Accessories**: ATEX design, automatic jet cleaning; optional: differential pressure measurement, shock pressure resistant up to 1.0 bar, weather hood.

**Jet vacuum filter UEB/US**

- **Application**: For the continuous filtering of pneumatic conveying air from continuously operating hoppers and silos.
- **Bulk materials**: Powder, pellets.
- **Operating pressure**: -0.5 to +0.03 bar (g).
- **Temperature range**: -20 to +60°C.
- **Size (housing diameter)**: 400 to 950 mm.
- **Filter surface**: 4.0 to 35 m².
- **Cartridges**: Cartridges with bayonet joint.
- **Materials**: Housing stainless steel; pleated cartridges antistatic polyester fabric with or without PTFE coating.
- **Accessories**: ATEX design, automatic jet cleaning; optional: differential pressure measurement.

**Jet venting filter DEB/DS (shock pressure resistant)**

- **Application**: For the continuous filtering of pneumatic conveying air from continuously operating hoppers and silos.
- **Bulk materials**: Powder, pellets.
- **Operating pressure**: -0.5 to +1.0 bar/1.2 bar upon request.
- **Temperature range**: -20 to +60°C.
- **Size (housing diameter)**: 400 to 1272 mm.
- **Filter surface**: 6.4 to 64 m².
- **Cartridges**: Cartridges with bayonet joint.
- **Materials**: Housing stainless steel; pleated cartridges antistatic polyester fabric with or without PTFE coating.
- **Accessories**: ATEX design, automatic jet cleaning; optional: differential pressure measurement.

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OTHER COMPONENTS

Samplers
Make an example out of the sample – no problem with our samplers. Reliable results and quality control from the product stream or the hopper.

Vacuum hopper loaders
Particularly suitable for powdery products: the driving force in your system. Thanks to its large filter surface, the vacuum hopper loader ensures reliable product flow.

<table>
<thead>
<tr>
<th>Application overview</th>
<th>Sampler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pellets</td>
<td>Sampler</td>
</tr>
<tr>
<td>ABS, EPDM, HOPE, LOPE, LLOPE, PA, PBT, PP, PS</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>PC, PET</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Powder</td>
<td>Sampler</td>
</tr>
<tr>
<td>S-PVC, E-PVC, silica, silica acid, chalk, compound PVC, PE, PP</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>PTA, titanium dioxide</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Carbon black</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Food</td>
<td>Sampler</td>
</tr>
<tr>
<td>Flour</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Starch</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Salt</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Sugar</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Minerals/abrasives</td>
<td>Sampler</td>
</tr>
<tr>
<td>SAP (superabsorber)</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Powdered limestone</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Sawdust</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Cement</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Coal dust</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Extras</td>
<td>Sampler</td>
</tr>
<tr>
<td>ATEX design</td>
<td>✓ ✓</td>
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<tr>
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<th><strong>Sampler MPN</strong></th>
<th><strong>Universal vacuum hopper loader SFG</strong></th>
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<tr>
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<td>Sampling from the product stream, hoppers and gravity pipes</td>
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<td>Powder, pellets</td>
</tr>
<tr>
<td><strong>Operating pressure</strong></td>
<td>to +1.0 bar (g)</td>
<td>to +1.0 bar (g)</td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>-20 to +80°C</td>
<td>-20 to +80°C</td>
</tr>
<tr>
<td><strong>Sizes (diameter)</strong></td>
<td>50 100 mm</td>
<td>50 105 100 mm 140/220/385 mm</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>Max. throughput for free-flowing pellets 0.2 5 m³/h</td>
<td>Volume per stroke 50 200 cm³</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>Parts in contact with product stainless steel</td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>Pneumatic operation</td>
<td>Pneumatic or manual operation</td>
</tr>
<tr>
<td><strong>Bulk materials</strong></td>
<td>Powder, pellets/flakes with high powder content</td>
<td></td>
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<tr>
<td><strong>Operating pressure</strong></td>
<td>-0.5 to +0.05 bar (g)</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>-10 to +80°C</td>
<td></td>
</tr>
<tr>
<td><strong>Sizes</strong></td>
<td>2 3 6</td>
<td>2.2 4.4 8.8 m²</td>
</tr>
<tr>
<td><strong>Filter surface cartridge</strong></td>
<td>0.6 1.3 2.7 m²</td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>approx. to 1000 to 1300 to 2500 kg/h</td>
<td></td>
</tr>
<tr>
<td><strong>Bulk materials</strong></td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>Optional: ATEX design, controls, additional accessories upon request</td>
<td>Optional: ATEX design, controls, vacuum pump, additional accessories upon request</td>
</tr>
</tbody>
</table>

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ALWAYS IN GOOD HAND

Zeppelin offers you a comprehensive carefree package that has no equal in the industry. From product development and production to specialist advice through to our on-site teams and first-class range of services – you are always on the safe side with Zeppelin.

This promise is valid worldwide, since an outstanding technology alone does not make you successful internationally. For that, you also need excellent employees that are able to meet the local requirements and make use of our worldwide expertise.

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MAINTAIN THE ADVANTAGE

Technological leadership is associated with a lot of research and development work. That is why we have the world’s largest network for bulk materials. Our customers can test their formulas or carry out various plant optimization tests in four different technology centers. There, new products are developed, plant layouts are verified and processes are optimized. This is what ensures our – and your – technological lead.

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One technology center for pellets, one for powder. This is where the future of the plastics, chemicals, rubber and tire industries is shaped.

Rödermark, Germany
Technology center built on an industrial scale specifically for the needs of the food industry.

Kassel, Germany
Technology center specialized in mixing. There, comprehensive tests are carried out with the HENSCHEL®-products to cover all mixing issues.

São Paulo, Brazil
The focus of tests carried out in our São Paulo technology center is set on the plastics and cement industries.
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