

ZERO**DUST**

PURE**VAC**

INOX**SILO**

OVERVIEW

ZERO**DUST**

Conveying and dedusting

Dedusting and conveying of plastic pellets and regrind
• Pellet-Deduster • Polariscope • Separator

PURE**VAC**

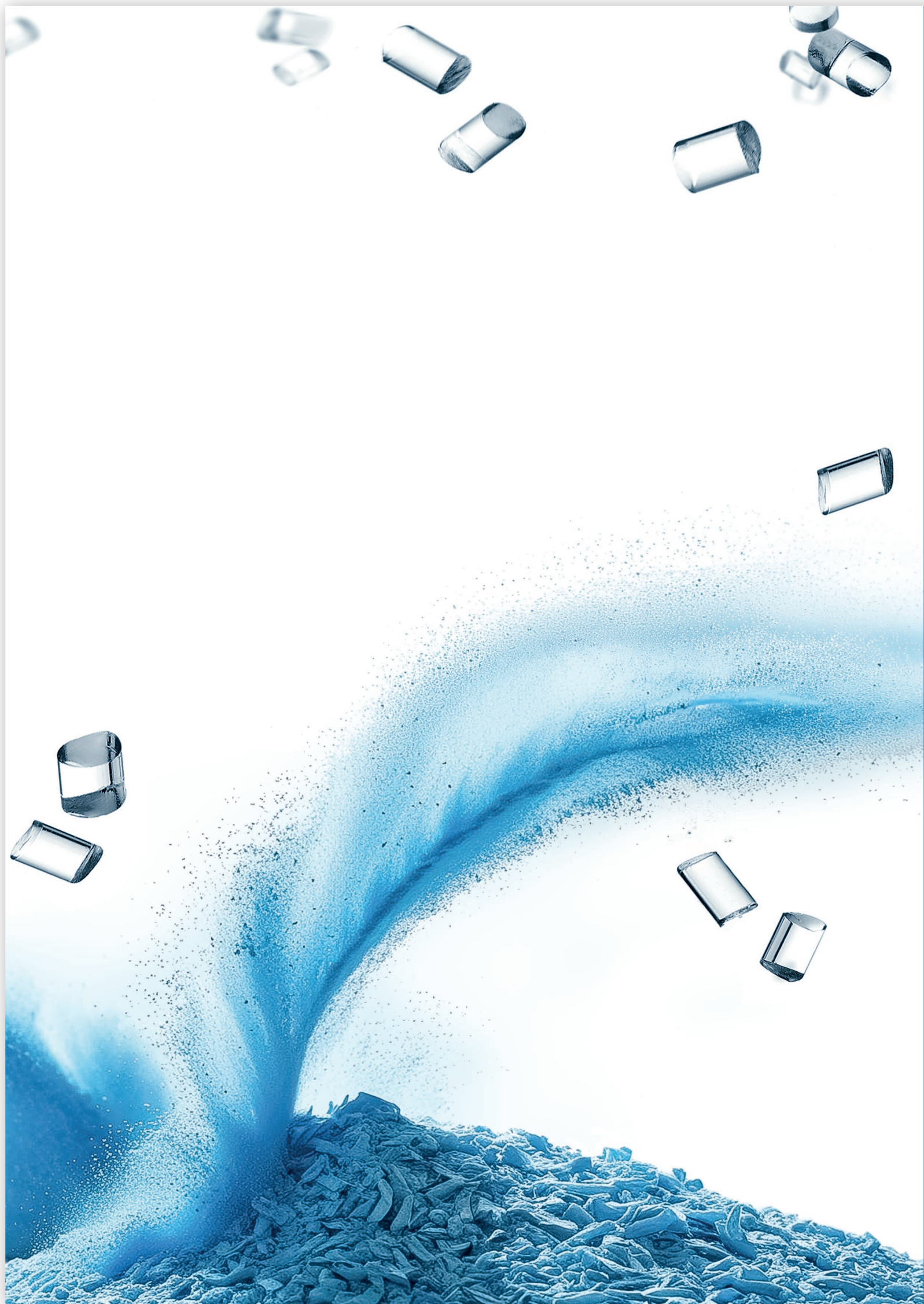
Extraction and filtration

Dust (P-Serie)	Gases (R-Serie)	Bulk materials (S-Serie)
High-performance extraction and filtration technology for the reliable purification of air containing dust and oil.		
• P Series (Dust) • R Series (Gases and vapors) • S Series (Bulk materials)		

INOX**SILO**

Storage and material supply

Inox-Silo	LMB	Accessories
Mobile and modular stainless steel silos for the safe storage and efficient dispensing of bulk materials.		
• Stainless steel roll- containers, 25–1.500 liters • Large material bins, 25–360 liters • Suction boxes and suction lances		



WHY PELLET-DEDUSTING

Flawless and spotless—excellent dedusting from virgin material and regrind

Fine dust is created during the granulation, transport or in-plant material supply of plastic pellets. These small particles can have a big impact on the final product. Premature combustion of the dust particles may occur in some cases, or the particles may not melt properly in the process. The consequences show up in white or black spots as well as deposited impurities. These quality losses inevitably lead to rejects. Especially in the case of high-quality plastic products, the smallest component defects, such as flow lines or milky surfaces, can have serious consequences; this is particularly true for transparent products. Such defects, for example in plastic optics such as lenses or light guides, have a negative effect on the internal properties such as transmission and refraction and thus on the optical functionality of the product.

Common error patterns:

- Streaks
- contaminants deposited on the surface
- Burn marks (black dots)
- reduced mechanical properties
- unmelted parts (white dots)

SOLUTION

Pellet-Deduster systems from MBEngineering filter dust out of plastic pellets and significantly improve product quality as well as the manufacturing process—whether the material is virgin or regrind.

BENEFITS

Health, Safety, and Cleanliness

- Prevention of dust particles in the air we breathe
- Clean work environment
- Reduced maintenance and cleaning requirements for injection molding machines and peripheral equipment

Product quality

- Optical components and transparent parts
- Components with electroplated coatings
- Glass-fiber-reinforced parts
- MIM and CIM applications

Process optimization

- Consistent material properties
- No clogging or crust formation in the feed zone
- Reduced wear on the screw and barrel caused by dust deposits

Sustainability

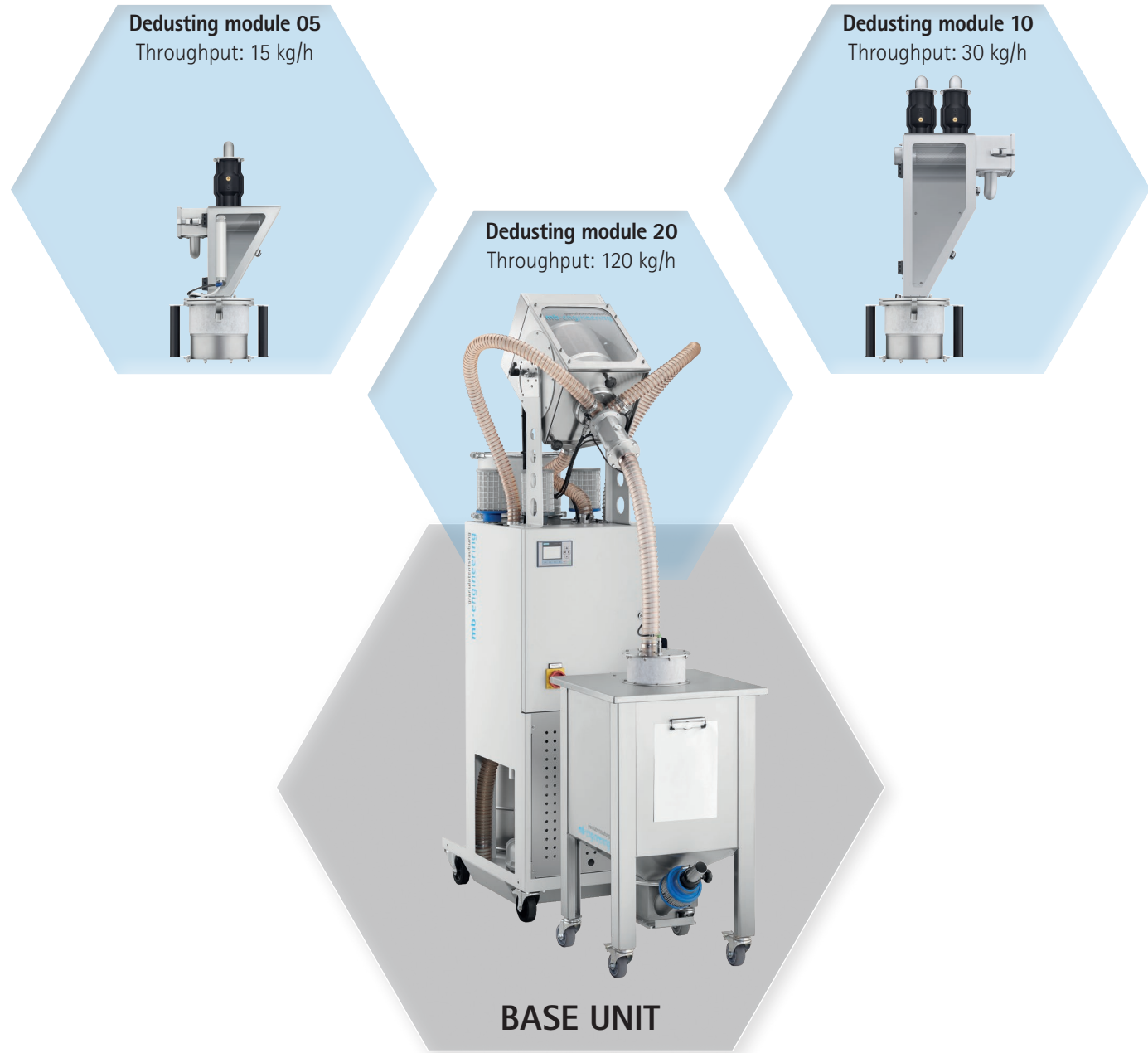
- Reduced scrap
- Efficient use of materials
- Optimized use of regrind

ZERODUST

ONE BASIC DEVICE—ENDLESS POSSIBILITIES!

The Perfect Duo

The base unit can be equipped with a dedusting module 5, 10, or 20, depending on the specific process. In addition to the process connection, the desired throughput and the required degree of dust removal are key factors in this decision.



ZERODUST

HERE'S WHAT THAT MIGHT LOOK LIKE IN PRACTICE

In-Line



The dedusting module can be operated directly on the feed zone of the injection moulding machine, on a dryer or metal separator as well as on an auxiliary device. There is nothing standing in the way of optimum production of especially high-quality visible and surface parts.

Stand-Alone

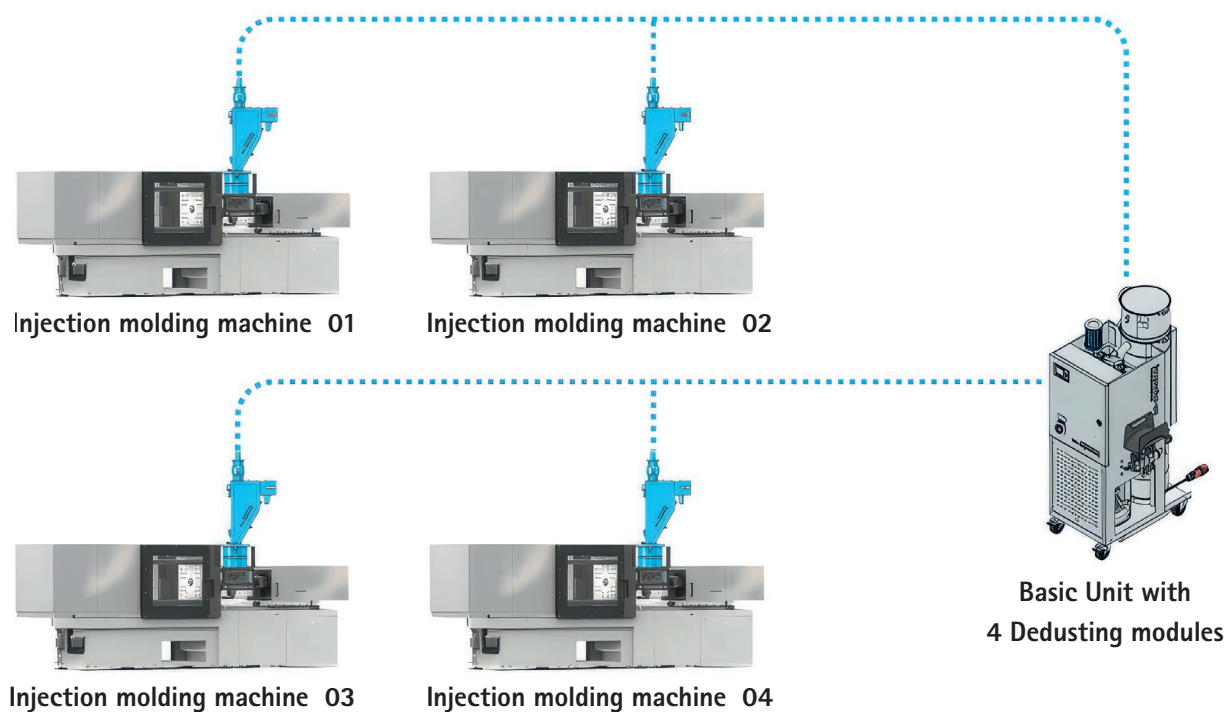


The pellet-deduster is for a decentralized application designed to achieve maximum throughput. Cutting mills, octabins or material silos are simply vacuumed and dust is removed immediately. Optimum production of particularly demanding visible and surface parts is no longer an obstacle.

MUTLI-STAGE DEDUSTING SYSTEM

Up to four dedusting modules, one base unit

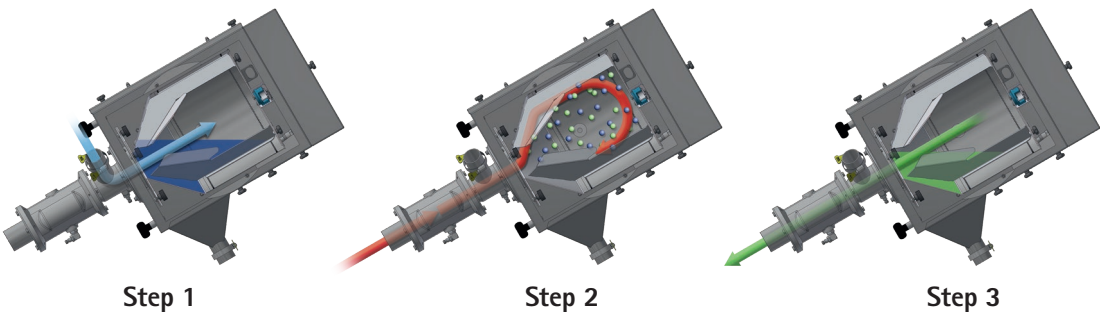
The base unit can be equipped with up to four dedusting modules to supply multiple injection molding machines (IMMs) in parallel with dust-free granulate. The material can be fed either through the central material supply system or directly from the pellet-deduster itself.



FUNCTIONAL DESCRIPTION

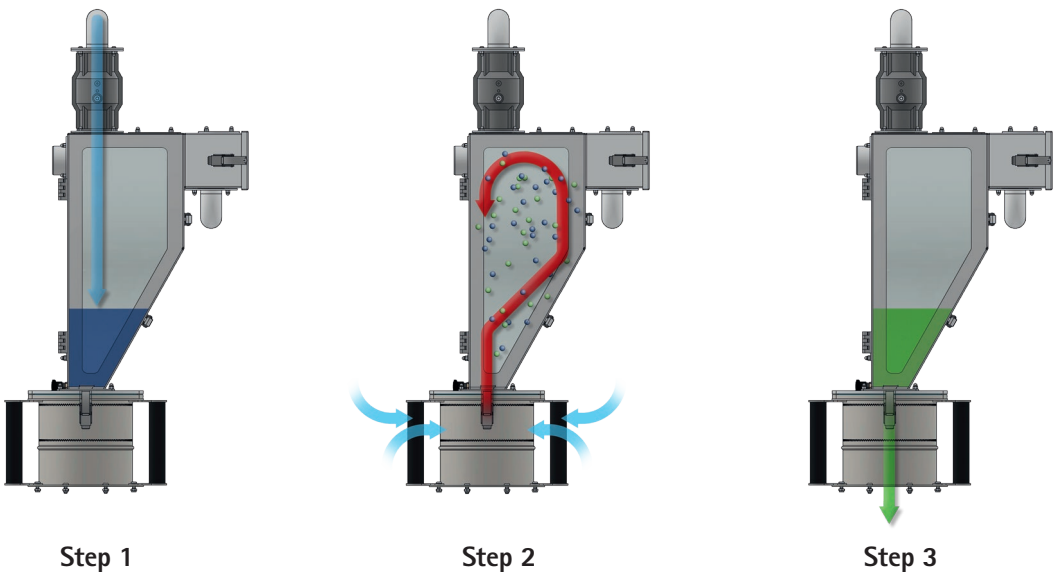
The dedusting process using the drum module

- Step 1:** Pellets containing dust are sucked into the dedusting module by negative pressure.
- Step 2:** The ambient air flows from the bottom through the drum opening, creating a strong turbulence effect. The dust particles are separated from the plastic pellets by the sieve drum, which encloses the pellets. The dust particles are transported away by the extraction system and separated by a filter unit.
- Step 3:** The dedusted pellets are passed unpressurised on to the subsequent process.



The dedusting process using the sifter module

- Step 1:** Pellets containing dust are sucked into the dedusting module by negative pressure..
- Step 2:** The ambient air flows through the pellets from below and creates a strong swirling effect. A filter screen on the top of the dedusting module separates the dust particles from the plastic pellets. The dust particles are transported away by the extraction system and separated by a filter unit.
- Step 3:** The dedusted pellets are passed unpressurised on to the subsequent process.



PELLET-DEDUSTER

Pellet-deduster TS5

Dedusting on the injection molding machine with a throughput of up to 15 kg/h



Features

- Compact, portable extraction unit in RAL 7035
- Adaptable to injection molding machines, dryers, or metal separators
- Level monitoring up to 120°C (optionally up to 250°C)
- Volumetric dosing and mixing of two components
- Integrated pneumatic filter cleaning for reduced maintenance requirements
- Intuitive operation via HMI panel

Pellet-deduster TS10

Dedusting on the injection molding machine with a throughput of up to 30kg/h



Features

- Compact, portable extraction unit in RAL 7035
- Adaptable to injection molding machines, dryers, or metal separators
- Level monitoring up to 120°C (optionally up to 250°C)
- Volumetric dosing and mixing of two components
- Integrated pneumatic filter cleaning for reduced maintenance requirements
- Intuitive operation via HMI panel

Highlights

- Expandable to up to four dedusting modules
- Connection to a central material supply system
- Data interface to a higher-level control system

Pellet-deduster TS20

Central dedusting with a throughput of up to 120 kg/h



Features

- Compact, portable extraction unit in RAL 7035
- Volumetric dosing and mixing of two components
- Integrated pneumatic filter cleaning for reduced maintenance requirements
- Intuitive operation via HMI panel

Highlights

- Expandable to up to four dedusting modules
- Data interface to a higher-level control system

Pellet-deduster TS30

Central dedusting with a throughput of up to 400 kg/h



Features

- Compact, portable extraction unit in RAL 7035
- Volumetric dosing and mixing of two components
- Integrated pneumatic filter cleaning for reduced maintenance requirements
- Intuitive operation via HMI panel

PELLET-DEDUSTER ACCESSORIES

Interlinking

Implementation of custom requirements and seamless integration into existing processes.



Features

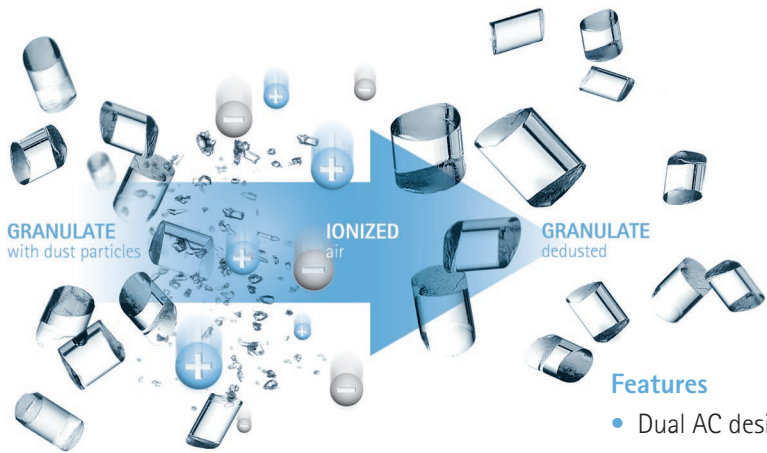
- Data interface between the PLC and the higher-level control system
- Electromechanical connection to the central material supply system
- Potential-free interface between the base unit and peripheral units e.g. pellet dryer, metal separator, gravimetric system, pellet mill
- Electronic preparation for connecting the base unit to up to four dedusting modules

Highlights

- Open programming structure for special applications

Ionizer

A problem that frequently occurs when processing plastic granulate is the disruptive electrostatic charging. Static binding forces cause particularly small particles to cling to the granules, which can have a negative effect on the quality of the granulate and thus on the end product. The ionization module generates a corona discharge, causing the dust particles to lose their grip so that they can be easily disengaged from the granule.



Features

- Dual AC design for an even and quick reduction of electrostatic charging
- Wear-resistant Wolfram electrode cartridges
- Visual display of the ion balance
- Optionally available for all granulate deduster models

Signal lamps

Always keep an eye on the state of your machine – visually or acoustically! Malfunctions are quickly and reliably indicated through the use of signal lamps. Thus, employees can directly react to changing situations. This provides more safety and considerably reduces reaction and waiting times.



Features

- Signal column with magnetic base or for wall mounting
- Four visual levels: green, yellow, red, blue
- Acoustic buzzer 85 db(A)
- Impervious to water and dirt

Demanding process conditions

Under special environmental conditions—such as in cleanrooms or when handling granules that pose explosion or health hazards—specialty and safety filters can be integrated into the pellet-deduster. This significantly enhances process reliability and occupational safety.



Features

- Secondary filter, dust class H [DIN EN 60335-2-69]
- Intake filter, dust class M [DIN EN 60335-2-69]
- Differential pressure monitoring for safe shutdown in the event of a fault
- All components in contact with the material are made of high-alloy stainless steel

Highlights

- Inspection of the plastic pellets used, including an assessment of the explosion risk
- Technical documentation of the explosion protection plan

PELLET-DEDUSTER ACCESSORIES

Metal detection

Metal detection system for standard, non-ferrous, and stainless steel. Venturi separation and discharge into a collection container with fill-level monitoring.



Metal Detection – Material Discharge

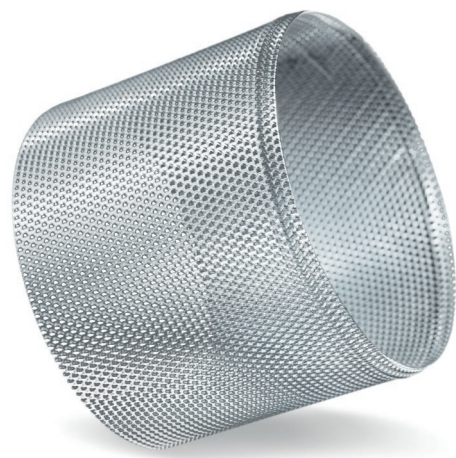
- Precise metal detection for maximum material purity
- Venturi separation and discharge into a collection container with fill-level monitoring
- Mechanical adaptation to IMM

Metal Detection – Material Feed

- Precise metal detection for maximum material purity
- Sensitivity: 0.6 mm carbon steel / 1.2 mm stainless steel
- Clear diameter of inlet and outlet nozzles: 50 mm
- Mounted on the console of the pellet-deduster base unit
- Collection container with fill level monitoring for discharged material

Sieve insert

Plastic pellets come in countless shapes, sizes, and varieties. To ensure the best possible dust removal results every time, you can choose from a variety of screen basket inserts.



Round-hole screen insert

- Ø 1.2 mm
- Ø 1.6 mm
- Ø 2.0 mm
- Ø 2.4 mm
- Ø 3.0 mm

Slotted-hole screen insert

- 1.0 mm
- 1.2 mm
- 1.6 mm
- 2.0 mm

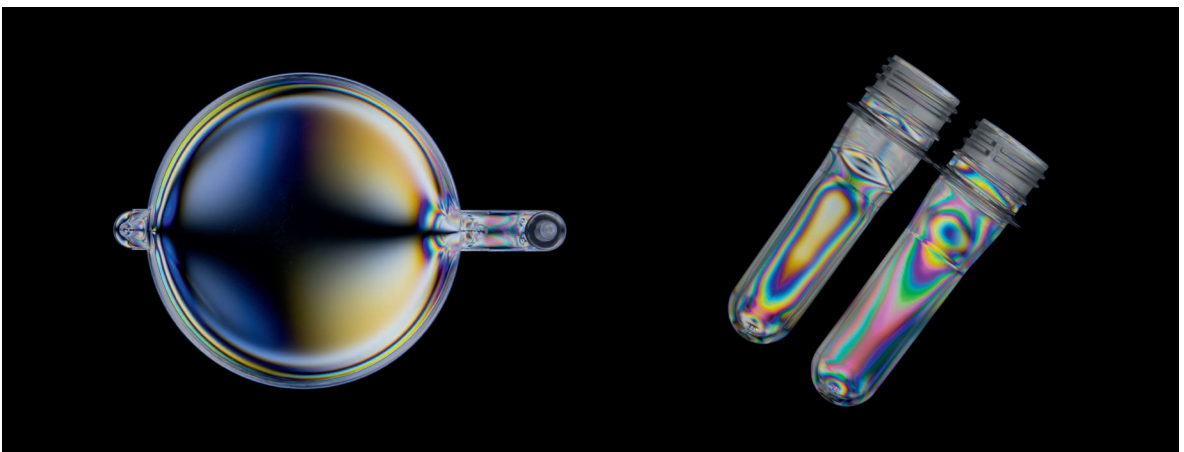
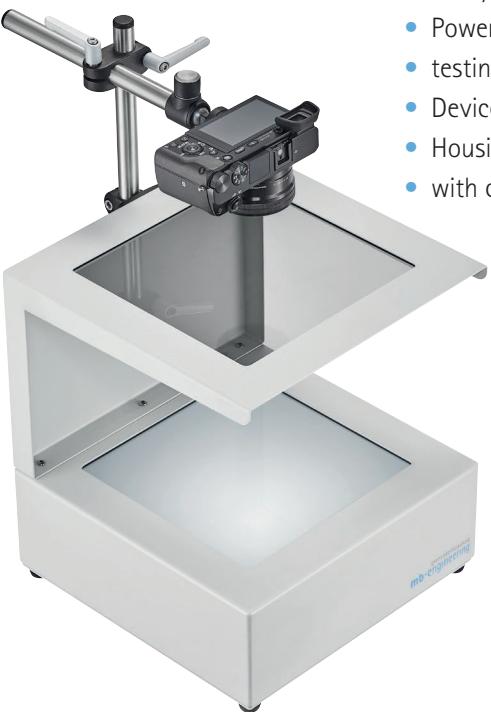
POLARISCOPE

Quality control

Other quality features can be identified using the same equipment that is used for checking the genuineness of gemstones: Stresses and inclusions in the transparent injection-molded parts can be very easily detected with our polariscope.

Features

- Process optimization in the manufacture of translucent plastic parts
- Analyzing and documenting stress conditions and fissures
- Powerful LED light source – 12 Watt 6500 K (cool white)
- testing surface area 200 x 200 x 200 mm
- Device dimensions 280 x 280 x 315 mm (W x D x H)
- Housing, powder-coated in RAL 7035
- with camera or smartphone holder for professional documentation

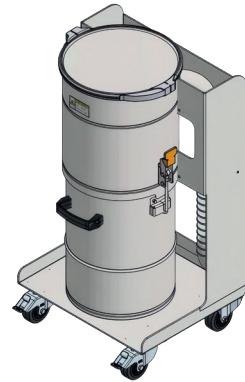


Even small internal stresses can have a negative impact on the function of optical components. Light waves which would otherwise be white can be converted into color images using crossed polarizers. The interference colors made visible this way can now be easily classified into stress ranges.

SEPARATOR

Seperator AT 1

Basic Pre-separator

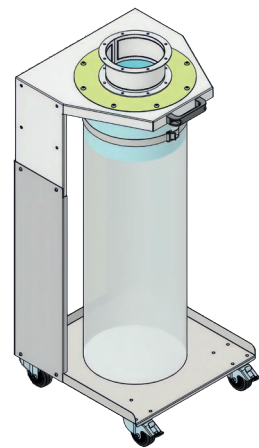


Features

- Compact, portable dust collector in RAL 7035
- Primary filter stage with filter class M (EN 60335-2-69)
- Without electropneumatic filter cleaning

Seperator AT 3

Bagging device

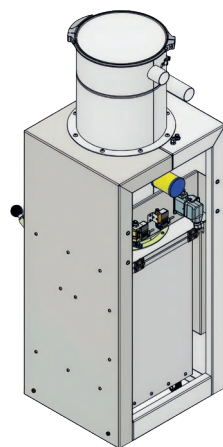


Features

- Compact, portable separator in RAL 7035
- Bag holder for PE bags, max. 1000 x 500 mm (filling volume approx. 40 liters)
- Discharge height adjustable via mounting screws

Seperator AT 5

Professional Pre-separator



Features

- Compact unit in RAL 7035
- Weight-activated flap (Ø 60 mm) with mechanical locking function
- Dust collection bin with bag holder for PE bags 1000 x 500 mm (capacity approx. 40 liters)
- Primary filter stage with filter class M (EN 60335-2-69)
- Integrated pneumatic filter cleaning
- Dust collection bin level monitoring

SERVICES

Advisory service and project planning

Together with you, we analyse and assess the actual situation and incorporate your new or extended requirements. We draft and plan your individual range of products that completely and in the best possible manner meets your requirements and expectations. An integral material supply comprises conveying, dosing, mixing, dedusting, metal detection, drying and storing. We offer you an integral control technology, a comprehensive partner network and professional technical documentation. During design, planning and project planning we pay attention to a coordinated workflow.

Project implementation

Installation

We accompany your project from the design and planning phase right up to the commissioning and plant optimization phase. Our qualified personnel will install individual conveyors or complex systems for you as needed and according to the preceding planning. The service technicians have a vast scope of experience, which is why we can guarantee an optimum interaction between your machines and our periphery. Our employees are of course always available to answer any questions you may have.

Training

Benefiting from experience – building competence with premium training courses. To ensure an easy and quick familiarization of your employees, we offer customized product and system training courses. In the course of these, we individually respond to any questions and problems. Our experts convey knowledge in a simple and coherent manner, enabling your employees to meet the special requirements of successful, modern granulate handling.

Dedusting tests and Contract dust removal

Dedusting tests

Do you wonder whether you have a problem with plastic dust or which dedusting system is the right one for your application? We conduct comprehensive dedusting tests for you to offer the appropriate solution for your specific applications.

Contract Dust Removal – Fast, Professional, Reliable

Rising quality requirements, expanding into new markets, budget constraints, or bottlenecks in your own production? There are many reasons to outsource the dust removal of your plastic pellets to an external partner. Take advantage of our service: We'll remove dust from your plastic pellets in our technical center—professionally, flexibly, and on time!

EXTRATION DEVICES

Stationary or portable

With our stationary and portable extraction units, durable filtration systems, and custom-designed extraction solutions, we ensure optimal safety and worker protection in the workplace. Whether dealing with bulk materials, chips, dust, or vapors, our industrial extraction systems guarantee effective and reliable filtration and separation across a wide range of applications. By utilizing highly efficient EC motor technologies and generously dimensioned filter systems, we ensure long service life with low energy consumption and minimal noise pollution.

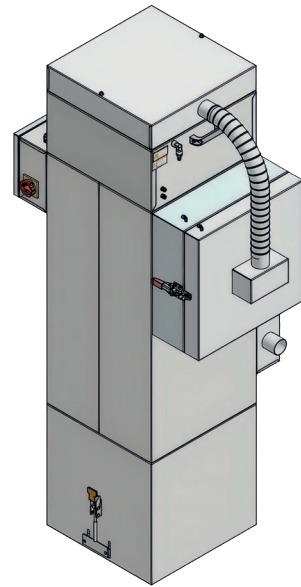
Dust	Gases, Vapors + Odors	Bulk material
		
Application		
• Metal dusts • Plastic dusts • Ceramic dusts	• Substances hazardous to health • Odors • Ozone • Organic gases	• Plastic granulate • Ground material from cutting mills • Plastic scrap

PUREVAC

PRODUCT OVERVIEW – EXTRACTION DEVICES DUST / P-SERIES

2-Stage Filter Unit for Central Material Supply

Additional filter stage for easy optimization of separation performance

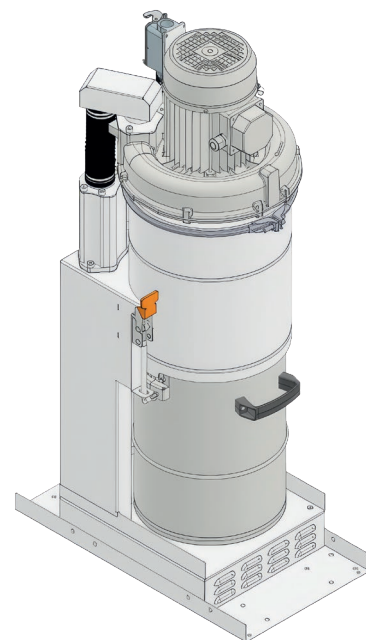


Features

- Compact separator in RAL 7035
- Primary filter stage with filter class M
- Secondary filter stage with filter class H
- Differential pressure monitoring
- Integrated pneumatic filter cleaning for low-maintenance requirements
- Intuitive operation via HMI panel
- Dust collection bin level monitoring
- Signal light with audible alarm

Extraction system P110

Extraction system for dry chips and dust with a suction capacity of up to 200 m³/h



Features

- Compact separator in RAL 7035
- Primary filter stage with filter class M
- Suction connection: D50

Extraction system P300

Extraction system for dry chips and dust with a suction capacity of up to 1.000 m³/h

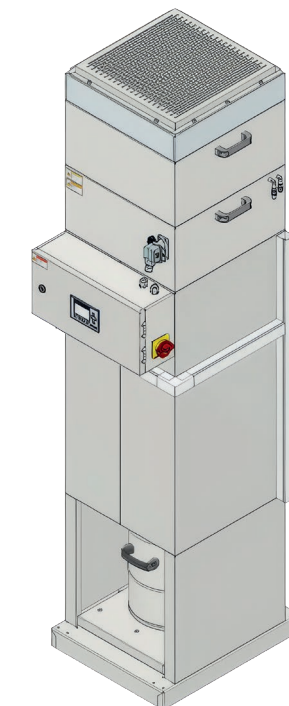


Features

- Portable separator in RAL 7035
- Suction capacity: 1.000 m³/h
- Primary filter stage with filter class M
- Secondary filter stage with filter class H
- Filter status indicator
- Suction connection: D75

Extraction system P400

Extraction system for dry chips and dust with a suction capacity of up to 500 m³/h



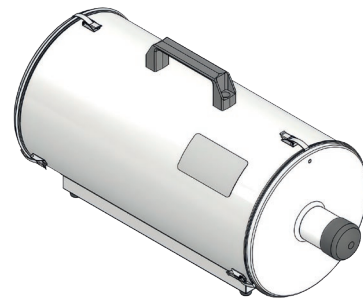
Features

- Separator in RAL 7035
- Primary filter stage with filter class M
- Secondary filter stage with filter class H
- Integrated pneumatic filter cleaning for low-maintenance requirements
- Intuitive operation via HMI panel
- Filter status indicator
- Suction connection: D75

PRODUCT OVERVIEW – EXTRACTION DEVICES GASES / R-SERIES

R50 Compact extraction system

Extraction system for gases, vapors, and odors with an extraction capacity of up to 200 m³/h



Features

- Portable separator in RAL 7035
- Activated carbon cartridge with flame-retardant insert and coarse-particle filter
- Suction connection: D50

Extraction system R300

Extraction system for gases, vapors, and odors with an extraction capacity of up to 1.000 m³/h



Substances

- Substances hazardous to health such as aldehydes, phosphines and hydrochloric acids
- Odors
- Ozone
- Organic gases

Features

- Compact and portable unit
- Infinitely variable suction capacity
- Point-source extraction of gases and fumes
- Silent and energy-saving operation by means of EC technology
- Filter monitoring with visual display
- Soundproofing for low-noise operation

Filter system

- Prefilter: Activated carbon filter cartridge (26 liters)
- Main filter: Filter cartridge dust class H (transmittance <0.005%)
- Optional: Additional safety filter, dust class H (permeability <0.005%)

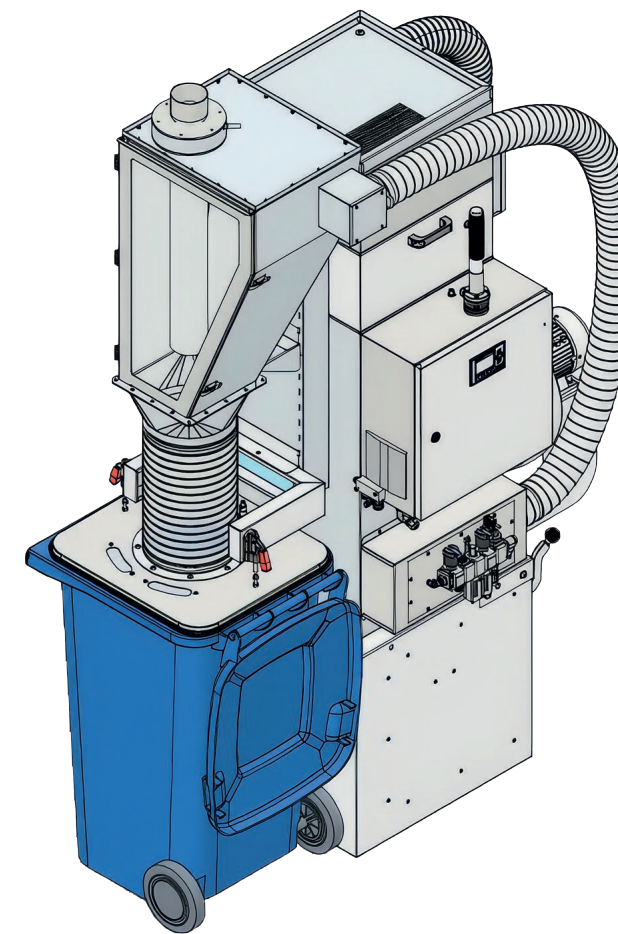
Hazardous substance analysis

- By request, our qualified service employees will carry out a hazardous substance analysis at your premises to verify the faultless function of the extraction system

PRODUCT OVERVIEW – EXTRACTION DEVICES BULK MATERIAL / S-SERIE

Pellet-Separator S400

Bulk materials, like those arising in plastic cutting mills, can be removed by means of our extraction systems that have been specifically designed for this purpose and then separated from the conveying air by means of a separator. The bulk material is collected in a mobile silo bunker and can be systematically used for recycling or internal processing.



Application

- Extraction of dry bulk materials such as plastic granulate, ground material from cutting mills or plastic scrap
- Possibility of providing direct extraction at the machine tool

Features

- Integrated pneumatic filter cleaning for low-maintenance requirements
- Suction capacity variably adjustable up to 1.000m³/h
- Silent and energy-saving operation by means of EC technology
- Intuitive operation via HMI panel

Filter system

- High-performance and durable cartridge filters with filter category M (transmittance<0.1%)
- Optional: Additional safety filter Dust class H (permeability <0.005%)

INOX-SILOS

Flexible and individual

SAFE

MBEngineering INOX silos stand for flexible, individual and high-quality material handling Made in Germany. Our INOX silos are used everywhere where up to 1500 liters of plastic pellets have to be stored. We protect your pellets from contaminants and ensure the material supply of your machines

SMART

- Compact and space-saving design
- Stationary or mobile use
- No material contamination thanks to closed design
- Completely made of stainless steel
- Document holder for clear material labeling
- Variable conveyor connection with supply air filter for stable process conditions

INDIVIDUAL

- Individual customer solutions or standard dimensions
- Capacities up to 1500 liters
- Customer-specific modular system for ideal process adaptation
- Short delivery times thanks to in-house design and manufacturing

CLEAN

- Components that have contact with product are made of brushed stainless steel for easy, residue-free cleaning
- Residual discharge with locking mechanism for quick material change



INOXSILO

INOXSILO

SILO COVER

Material Silo

Lid with handle and sight glass. The lid can be practically fastened to the cover holder on the silo for filling or cleaning work.



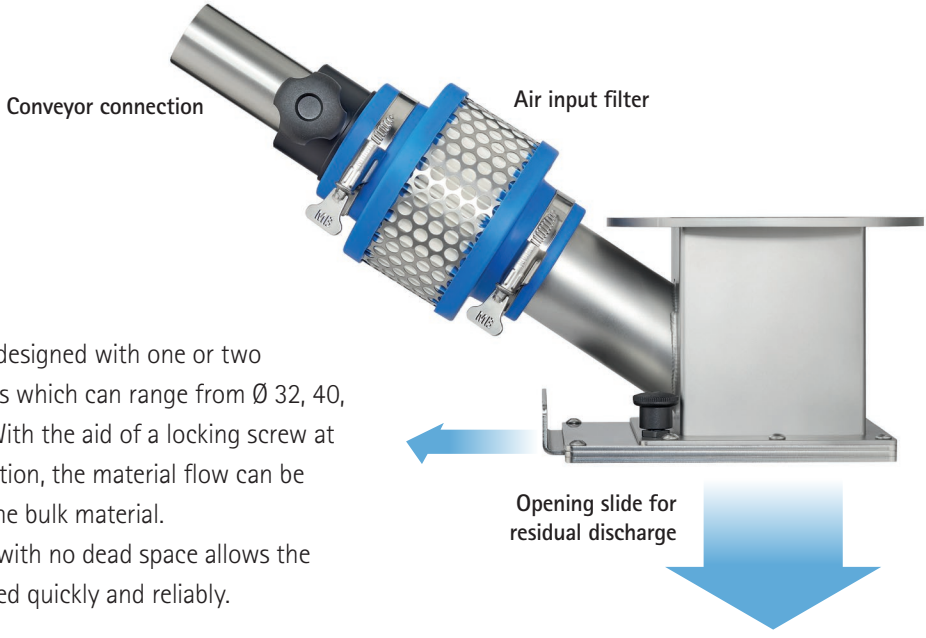
Container

Integration in the existing process. The silo can be filled at the top via a filling nozzle. Optional sensors measure the filling level and output the signal via a universal interface.



Designation	W/X (mm)	Y (mm)	Z (mm)	Filling Volume (Liter)
INOX-Silo Q25	413	528	94	25
INOX-Silo Q50S	413	678	94	50
INOX-Silo Q50	413	878	294	50
INOX-Silo Q50H	513	878	359	50
INOX-Silo Q100	513	878	129	100
INOX-Silo Q250	850	995	207	250
INOX-Silo Q500	1115	995	152	500
INOX-Silo Q1000	1115	1466	177	1000
INOX-Silo Q1500	1115	1915	140	1500

INLET BOX



The inlet box can be designed with one or two conveyor connections which can range from Ø 32, 40, 45, 50 and 60 mm. With the aid of a locking screw at the conveyor connection, the material flow can be adjusted exactly to the bulk material. A residual discharge with no dead space allows the material to be changed quickly and reliably.

LARGE MATERIAL BIN

Maximum material handling

APPLICATION

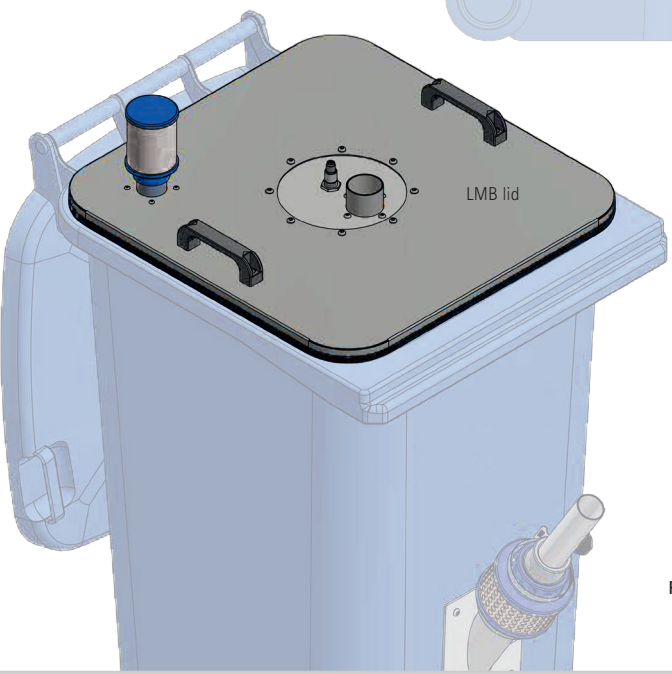
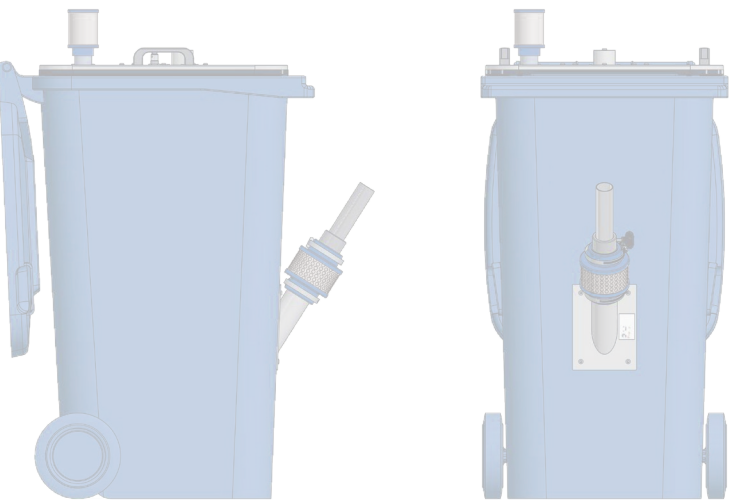
Our large material bins offer you an optimal storage option for simple and efficient material handling. Available as material supply or material collection bins in the sizes 80, 120, 240 or 360 liters, their use can be individually adapted to meet daily needs

PROPERTIES

- Stationary and mobile use
- Available in sizes 80, 120, 240 and 360 liters
- No material contamination thanks to closed design
- Variable conveyor connection with supply air filter for stable process conditions

INDIVIDUAL

Integration in existing processes: The large material bin can be filled at the top via a filling nozzle. Sensors measure the filling level and output the signal via a universal interface.



INOXSILO

DIMENSIONS



Designation	W (mm)	X (mm)	Y (mm)	Filling Volume (Liter)
GMT 80	910	448	476	80
GMT 120	910	448	476	120
GMT 240	1058	576	728	240
GMT 360	1077	600	874	360

CONVEYOR CONNECTION

The conveyor connection can be designed anywhere between Ø 32, 40, 45, 50 and 60 mm. The material flow can be adjusted exactly to the bulk material and required throughput with the aid of a locking screw at the conveyor connection.



INOXSILO

ACCESSORIES

Suction intake connection

Efficient dust protection and flexible conveying air. The closed design of the suction intake connection protects the material from environmental influences and at the same time prevents material dust from being dispersed into the environment. In addition, the variably adjustable conveying air provides for an even and efficient material conveyance. The stationary installation at a large material barrel or material container guarantees complete leak tightness. The sturdy design furthermore guarantees a long life cycle and reliable functionality, even under challenging conditions.

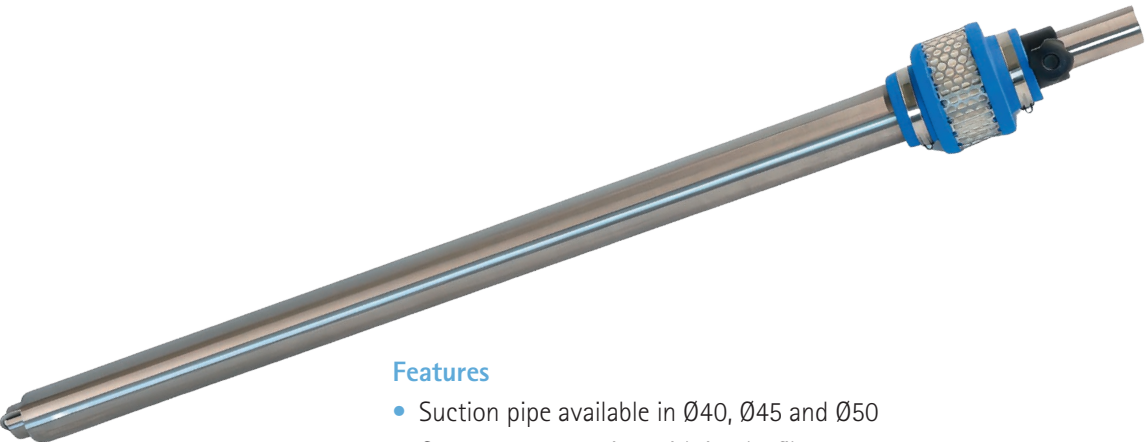


Features

- Intake connection Ø 32, 40, 45 and 50 mm with intake filter
- Completely made of stainless steel 1.4301
- Ideal for retrofitting at large material barrels

Suction lance with intake filter

Versatile applications due to variable conveying air. The suction lance offers variably adjustable conveying air, ensuring even and efficient material conveyance. Thanks to its flexibility it can be used in different containers and thus allows for optimum adaptation to different requirements.



Features

- Suction pipe available in Ø40, Ø45 and Ø50
- Conveyor connection with intake filter
- Completely made of stainless steel 1.4301

