

HELIOS

Your perfect partner for material handling

DISCHARGING DRYING DEDUSTING

PRODUCT OVERVIEW

JETBOXX®

Dry-air dryers for plastic granulate

OKTOMAT®

Discharging stations for Octabin and Big Bag

HELIO® Clean

Dedusters for plastic granulate/regrind



2023

www.helios-systems.com

MADE IN GERMANY

JETBOXX[®] SYSTEM



Dry-air dryers for plastic granulate

By combining system basic components you can implement optimal solutions for every setting of task. With modified tasks the components can be easily recombined.

JETBOXX[®] System Components



Controls



Drying containers



Conveying techniques



Accessories

JETBOXX[®] System Variations



Top-mounted dryers



Stand-alone dryers



Variable dryer station



Deduster dryer

JETBOXX® Top-mounted dryer

Mounting directly on the feed section of the processing machine

minimal space requirement



JETBOXX® set 0,5 liters with manual filling



JETBOXX® set 2,5 liters with option CE



JETBOXX® set 12 liters with option C



JETBOXX® set 50 liters with option CE



JETBOXX® set 20 liters with option C

JETBOXX® Stand-alone dryer

Placement next to the processing machine and conveying to the feeding section

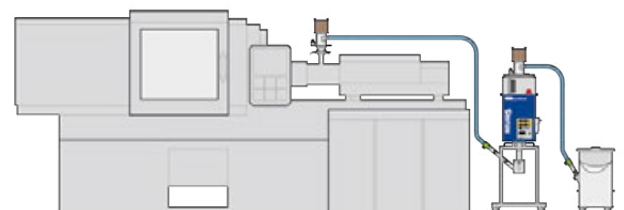


JETBOXX® 30 liters



JETBOXX® 50 liters

JETBOXX® 200 liters



JETBOXX® Variable dryer station

HELIOS top-mounted dryers are placed on a base frame with docking plates. The drying containers may be removed and carried to the processing device.

When changing the setting of task the components can be easily combined or used as top-mounted dryers again.



JETBOXX® | Docking plate



2/3/4-unit base frame

JETBOXX® Deduster Dryer Optical Edition

Filling + Dedusting + Drying

Compact material preparation unit for the highest demands in injection moulding of optical parts. The unit consists of a dedusting device with integrated feeding technology and portionwise transfer of the dedusted granulate into a tower drying bin with a scalable filling height, which is flown through with a drying gas from a drying process control.

DD-12 material throughput 0,4 - 3 kg/h*

DD-24 material throughput 0,8 - 6 kg/h*

- mounting directly on an injection moulding machine
- dedusting by air-sifting with ion shower
- drying by dry air / nitrogen
- Tower drying bin in octagon construction, octagonal inner container of stainless steel
- optimal drying gas distribution

* depending on the bulk material and the allowed drying time. The example is related to COC/COP/PC/PMMA



JETBOXX® Control

Perfect drying result by
throughput-/ material dependent dryer settings

The key facts

- Plastic data base
- Conveying control for two conveying points
- Week timer
- Overheating protection
- Dew point measurement with dew point alarm
- Drying programs
 - quick selection drying programs
 - Database programs
 - Personal programs
 - Pre-/continuous drying
 - Continuous drying
 - Batch drying



Pre / continuous drying	
LCP 150°C	4.0h
Container	22l 30 l
Throughput	3.75 kg/h
Air volume	120 l/min
Due temperature	150 °C
Drying time	4.0 h

Basic material	Temp	Time
COP.....	80 °C	5.0h
CP.....	75 °C	2.5h
CP_Ion.....	60 °C	8.0h
LCP.....	150 °C	4.0h
PA 4,6.....	100 °C	5.0h
PA 6-3-T.....	80 °C	5.0h

Dew point alarm	
Max permitted dew point	-20 °C
0 = alarm OFF	
Minimize	(+)
Increase	(-)

Conveying settings	
Layering A/B	2.0 s
Component B	30 %
Permitted conveying time	99 s
Dedusting	3 x



WINneo®

Control for the drying and conveying
BASIC - functions



WINsystem®

Control for the drying and conveying
PRO - functions

	WINneo®	WINsystem®
4 quick selection drying programs	●	●
9 personal programs	—	●
Plastic database for plastic-specific and throughput-dependent dryer settings	—	●
Measurement of dew point + display	○	●
Dew point alarm	—	●
Energy consumption display Display of compressed air flow rate, heating capacity and total energy consumption	—	●
Large digital display	●	●
Graphic display with 10 languages	—	●
Week timer	●	●
Conveying control	●	●
2x conveying point 1x dedusting	●	●
2x conveying point 2x dedusting 2x mix function	—	●
Material lack detection	●	●
Overdrying protection	●	●
Error messages + collective fault signal	●	●

In standard ●
Optional ○
Not available —

Suction devices with dry air conveying

3 new types of suction devices allow a 100 percent avoidance of post-humidifying of the dried material anew in the waiting or conveying mode.



XT-1 mini



XT-1

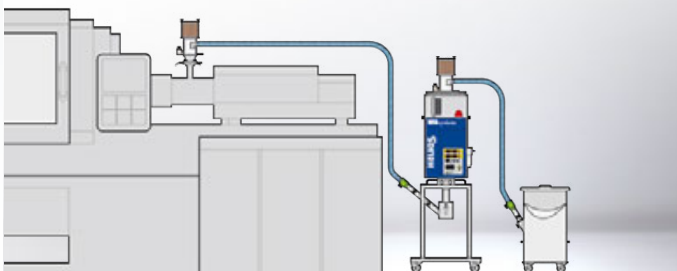


XT-2

Conveying with dry air Zero post humidification

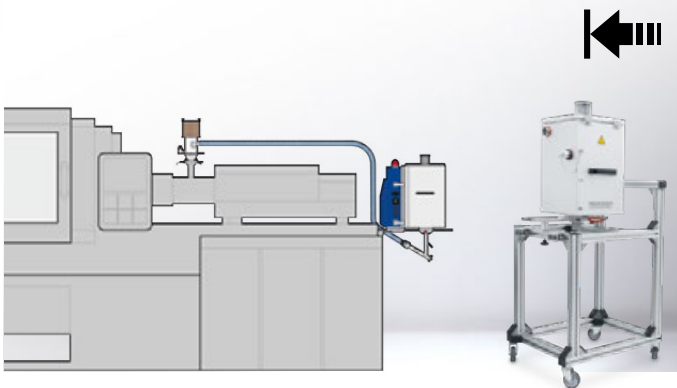


Closed conveying system.
Venturi principle without suction of ambient air.



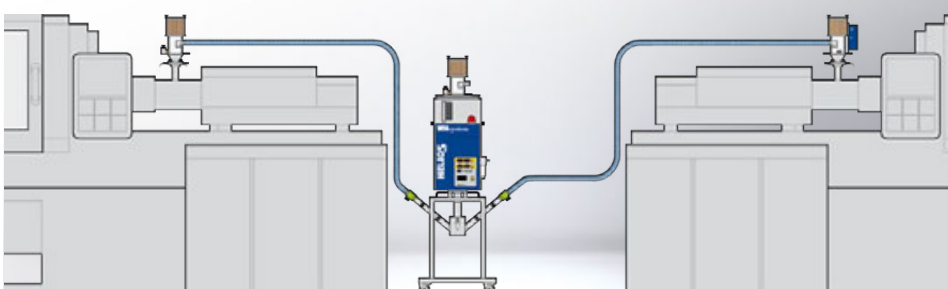
Version A

Conveying and drying of one component directly next to the injection molding machine. Conveying of the dried material onto the feeding section.
Conveying height up to 8 m possible.
Selectable with/without dry air conveying.



Version B

The docking plate including the dryer control is fixed directly on the injection molding machine. The drying containers are docked via a sliding rail. The dried granulate is conveyed via a suction device with dry air conveying XT-1 mini onto the injection molding machine.



Version C

Example: Feeding of two machines with dried material.
Selectable with/without dry air conveying.

JETBOXX® System Components

1 - Component conveyors with exhaust air filter



OPTION C Micro

OPTION C Mini

OPTION C

OPTION C-M



also with its own control

Conveying set

- DN 22 or DN 32
- PUR conveying hose set
- Suction lance Venturi long/short



1 - or 2 - Component conveyors with dedusting



OPTION CE Mini

OPTION CE

OPTION ME

OPTION CE-M / ME-M



also with its own control

Conveying set

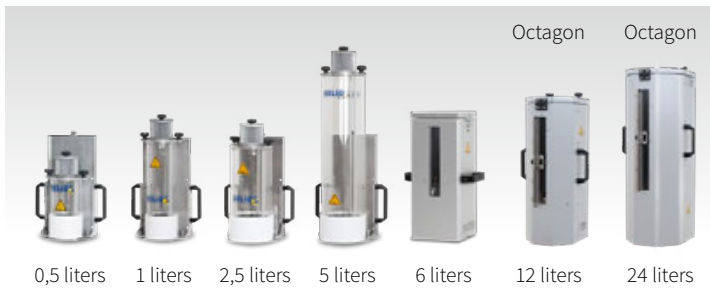
- DN 22 or DN 32
- PUR-H conveying hose set
- Venturi suction lance long/short



Dust removal



Mini drying containers



0,5 liters

1 liters

2,5 liters

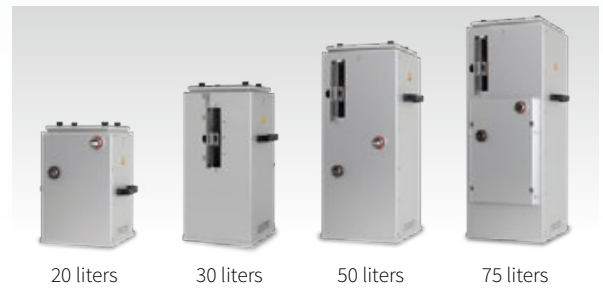
5 liters

6 liters

12 liters

24 liters

Drying containers



20 liters

30 liters

50 liters

75 liters

Options, accessories



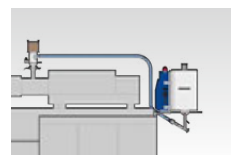
Machine adapters



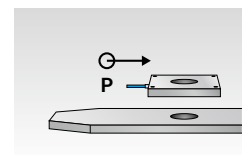
Crane bracket



Docking plate



Docking place



Loosening aid



Split version



Trolley



UP2000



Dry air conveying



HCA Conveyors

OKTOMAT® SYSTEM



The problem

The discharging of Octabins and Big Bags through suction pipes is often difficult and not always practical. The conveying is interrupted too often and leads to production disruptions. The film bag is sucked in often or the material does not flow continuously, which is particularly problematic at the end of the discharging process. Often an operator has to guide the suction pipe by hand for a longer period of time in order to discharge a bulk bag.



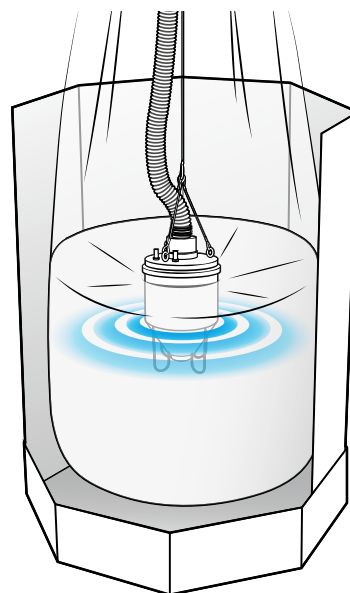
The solution

OKTOMAT® Emptying stations

The OKTOMAT® uses a vibrating suction head instead of the suction pipe and the automatic bag tightening mechanism pulls the foil inlet or Big Bag upwards. The suction head floats and vibrates in the material and breaks up lumps. The loosened material flows towards the middle and is continuously sucked from there.



Vibrating suction heads



Functional principle

Video at www.helios-systems.com



1 During the suction process, the flexible bulk bag wall is pulled up and inwards via the automatic bag tightening system.



2 As a result, the bag tightens and the bulk material in the border area flows to the central suction point.



3 At the end of the discharging process, the almost empty bulk bag is automatically lifted up from the bottom, enabling a complete material discharge.

For all bulk bags with foil inlet or loops



Octabin

bulk bags with foil inlets



Big Bag

bulk bags with loops



Lattice boxes

with foil inlets

Just pallet jack will do



OKTOMAT® Type overview



Type	SOS	SOS INOX	SOS Classic
SOS series			
	Automatic controlled lifting and lowering of the suction head for optimum suction conditions in the bulk bag Oscillation of the foil / Big Bag tightener as a flow aid for the bulk material in border areas to achieve a max. emptying capacity		
Stroke	Bag tightening stroke 1000 mm	Bag tightening stroke 1000 mm	Bag tightening stroke 1000/1500 mm
Tension force	Bag tightening force 1500 N	Bag tightening force 1500 N	Bag tightening force 2400 N
Equipment	Full equipment	Full equipment	Full equipment
Placement	Especially space-saving in width	Especially space-saving in width	Especially space-saving in depth, installation on hall wall, several stations next to each other
Operation	Operation sideways	Operation sideways	Operation on front
Application	Suitable for almost all tasks	Suitable for all tasks, additional corrosion protection possible	Regrind, punch scrap waste, almost all applications. Bulk bags with large base area.

Material-related solutions

Oscillating suction head

SOS - series

Optimum material flow.

Oscillating bulk bag tightener

SOS - series

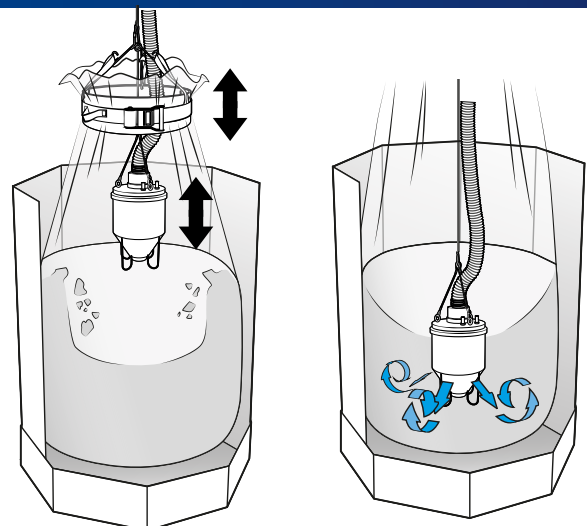
Brings bridged material and remaining border areas to collapse.

Fluidization

The material is fluidized additionally, the loosening takes place through compressed air nozzles.

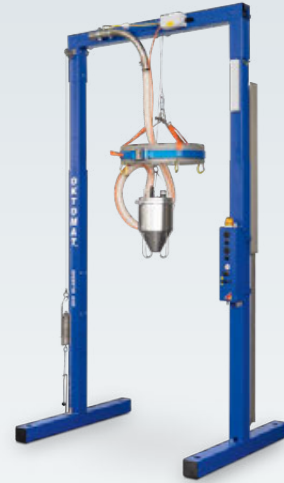
Special suction head

Other distribution of vibration in the granules, approved materials for the bulk solids, ATEX-compliant, etc.



Oscillating suction head and bulk bag tightener

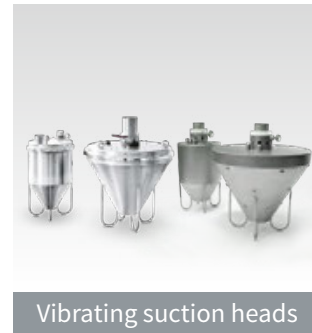
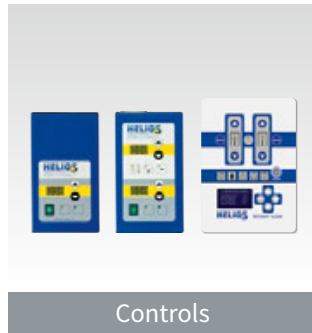
Fluidization



SOS Classic INOX	
Bag tightening stroke 1400 mm	
Bag tightening force 2500 N	
Fully equipped high-end type	
Especially space-saving in depth, installation on hall wall, several stations next to each other	
Operation sideways or on front	
Foodstuff, chemical, corrosion-protected, suitable for high-pressure cleaners	

ECO		ECO Classic	
ECO series			
Automatic lowering the suction head with sinking filling level via counterweight, foil / Big Bag tightener steplessly adjustable			
Bag tightening stroke 1000 mm		Bag tightening stroke 1000/1500 mm	
Bag tightening force 1500 N		Bag tightening force 2400 N	
Basic equipment		Basic equipment, expandable to full equipment	
Especially space-saving in width		Especially space-saving in depth, installation on hall wall, several stations next to each other	
Operation sideways		Operation on front	
Free-flowing bulk materials		Free-flowing bulk materials with high density. Bulk bags with large base area.	

System components OKTOMAT® SYSTEM



The two OKTOMAT® series (SOS and ECO) use components from the OKTOMAT® system in different combinations according to the modular principle. This allows the optimum emptying station to be configured for almost any application.

OKTOMAT® in practice

Thousands of OKTOMAT® systems are in use worldwide. Most of them work in 3-shift operation under the hardest conditions, e. g. in the plastics and chemical industries.

OKTOMAT®

- robust and durable
- unmanned operation
- proven in thousands
- easy to operate
- min. operating costs
- suitable for all materials
- short payback period

injection molding blow molding extrusion compression molding

- | | | |
|------------------|-----------------------------|-------------------|
| ■ paper / foil | ■ logistics | ■ automotive |
| ■ PVC processing | ■ paper finishing | ■ plug connectors |
| ■ recycling | ■ chemistry / raw materials | ■ packaging |
| ■ cable | ■ medical technology | ■ foil production |
| ■ optics | ■ food | |
| ■ lighting | ■ raw material handling | |
| ■ WPC | ■ technical parts | |



OKTOMAT[®] Conveying technology

The OKTOMAT[®] discharging stations are autarkic and matching for every suction conveying system for bulk materials. As soon as there is a minimum vacuum in the conveying pipeline or a relay signal is applied to the control unit, the OKTOMAT[®] switches on.

HELIOS Saugfördertechnik



HCA

compressed air driven vacuum conveying technology for max. 250 kg/h

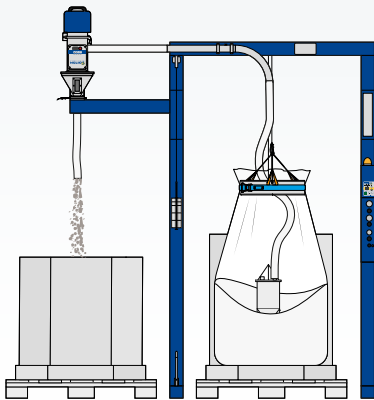
stainless steel
 HCA-2 2 liters
 HCA-5 5 liters*
 *(with enlarged filter)



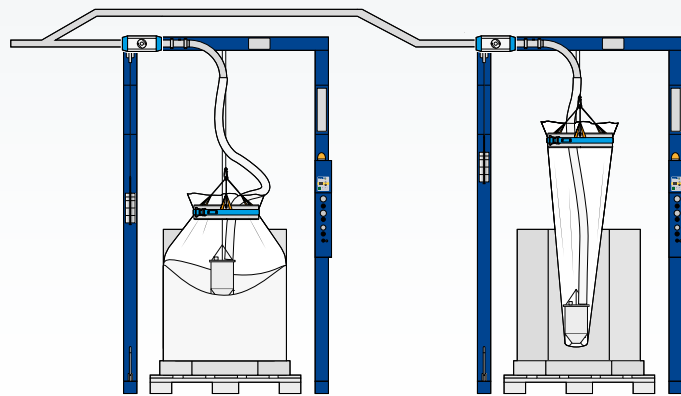
HFE

4 kW vacuum unit with dust collecting container, bypass valve and conveying control

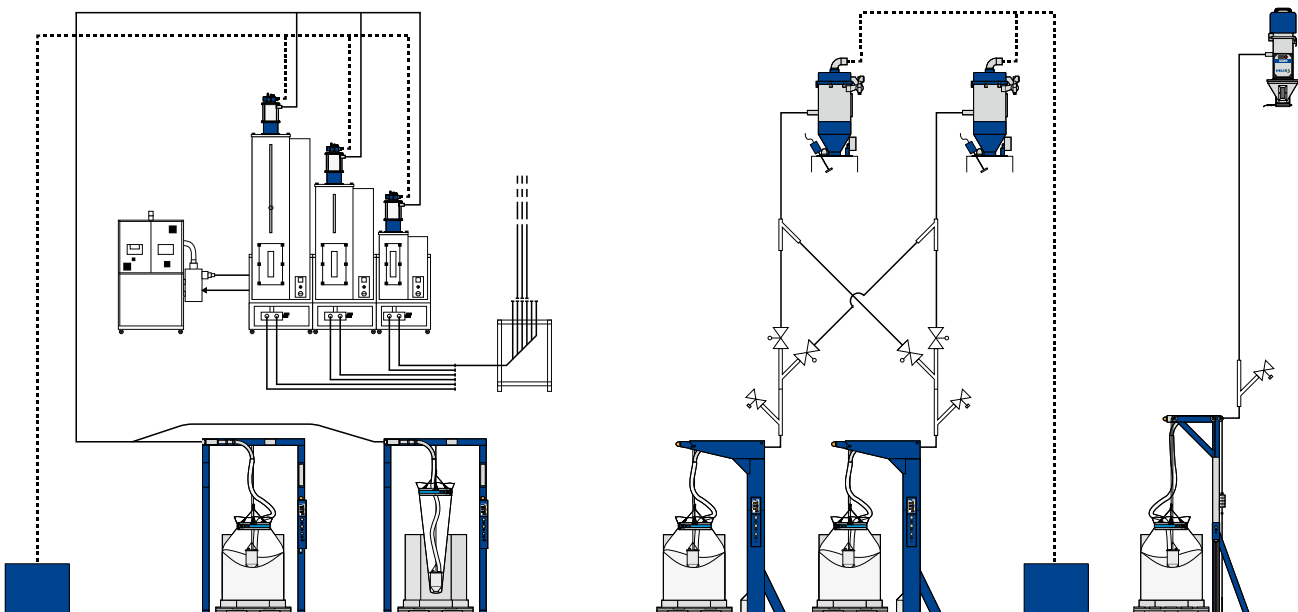
HFE INOX 20 liters liters stainless steel
 HFE INOX 50 liters hopper loader



Refilling station



Double station with switchover



HELIO®Clean SYSTEM

Dedusting devices for plastics processing

Plastic processing, especially injection moulding, requires absolutely pure raw materials without dust, angel hair and other impurities for the production of high-quality parts. Often these only occur during conveying, so HELIO®Clean granulate cleaners are combined conveying and dedusting systems for mounting on the processing machine, which transfer the perfectly dedusted granules/regrind directly into the plasticizing unit.

The dedusting is carried out by air-sifting with a highly effective ion shower. Due to its absolutely new fountain principle, this washing process by air is able to perform even the most difficult cleaning tasks perfectly.



Professional cleaning of plastics before processing

Removal of dust, splinters, lints and angel hair

By professional cleaning of the material, the quality of the granules can be restored to its original state or the disturbing fines can be removed from the regrind material.

Better part quality

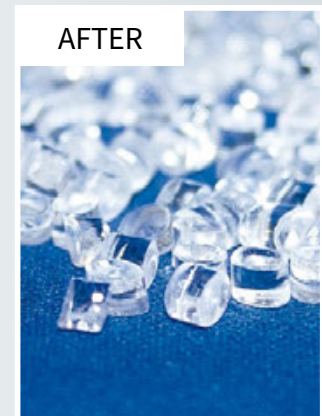
Less scrap

More regrind can be used

Less machine downtimes



BEFORE



AFTER

PMMA raw granules before and after dedusting.



HELIO® Clean 3

Granulate cleaner for injection moulding processes

The new HELIO®Clean 3 conveying / dedusting device was specially developed for injection moulding with small to medium throughputs and is suitable for mounting on the injection unit or a drying container.

- small and powerful
- compact / low weight
- air-sifting with ion shower
- 1- or 2-components version
- special glass construction
- simple operation
- optimum price/performance ratio
- **Ion cleaning**

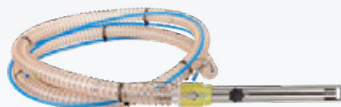
material throughput **up to 25 kg/h***

* depending on material and required degree of dedusting
example based on PMMA/PC



Dust removal

The removed dust is separated from the process air in a separated dust collecting container



Suction lance

Compressed air driven Venturi suction lance. Conveying height up to 8m.



Ion shower

While the granulate is whirled up and circulated in the deduster, a continuous stream of ionized air is blown through the portion to be dedusted.

In this way, the binding forces between dust particles and granules are reduced to such an extent that the dust loosens and can be separated by air-sifting.

Due to the special glass construction, the ions are particularly „long-lasting“ and therefore lead to a high efficiency of the ion shower.

- 1 **Insert ions**
- 2 **Neutralize charge**
- 3 **Separation by air-sifting**



HELIO® Clean Pro

Granulate cleaner for plastics processing

The new HELIO®Clean Pro devices are the most powerful HELIOS dedusting units and have been specially developed for injection moulders and extruders. They are characterised by particularly gentle conveying and dedusting with an ion shower and are suitable for the most difficult dedusting tasks.

- 4-stage dedusting process
- gentle dedusting
- max. dedusting capacity
- special glass construction
- control stand with cleaning aid
- air-sifting with ion shower
2 integrated ionizers



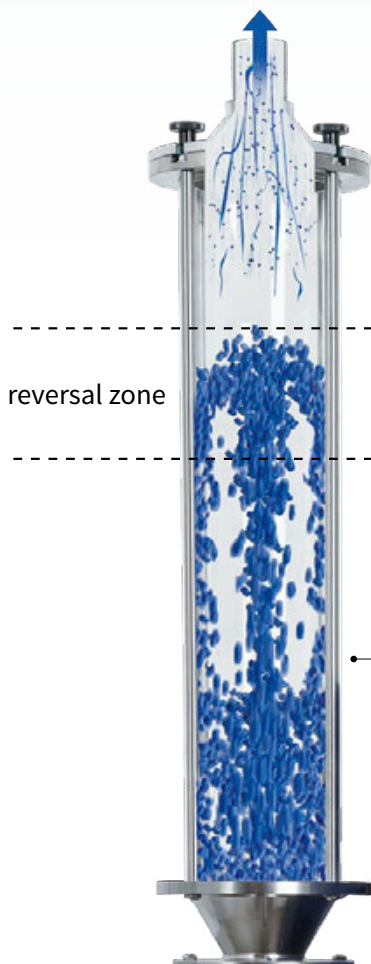
HELIO®Clean Pro 10/20

material throughput
up to 40 kg/h*



HELIO®Clean Pro 30

material throughput
up to 150 kg/h*



dust separation

Light parts such as dust or lints leave the sifter at the top through the sieve disc and are separated into the dust collection container.

material fountain



A laminar air stream with ionized air carries in an adjustable way the material to be dedusted up to the upper third of the sifter, where it reverses by gravity and flows back along the glass wall to the point of origin. This ion shower repeats for up to 30 seconds.

special glass construction

The dedusting chamber is made of abrasion-resistant special glass. This enables efficient cleaning with the aid of ions, since these are not neutralised immediately when they hit the sifter wall, but can release the binding forces between dust and material over a longer period of time.

* depending on material and required degree of dedusting, example based on PMMA/PC

4-stage dedusting process

Air-sifting in fountain with ion shower and dust extraction



STAGE 1 2 3 4

Conveying

Pre-dedusting during filling by slow vacuum conveying with dust removal.



1 STAGE 2 3 4

Loosening

Stepped soft start with loosening and dust removal.



1 2 STAGE 3 4

Air-sifting

+ ion shower

Gentle air-sifting with ionized air. Fountain with laminar air flow and dust removal.



1 2 3 STAGE 4

Cleaning

Automatic cleaning and neutralization of the sifter glass by ionized air between two dedusting cycles with dust removal.

HELIO® Clean Pro 30 system control

Control stand with dust collecting container

- intuitive operating
- low energy consumption
- steplessly adjustable vacuum unit
- dust collector container
- automatic filter cleaning
- integrated cleaning aid
- quick coupling for control line



HELIO® Clean type overview

We will be happy to help you to select the right device for your requirements. You are welcome to send us a material sample of the granulate or regrind material to be dedusted and we will carry out tests for you in our technical centre. In case of a positive result, we will make a recommendation for the ideal device and you can test the deduster at your site.



	HELIO®Clean 2	HELIO®Clean 3	HELIO®Clean Pro 10/ 20	HELIO®Clean Pro 30
material throughput*	max. 25 kg/h	max. 25 kg/h	max. 40 kg/h	max. 150 kg/h
dedusting portion	max. 0,25 liter	max. 0,38 liter	max. 0,5 - 1,0 liter	max. 2,0 liter
process	whirling up by compressed air jet from above	air-sifting with whirling up by ionized compressed air from below	air-sifting with ionized air by circulating in the fountain	air-sifting with ionized air by circulating in the fountain
ionizer	no ionization possible	1 ionizer standard	2 Ionizers standard	2 Ionizers standard
dust removal	separate dust collection container	separate dust collection container	dust collection container integrated in control stand	dust collection container integrated in control stand/separate
control	HELIO®Clean 2 or option CE/ME in JETBOXX®	HELIO®Clean 3 control	HELIO®Clean Pro 20 control stand	HELIO®Clean Pro 30 control stand
features	<ul style="list-style-type: none"> ■ compact or split version ■ 1- or 2-components version ■ separate dust collection container ■ Venturi suction lances 	<ul style="list-style-type: none"> ■ compact design ■ separate dust collection container ■ intermediate container for dedusted material ■ cleaning of dedusting chamber with ion flushing ■ Venturi suction lances ■ with/without portioner ■ small size and effective ■ compact / lightweight ■ simply operating ■ special glass construction ■ optimal price / performance ratio 	<ul style="list-style-type: none"> ■ separate control combined with 3-step vacuum generator and dust collection container ■ cleaning of dedusting chamber with ion flushing ■ lockable conveying pipe ■ shut-off / outlet flap ■ swing-out dedusting chamber for cleaning ■ conveying speed and air-sifting power steplessly adjustable 	<ul style="list-style-type: none"> ■ separate control stand combined with steplessly adjustable vacuum unit and dust collection container ■ cleaning of dedusting chamber with ion flushing ■ lockable conveying pipe ■ shut-off / outlet flap ■ hinged dedusting chamber for cleaning ■ steplessly pre-selectable conveying speed and air shifting ■ perfect dedusting result ■ intuitive operating ■ air-sifting with ion shower ■ visualization of the program sequence ■ optical display of sifter cleaning ■ compact and silent ■ low energy consumption
place of action	<ul style="list-style-type: none"> ■ directly on processing machine ■ directly on drying container 	<ul style="list-style-type: none"> ■ directly on processing machine ■ directly on drying container 	<ul style="list-style-type: none"> ■ directly on processing machine ■ directly on drying container (HELIO®Clean Pro 10) ■ repositioning adapter 	<ul style="list-style-type: none"> ■ directly on processing machine ■ repositioning adapter ■ stationary dedusting unit

* depending on material and required degree of dedusting
example based on PMMA/PC

Consulting and quoting

The first step for a successful and long-lasting cooperation always starts with the personal contact to the customer. Our experienced sales representatives will be happy to advise you directly on site about the latest technical developments from HELIOS and their possible applications.

We carry out significant material tests in our in-house technology center and provide you with a detailed test protocol. We will show you the advantages of our products for the expansion or modernization of your machinery and will immediately prepare an individual quotation for you.

Short delivery times of 4 - 8 weeks are standard at HELIOS.

After Sales Service

Our service department will be at your disposal during the entire period of use with competent advice on all pending questions or carry out repairs, maintenance and calibrations on request even on site.

Commissioning

Knowing your equipment and machines inside out is the only way to ensure optimal and efficient use. For this reason, all HELIOS products have detailed installation and operating instructions to make the proper use of our equipment as easy as possible and therefore ensure safe and efficient operation. HELIO®Clean dedusters are largely prepared for „Plug&Play“.

Spare parts delivery within 48h

A missing spare part can lead to a complete shutdown of the entire plant and therefore cause considerable financial damage.

We keep the majority of the necessary components in our spare parts warehouse, which we can provide within the shortest possible time.

Test equipment

Test equipment is available for almost all HELIOS products on the basis of a rental contract.

used worldwide

More than 1000 dedusting system units have been delivered by HELIOS



Training

Of course we also offer specific training directly on site or in our technical center.

During the training, your employees will be supported by our competent service technicians and learn the concrete handling of the technology used.

The acquired knowledge about our products reduces operating errors significantly and avoids possible failures in your production.

Take advantage of our training courses and benefit from additional advantages:

- Increasing the qualification of your employees
- Effective use of machines and equipment
- No downtimes due to operating errors
- Follow-up training after approx. 6 months





Your perfect partner for material handling



JETBOXX®

Drying system

Dry-air dryers for plastic granulate



OKTOMAT®

Emptying system

Discharging stations for Octabin and Big Bag



HELIO® Clean

Dedusting system

Dedusters for plastic granulate/regrind

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