

HELIOS

The perfect partner for your material handling

DRYING SYSTEM JETBOXX®

Mini dryers

Top mounted dryers

Stand-alone dryers

Batch dryers

Deduster dryers



2025

www.helios-systems.de/en

MADE IN GERMANY



JETBOXX® SYSTEM

Compressed air dryers for plastic granulate

Since **HELIOS** was founded by Klaus Wilhelm in **1982**, we have only been involved in material handling in the plastics industry.

Even if the focus was on planning and supply of central pellet drying systems and central material supply systems in the early years, we noticed the lack of a drying system for small throughputs of less than 10 kg/h per machine in the injection molding process. Especially for small throughputs and/or in case of frequent material change, central drying and material supply systems are rather unsuitable, because the subjects overdrying, post humidification and dedusting appear to be impossible to control. The cleaning effort may be enormous.

Therefore, the first batch dryer worldwide, called **HELIO®MAT**, with removable drying containers was presented at the FAKUMA in the year **1990**. That system is still applied worldwide today in further developed versions.

Based on the removable **HELIO®MAT** drying containers, the expansion of the system including a removable dryer control for different container sizes and throughputs was presented at the **K-1998** - called **JETBOXX®**. That system is suitable for batch drying as well as for continuous drying. Thanks to the digital pneumatics used, just as much of compressed air as necessary is consumed for the fulfillment of the drying task. The invention **JETBOXX®** with digital pneumatics was patented and since then more than 10.000 were sold.

On the occasion of the **K-2001** fair a **JETBOXX®** with a comfort and user benefit - once thought impossible - was presented for the first time. This **JETBOXX®** of the series -**Economy**- included already as standard a finely graded dry air flow rate

control, a database for plastic specialized and throughput dependent dryer adjustments, a display for drying parameters temperature, dry air volume flow, dew point of the dry air as well as energy consumption for a current throughput and menu navigation for users in 10 languages. Furthermore, a control for a compressed air conveyor with mixing function for 2 components and automatic filter cleaning.

This innovation of **HELIOS** can be described - not entirely without pride - as „mother of all current small batch compressed air dryers“. Imitated many times, but never equalled!

K-2004 Introduction of the **WINsystem®** series as a follow-up to the -Economy- series.

Since **K-2007**, all **JETBOXX®** dryers feature a material feeding and tracking without or with **dusting**.

Since **2012** parallel introduction of the price-performance optimised **JETBOXX® WINneo** version.

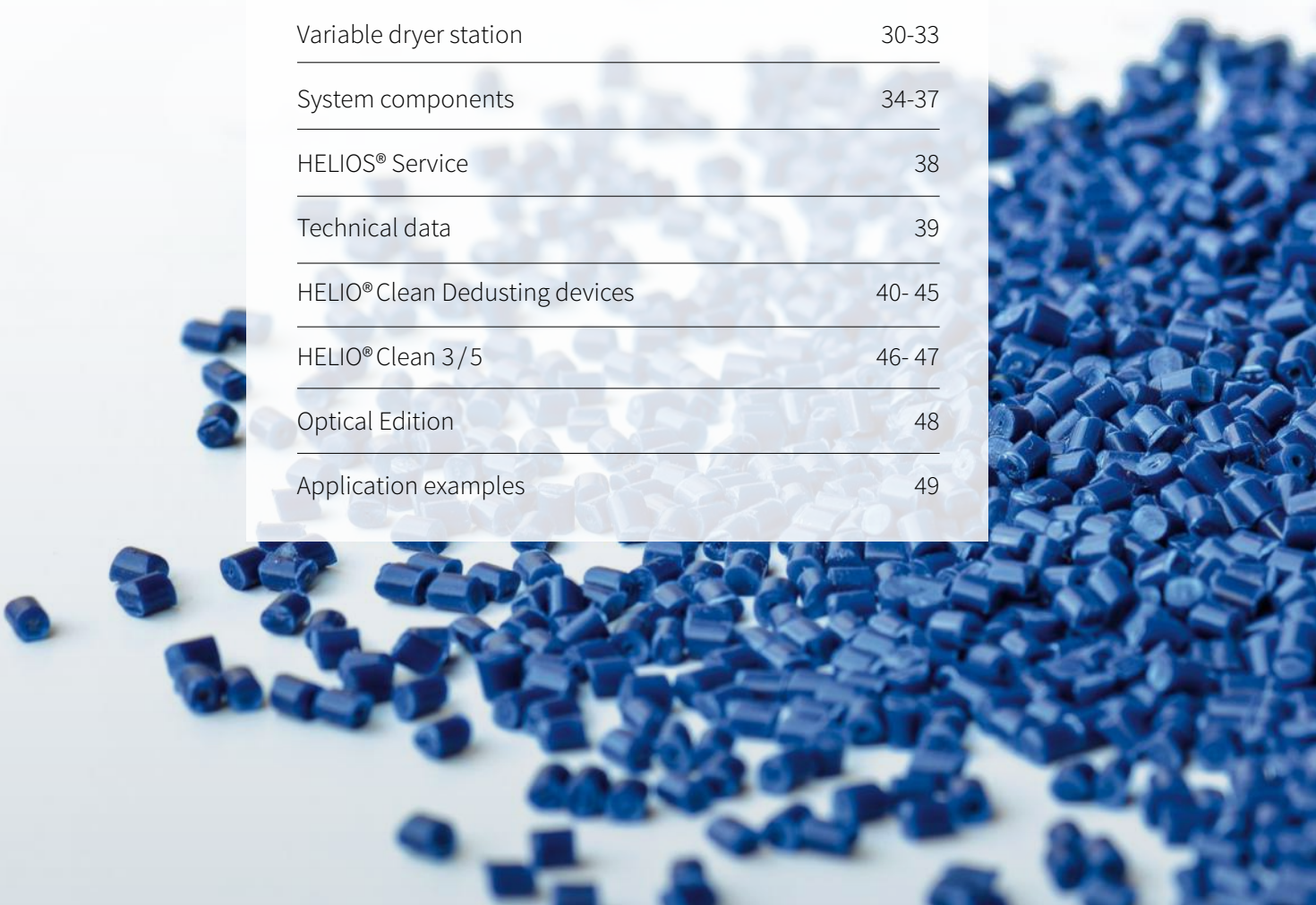
2020 – 2023 complete new development of the hard- and firmware for **WINneo® 2** series with the experience of 20 years of the **JETBOXX®** system.

WINneo® 2 – the high-end-solution for your digitalization in injection moulding using Modbus, TCP/IP, WiFi or OPC-UA.

HELIOS

JETBOXX® SYSTEM

Dryer system	4-5
WINneo® 2	6-7
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JETBOXX® System Components

"By combining system basic components you can implement optimal solutions for every setting of task"



JETBOXX®

Controls

Control for drying and conveying

- WINneo® 2 version

JETBOXX®

Drying containers

- Glass drying containers 3.0 liters
- Stainless steel drying containers 6.0 – 200 liters
- Double-walled version
- Optimal air distribution
- Scalable filling level

JETBOXX® System Variations



Top-mounted dryers



Stand-alone dryers

**"With modified tasks the components
can be easily recombined"**



JETBOXX®

Conveying techniques

- for drying container filling
 - for machine feeding
- without/with dedusting

JETBOXX®

Accessories

Base frames, suction devices,
adapters, autarkic conveyors,
dedusters etc.



Variable dryer station



Deduster dryer

WINneo® 2 Precision dryers

Factory calibrated as standard for
all drying parameters with a calibration certificate

100% repeatable drying parameters.

Precise volume flow

of dry air thanks to patented HELIOS digital pneumatics

Accurate dew point measurement

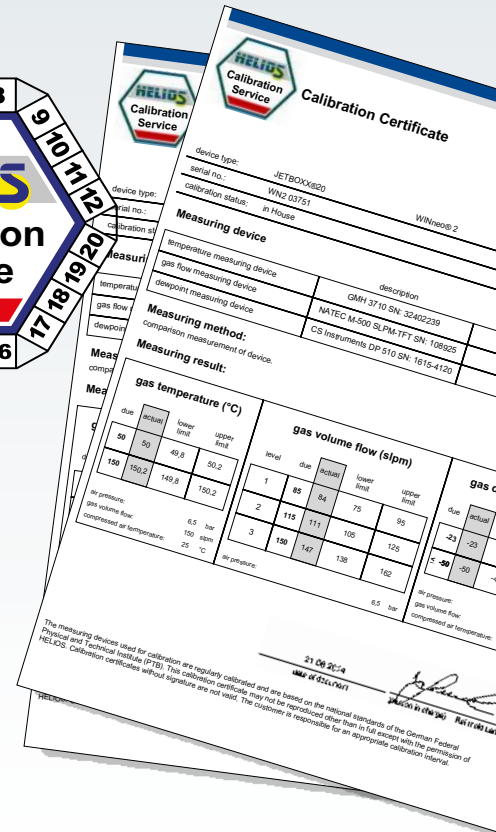
of the dry air

Precise temperature control

throughout whole the drying process



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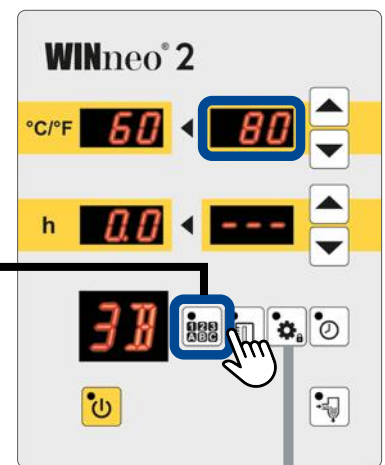
Perfect drying result
thanks to 3 drying programs with 3 drying intensities

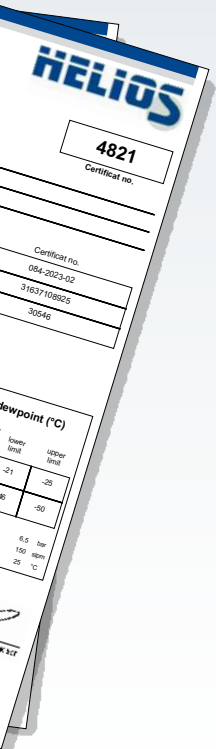
3 drying programs

3 drying intensities

3 conveying controls

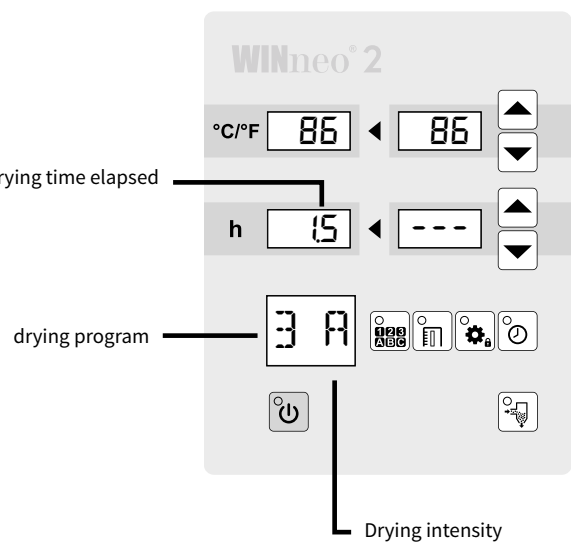
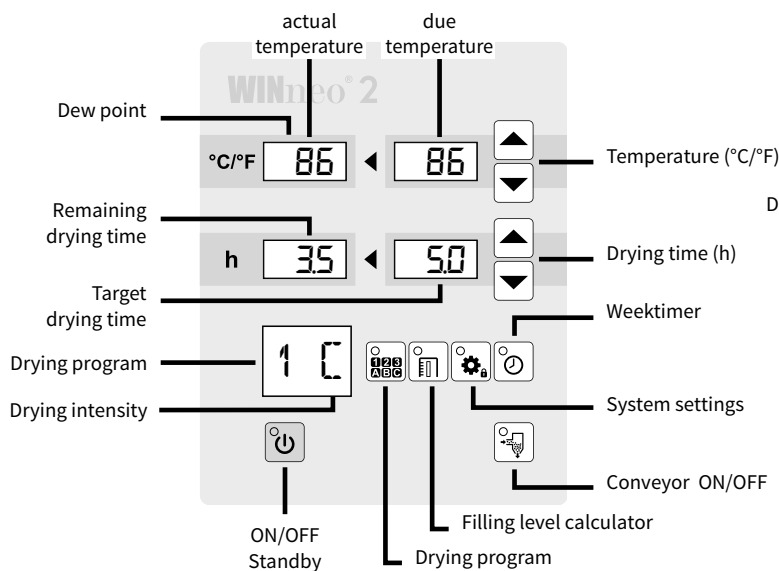
- drying container filling
- processing machine feeding
- discharge aid of the drying container





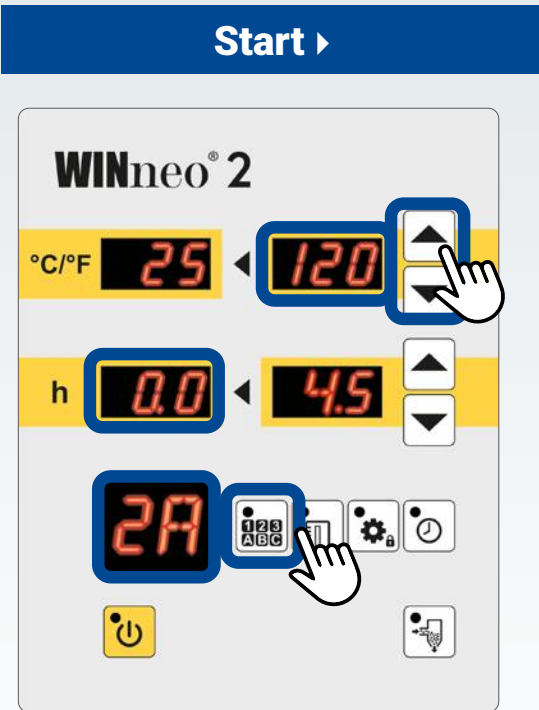
e.g. portion drying program 1 with intensity C

e.g. continuous drying program 3 with intensity A



Program 2:

Continuous drying program with pre-drying



Press the key to select the three drying programs (1 | 2 | 3).



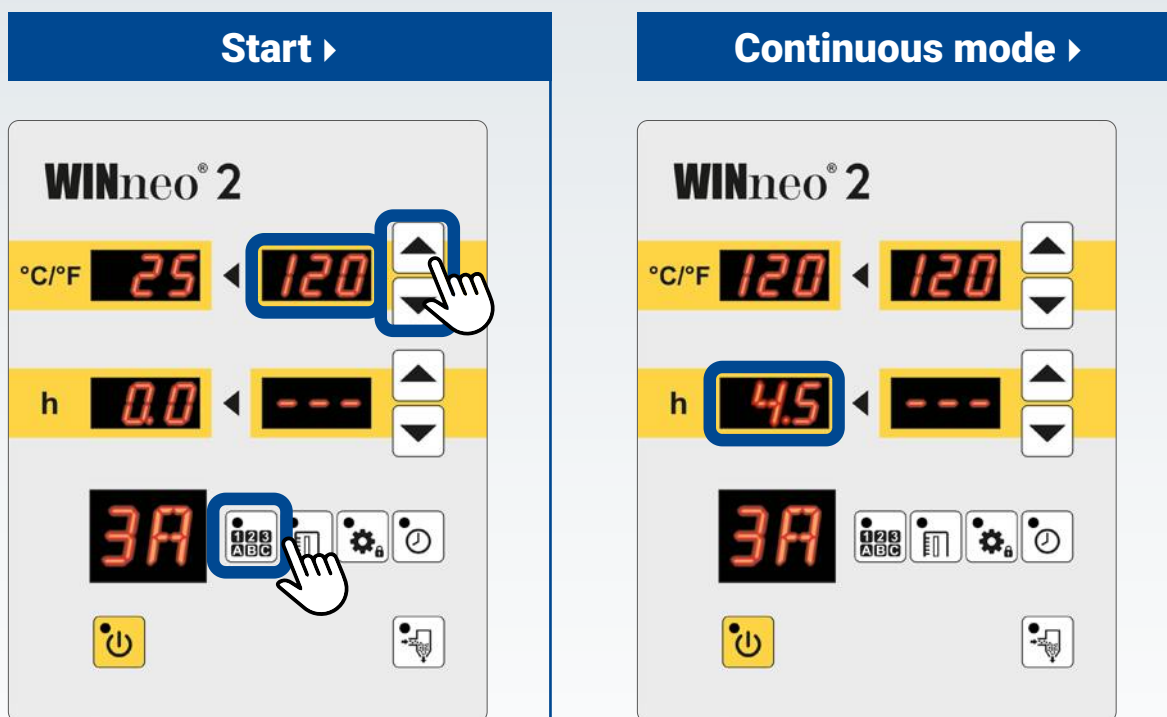
Selectable for example:

Program 2 with 3 drying intensities

Continuous drying program in three different drying intensities with pre-drying (in level C)		
<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">A</div> <p>Drying intensity A Volume flow min.</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">B</div> <p>Drying intensity B Volume flow medium</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">C</div> <p>Drying intensity C Volume flow max.</p>
<p>Function A batch of granules is pre-dried at a selected temperature and drying time with maximum intensity. The process starts after entering the drying time and the desired drying program/intensity. Once the drying time has elapsed, the dryer switches to the “Continuous drying” mode. It is permanently dried for continuous removal with automatic refilling. If no material is removed for a longer period of time, the overdrying protection activates.</p>		

Program 3:

Continuous drying program without pre-drying



Continuous drying program in three different drying intensities without pre-drying

3 A

Drying intensity A
Volume flow min.

3 B

Drying intensity B
Volume flow medium

3 C

Drying intensity C
Volume flow max.

Function

For the continuous removal of material with automatic refilling. After entering the drying program, the dryer starts with the desired drying intensity and begins continuous drying. The granulate is dried continuously at the set temperature with the selected drying intensity. If no material is removed for a defined period of time, the overdrying protection is activated.

Performance level	Dry air volume flow	Dry intensity		
		Air level A	Air level B	Air level C
JETBOXX® 3	l/min	40	60	80
JETBOXX® 6	l/min	40	60	80
JETBOXX® 12	l/min	85	115	150
JETBOXX® 24	l/min	85	115	150
JETBOXX® 20	l/min	85	115	150
JETBOXX® 30	l/min	85	115	150
JETBOXX® 50	l/min	125	200	250
JETBOXX® 75	l/min	150	225	300
JETBOXX® 200	l/min	240	340	450

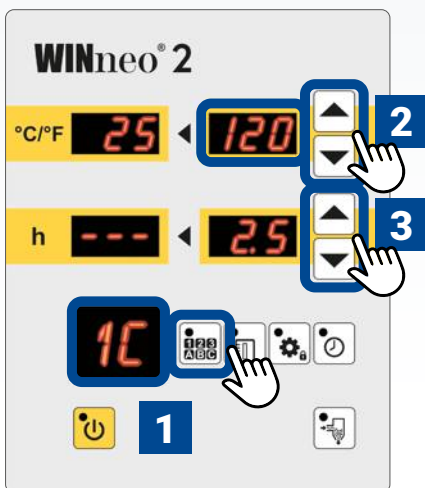
Program 1:

Portion drying program

Often only one batch of a particular plastic is to be dried, e.g. for a sample or a single order with a small batch size. After filling the dryer by hand or using a conveyor, the procedure is as follows:

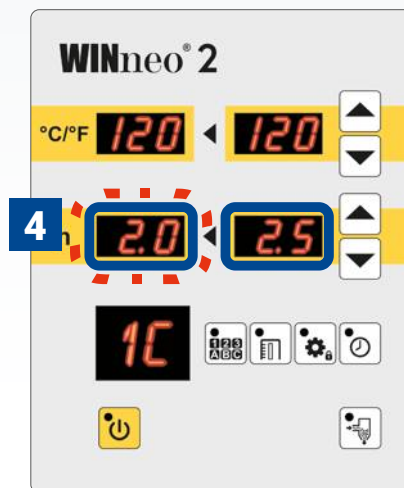
Start ▶

- 1** Select the drying program.
- 2** Use the arrow buttons to select the desired drying temperature
- 3** Use the arrow buttons to select the desired drying time



Operation ▶

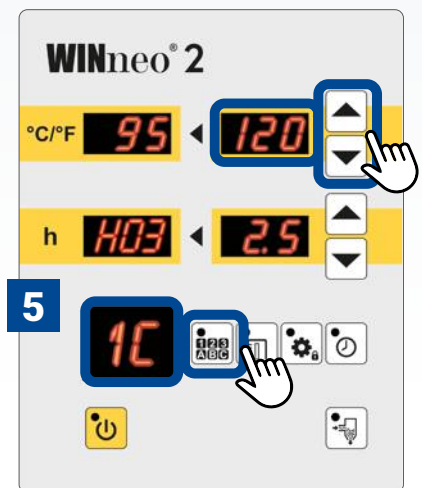
- 4** After start, the remaining drying time will be displayed flashing in 0.5 hour increments.



Prevention Mode ▶

- 5** After the drying time has elapsed, the dryer switches to 'Prevention Drying' mode. The message 'H03' is displayed. The drying intensity is reduced to the lowest level.

The factory setting for the temperature reduction is 25°C. This value can be adjusted.



Drying program for portion drying

1 C

Drying of one container filling with maximum drying intensity over a selected time

Function

A batch of granules is dried for a certain time and temperature with maximum drying intensity. The program starts when the drying time is entered. Once the drying time has elapsed, the dryer can be switched on to the "prevention drying" mode. The batch can be removed or it can be switched to continuous drying.

JETBOXX® Control Range



		WINneo® 2
Quick selection keys	Drying program / drying intensity	✓
	Filling level calculator	✓
	System settings	✓
	Weektimer	✓
	Conveying ON/OFF	✓
Conveying points	Conveying point 1 (drying container loading) - 1 Component with dedusting	○
	Conveying point 1 (drying container loading) - 2 Components with dedusting	○
	Conveying point 1 (drying container discharge aid) Discharge aid with air pulses	○
	Conveying points 2 (processing machine feeding) - 1 Component with dedusting	○
Functions	Dew point display with alarm function	✓
	Overdrying protection	✓
	Limitation of the drying temperature with adjustable tolerance	✓
Interfaces	Modbus RTU	✓
	TCP/IP	○
	OPC-UA	○
NEW	Remote Control / WINneo® connect	○
standard ✓ optionally ○ not available —		

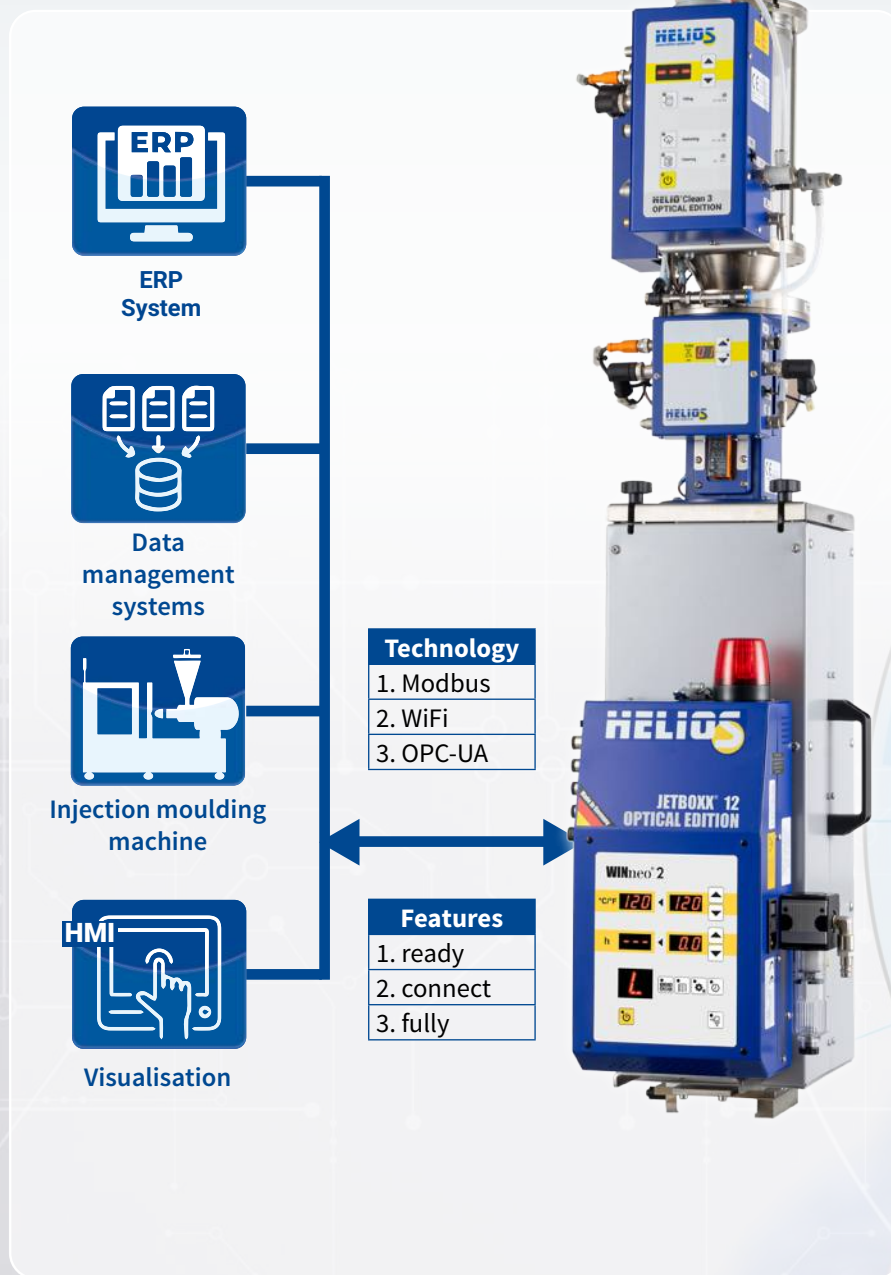
NEW

WINneo[®] 2 fully OPC-UA

Future-proof through modern communication

System JETBOXX[®] as a key component of digitalisation

WINneo[®] 2 fully OPC-UA offers you all the benefits of WINneo[®] 2 connect and also allows you to integrate your dryer into an industrial, digital network.



- ✓ future-proof solution
- ✓ simple installation via Ethernet
- ✓ platform-independent
- ✓ can be integrated with cloud, ERP systems or dashboards
- ✓ standardised interface, no customisation required
- ✓ HELIOS[®] dryers are in compliance with the international OPC-UA & VDMA standard

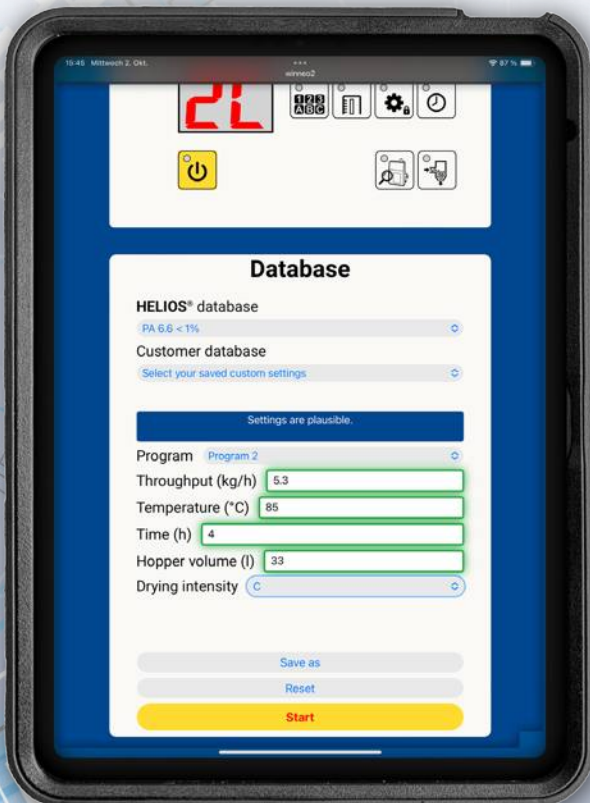


offers Maximum **operating comfort**

- ✓ wireless remote control
- ✓ intuitive operation
- ✓ Helios[®] material database
- ✓ fully programmable database



Programming drying task



Display drying process



Mounting directly on the injection unit of the process

The dryer is directly mounted on the feed section of the injection molding machine. Therefore the dried material flows directly from the dryer into the plasticising cylinder without rehumidification or cooling down.

Minimal space requirement

Based on the small dimensions, the JETBOXX® Mini dryers can be mounted on the injection unit of a micro injection moulding machine directly.



JETBOXX® Mini set with manual filling



JETBOXX® mini set 3 liters

example: + conveyor with dedusting
throughput: up to 0,6kg/h



tool-free control change

By means of a tension lock, the control can be removed from the drying container easily, for example to mount an interim control in case of maintenance like calibration without production interruption.

Split version



In case of particularly difficult space conditions, the drying control and the drying container can be mounted separately at a suitable place.
Example: 3 liters + conveyor

essing machine



JETBOXX® mini set 6 liters

example: manual filling



JETBOXX® mini set 12 liters

example: hopper loader with exhaust air filter
throughput : up to 2,4 kg/h



JETBOXX® mini set 24 liters

example: 2C-conveyor with dedusting
throughput : bis 4,8 kg/h

Machine adapter

Lock Slider

L-guides for sliding rails (mm)

80x15	80x20
100x20	100x25

Special sizes on request



Polished outlet flat slider made of stainless steel with clamping device. L-guiding rail made of steel, nickel plated, different dimensions.



Clean room / medical application

JETBOXX® Mini drying container

Double-walled special glass

The whole inner body of the drying container consists of one single piece of special glass and is shaped conically at the outlet. A cushion of air is created by assembling with the outer glass, that functions according to the principle of a Thermos flask. This is how you save energy.

Another advantage of the glass construction is the all side transparent visibility into the drying container. Contaminations are immediately apparent when changing the material.



Air input - distribution

Uniform distribution guarantees, that your material is dry and homogeneous at the right temperature.

The conically shaped inner glass forces the inflowing dry air through the material output and ensures, that the granulate that is already located at machine feed is kept at the right temperature.

A flow stabiliser made of stainless steel distributes the dry air flowing upwards across the entire cross section of the cylindrical container and avoids, that the material flows too quickly through the container center. For cleaning purposes the stabiliser can be removed manually without tools.



Container sizes



	3 liters	6 liters	12 liters	24 liters
Weight [kg]	6,7	9,0	12,2	17,8
Height [mm]	347	439	588	749



Easy to open

The drying containers can be opened easily on top for filling or cleaning. Glass containers have a swivelling cover, 6/12/24 liters containers have a hinged cover.

Filling options

- Swivelling / hinged cover (in case of manual filling)
- Compressed air conveyor
- Compressed air conveyor with dedusting

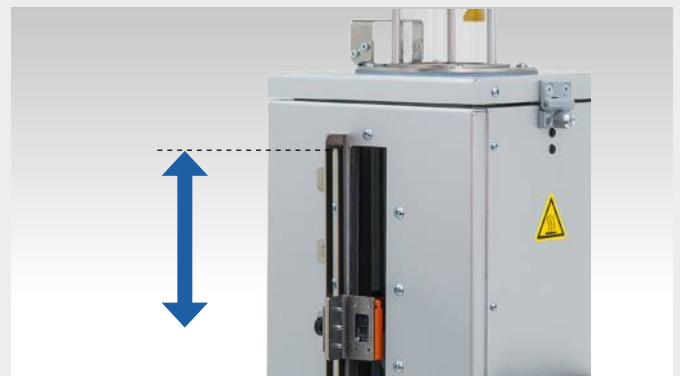


Teflon insulation contact protection



Split version

The dry air is led into the container by an insulated hose (max. 1 m). The heating control regards occurring heat losses of the hose connection.



Variable filling height Overdrying protection

The maximum filling height in case of automatic filling can be reduced by the conveyor in container sizes 6 / 12 and 24 liters by the adjustable filling level sensor. Therefore the optimal container filling height for keeping the permitted residence time for continuous drying can be realized.

Mounting directly on the injection unit of the proc



Venturi suction lance

Compressed air
Venturi suction lance
Short: 380 mm
Long: 810 mm



Conveyors

1-or 2- components
with / without dedusting

Drying containers

6 to 75 liters

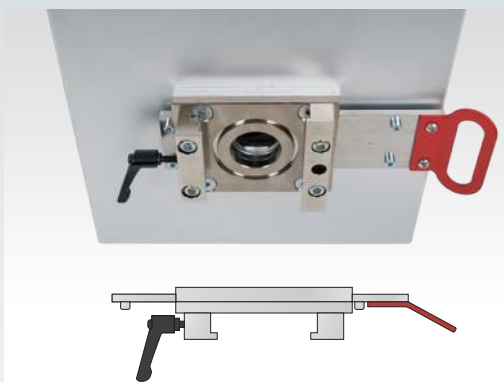
JETBOXX® Control

WINneo® 2 series
Drying and conveying controls
for two conveying points

Machine adapter

JETBOXX®-Set 30 liters

Example: + conveyor with exhaust air filter
Throughput: 4-6 kg|h



Polished outlet flat slide valve made of stainless steel with clamping device. L-guiding rail made of steel, nickel plated, different dimensions.

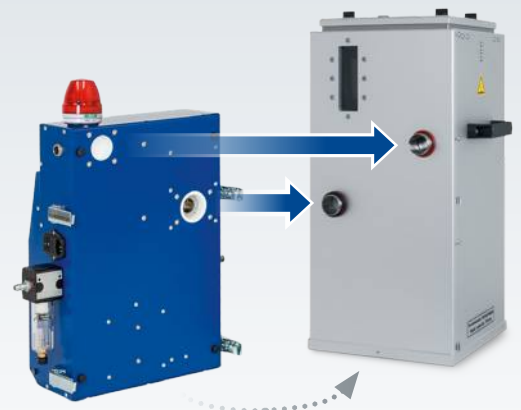
Machine adapter

Lock slide

L-guides
for sliding rail [mm]

80×15	80×20
100×20	100×25

special sizes on request



Drying machine



JETBOXX®-Set 50 liters
 Example: + conveyor with dedusting
 Throughput: 6-10 kg|h



JETBOXX®-Set 75 liters
 Example: + 2c-conveyor with exhaust air filter
 Throughput : 10 – 15kg|h

Tool-less change of the control unit



The JETBOXX® control unit can be easily detached from the drying module by means of a clamping fastener, e.g. to attach a bridging control unit during maintenance work, such as calibration, without interrupting production. The detachable drying control unit (JETBOXX®) can be connected to a glass or stainless steel drying container.

JETBOXX® Top-mounted dryer



Worldwide in thousands applications

Since 1999 more than 10.000 JETBOXX® drying systems were supplied and the great majority of them still run in a tough 3-shift operation everyday.

■ TECHNOLOGY
■ MADE IN
■ GERMANY

Case examples



20 liters on vertical injection unit



50 liters on injection unit

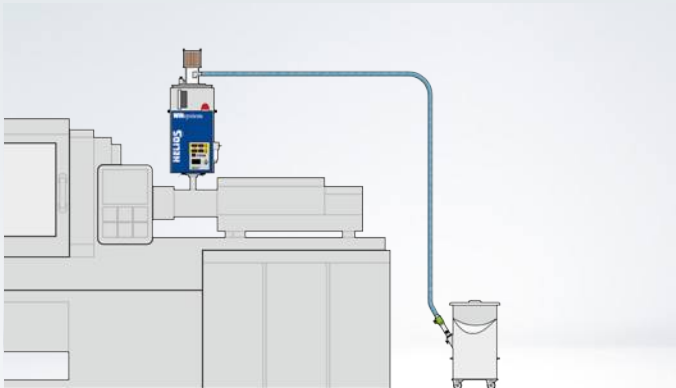


20 liters with conveyor ME



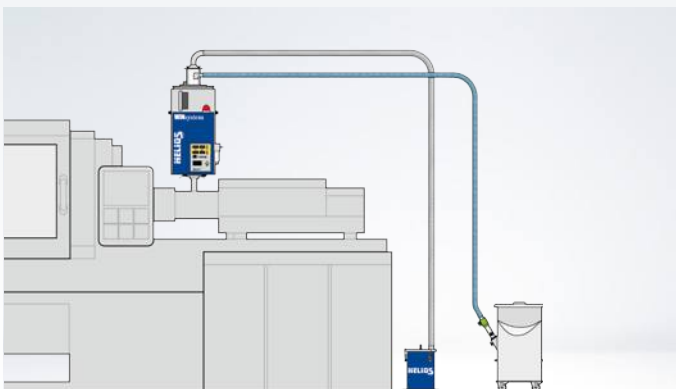
20 liters with option C

Top - mounted dryer versions



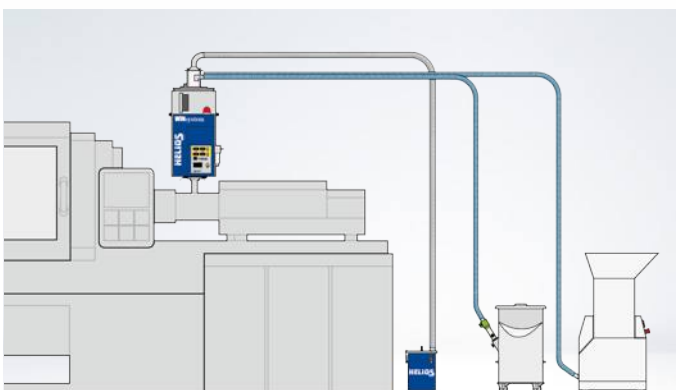
Version A

Conveying and drying of one component onto the feeding zone.



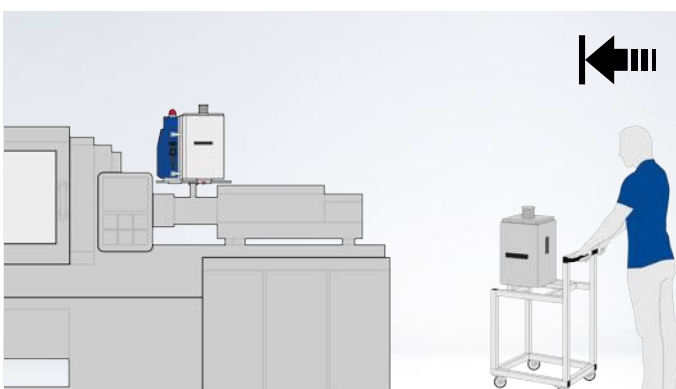
Version B

Conveying with dedusting and drying of one component onto the feeding zone.



Version C

Conveying, dedusting and drying of two components (virgin and regrind material). Dust is removed to a separate dust container.



Version D

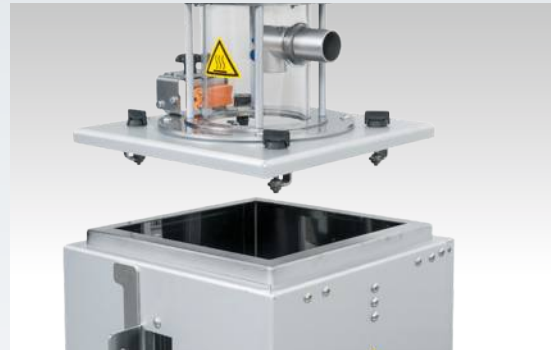
Drying containers are predried at a drying station and transported to the machine by movable base frame. The containers are docked to a docking plate with dryer control.

Easy access. Easy to clean.



Hinged cover

The cover can be hinged down in just one action.
Standard for 6|12|24 liters, optionally for 20|30|50|75 liters.



Removable cover

The covers are removable in standard by bayonet locks for 20 to 200 liters container sizes.



Remove air distributor

The special JETBOXX® air distributor pipe can be removed easily without any tools.



Cleaning from top

The JETBOXX® drying container can be opened easily from top for cleaning. The high quality inner wall made of stainless steel allows a 100 percent cleaning.



Cleaning door

The drying containers with size 75 to 200 liters have a cleaning door at the rear. In that way, the cleaning also in these sizes can be done easily.

Container sizes



20 liters



30 liters



50 liters



75 liters

	20 liters	30 liters	50 liters	75 liters
Weight [kg]	15,5	19,0	25,3	35,3
Height [mm]	491	623	780	921
Width [mm]	413	413	420	433
Depth [mm]	415	415	446	542
Cover	removable	removable	removable	removable + cleaning door
optionally	Hinged cover	Hinged cover	Hinged cover	Hinged cover
Filling level	20 liters	variable 20 - 30 liters	variable 30 - 50 liters	variable 50 - 75 liters

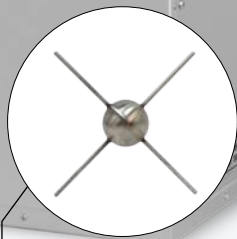
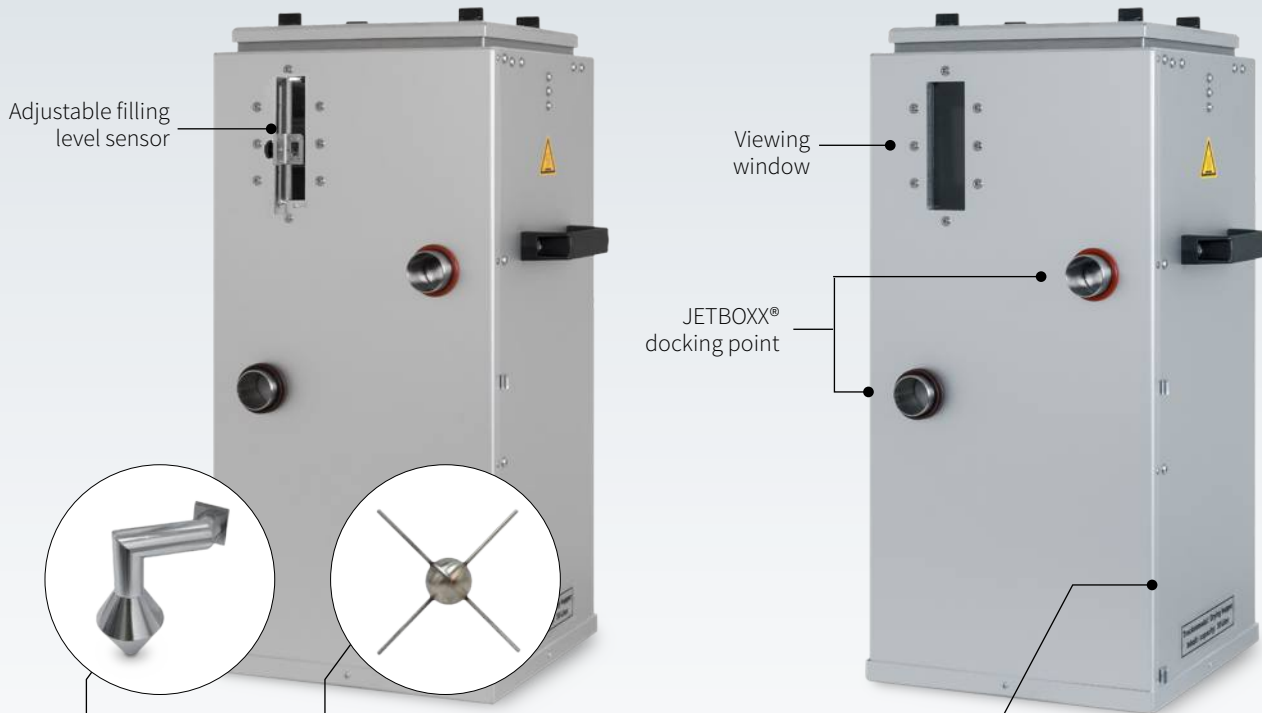
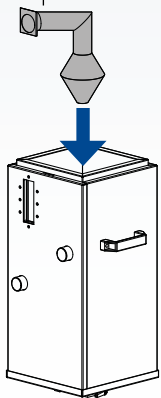
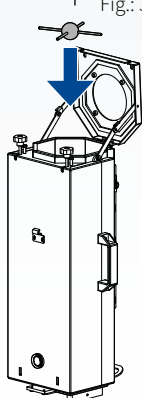


Fig.: 30 liters



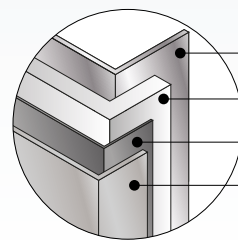
20/30/50/75 liters



6/12/24 liters

Air distributor pipe and equal flow stabiliser

The detachable air distributor pipe made of electro polished stainless steel can be removed without using tools for cleaning access and serves at the same time as an equal flow stabiliser when the granulate level sinks.

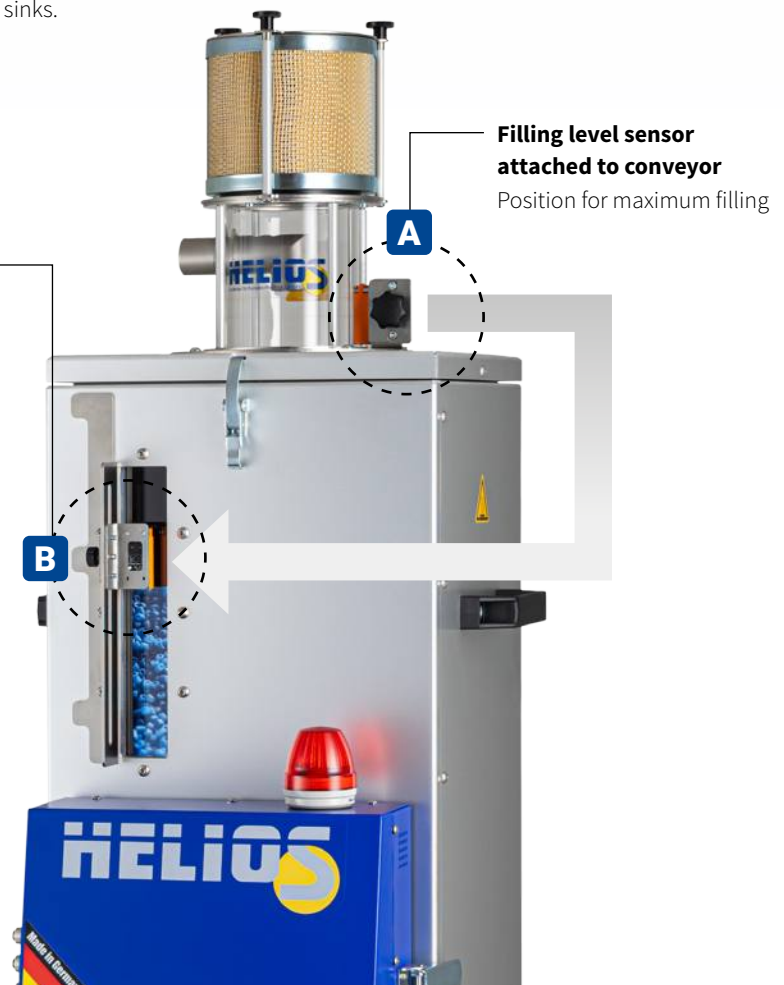


- Stainless steel inner container
- Heat insulation
- Reflector
- Aluminium panelling

Container volume	Minimum filling level
6 liters	> 2 liters
12 liters	> 4 liters
24 liters	> 6 liters
30 liters	> 20 liters
50 liters	> 30 liters
75 liters	> 50 liters

Filling level sensor at guide rail

Position for decreased filling level, infinitely adjustable.
Not usable with option CE, ME.

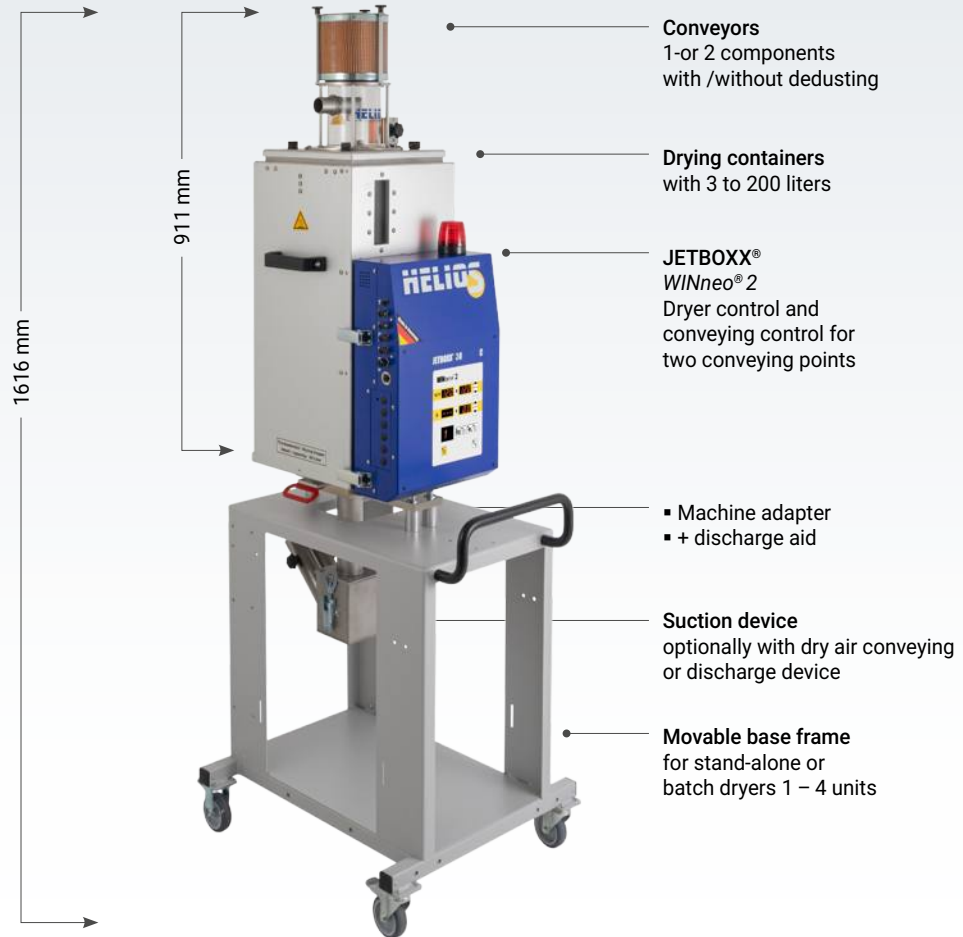


Variable filling level

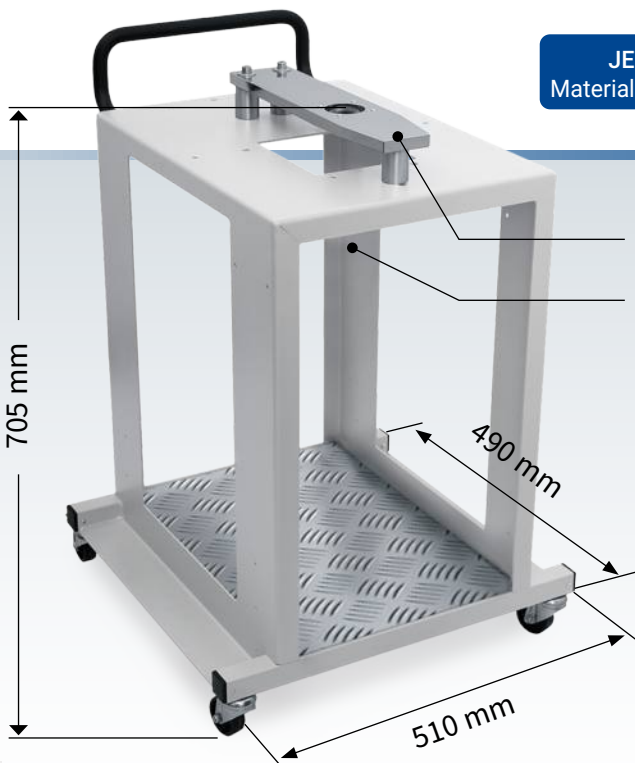
Can be attached to a guide rail at the container viewing window too. In this way the maximal filling height can be varied to guarantee the permitted residence time (overdrying protection).

Placement next to the processing machine and conveyi

Stand-alone dryers can be used anywhere, where top-mounted dryers fail because of weight / or space reasons. Assembly of the system components on a base frame for a drying before / while the processing with conveying of the dried granules onto the injection unit.



JETBOXX® 30 liters
Material throughput up to 6kg/h



Sliding rail

Discharge / suction device
8 options

- Suction for conveying
- Suction for conveying
with dry air
- Discharge device

Minimal space requirement

Movable base frame: 510 x 490 mm
(special design ST-200: 600 x 600 mm)



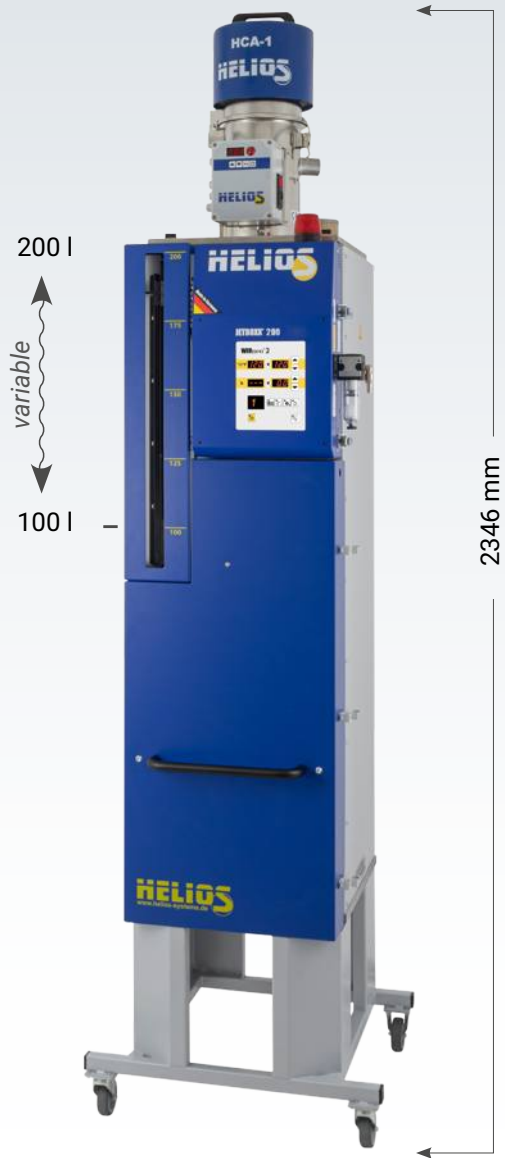
ing to the injection unit



JETBOXX® 50 liters
Material troughput 6-10 kg/h



JETBOXX® 75 liters
Material troughput 10-15 kg/h



JETBOXX® 200 liters
Material troughput 20-40 kg/h
Special design

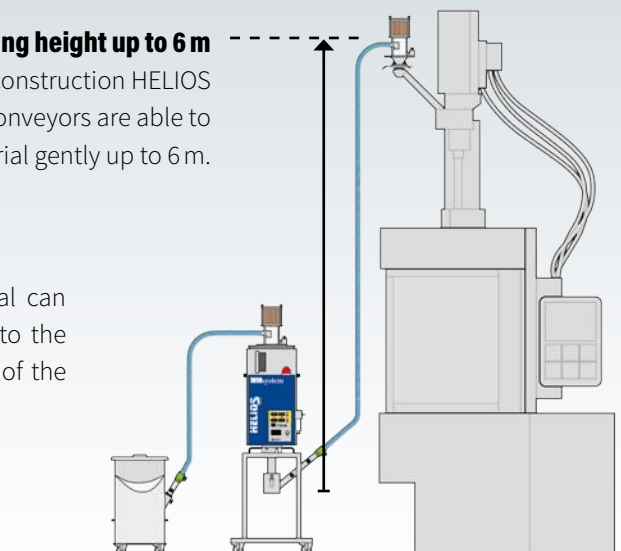


2nd conveyor Conveying onto feed zone

By using ambient or clean dry air, the material can be conveyed from suction box at dryer outlet to the feeding zone, depending on the hygroscopicity of the dried granules/ground material.

Conveying height up to 6 m

Because of their construction HELIOS compressed air conveyors are able to convey the material gently up to 6 m.



Suction / Discharge devices

For the conveying of the dried granules by using Venturi suction lances or for discharging for cleaning purposes 4 devices are available:



X-1
1- fold
Suction device for
HELIOS Venturi suction
lance
DN 32



X-2
2- fold
Suction device for two
HELIOS Venturi suction
lances
DN 32



A1
Discharge nozzle,
vertical



A2
Discharge nozzle,
sloping

Suction devices with dry air conveying

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



XT-1 mini
Mini suction device with
integrated Venturi suction
lance and dry air convey-
ing. For small throughputs
up to 6 kg/h
Conveying tube: 22 mm



XT-1
Material suction for
HELIOS Venturi suction
lance, dry air conveying
with one suction point
DN 32



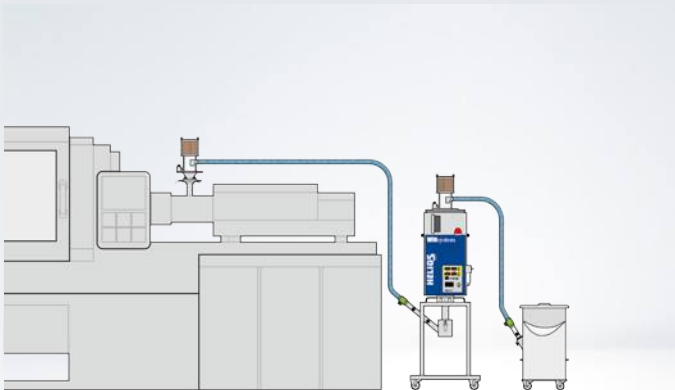
XT-2
Material suction for
HELIOS Venturi suction
lance, dry air conveying
with two suction points
DN 32

Conveying with dry air
Zero post humidification



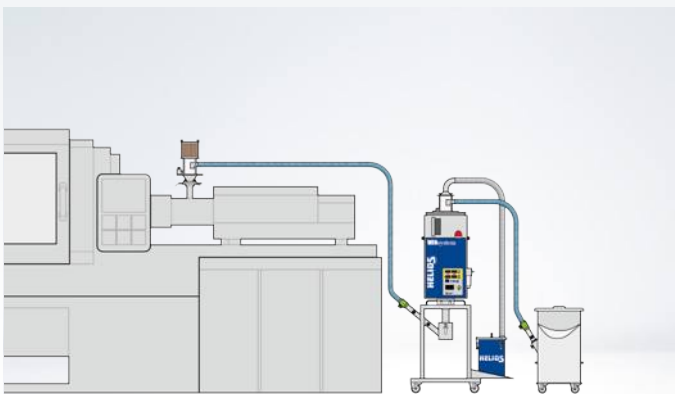
Closed conveying system.
Venturi principle without suction of
ambient air.

Stand-alone dryer types



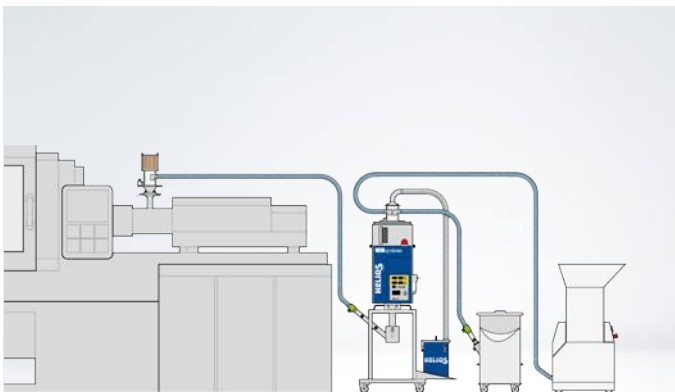
Version A

Conveying and drying of one component directly next to the injection molding machine.
 Conveying of the dried material onto the feeding zone.
 Conveying height up to 6m possible. Selectable with/without dry air conveying.



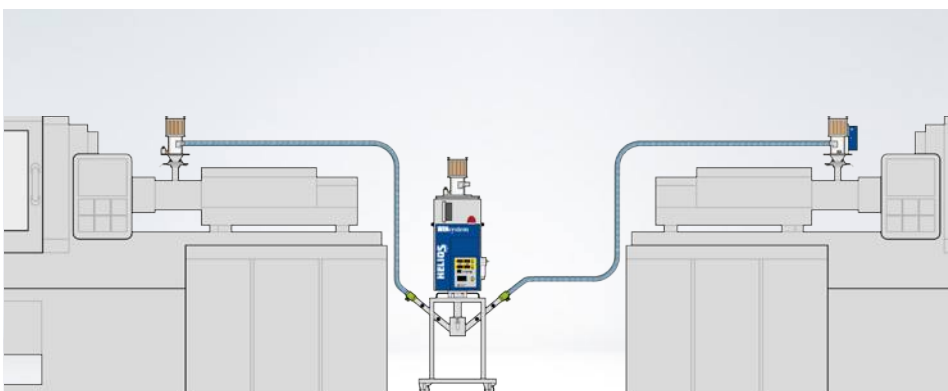
Version B

Conveying, dedusting and drying of one component next to the injection molding machine.
 Conveying of the dried material onto the feeding zone.
 Selectable with/without dry air conveying.



Version C

Conveying, dedusting and drying of two components (virgin/regrind material) next to the injection molding machine.
 Conveying of the dried material onto the feeding zone.
 Selectable with/without dry air conveying.



Version D

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

Conveyors

OPTION C

OPTION C micro

1-component conveyor
of special glass and stainless steel
capacitive filling level sensor
for 3,0 liters container
Conveyor pipe DN 32
Mounting on glass container

OPTION C mini

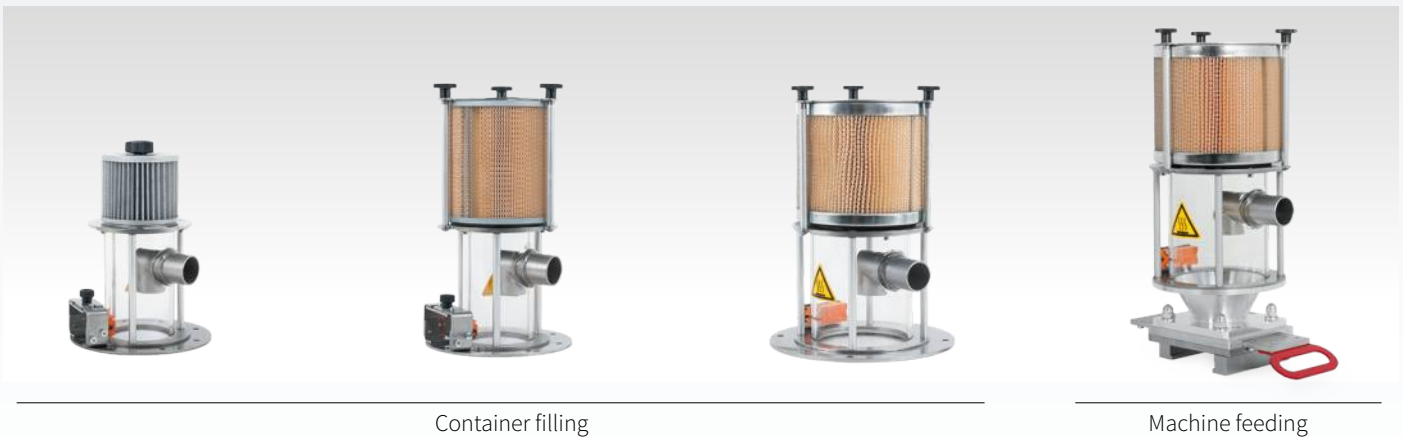
1-component conveyor
of special glass and stainless steel
capacitive filling level sensor
for 6|12 liters containers
Conveyor pipe DN 32
Mounting on drying container

OPTION C

1-component conveyor
of special glass and stainless steel
capacitive filling level sensor
20|24|30|50|75 liters containers
Conveyor pipe DN 32
Mounting on drying container

OPTION C-M

1-component conveyor
of special glass & aluminium/stainless steel
capacitive filling level sensor
Machine adapter with gate valve
Conveyor pipe DN 32
Mounting on processing machine



Conveying hose set DN 32

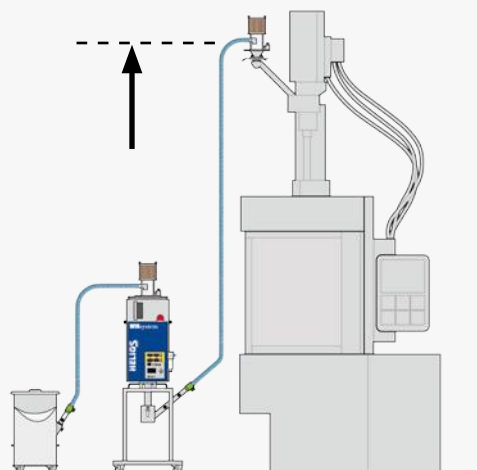
Compressed air conveying Venturi principle

- **Conveying hose**
PUR hose + compressed air line
(3 m or 5 m)
- **Suction lance**
Venturi suction lance
(short / long)



Conveying height up to 6 m

Because of their construction, HELIOS compressed air conveyors are able to convey the material gently up to 6 m.



Conveyors with dedusting

OPTION CE/ME

OPTION CE Mini

1-component conveyor with dedusting
 Special glass and stainless steel capacitive filling level sensor
 3|6|12 liters containers
 Conveyor pipe DN 32
 Mounting on drying container

OPTION CE

1-component conveyor with dedusting
 Special glass and stainless steel capacitive filling level sensor
 20|24|30|50|75 liters containers
 Conveyor pipe DN 32
 Mounting on drying container

OPTION ME

2-components conveyor with dedusting
 Special glass and stainless steel capacitive filling level sensor
 20|24|30|50|75 liters containers
 Conveyor pipe DN 32
 Mounting on drying container

OPTION CE-M / ME-M

1 or 2-components conveyor with dedusting
 Special glass and aluminium nickel-plated, machine adapter with gate valve, capacitive filling level sensor
 Conveyor pipe DN 32
 Mounting on processing machine



Container filling with dedusting

Machine feeding with dedusting

Conveying set DN 32

Compressed air suction lance consisting of

- **Conveying hose**
 PUR H-hose + compressed air line with copper spiral (earthing)
 (3 m standard - optional 5 m)
- **Suction lance**
 Venturi suction lance (short / long)



Dust removal

consisting of

- **Dust removal hose**
 DN 50 – 5 m
- **Dust collecting container**
 Volume 5,5 liters
 + expansion to 11 liters



Variable pre-drying station

HELIOS top-mounted dryers are positioned on a base frame with docking plates. The drying containers can be removed and carried to the processing machine. They are mounted directly on the feeding zone and the dried material can be processed. If the material should be kept dry on the machine, a JETBOXX® docking plate can be used, that is connected to a dryer control.

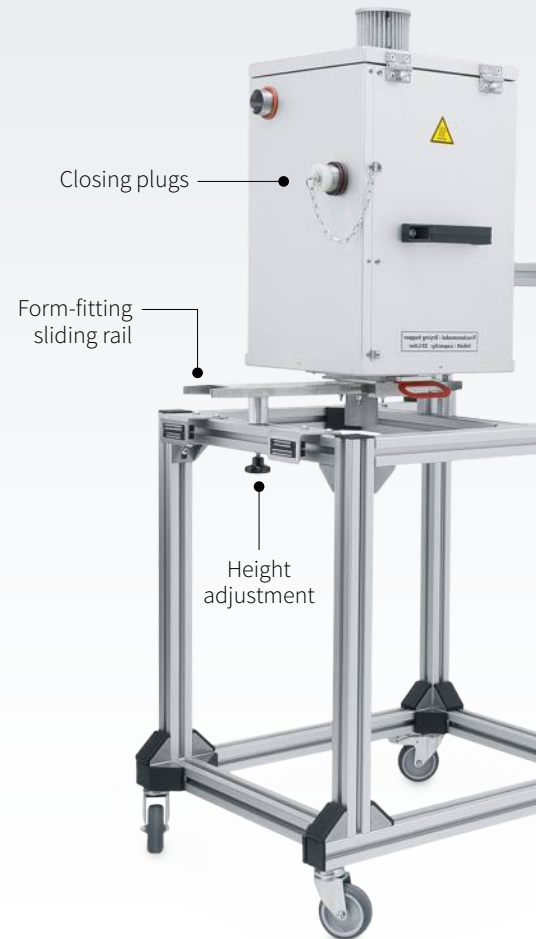
Applications

- Pre-drying station for quick material change
- Drying station for sample batches
- Batch drying in small sizes / sampling
- Laboratory applications
- Cleanroom supply with hermetically sealed drying containers
- Drying container parking station
- Mobile station / dryer as insular solution

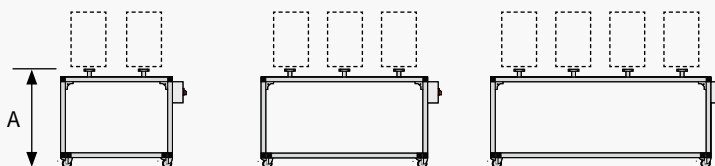
"If the task changes, the components can be easily exchanged or used as top-mounted dryers again"

Mobile base frame

for transport from pre-drying station to point of consumption
sliding rail 80×15 mm or 80×20 mm



Base frames



	2-unit	3-unit	4-unit
A Height [mm]	739	739	739
Width [mm]	1179	1679	2100
Depth [mm]	683	683	683
Electrical power supply	Central power supply for all docking places (optionally)		
Sliding rail	Bevelled on both sides, for L-claw 80 x 15 mm or 80 x 20 mm		



Base frames

- 2/3/4-fold base frame
- With sliding rails
- Central compressed air / electrical supply
- Docking plates

X-top-mounted dryer 3–30 l
with machine adapter



JETBOXX® Docking system

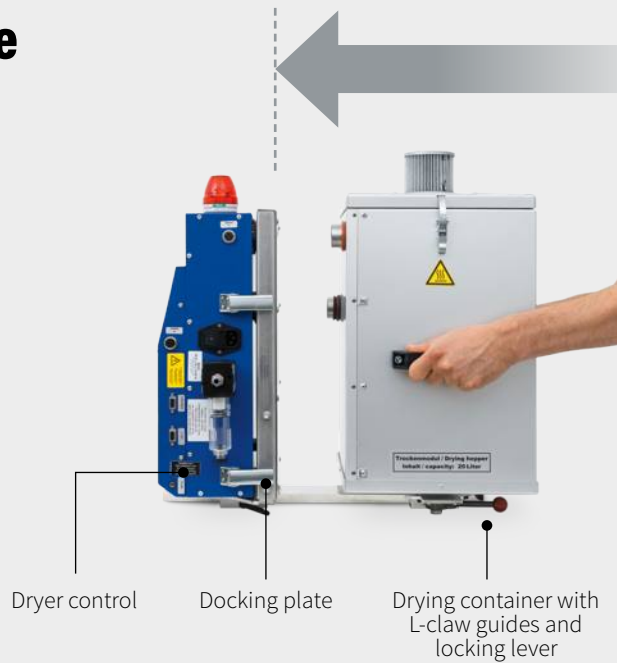
Mobile drying container

When the drying time has elapsed, the hermetically sealed containers can be easily transported to the processing place on a mobile base frame



JETBOXX® Docking plate

Functions as holding device for the drying control and as docking station for changing drying containers, mounting with L-claw guides on sliding rail.



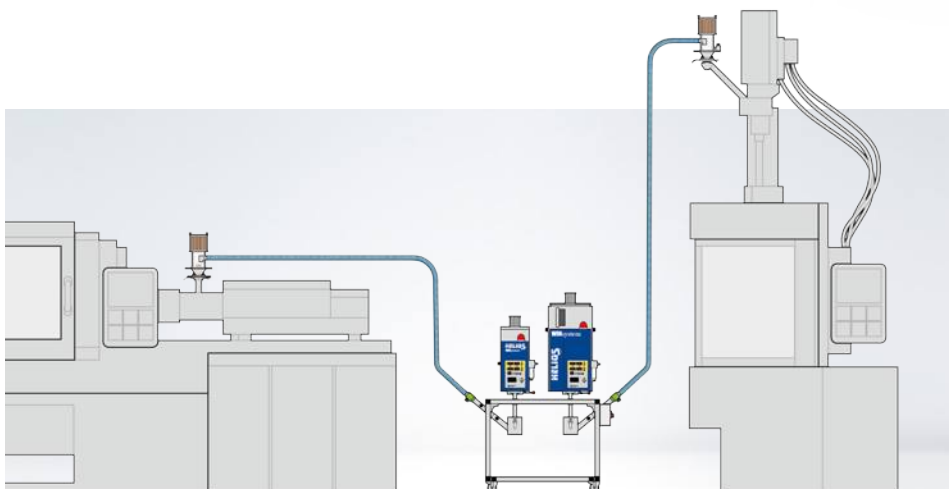
OPTION UP2000

Cold regenerating adsorption dryer for dew point lowering up to -60°C of the dry air.



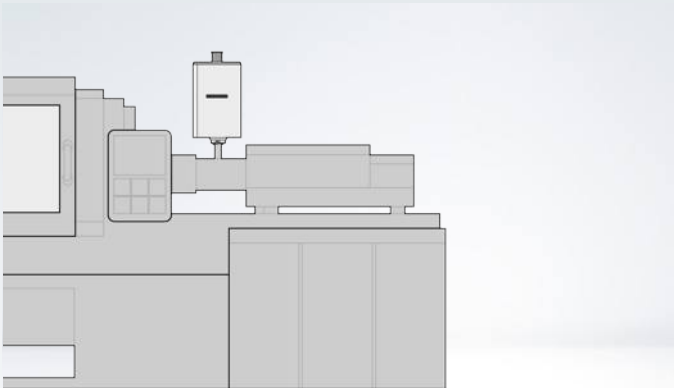
OPTION suction/discharge

Different suction/discharge devices (see page 24)



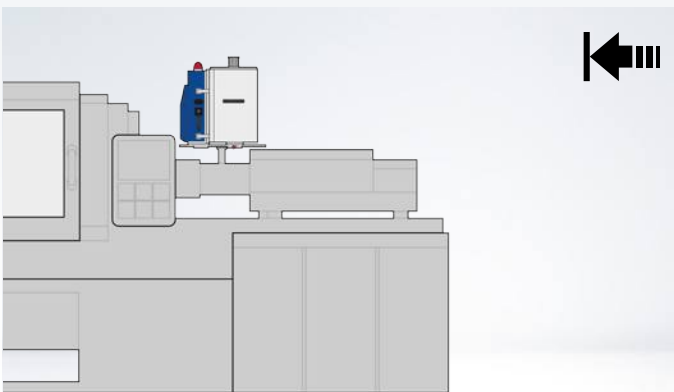
Application as stand-alone station/ insular solution

Docking versions for mobile drying containers



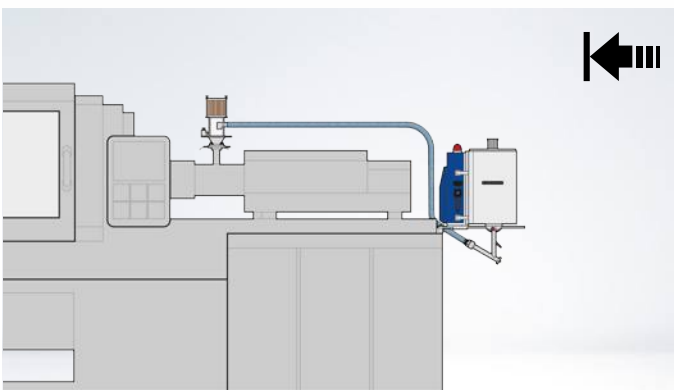
Version A

The dryer filled with dried granules is attached directly onto the feed zone of the injection molding machine via a sliding rail.



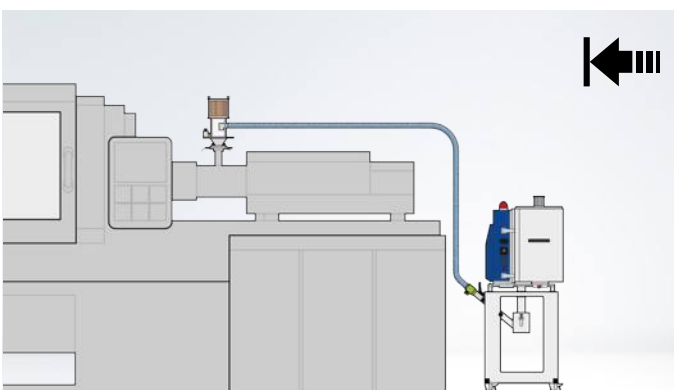
Version B

A docking plate with dryer control is fixed on the injection molding machine. The drying containers are docked via a sliding rail.



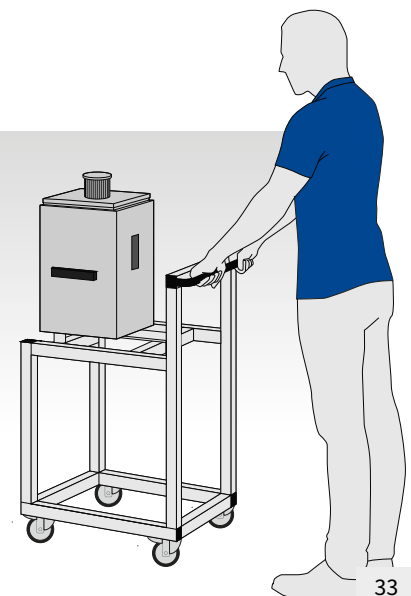
Version C

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 granules are conveyed via a suction device onto the injection molding machine.



Version D

The docking plate and dryer control are mounted on a base frame / mobile station.



JETBOXX® System Components



WINneo® 2 Mini

Drying and conveying control



WINneo® 2 BT

Drying and conveying control

Drying containers mini



3 liters



6 liters



12 liters



24 liters

Drying containers



20 liters



30 liters



50 liters



75 liters



Machine adapter

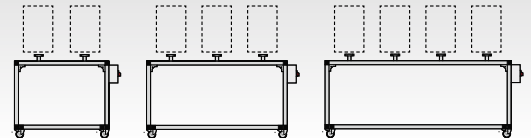
Polished flat slide valve
L-guides:
80×15 | 80×20 | 100×20 | 100×25

Special sizes on request



Mobile base frame

By combining with a base frame the top-mounted dryer can be changed to a stand-alone dryer



Mounting frame

If more than one dryer should be combined as stand-alone dryer or pre-dryers, 2-/3-/4-fold frames made of aluminium profile are available.

Top-mounted dryer



Stand-alone dryer



Variable dryer station



Conveyors with exhaust air filter



OPTION C Micro

- » 1-component conveyor
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 3 liters containers
- » Conveying pipe DN32
- » Mounting on glass drying container



OPTION C Mini

- » 1-component conveyor
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 6|12 liters containers
- » Conveying pipe DN32
- » Mounting on drying container



OPTION C

- » 1-component conveyor
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 20|24|30|50|75 liters containers
- » Conveying pipe DN 32
- » Mounting on drying container

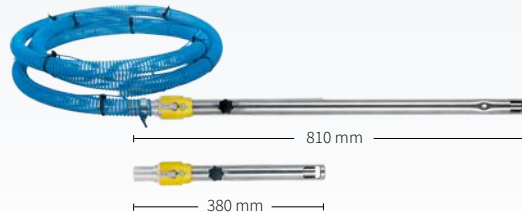


OPTION C-M

- » 1-component conveyor
- » Special glass and aluminium/ stainless steel
- » Capacitive filling level sensor
- » Machine adapter with gate valve
- » Conveying pipe DN 32
- » Mounting on processing machine

Conveying hose set

- » DN 32
- » PUR Conveying hose
- » Venturi suction lance long/short



Conveyors with dedusting



OPTION CE Mini

- » 1-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 3|6|12 liters containers
- » Conveying pipe DN 32
- » Mounting on drying container



OPTION CE

- » 1-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 20|24|30|50|75 liters containers
- » Conveying pipe DN 32
- » Mounting on drying container



OPTION ME

- » 2-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 20|24|30|50|75 liters containers
- » Conveying pipe DN 32
- » Mounting on drying container

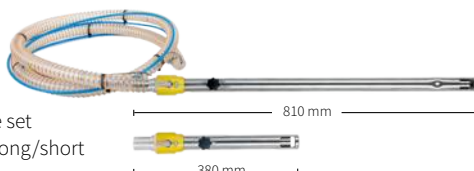


OPTION CE-M / ME-M

- » 1 or 2-component conveyor
- » With dedusting
- » Special glass and stainless steel / aluminium nickel-plated
- » Capacitive filling level sensor
- » Conveying pipe DN 32
- » Machine adapter with gate valve
- » Mounting on processing machine

Hose set

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



Dust removal

- » Dust removal hose DN 50
- » Dust collector
- » Size 5,5 liter or
- » Extension by 11 liter



Material outlet/suction



A-1

» Outlet pipe, vertical



A-2

» Outlet pipe, sloping



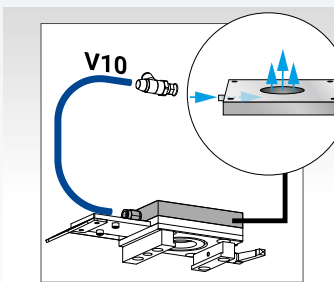
X-1

» 1-fold suction device
for HELIOS Venturi suction lance
» DN 22 / DN 32



X-2

» 2-fold suction device
for HELIOS Venturi suction lances
» DN 22 / DN 32



Discharge aid

While dosing, it is possible to lead compressed air shots into outlet plate



XT-1 mini

» mini suction device with integrated dry air conveying
» DN 22



XT-1

» 1-fold suction device for HELIOS Venturi suction lance DN 22 / DN 32, conveying by means of dry air



XT-2

» 2-fold suction device for HELIOS Venturi suction lances DN 22 / DN 32, conveying by means of dry air

Transport



Mobile base frame

» for transport from the pre-drying station to the processing point
» sliding rail 80 × 15 or 80 × 20



Crane bracket

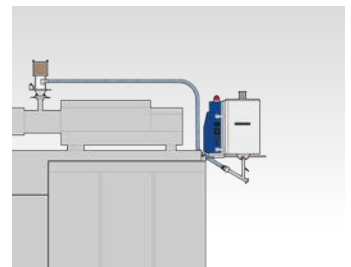
Stainless steel drying containers are hooked into the bracket and transported by indoor crane. Suitable for 20/30/50 litre containers

Docking plate



Docking plate

Serves as the holding device for the dryer control and as the docking station for changing drying containers, mounted on machine adapter.
A: 20 / 30 liters drying container
B: 3 – 24 liters drying container



Docking place

The docking plate with dryer control is placed directly at the injection moulding machine, for example. The drying containers are docked via sliding rail. The dried granulate will be transported to the feeding zone by means of a suction device.

Special versions of machine adapters

Medical application

All material touching parts of stainless steel 1.4301

Lockable

With a lockable slider

Dust-tight

Polished discharge slide, spring-loaded pressure pieces with a Teflon sealing disc

Machine adaption

Krauss Maffei, Arburg, Sumitomo-Demag, FANUC, Engel, Haitian, etc.

Accessories



Split version

The JETBOXX® dryer control and the drying container can be mounted at appropriate places.

The dry air will be led into the drying container by means of an insulated tube. Available for 3 liters drying container size.



UP2000

Cold regenerating adsorptions dryer to reduce the dew point of dry air up to -60°C .

Conveyors with individual controls



HELIO® Jet 2-M

1-component conveyor with exhausted air filter

- of special glass + stainless steel
- with individual control
- compact and split version
- conveying line DN 32



HELIO® Clean 2-M

1 or 2 components conveyor with dedusting

- of special glass + stainless steel
- with individual control
- compact and split version
- conveying line DN 32



HCA 1

compressed air driven suction conveyor for 1 or 2 components

- with individual control
- compact and split version
- conveying line DN 40



HCA 2

5 liters with intermediate container compressed air driven suction conveyor for 1 or 2 components

- with individual control
- compact and split version
- conveying line DN 40

Calibration service

HELIOS dryers are maintenance-free except filters.

All the granulate dryers are tested for several hours before delivery.

Factory calibrated in standard

All HELIOS dryers are factory calibrated for two dew point values, two drying temperatures and three volume flow rates with a calibration certificate.

Repeat calibrations

are possible locally by a HELIOS service technician or with HELIOS in-plant.

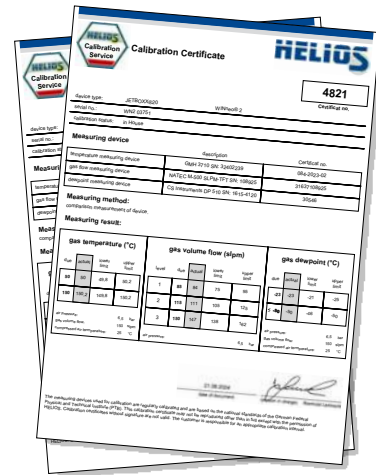
For this purpose, the dryer control is simply detachable by means of quick clamps, no tools are necessary.

To avoid downtimes in production during the service, there are interim devices available with HELIOS.

Long-term warranty for all* dryers regarding

- Maintenance
- Repeat calibration
- Availability of interim devices

**for all dryers built since 1999*



After Sales Service



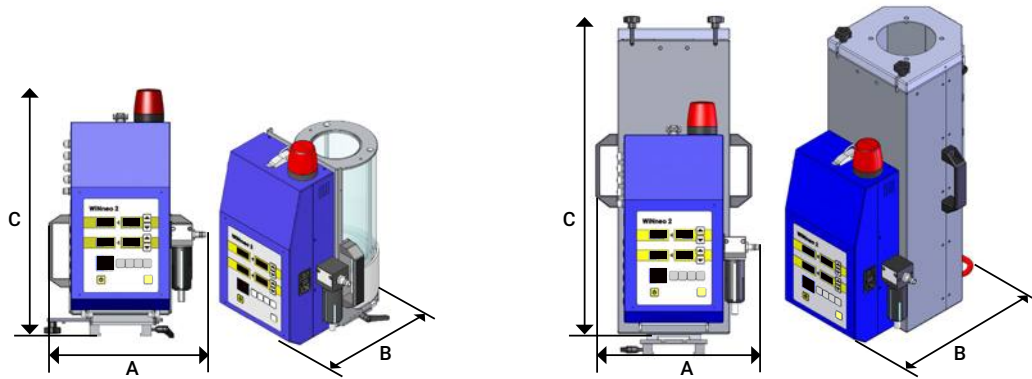
You are not alone with the HELIOS components, we will support you with support you through the entire process right up to commissioning and the training of your staff. This is what the partnership exactly involves. As to the different application possibilities of our products, our engineers are glad to give you advice and to inform you about the latest technical developments – also for possible upgrades.

- starting-up
- training
- consultation

- maintenance
- interims devices
- dryer calibration
- spare parts leaving within 48 h

JETBOXX® Technical Data

JETBOXX® SET



JETBOXX® SET	WINneo® 2 Mini				WINneo® 2 BT					
	JETBOXX®-3	JETBOXX®-6	JETBOXX®-12	JETBOXX®-24	JETBOXX®-20	JETBOXX®-30	JETBOXX®-50	JETBOXX®-75	JETBOXX®-200	
Drying container size [liters]	3	6	12	24	20	30	50	75	200	
Min. filling level [liters]	-	2	4	6	-	20	30	50	100	
Drying capacity* [kg/h]	0,6	1,2	2,4	4,8	4,0	6,0	10	15	20 - 40	
Drying air max. [m³/h]	4,8		9,0		9,0		15	18	27	
Heating power max. [kW]	0,4	0,75			0,75		1,5			
Width [mm]	A	314	314	358	335	413	413	420	433	600
Depth [mm]	B	294	322	361	405	415	415	446	542	600
Height [mm]	C	421	431	569	727	491	623	780	921	1826

Dimension (A) including compressed air angle plug

* for polycarbonate with 3h drying time

JETBOXX® conveyors	Exhaust air filters <i>(in standard for manual filling without conveying technology)</i>	Option C micro	Option C Mini Option C	Option CE Mini Option CE Option ME	Option C-M	Option CE-M Option ME-M
	container filling			machine feeding		
Height [mm]	+ 100 mm	+ 224 mm	+ 270 / 271 mm	+ 267 / 276 / 276 mm	+ 337 mm	+ 356 mm

	Mobile base frame	Mounting frames			Mini docking plate	Docking plate BT
Sliding rail	1-fold	2-fold	3-fold	4-fold	for 3 - 12 liters	for 20 - 30 liters
Height [mm]	705	739	739	739	404	450
Width [mm]	510	1179	1679	2100		
Depth [mm]	557	683	683	683		

Compressed air quality accd. to ISO 8573-1	max. oil content ≤ 0,01 mg/m ³ , pressure dew point ≤ 3°C
Drying gas dew point	-20°C (-60°C with optional UP-2000 device)
Drying temperature max.	up to 185°C
Power supply	230 V, 50/60 Hz

common compressed air/power supply	
Power supply	400 V, 50/60 Hz
Electric power	800 - 6000 W
Compressed air supply	DI 9 mm (3/8"), 6-10 bar
Compressed air quality	accd. to ISO 8573-1 : max. oil content ≤ 0,01 mg/m ³
Compressed dew point	≤ 3°C

HELIO®Clean dedusting devices for injection moulding processes

Professional cleaning of plastics before processing

Plastic processing, especially injection moulding, requires absolutely pure raw materials without dust and other impurities for the production of high-quality parts.

HELIO®Clean is a combined conveying and dedusting system to be mounted directly on the injection moulding machine/drying container and to feed these with virgin material and/or regrind.

The dedusting is made by wind sifting and/or a highly effective ion shower. Basing on its absolutely new fountain principle, this rinsing process by air is able to solve even the most difficult cleaning tasks perfectly well.

When selecting a deduster system, the choice shall be made:

As good as possible, or as good as necessary?

We offer both !

HELIOS always has the optimal solution for your dedusting task.



Due to their compact construction, HELIO®Clean dedusting units can be mounted directly on the injection moulding machine or a drying container.



Advantages of cleaning with **HELIO®Clean dedusting units**

By a professional cleaning of the material the quality of the resin can be brought back to its original state or the disturbing fines can be removed from the ground material.

Better part quality

Less scrap

More regrind can be used

Less machine downtime

PMMA raw granulate before and after dedusting.



BEFORE



AFTER

Problems with insufficiently dedusted resin

Product quality

- combustions (black dots)
- unmelted parts (white dots)
- streaks
- surface problems
- reduced mechanical properties

Injection moulding machine

- clogging and crust formation at the feeding zone
- abrasion on screw and barrel due to charred dust
- frequent machine downtime and high cleaning costs

HELIO®Clean dedusting devices



	HELIO®Clean 2	Option CE/ME	HELIO®Clean 3' / 5'
	Conveyor with dedusting - with individual control	Conveyor with dedusting - controlled by JETBOXX® dryer	Modular system
material throughput*	max. 25 kg/h	max. 25 kg/h	max. 25 kg/h
dedusting portion	max. 0,25 liter		max. 0,38 liter
process	whirling up by compressed air jet from above	whirling up by compressed air jet from above	air-sifting with whirling up by ionized compressed air from below ^{1, 2} /top ²
dust removal	separate dust collection container	separate dust collection container	separate dust collection container
control	control HELIO®Clean 2	control JETBOXX®	control HELIO®Clean 3 HELIO®Clean 5
features	<ul style="list-style-type: none"> ■ 1- or 2-components version ■ separate dust collection container ■ Venturi suction lances 	<ul style="list-style-type: none"> ■ 1- or 2-components version ■ separate dust collection container ■ Venturi suction lances 	<ul style="list-style-type: none"> ■ 1-component version ■ separate dust collection container ■ cleaning of dust collection chamber with ion rinsing ■ Sifter glass with Superclean² ■ Venturi suction lance ■ small size and effective ■ compact / lightweight ■ easy operating ■ special glass construction ■ optimum price / performance ratio
place of processing	<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 ■ on repositioning adapter

HELIO®Clean 2 / Option CE/ME

Compressed air conveyor with conveying / dedusting unit

The HELIO®Clean 2 conveyor / dedusting unit was specially developed for injection moulding and is suitable for mounting on a processing machine or a drying container.

■ compact and light-weight construction

■ 1- or 2-components version

■ Easy operation

■ special glass construction

■ optimum price/performance ratio

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

* depending on material and required degree of dedusting



Example: HELIO®Clean 2, compact version, 1 component



suction lance

Compressed air driven Venturi suction lance. Conveying height up to 6 m.



dust removal

The separated dust is removed into a separate dust collection container.

Control by JETBOXX® dryers

JETBOXX® dryers from HELIOS can control up to two dedusting units.

In this case, the control box at the dedusting and conveying unit is not required and all parameters for conveying and dedusting can be set by the dryer system control.

WINneo® 2 dryer with option CE-B



Option CE-M



HELIO®Clean 2 on processing machine. Control version CE included as second conveying point in JETBOXX® dryer

Dust removal process

Dust separation by compressed air jet and whirling



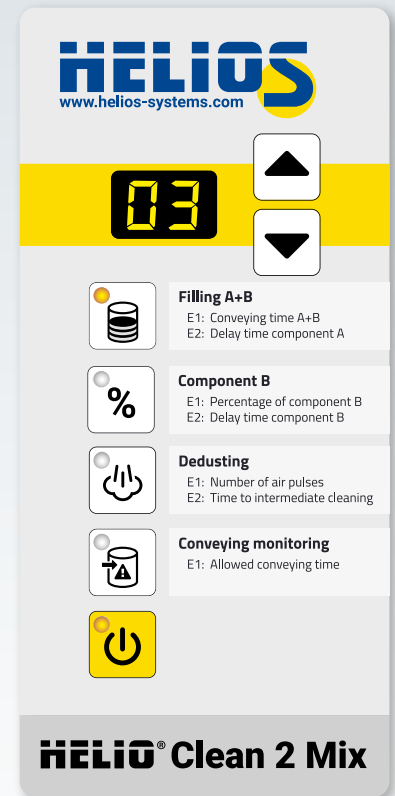
STEP 1 STEP 2

Filling

Conveying by using Venturi suction lance(s), the material is already dedusted during conveying, dust removal into the dust collection container.

Whirling

Dedusting after each conveying process by 1 to 9 dedusting impulses by means of compressed air jet from above onto the dedusting portion, dust removal into the dust collection container.



HELIO®Clean 2 MIX Version for 2 components

Regrind material and virgin material are conveyed, dedusted and homogenised.

Standard equipment

- version for mounting on processing machine with cone and machine adapter, type M
- 1-component version
- compact version (control at device)
- 3 m conveying hose set with Venturi suction lance
- dust collection container + 5 m dust removal hose
- special glass, abrasion-resistant and viewable from all sides

Options

- version for mounting on drying container, type B
- 2-components version HELIO®Clean 2 MIX
- conveying hose set long (5 m)
- dust collection container extension (+ 11 liters volume)

Technische Daten

Material throughput	ca. 25 kg/h*
Conveying height	max. 6 m
Weight	4,9 kg
Height	358 mm

* depending on the material to be dedusted and the required degree of dedusting

JETBOXX® dryer with option CE



- WINneo® 2
- option CE
equals HELIO®Clean 2 dedusting for 1-component

JETBOXX® dryer with option ME



- WINneo® 2
- option ME
equals HELIO®Clean 2 mixture dedusting for 2-components

HELIO®Clean 3 / 5

Conveying and dedusting unit with ion shower

The new HELIO®Clean 3/5 conveyor / dedusting unit has been specially developed for injection moulding processes with small to medium throughputs and is suitable for mounting on **injection molding unit**, **drying container** or **repositioning adapter**.

- ▶ small and effective
- ▶ compact / light-weight
- ▶ easy operation
- ▶ special glass construction
- ▶ optimum price/performance ratio
- ▶ air sifting by ion shower
- ▶ sifter cleaning with ions

material throughput up to 25 kg/h*

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



HELIO®Clean-3/5 - Modular system



Special glass construction

The dedusting chamber is made of abrasion-resistant special glass. This enables efficient cleaning with the aid of ions, as these are not neutralized immediately when they hit the sifter wall, but can release the binding forces between dust and material over a longer period of time. This design also enables the conveying and cleaning process to be viewed from all sides.

3-stage dedusting process with HELIO® Clean 3

5-stage dedusting process with HELIO® Clean 5

Air-sifting with ion shower and dust removal by suction



Filling

Gentle conveying of the material into the sifter glass with initial dust separation during filling.

Air-sifting

Dust separation by air-sifting with ionized air at freely adjustable whirling. HC 5 alternating from the top or from the bottom in standard.

Cleaning

The sifter glass is cleaned and neutralized with ionized air between two filling processes. Released dust is then blown into the dust collecting container. (HC5).

Ion shower

While the granulate is whirled up circulating 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**



Basic set

HELIO®Clean-3 / 5



- ① HELIO®Clean-3 sifter basic element
- ② venturi suction lance + conveying hose set
- ③ Dust removal hose
- ④ Dust collection container

+

portioner

intermediate container

machine adapter

repositioning adapter

Element

Superclean Function



Extra-long cleaning of the sifter glass by ions and optical monitoring of ion generation.

- standard with HC-5
- optional with HC-3

Element

portioner



The HELIOS portioner enables a reproducible, consistent dedusting portion with controlled transfer to a downstream (drying) container.

Portioner also available for regrind (optional).

> Set 2 | Set 3

Element

intermediate container



0,5 liters
Height 87 mm



5 liters
Height 225 mm

Mounting on
Processing machine /
exchange adapter

> Set 3

> opt. Set 3

Element

machine adapter



Machine adapter with claw guide for mounting on processing machine or repositioning adapter. Dust-proof, ground flat outlet slide, lockable, can be moved 4×90°

L-guides for sliding rails [mm].
80×15 | 80×20 | 100×20 | 100×25 |
Special sizes on request

> Set 3

Element

repositioning adapter



Integration into conveyor systems

the repositioning adapter is a compact device to integrate one HELIO Clean-3/5 set into an existing conveying system.



Position for
existing conveying

Set 2

- HELIO®Clean-3 sifter basic element
- portioner
- intermediate ring
- on drying container



Set 3

- HELIO®Clean-3 sifter basic element
- portioner
- intermediate container
- on machine adapter



Separation

dust collector

		
dust collection container	5,5 liter	16,5 liter
height	300 mm	470 mm
dust hose	5 m DN 50	5 m DN 50

Separated dust will be removed into a dust collecting container. The integrated exhaust air filter provides ambient air free of dust.

Conveying

venturi suction lance



type		short	long
suction lance length		380 mm	810 mm
conveying hose set	standard	3 m DN 32	3 m DN 32
conveying hose set	optional	5 m DN 32	5 m DN 32

suction lance: stainless steel suction lance according to Venturi principle, adjustable ambient air suction and suction protection.

conveying hose set: conveying hose with compressed air line



Ionizer

A standard ionizer ensures optimum dust separation during air-sifting and cleaning.



Gentle conveying

The conveying speed can be adjusted steplessly and material protectively.



Sifting

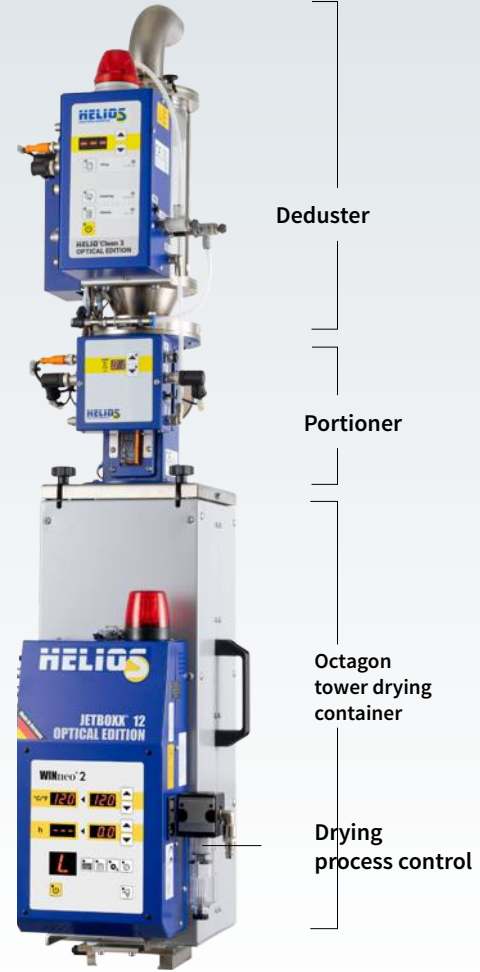
Air-sifting by compressed air cannon from below with HELIO® Clean-3 and with HELIO® Clean-5 alternately from the top and bottom.

Optical edition

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

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

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



picture.: DD-12

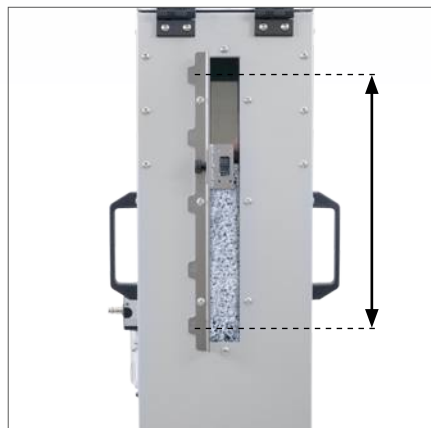
Filling + Dedusting + Drying

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 transfer of the dedusted granulate in portions into a tower drying container with a scalable filling height, which is flown through with a drying gas from a drying process control.



Tower drying container in octagon construction

- octagonal inner container of stainless steel, fully insulated
- powder-coated panelling, very scratch-resistant
- optimal drying gas distribution
- viewing window



Filling level adjustment

At the tower drying container, the filling level can be continuously preselected by adjustable filling level sensor, matching to the throughput and the permissible dwell time, steplessly between 2 – 10 liters and 4 – 20 liters.

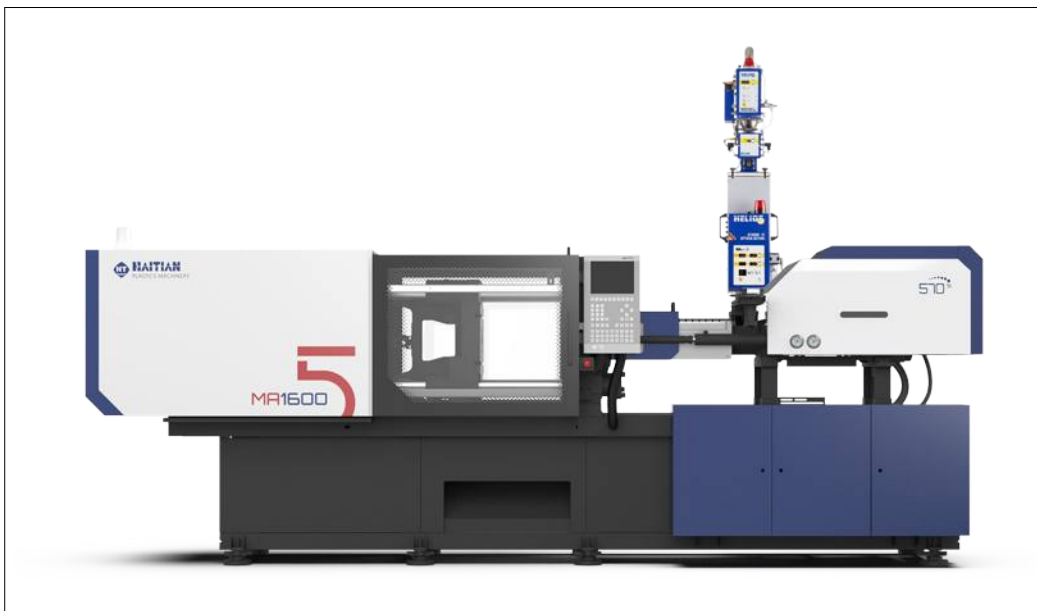


Container lid can be folded down for cleaning

The container lid can be opened in just a few steps. The lid, together with the deduster is tilted 90° to the side.

Two stable flap holders ensure a safe cleaning position.

Application examples





Your perfect partner for material handling



JETBOXX®

Drying System

Dry-air dryers for plastic granulate



OKTOMAT®

Emptying system

Discharging stations for Octabin and BigBag



HELIO® Clean

Dedusting system

Dedusters for plastic granulate/regrind

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