

HELIOS

The perfect partner for your material handling

JETBOXX®

Dryer System

Mini dryers

Top mounted dryers

Mobile dryers

Batch dryers



2021

www.helios-systems.com

MADE IN GERMANY



JETBOXX® SYSTEM

Compressed air dryers for plastic granulate

Ever since the company HELIOS was established by the engineer Klaus Wilhelm in the year **1982**, we have been focusing mainly on material handling in the plastic industry. Even if the focus was on planning and supply of central pellet drying systems with throughputs of several tons per hour and central material supply systems in the early years, we noticed the lack of a drying system for small quantities 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 contamination/mixing 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 has been produced ever since in a modified version.

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 for the fulfillment of the drying task is consumed. The invention JETBOXX® with digital pneumatics was patented **1999** in Europe and **2000** in USA 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. 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, 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 compressed air dryers“. Imitated manytimes, but never equalled!

2004 JETBOXX® –Economy– was replaced by series WINsystem® and the stainless steel drying containers were supplemented by 4 mini glass containers up to 5 litres with an absolutely new air distribution.

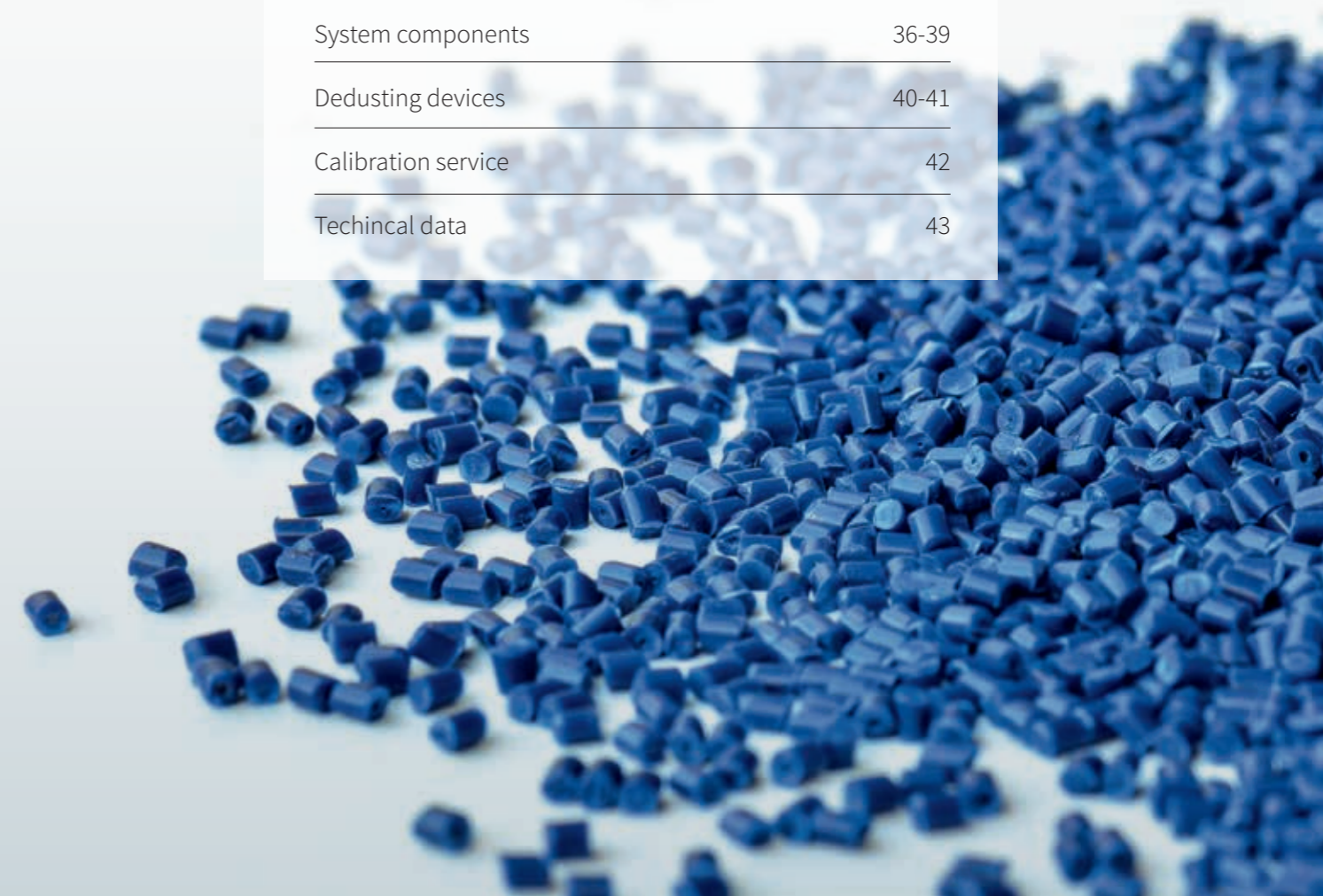
Since **2007** all JETBOXX® dryers feature a material feeding and tracking without or with **dedusting**.

The next step of development for **2018** is a dryer control in preparation, that meets all the requirements of „smart factory“ and „INDUSTRY 4.0“.



JETBOXX® SYSTEM

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JETBOXX® System Components

"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®

Controls

Control for drying and conveying

- WINneo® version
- WINsystem® version

JETBOXX®

Drying containers

- Glass drying containers 0.5 – 5.0 liters
- Stainless steel drying containers 6.0 -200 liters
 - Double-walled version
 - Optimal air distribution
 - scalable filling level

JETBOXX®

Conveying techniques

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

JETBOXX®

Accessories

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

JETBOXX® System Variations



Top-mounted dryers



Mobile dryers



Variable dryer station



Dryer station

Perfect drying result by throughput-/ material dependent dryer settings

100% accurate repeatable settings of all drying parameters

Plastics

For all common plastics, values are stored for the parameters drying temperature, drying time, and plastic-specific air requirement.

Throughput

Fine adjustment in steps from 50g respectively 100g per hour

Air volume

Display of current airflow input based on adjusted plastic type and throughput.

Dew point

Display of current dew point of compressed air with alarm function.

Continious drying

LCP	150 °C	5.0h
Throughput	1.4	kg/h
Air volume	40	l/min
Heating energy	0.37	kW
Air flow energy	0.28	kW
Due point	-30	°C

Energy consumption

By changing the drying parameters the energy consumption can be optimized.



Speed dial programs

The speed dial function enables to program and start a drying task within a shortest period. In doing so, it is not necessary to enter the main menu. The settings will be done directly on the main displays.

Large-scale main display

The most important parameters like drying temperature and drying time can be easily seen also from distance. The target values can be easily set by pushing the keys next to the display.



Removable drying control

The dryer control is simply detachable by means of quick clamps, no tools are necessary. During the service, like re-calibration, there are interim devices available with HELIOS.

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

Plastic data base

Database proposals for plastic-specific settings are obtained which can be accepted or changed. These are as personal programs storable too.

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

Conveying control

The dryers can control two compressed air conveyors for 1 or 2 component conveying with or without dedusting.

- Mix function
- Detection of lack of material
- Dedusting

Week timer		
Day	ON	OFF
Mo	6.00	22.00
Tue	6.00	22.00
Wed	7.00	19.00
Thu	6.00	22.00
Fri	6.00	16.00

Week timer

Continious drying programs and one-portion drying can be programmed for every day of the week individually.

Preheating program at restart of the continious drying programs before starting production.

Pre / Continious drying	
PAR	Overheating protection active
	Waiting for production start
Drying time	5.0 h

Overheating protection

The drying system monitors the extraction and filling. When exceeding the permitted dwell time of the granules in the drying container, the control lowers the drying temperature and the dry gas volume flow. A thermal damage of the plastic is avoided.

Drying mode	
Batch drying	
Pre / Continious drying	
Continious drying	

Drying programs

- Quick selection programs
 - Database programs
 - Personal programs
- Executable in drying mode:
- Pre-/continious drying
 - Continious drying
 - Batch drying

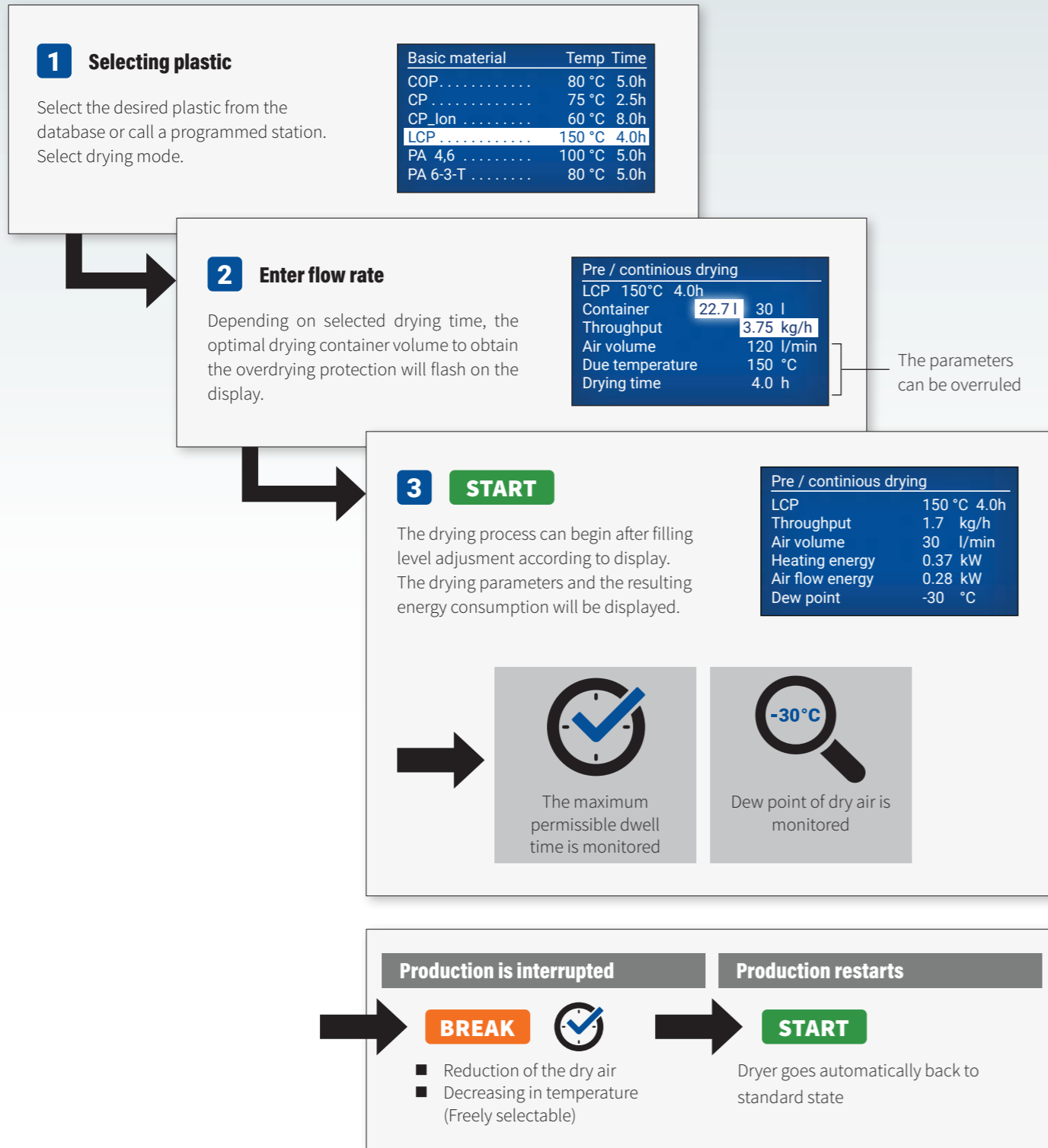
Dew point alarm	
Max permitted dew point	-20 °C
0 = alarm Off	
Minimize	(+)
Increase	(-)

Dew point measurement

Every WINsystem® granulate dryer / dry-air dryer has a precision dew point measuring device as standard. The dry air quality is monitored permanently up to -50°C dew point and an alarm will be triggered if exceeding the permitted dew point, so an optimal drying result is warranted.

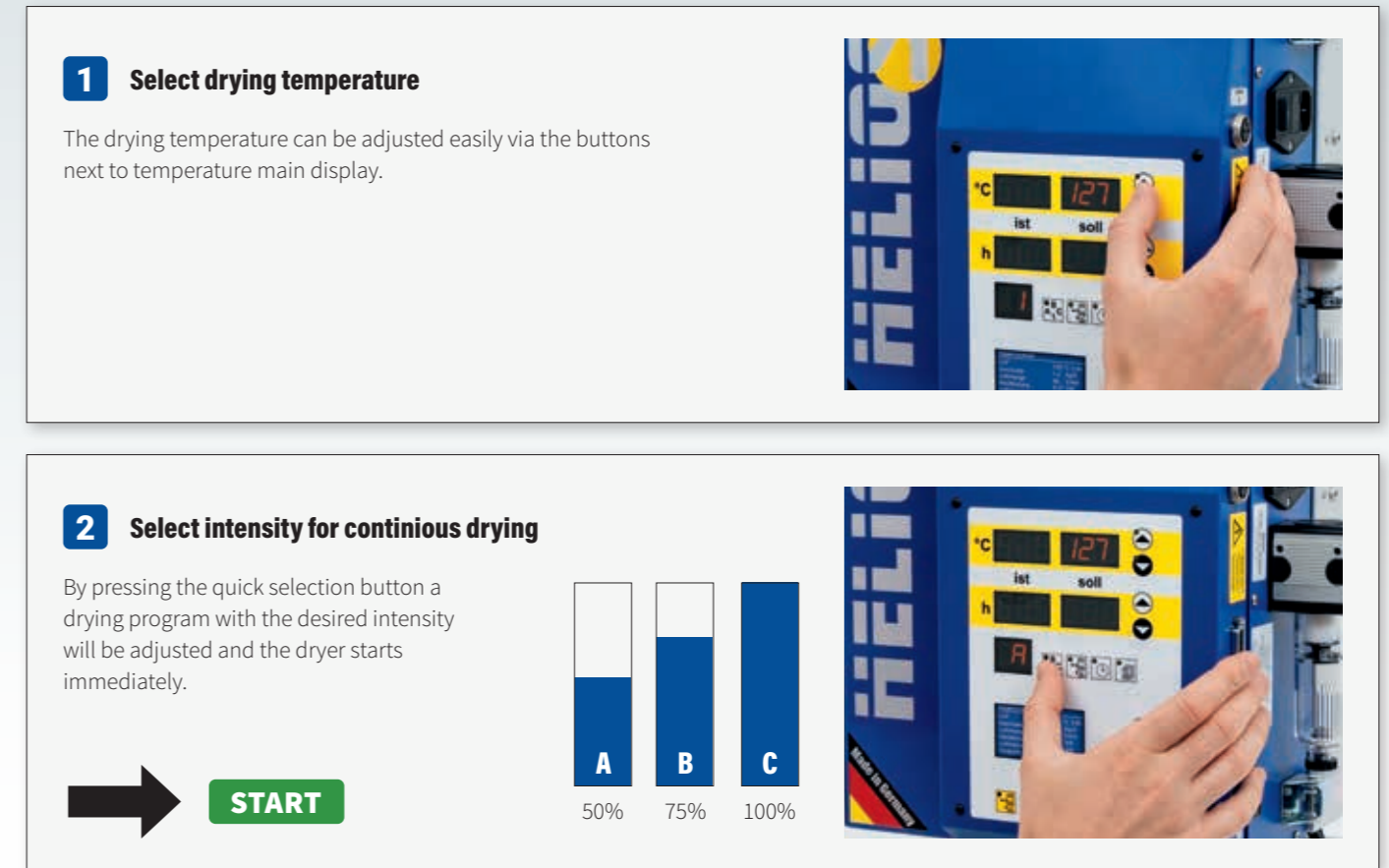
Continuous drying program

Reaching an optimal drying result without danger of overdrying by menu-guided operation, when production is interrupted for example.



Quick selection of continuous drying programs

The quick selection function allows to define and start a drying task in shortest time. You don't have to enter the main menu. The settings are executed directly through the main display.

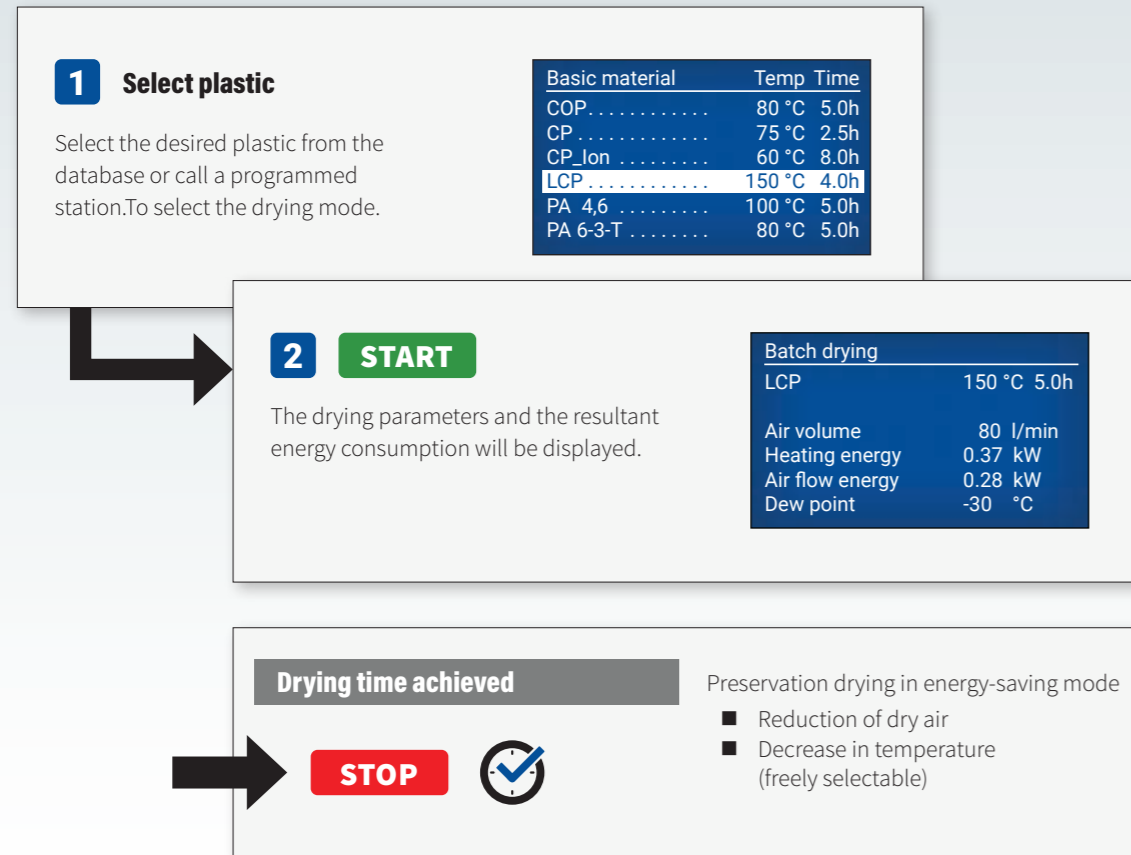


Type series	WINsystem® / WINneo®											
	JETBOXX® 0,5-5				JETBOXX® 6	JETBOXX® 12	JETBOXX® 18	JETBOXX® 20	JETBOXX® 30	JETBOXX® 50	JETBOXX® 75	JETBOXX® 200
JETBOXX® SET												
Drying capacity [kg/h] *	0,1	0,2	0,5	1,0	1,2	2,4	3,6	4	6	10	15	40
C - Dry air max [l/min]	80				80	120		160	160	250	300	450
B - Dry air max [l/min]	60				60	90		120	120	200	225	340
A - Dry air max [l/min]	40				40	60		90	90	150	150	230

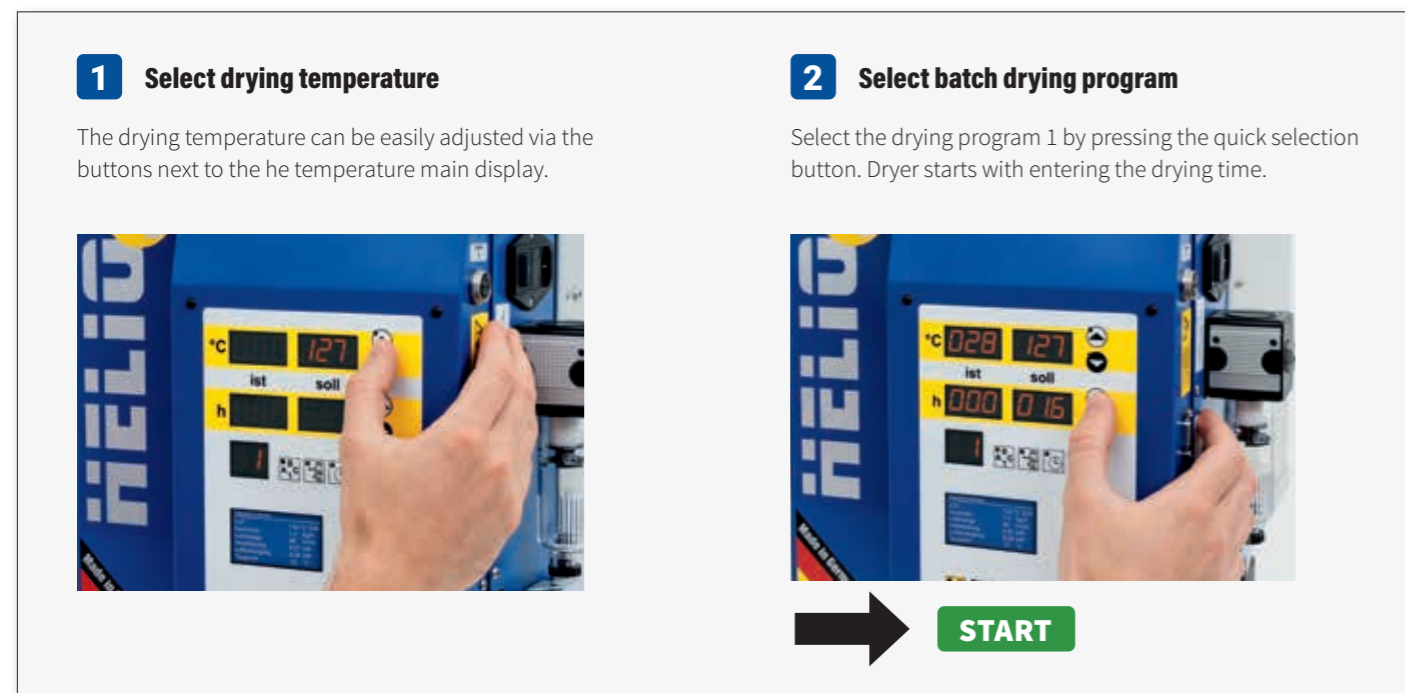
* for PC when drying time is 3h

Drying in batch mode

In many cases just one batch of a certain type of plastic has to be dried, for example for sampling or for a single order with small batch size. After manual filling of the dryer or by means of a conveyor, proceed as follows:



Quick selection of batch drying program



Control options



	WINneo®	WINsystem®
4 quick selection 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 treatment, 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
○ Optionally
— Not available

Mounting directly on the feed section of the processing machine

The dryer is directly mounted on the feed section of the injection molding machine. Therefore the dried material flows directly from the dryer in the plasticating cylinder, without humidification or cooling.

Minimal space requirement

Based on the small dimensions the JETBOXX® mini dryers can be mounted on the injection molding machine directly.



JETBOXX® mini set 0,5 liters with manual filling



JETBOXX® mini set 1 liter
example: manual filling



JETBOXX® mini set 2,5 liters
example: conveyor with dedusting
throughput: up to 0,5 kg/h



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



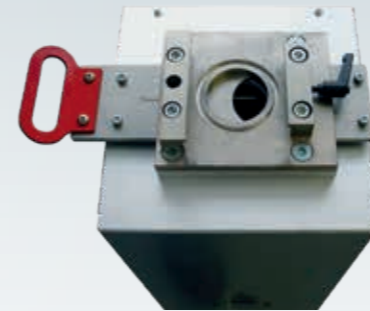
tool-free control change

The control can be removed from the drying container easily via the fastener, 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: 5 liters + conveyor



Machine adapter

Closing slide

L-guide for sliding rail (mm)

70x10		
80x15	80x20	80x25
90x15	90x20	90x25
100x15	100x20	100x25
110x15	110x20	110x25

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



Clean room - / medicine version - 5 liters

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 incoming dry air through the material output and ensures, that the granule 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 stabilizer can be removed manually without tools.

Easy to open

The drying containers can be opened easily on top for filling or cleaning. Glass containers have a swivelling cover, 6/12/18 liter 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

Container sizes

* Height [mm] without filter
Filter: +100mm



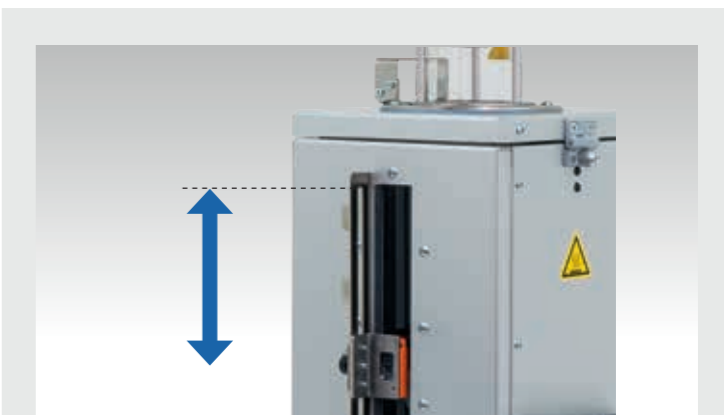
	0,5 liter	1 liter	2,5 liters	5 liters	6 liters	12 liters	18 liters
Weight [kg]	4,5	5,0	6,7	7,2	9,0	12,0	14,0
Height* [mm]	229	369	347	587	439	495	545
Width [mm]	267	267	267	267	252	301	341
Depth [mm]	125	125	170	170	169	219	259
Cover	Swiveling cover	Swiveling cover	Swiveling cover	Swiveling cover	Hinged cover	Hinged cover	Hinged cover
Filling level*					variable 2 - 6 liters	variable 4 - 12 liters	variable 8 - 18 liters

* At automatic filling



Split version

The dry air is led into the container by an insulated hose (max. 1m). 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 18 liters by the adjustable filling level sensor. Therefore the optimal container volume for keeping the permitted residence time can be adjusted.

Mounting directly on the feed section of the processing machine

The dryer is mounted directly on the feed section of the injection molding machine. Therefore the dried material flows directly from the dryer in the plasticating cylinder, without post humidification or cooling.



Venturi suction lance

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



911 mm

Conveyors

1- or 2- components
with / without dedusting
for dryer filling

Drying container

Filling level variable

JETBOXX® control

System control for the drying
process and two conveyors

Machine adapter

JETBOXX®-Set 30 liters

Example: + conveyor with exhaust air filter
Throughput: 3-6 kg|h



1071 mm

JETBOXX®-Set 50 liters

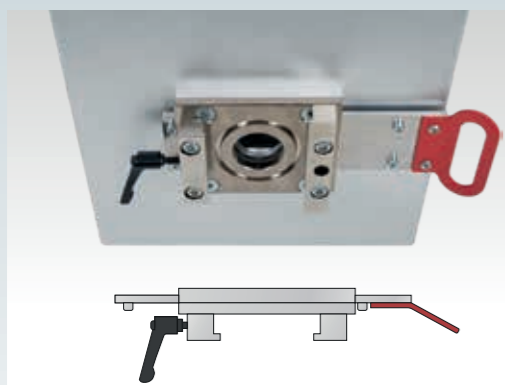
Example: + conveyor with dedusting
Throughput: 6-10 kg|h



1213 mm

JETBOXX®-Set 75 liters

Example: + conveyor with exhaust air filter
Throughput: 10 - 15kg|h



Machine adapter

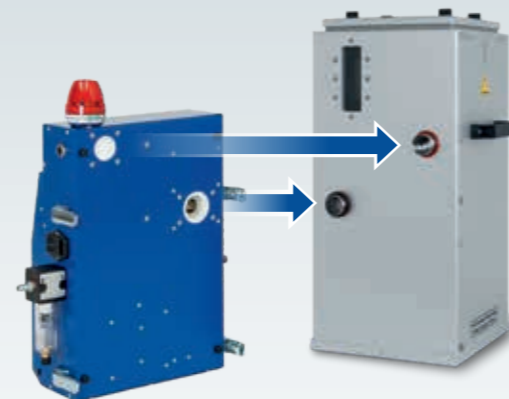
Closing slide

Optionally for sample taking

L-guides
for sliding rail [mm]

70x10		
80x15	80x20	80x25
90x15	90x20	90x25
100x15	100x20	100x25
110x15	110x20	110x25

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



The control can be removed from the drying container easily via the fastener, for example to mount an interim control in case of maintenance like calibration without production interruption.



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

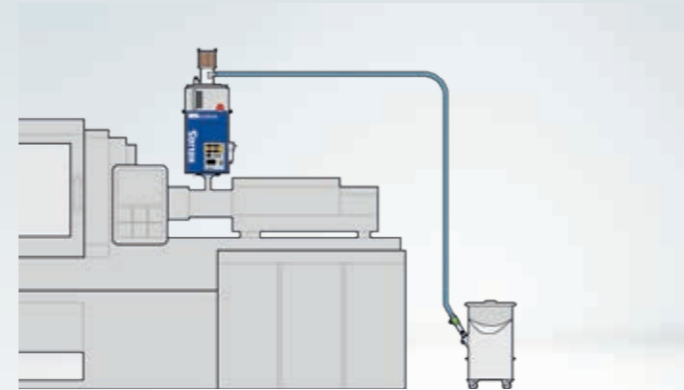


20 liters with conveyor ME



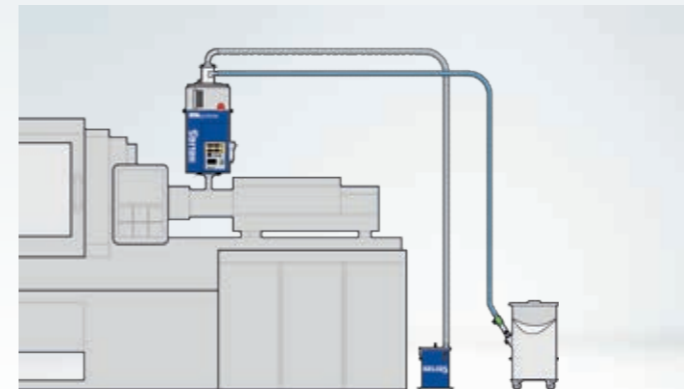
20 liters with option C

Top - mounted dryer versions



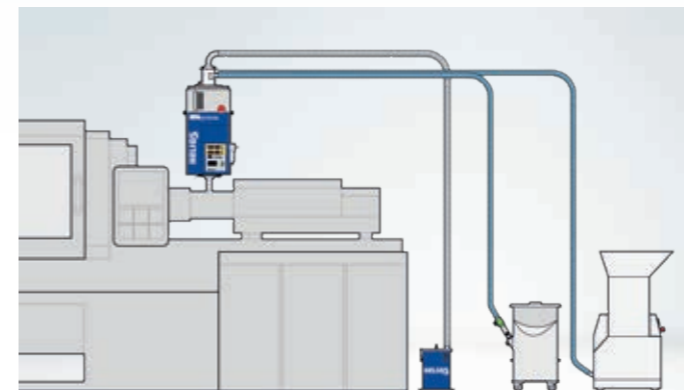
Version A

Conveying and drying of one component onto the feeding section



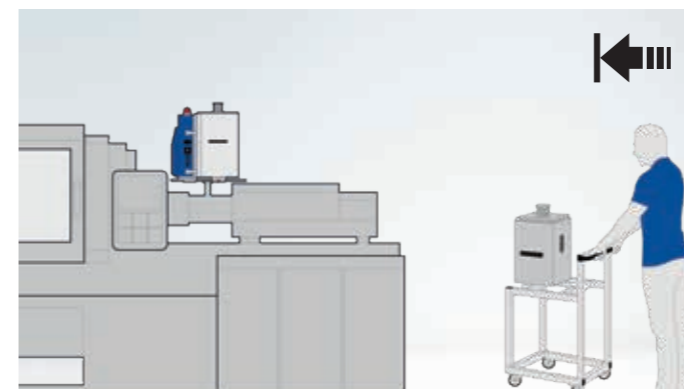
Version B

Conveying with dedusting and drying of one component onto the feeding section



Version C

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



Version D

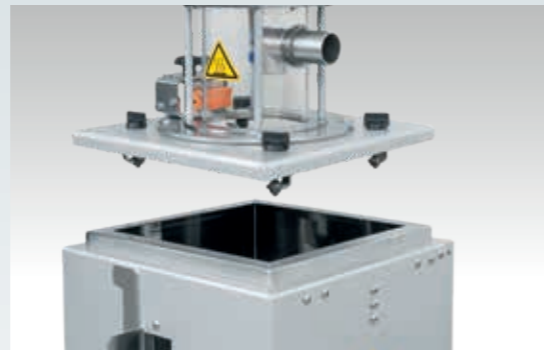
Drying containers are predried at a drying station and transported to the machine by trolley. The containers are docked to a docking plate with dryer control.

Easy access. Easy to clean.



Hinged cover

The cover can be hinged down in just one action. Standard for 6|12|18 liters, optionally for 20|30|50|75 litres.



Cover removable

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 litres have a cleaning door at the rear. In that way the cleaning can be done easily.

Container sizes



	6 liters	12 liters	18 liters	20 liters	30 liters	50 liters	75 liters
Weight [kg]	9,0	12,0	14,0	15,5	19,0	25,3	35,3
Height [mm]	439	495	545	474	641	801	942
Width [mm]	252	301	341	376	376	407	433
Depth [mm]	169	219	259	293	293	324	403
Cover	Hinged cover	Hinged cover	Hinged cover	removable	removable	removable	removable + cleaning door
optionally				Hinged cover	Hinged cover	Hinged cover	Hinged cover
Filling level	variable 2 - 6 liters	variable 4 - 12 liters	variable 8 - 18 liters	-	variable 15 - 30 liters	variable 30 - 50 liters	variable 50 - 75 liters

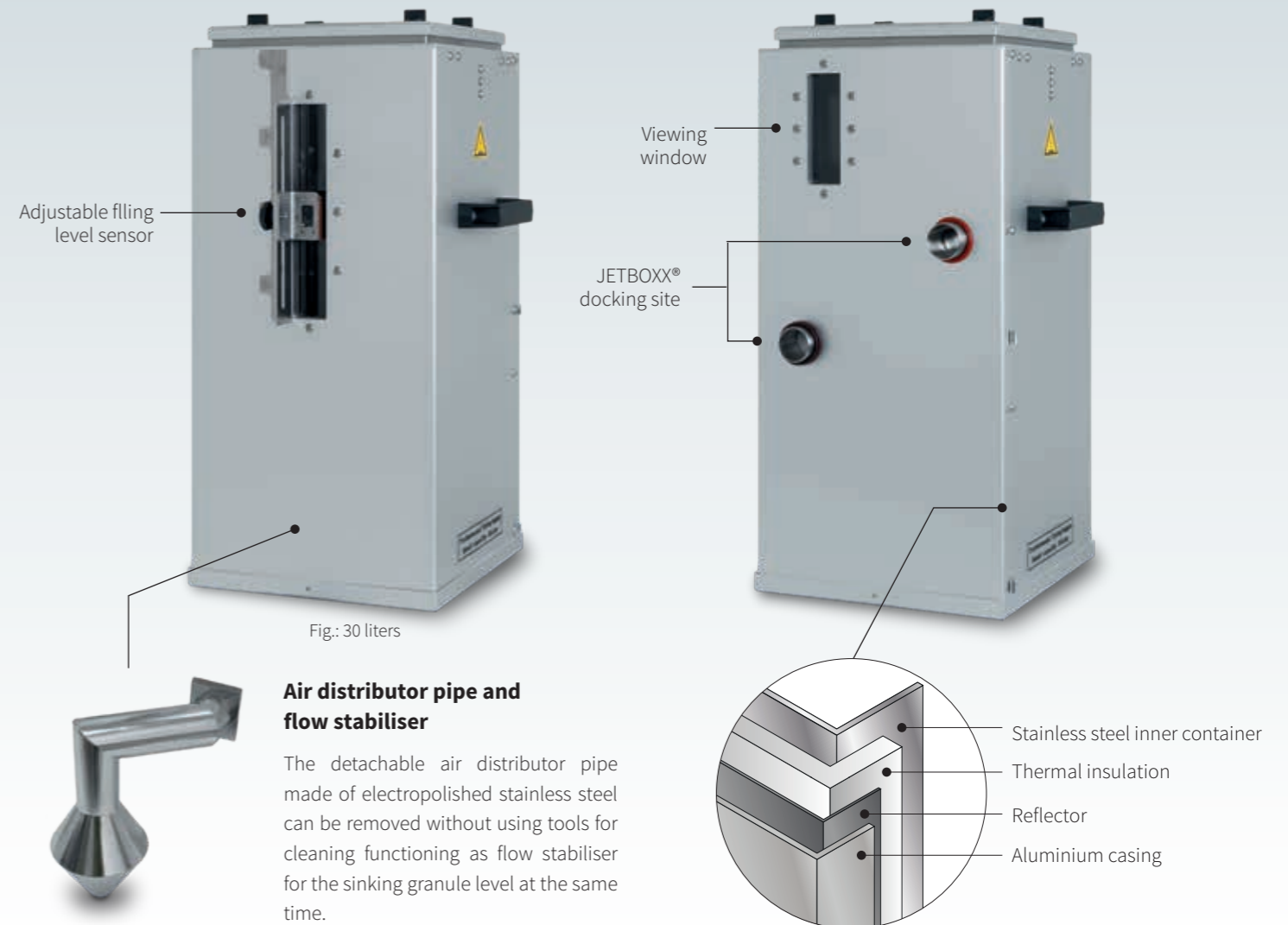


Fig.: 30 liters

Air distributor pipe and flow stabiliser

The detachable air distributor pipe made of electropolished stainless steel can be removed without using tools for cleaning functioning as flow stabiliser for the sinking granule level at the same time.

Container volume	Minimum filling level
6 liters	> 2 liters
12 liters	> 4 liters
18 liters	> 8 liters
30 liters	> 15 liters
50 liters	> 30 liters
75 liters	> 50 liters
200 liters	> 125 liters

Filling level sensor on sliding rail

Position for decreased filling level, infinitely adjustable.

Filling level sensor attached to conveyor
Position for maximum filling

Variable filling level

The filling level sensor of a conveyor can be attached on a sliding rail at the container (viewing) window. 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 conveying to the feeding section

Mobile 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 liter

Material throughput
3 - 6 kg/h



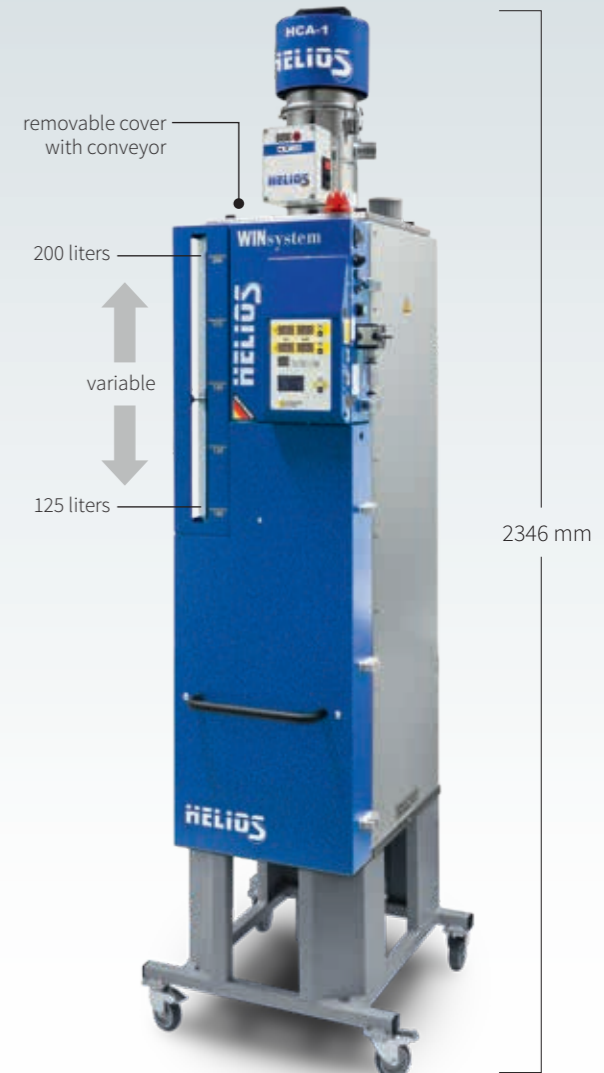
JETBOXX® 50 liter

Material throughput
6 - 10 kg/h



JETBOXX® 75 liter

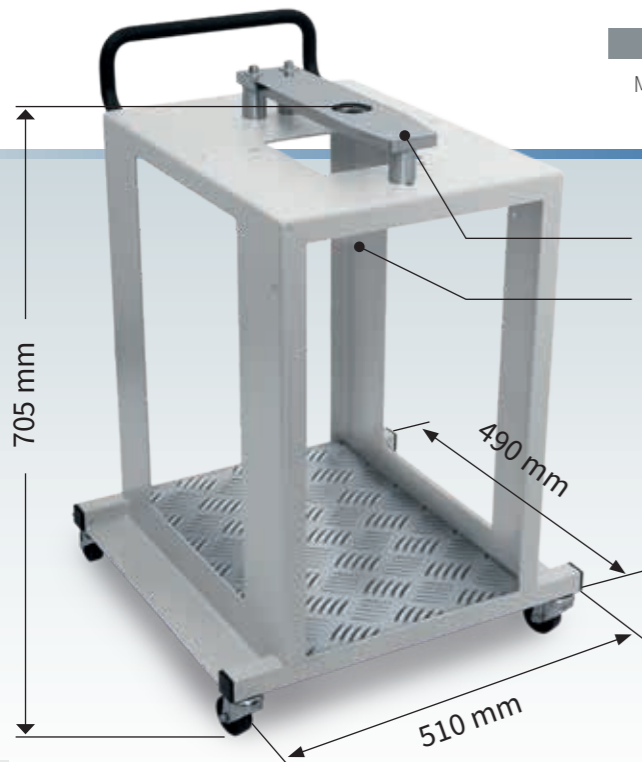
Material throughput
10 - 15 kg/h



Special design

JETBOXX® 200 liter

Material throughput
25 - 40 kg/h



Minimal space requirement

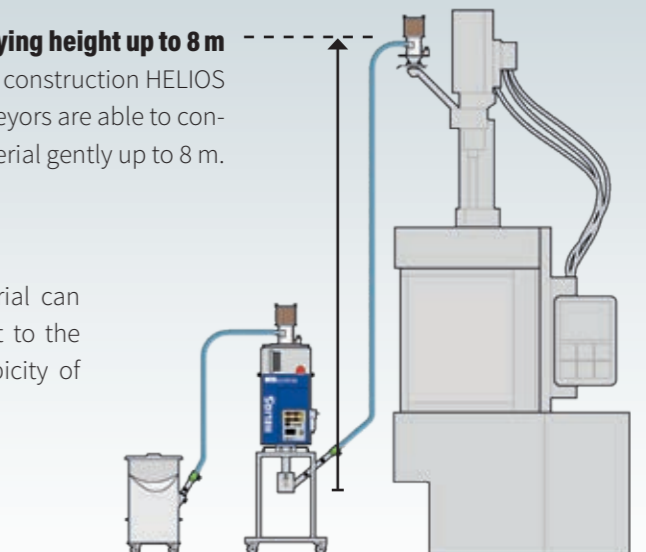
Stand - alone dryer frame: 510 x 490 mm
(special design ST-200: 600 x 600 mm)



2nd conveyor Conveying onto feed section

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

Conveying height up to 8 m
Because of their construction HELIOS compressed air conveyors are able to convey the material gently up to 8 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
Venturi suction lance

Conveying tube:
22 | 32 mm



X-2
2- fold
Suction device for two
Venturi suction lances

Conveying tube:
22 | 32 mm



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 20 kg/h

Conveying tube:
22 mm



XT-1
Material suction for Ven-
turi suction lance, dry air
conveying with one suc-
tion point.

Conveying tube:
22 | 32 mm



XT-2
Material suction for Ven-
turi suction lance, dry air
conveying with two suc-
tion points.

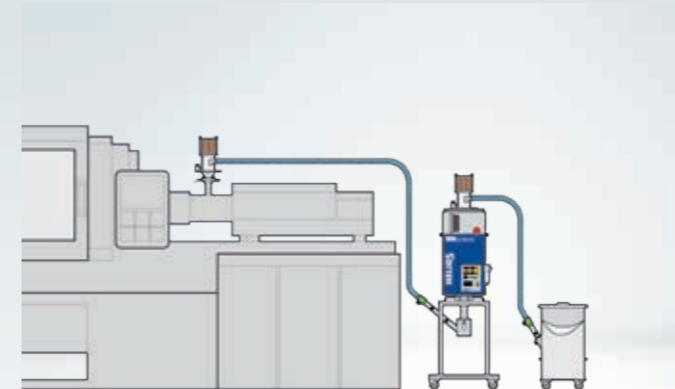
Conveying tube:
22 | 32 mm

Conveying with dry air Zero post humidification



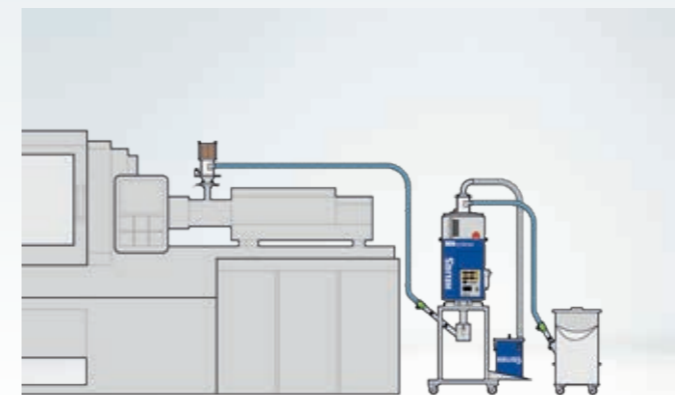
Closed conveying system.
Venturi principle without suction of
ambient air.

Mobile dryer types



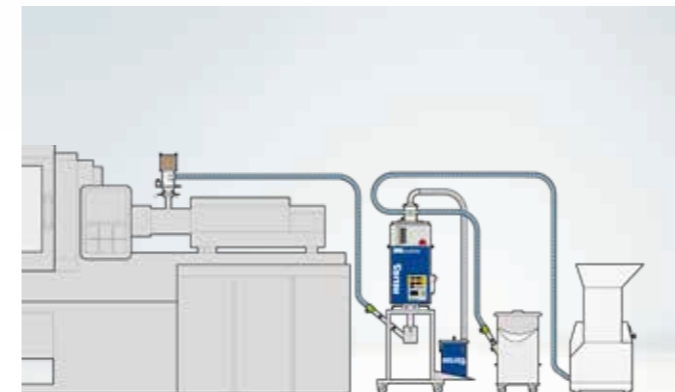
Version A

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



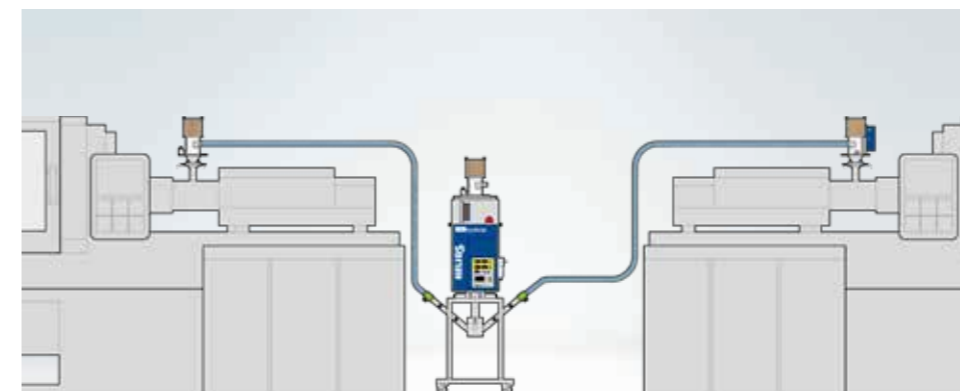
Version B

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



Version C

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



Version D

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

Control included in the dryer

Conveyors

OPTION C

OPTION C micro

1-component conveyor
Special glass and stainless steel
capacitive filling level sensor
0,5|1,0|2,5|5,0 litres containers
Conveyor pipe DN 22 | DN 32
Mounting on glass container

OPTION C mini

1-component conveyor
Special glass and stainless steel
capacitive filling level sensor
6|12 litres containers
Conveyor pipe DN 22 | DN 32
Mounting on drying container

OPTION C

1-component conveyor
Special glass and stainless steel
capacitive filling level sensor
18|20|30|50|75 litres containers
Conveyor pipe DN 22 | 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
Conveyor pipe DN 22 | DN 32
Mounting on processing machine



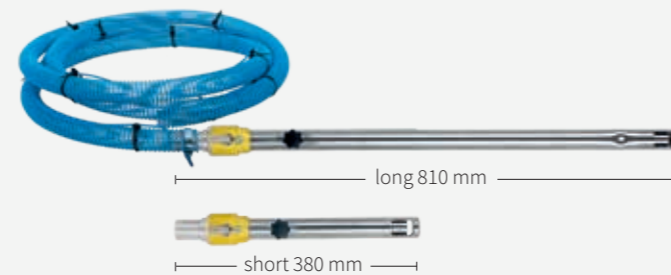
Container filling

Machine feeding

Conveying set DN 22 | DN 32

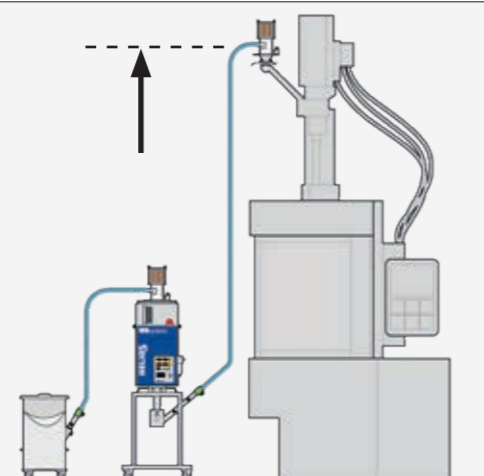
Compressed air conveying Venturi principle

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



Conveying height up to 8 m

Because of their construction, HELIOS compressed air conveyors are able to convey the material gently up to 8 m.



Control included in the dryer

Conveyors with dedusting

OPTION CE/ME

OPTION CE Mini

1-component conveyor with
dedusting
Special glass and stainless steel
capacitive filling level sensor
2,5|5|6|12 litres containers
Conveyor pipe DN 22 | DN 32
Mounting on drying container

OPTION CE

1-component conveyor with
dedusting
Special glass and stainless steel
capacitive filling level sensor
18|20|30|50|75 litres containers
Conveyor pipe DN 22 | DN 32
Mounting on drying container

OPTION ME

2-components conveyor with
dedusting
Special glass and stainless steel
capacitive filling level sensor
18|20|30|50|75 litres containers
Conveyor pipe DN 22 | 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 22 | DN 32
Mounting on processing machine



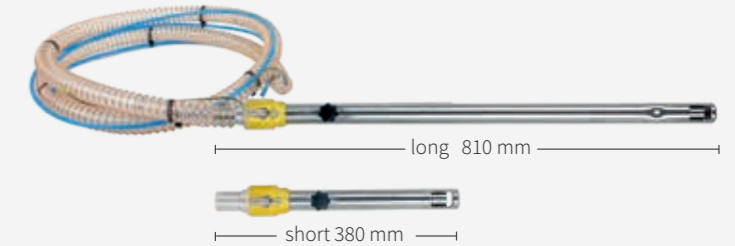
Container filling with dedusting

Machine feeding
with dedusting

Conveying set DN 22 | 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 separator

consisting of

- **Dust drain hose**
DN 50 - 5 m
- **Dust collecting container**
Volume 5,5 litres
+ expansion to 11 litres



JETBOXX® Variable dryer station

Variable pre-drying station

HELIOS top-mounted dryers are positioned on a base frame with docking plates. The drying containers may be removed and carried to the processing device. They are mounted directly on the feeding section 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 change of material
- 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

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

movable rack

for transport from pre-drying station to point of consumption
sliding rail 80x15 mm or 80x20 mm

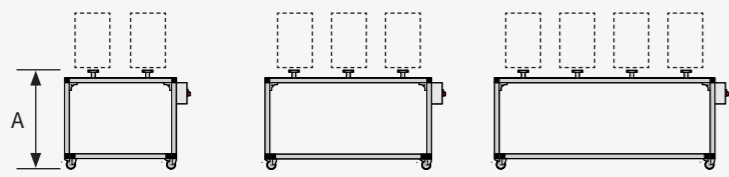


Base frames

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



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 areas (optional)		
Sliding rail	Bevelled on both sides, for L-claw 80 x 15 mm or 80 x 20 mm		



JETBOXX® Docking system

Mobile drying container

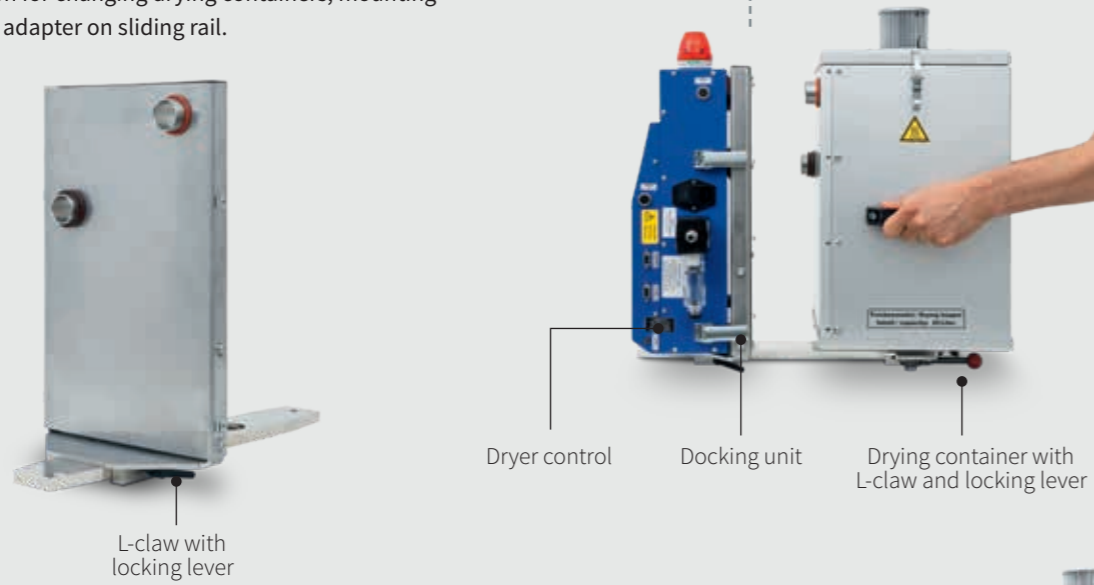
Mobile drying container

When the drying time has elapsed the hermetically sealed containers can be moved comfortably by rack to the point of consumption.



JETBOXX® Docking plate

Functions as holding device for the drying control and as docking station for changing drying containers, mounting with machine adapter on sliding rail.



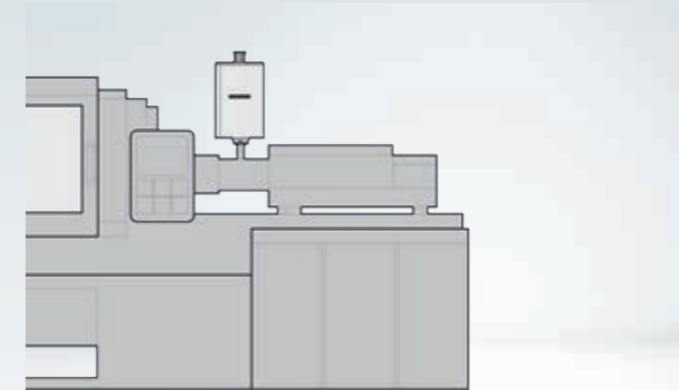
Dryer control Docking unit Drying container with L-claw and locking lever

L-claw with locking lever

Docking versions for mobile drying containers

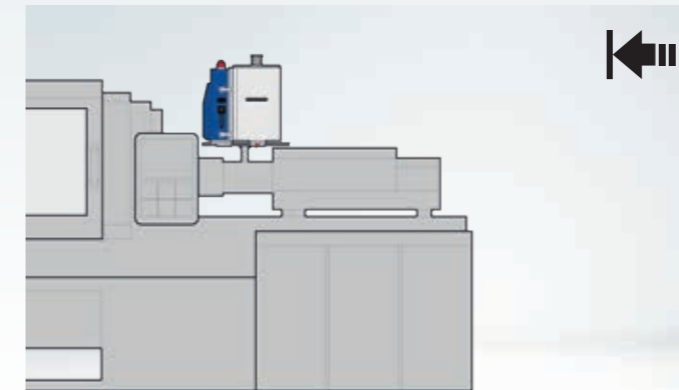
Version A

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



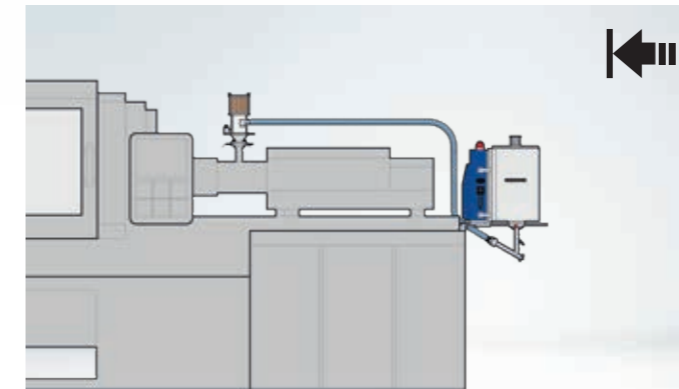
Version B

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



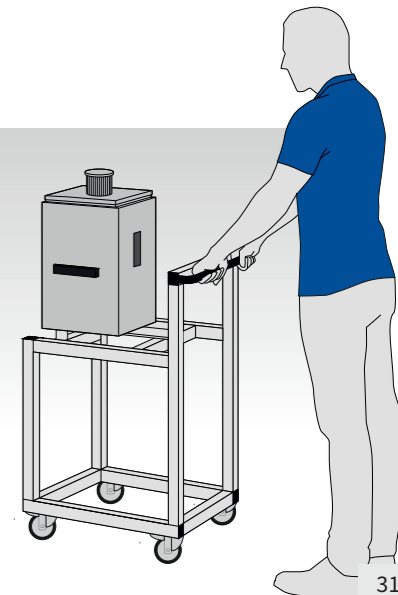
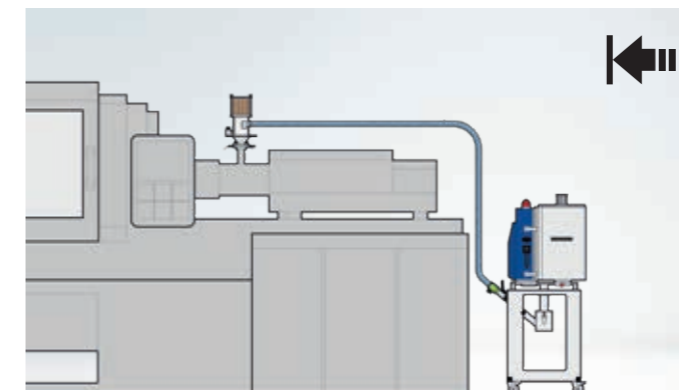
Version C

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.



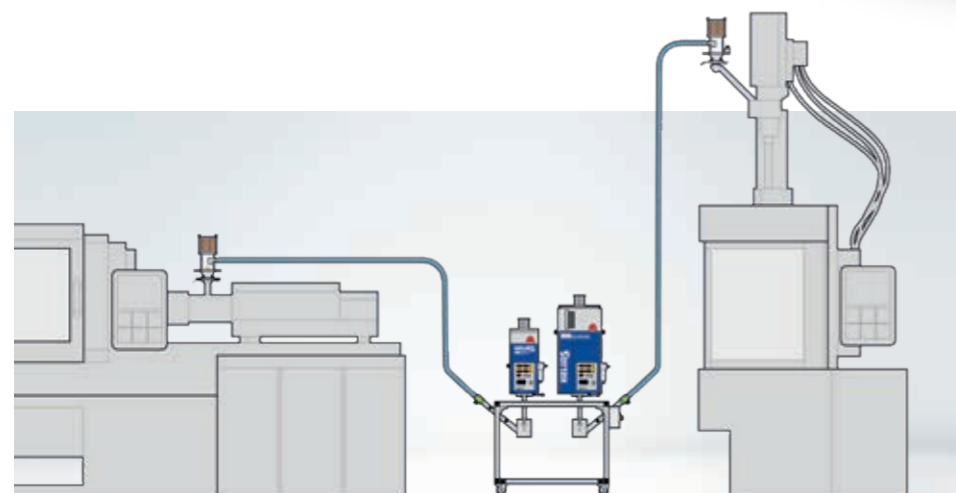
OPTION UP2000

Cold regenerating adsorption dryer for dew point lowering up to -60°C of the dry air.
15 / 30 / 60 / 100 m^3/h



OPTION Suction/discharge

Different suction/discharge devices (see page 24)



Application as mobile station / dryer as insular solution

HELIO®MAT Pre-drying station

The material can be predried in removable drying containers at the batch dryer. The drying container can be removed and brought to the processing machine if needed. It will be attached directly onto the feeding section there and the material to be dried can be processed. If the material should be kept dry on the machine, a JETBOXX® docking plate with dryer control are used in addition.

Applications

- Pre-drying station for quick material change
- Dryer station for sampling batches
- Batch drying for small quantities / sampling
- Laboratory applications
- Cleanroom supply with hermetically sealed dry material containers



HELIO®MAT 0,5-5
for drying containers
0,5 - 5 liters



HELIO®MAT 6/12
for drying containers
6 or 12 liters



HELIO®MAT 20/30
for drying containers
20 or 30 liters

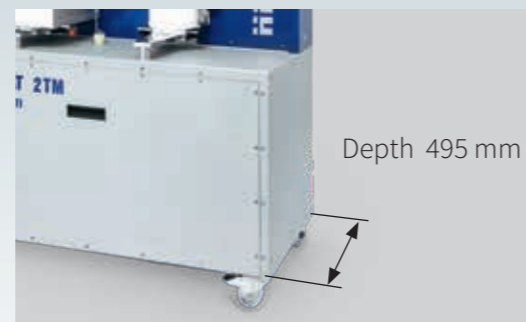


HELIO®MAT 0,5-5
2x docking station
for Mini drying containers 0,5 - 5 liters

HELIO®MAT 20/30
2x docking station
for drying containers 20 - 30 liters



Low construction depth



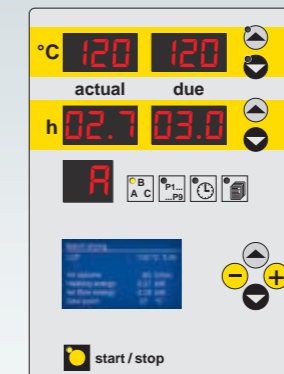
The dryer can be placed directly against the wall as the HELIO®MAT can be operated just from the front.

Benefit: low space requirement

Every docking station is an independent dryer

WINsystem® equipment

- Plastic database
- Quick selection of drying programs
- Dew point monitoring (optionally)
- Container and material depending dryer settings
- Overdrying protection
- Customer-specific drying programs can be stored
- Graphic display, 10 languages
- Weektimer per station



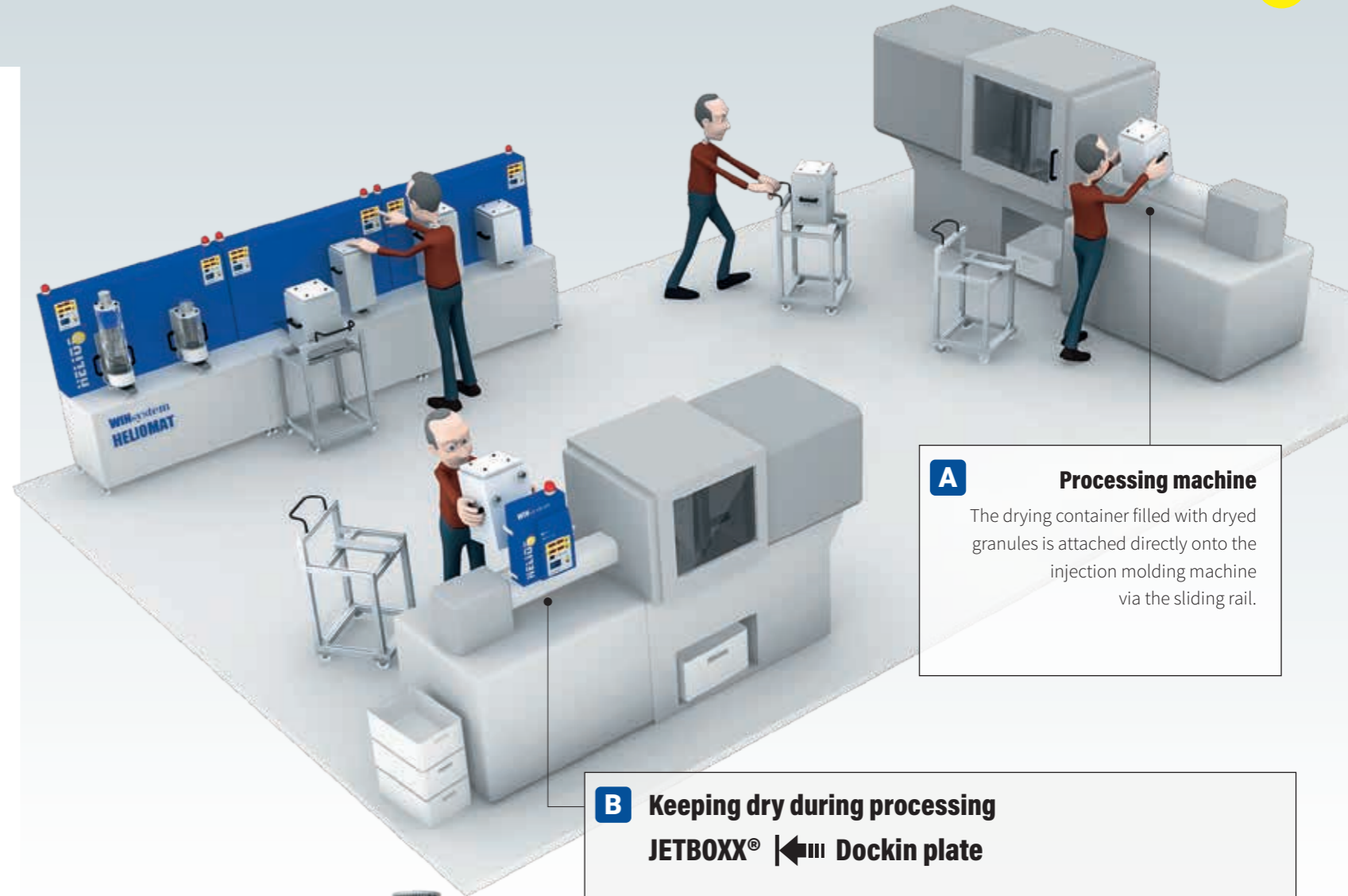
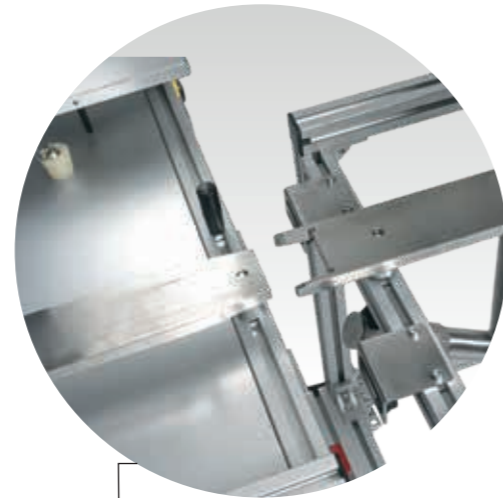
Movable rack

Once the drying time has elapsed the hermetically sealed containers can be transported easily to the point of use.



Form-fitting docking system

The sliding rail of the rack surrounds the rail of the docking station for a better handover of the drying container.



A Processing machine
The drying container filled with dried granules is attached directly onto the injection molding machine via the sliding rail.

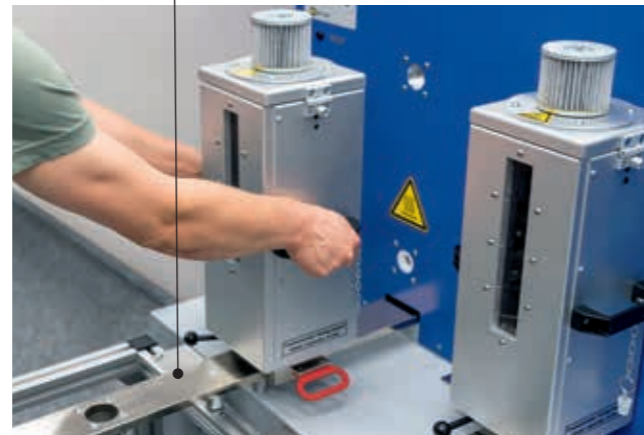
B Keeping dry during processing
JETBOXX® Dockin plate
The docking plate including the dryer control is mounted onto the injection molding machine. The drying containers are docked via a sliding rail.

C
The docking plate including the dryer control is attached at the injection molding machine. The drying containers are docked via a sliding rail. The dried granules are conveyed onto the injection molding machine via a suction device.

D
The docking plate with dryer control is attached onto a base frame / stand-alone station.



12-fold HELIO®MAT with container filling station



Docking plate with dryer control



OPTION UP2000

Cold regenerating adsorption dryer for dew point lowering up to -60°C of the dry air.
15 / 30 / 60 m³/h



OPTION discharge

Extended rail with discharge outlet

HELIO®MAT	0,5 - 5	6 / 12	20 / 30
number of docking stations	2	2	2
drying container sizes	0,5 - 5 liters	6 12 liters	20 30 liters
width [mm]	1000	1000	1250
depth [mm]	495		
total connected load [kW]	0,92	1,62	1,62
dry air max. [m³/h]	2 x 4,8	2 x 7,2	2 x 9,6
dry ability max. [kg]*	2 x 3	2 x 7,2	2 x 18
heating power [Watt]	2x 400	2 x 750	2x 750
drying temperature max. [C°]	185 °C		
drying system	released compressed air/N ₂		
dew point drying gas [C°]	-20 / (-60 with Option UP2000 possible)		
compressed air connection [bar]	6		
power supply	400 V, 50/60 Hz		

HELIO®MAT 4-fold Station	
Number of docking stations	4
HELIO®MAT stations can be combined to make 4-fold station (common power supply and dew point measuring)	



WINneo® Mini

Control for the drying and conveying
Compact version
Basic- functions



WINsystem® Mini

Control for the drying and conveying
Compact version
PRO- functions

Drying containers mini



0,5 liter 1 liter 2,5 liters 5 liters 6 liters 12 liters 18 liters



WINneo®

Control for the drying and conveying
Basic- functions



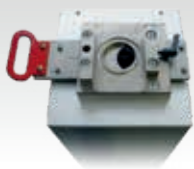
WINsystem®

Control for the drying and conveying
PRO- functions

Drying containers



20 liters 30 liters 50 liters 75 liters



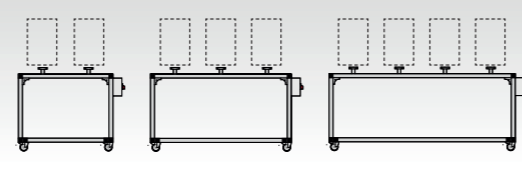
Machine adapter

Polished flat slide valve
L-guides:
70×10
80×15 | 80×20 | 80×25
90×15 | 100×20 | 100×25
110×15 | 110×20 | 110×25



Mobile dryer rack

By combining with a rack the top-mounted dryer can be changed to a mobile dryer



Base frame

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

Top-mounted dryer



Mobile 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 0,5|1,0|2,5|5 litres containers
- » Conveying pipe DN 22 | DN32
- » Mounting on glass drying container



OPTION C Mini

- » 1-component conveyor
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 6|12 litres containers
- » Conveying pipe DN 22 | DN32
- » Mounting on drying container



OPTION C

- » 1-component conveyor
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 18|20|30|50|75 litres containers
- » Conveying pipe DN 22 | DN 32
- » Mounting on drying container

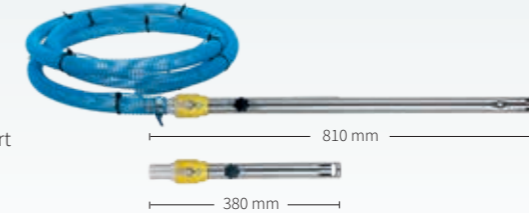


OPTION C-M

- » 1-component conveyor
- » Special glass and aluminium/ stainless steel
- » Capacitive filling level sensor
- » Machine adapter with gate valve
- » Conveying pipe DN 22 | DN 32
- » Mounting on processing machine

Conveying set

- » DN 22 or DN 32
- » Conveying hose package PUR
- » Suction lance Venturi long/short



Conveyors with dedusting



OPTION CE Mini

- » 1-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 2,5|5|6|12 litres containers
- » Conveying pipe DN 22 | DN 32
- » Mounting on drying container



OPTION CE

- » 1-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 18|20|30|50|75 litres containers
- » Conveying pipe DN 22 | DN 32
- » Mounting on drying container



OPTION ME

- » 2-component conveyor
- » With dedusting
- » Special glass and stainless steel
- » Capacitive filling level sensor
- » For 18|20|30|50|75 litres containers
- » Conveying pipe DN 22 | DN 32
- » Mounting on drying container

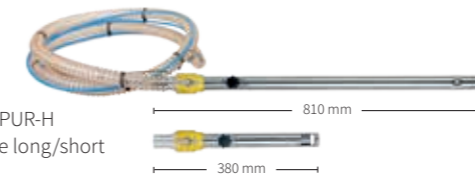


OPTION CE-M / ME-M

- » 1 or 2-component conveyor
- » With dedusting
- » Special glass and stainless steel / aluminium nickel-plated
- » Capacitive filling level sensor
- » For 20|30|50|75 litres containers
- » Conveying pipe DN 22 | DN 32
- » Machine adapter with gate valve
- » Mounting on processing machine

Hose set

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



Dust removal

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



Material outlet/suction



A-1

» Outlet pipe, vertical



A-2

» Outlet pipe, sloping



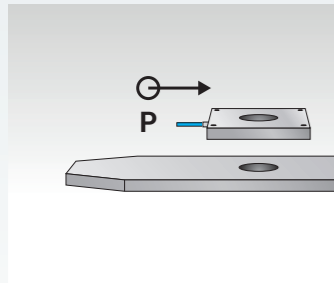
X-1

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



X-2

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



XT-2

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

Transport



Trolley

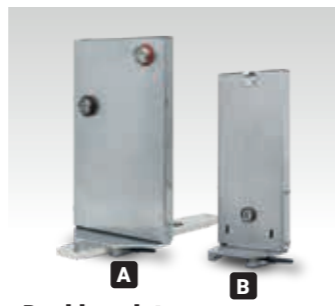
» for transport to processing point
» sliding rail 80x15 or 80x20



Crane bracket

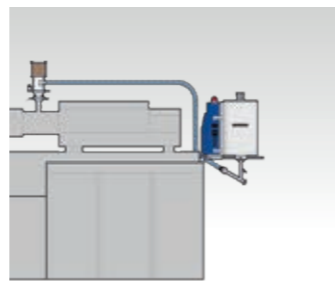
Stainless steel drying containers are hooked by the bracket and transported by indoor crane.

Docking plate



Docking plate

Serves as the holding device for the dryer control and as the docking station for changing drying containers, installed on machine adapter.
A: 20 / 30 Liter drying container
B: 0,5 - 18 Liter drying container



Docking plate

The docking plate with dryer control is placed directly on the injection moulding machine, for example. The drying containers are docked via sliding rail. The dried resin 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 (AISI 304)

Lockable

With a lockable slider

Dust-tight

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

Machine adaption

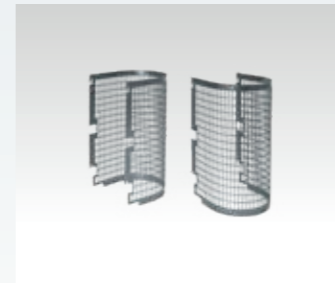
Krauss Maffei, Arburg, Demag, Babyplast, Engel, Netstal, Boy, etc.

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 drying container sizes from 0,5 – 18 liters.



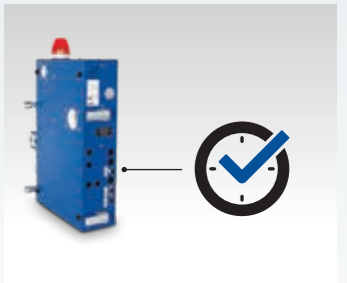
Protection cover

Protection cover for high temperature applications as contact protection. For glass drying containers 0,5 to 5 liters



UP2000

Cold regenerating adsorptions dryer to reduce the dew point of dry air up to -60°C.
15 / 30 / 60 / 100 m³/h



Option Z

Signal input of third-party conveyor for protection against overdrying.

Conveyors with separate 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

Conveying capacity up to 100 kg/h



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

Conveying capacity up to 50 kg/h



HCA 1

compressed air driven suction conveyor for 1 or 2 components
 ■ with individual control
 ■ compact and split version
 ■ conveying line DN 40

Conveying capacity up to 300 kg/h



HCA 2 with intermediate bin

5 liter intermediate bin compressed air driven suction conveyor for 1 or 2 components
 ■ with individual control
 ■ compact and split version
 ■ conveying line DN 40

Conveying capacity up to 300 kg/h

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, angel hair and other impurities for the production of high-quality parts.

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

Dust is removed by means of air-floating with a highly effective ion shower. Due to its absolutely new fountain principle, this air washing process is able to perform even the most difficult cleaning tasks perfectly.

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.



	HELIO®Clean 2	HELIO®Clean 3	HELIO®Clean Pro 10	HELIO®Clean Pro 20
material throughput*	max. 25 kg/h	max. 25 kg/h	max. 35 kg/h	max. 50 - 70 kg/h
filling quantity	up to 200 g	up to 300 g	up to 400 g	up to 800 g
ionizer	no ionization possible	1 ionizer standard	2 Ionizers standard	
process	whirling up by compressed air jet from above	air-floating with whirling up by ionized compressed air from below	air-floating with ionized air by circulating in the fountain	
dust removal	separate dust collection container		dust collection container integrated in control stand	
control	HELIO®Clean 2 or JETBOXX® control	HELIO®Clean 3 control	HELIO®Clean Pro 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 or split version ■ 1- or 2-components version ■ separate dust collection container ■ cleaning of dust collection chamber with ion flushing ■ Venturi suction lances 	<ul style="list-style-type: none"> ■ separate control combined with 3-step vacuum generator and dust collection container ■ 1- or 2-components version ■ lockable conveying pipe(s) ■ shut-off / outlet flap ■ hinged dedusting chamber for cleaning ■ conveying speed and air-floating power steplessly adjustable 	<ul style="list-style-type: none"> ■ separate control combined with 3-step vacuum generator and dust collection container ■ 1- or 2-components version ■ lockable conveying pipe(s) ■ shut-off / outlet flap ■ swing-out dedusting chamber for cleaning ■ conveying speed and air-floating power steplessly adjustable
place of action	suitable for mounting on processing machine or drying container	suitable for mounting on processing machine or drying container	suitable for mounting on processing machine or drying container	particularly suitable for mounting on processing machine

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

Calibration service

HELIOS dryers are maintenance-free except filters.

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

Dryer calibration 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.

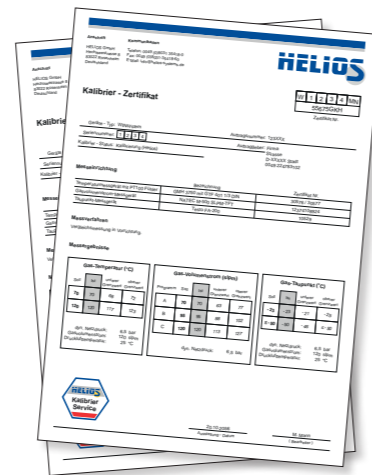
For this purpose, the dryer control is simply detachable by means of quick clamps, no tools are necessary

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

Long-term warranty for all* dryers regarding

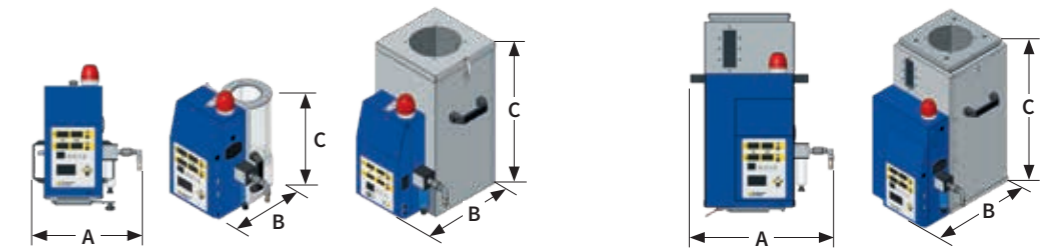
- Maintenance
- Repeat calibration
- Availability of interim devices

*for all dryers built since 1998



JETBOXX® Technical Data

JETBOXX® SET
measurement (A) incl.
compressed air angle plug



Control range	WINsystem® / WINneo®										
JETBOXX® SET	JETBOXX® 0,5 - 5				JETBOXX®-6	JETBOXX®-12	JETBOXX®-18	JETBOXX®-20	JETBOXX®-30	JETBOXX®-50	JETBOXX®-75
Drying container size [liter]	0,5	1,0	2,5	5	6	12	18	20	30	50	75
Min. filling level [liter]	---				2	4	8	-	15	30	50
Drying capacity* [kg/h]	0,1	0,2	0,5	1,0	1,2	2,4	3,6	4,0	6,0	10	15
Drying air max. [m³/h]	4,8				7,2			9,6		15	18
Heating power max. [kW]	0,4				0,75			0,75		1,5	
Width [mm]	A	355	355	355	346	370	394	394	458	473	486
Depth [mm]	B	275	275	320	320	370	410	410	442	477	549
Height [mm]	C	446	369	347	587	439	495	545	640	800	942

Compressed air quality accd. to ISO 8573-1	max. oil content ≤ 0,01 mg/m³, pressure dew point ≤ 3°C	* for PC when drying time is 3h
Dry 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	

JETBOXX® conveyors	Exhaust air filters (in standard for manual filling without conveyor)	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

After Sales Service



You are not alone with the HELIOS components, we will support you with whole the process up to the start-up and 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 24h

	mobile frame
Sliding rail	1-fold
Height [mm]	705
Width [mm]	510
Depth [mm]	557

	Racks			Mini docking plate	Docking plate
	2-fold	3-fold	4-fold	for 0,5 - 18 liters	for 20 -50 liters
	739	739	739	404	450
	1179	1679	2100		
	683	683	683		

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/m³, pressure dew point ≤ 3°C
Pressure dew point	≤ 3°C



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

HELIOS GmbH

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