Additive

POWDER EXTRACTION & HANDLING SOLUTIONS FOR

Additive manufacturing



DELFIN
POWDER HANDLING

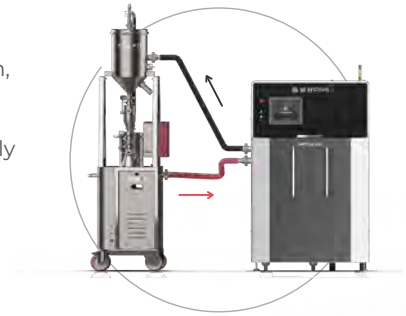
PES: POWDER EXTRATION SYSTEMS

The PES (Powder Extraction System) allows for the extraction of powders from the 3D printer, preserving them for reuse, reducing material waste, and minimizing downtime. Additionally, it ensures maximum safety throughout the entire process.

GASTIGHT TECHNOLOGY

Gastight technology allows **powder extraction** without any contact with oxygen, using the inert gas already present in the print chamber as a carrier. The gas is recirculated in a **closed cycle**, avoiding costly waste.

This solution enables safe handling of **hazardous powders**, ensuring their **safe reuse** for future printing operations.





PRODUCT RANGE









	"NAKED" NON INERT	BASIC GASTIGHT	STANDARD GASTIGHT	FULL OPTIONAL GASTIGHT
Field of application	Non-reactive powders	Reactive powders	Reactive powders	Reactive powders
Inert gas	NO	YES	YES	YES
Material recovery	SI	YES	YES	YES
Processing	MANUAL	MANUAL	AUTOMATIC	AUTOMATIC
Sieving	NO	NO	NO	YES (45-63 µm)
Powder weighing	NO	NO	YES*	YES*
Inert Gas Recovery	NO	YES	YES	YES
Capacity	Fino a 20 L	Up to 5 L	Up to 45 L	Up to 45 L
HEPA Filter (H14)	NO	YES	YES	YES

Available with ATEX certification.

ADDITIVE



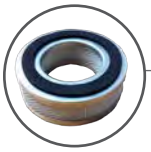
NAKED NON INERT
FOR NON-REACTIVE POWDERS

The **Naked** solution reduces waiting times and eliminates manual procedures with a brush. It extracts powder from the printer with the door open, operating in **ambient air.**

It is ideal for **non-reactive powders** like Inconel, AISI316, and AISI430 and also allows **hot powder** extraction, minimizing wait times for new prints.



VENTURI PUMP:
Compressed air-powered



PRIMARY FILTER:
With automatic cleaning system



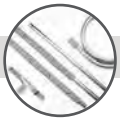
POWDER CONTAINER:
up to 45L



TROLLEY MACHINE:
Lightweight and space-saving.



OPTIONAL



HOT POWDER EXTRACTION KIT
(Useful to avoid long wait times required to cool down the powder)



MULTIPLE ACCESSORIES
(for the extraction tube to adapt to each printed part)



ATEX
Certified for Zones 22/21/20



BASIC GASTIGHT
FOR REACTIVE POWDERS

The GT basic solution is ideal for the dental sector, extracting up to **10L of powder at a time**. From the storage chamber, bottles of 1 or 2 liters can be easily filled.

BIN FILLING:
Up to 10 liters



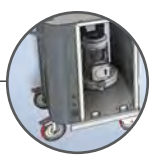
CLASS M PRIMARY FILTER:
With automatic cleaning system.



PNEUMATIC VIBRATOR



PNEUMATIC CONTROL PANEL:
Efficient management of extraction and filter cleaning phases.



MOBILE UNIT:
Leggera e con basso ingombro, e facile da spostare.

ERGONOMICS:
Filling of 1 or 2-liter bottles.

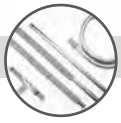
MODULAR PRE-FILL CHAMBER:
Equipped with visual inspection ports for monitoring.

HEPA H14 ABSOLUTE FILTER FOR EXTRACTION:
Ensures clean and safe air.

KF40-50 CONNECTIONS:
For quick and easy connection to the 3D printer.

ELECTRIC PUMP:
Provides powerful and continuous suction.

OPTIONAL



VACUUM KIT FOR HOT POWDERS
(Useful to avoid the long waits required to cool down the powder)



MULTIPLE ACCESSORIES
(for the suction hose to fit every printed part)



VACUUM KIT FOR UP TO 2 PRINTERS without disconnecting or moving the machine



DIFFERENT SIZES
for the collection bottle.



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Certification for zones 22/21/20

STANDARD GASTIGHT
FOR REACTIVE POWDERS

Ideal machine for 3D printers with glovebox, capable of extracting up to 35L of powder at a time. From the storage chamber, it can fill BINs and collection containers up to 45L.

CONTROL: The BIN is weighed to ensure precise filling.

KF50 CONNECTIONS: For quick and secure gas-tight connection to the 3D printer.

PRESSURE MAINTENANCE KIT:
Expansion tank with a pressure maintenance kit to prevent pressure spikes or vacuum drops that could damage the glovebox.



AUTOMATION:
Automatic filling of BINs up to 45L.

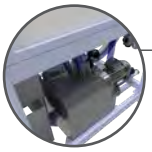
CLASS M PRIMARY FILTER:
With automatic cleaning system.



HEPA H14 ABSOLUTE FILTER:
Ensures clean and safe air during extraction.



HMI WITH SIEMENS PLC:
For automated phase management.



ELECTRIC PUMP:
Provides powerful and continuous suction





VACUUM KIT FOR HOT POWDERS
(Useful to avoid the long waits required to cool down the powder)



OXYGEN SENSOR
for Continuous Monitoring



MULTIPLE ACCESSORIES
(for the extraction tube to adapt to each printed part)



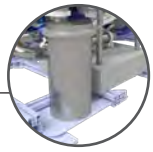
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FULL OPTIONAL GASTIGHT
FOR REACTIVE POWDERS

The Full Optional solution integrates extraction, sieving, storage, and feeding of the printer. It is ideal for 3D printers with gloveboxes, extracting up to 35 liters of powder at a time and filling bins and containers up to 45 liters



AUTOMATION:
Automatic filling of BINs up to 45 liters.



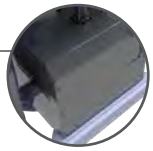
ULTRASONIC SIEVE:
Integrated for renewing the powder.



HMI WITH SIEMENS PLC:
For automatic management of the phases.



ELECTRIC PUMP:
For powerful and continuous suction



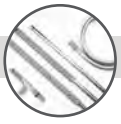
SIEVING: Integrated ultrasonic sieve for renewing the powder.

CONTROL: The BIN is weighed to ensure maximum filling accuracy.

PRIMARY FILTER CLASS 'M':
With an automatic cleaning system.

KF50 CONNECTIONS: For simple and quick gas-tight connection to the 3D printer.

PRESSURE MAINTENANCE KIT: Expansion tank with a kit for maintaining pressure and avoiding pressure spikes or vacuum that could damage the glovebox.



VACUUM KIT FOR HOT POWDERS
(Useful to avoid the long waits required to cool down the powder)



OXYGEN SENSOR
for Continuous Monitoring



MULTIPLE ACCESSORIES
(for the extraction tube to adapt to each printed part)



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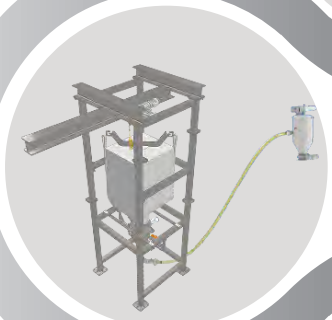
OTHER SOLUTIONS

FOR ADDITIVE MANUFACTURING

Delfin's solutions for additive powder management extend beyond, with many applications that can be enhanced and automated through pneumatic conveying.

STORAGE OF POWDERS
50-300L Powder Hopper
Available with inert atmosphere for safe containment and protection from contamination and oxidation





DISCHARGE OF POWDERS DEDICATED
Big-Bag Dump Station, the efficency in AM powder bulk handling

SIEVING STATION to Refresh the Powder reuse and avoid waste

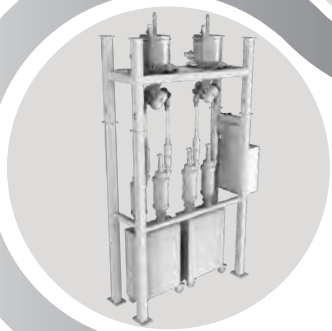




FILLING HOPPER VACUUMING PRINTING POWDER FROM BOTTLES
Continuosuly feedeing the 3D printer

BLENDING OF RECOVERED
Ensures optimal material quality by blending used and fresh powder for consistent performance





PNEUMATIC CONVEYING SYSTEM
for Powder Feeder Supply

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REV 1.2026

ADDITIVE MANUFACTURING INDUSTRY
SAFETY, QUALITY & EFFICIENCY

EXTRACTION SPEED AND UNPACKING
Our advanced pneumatic conveying systems speed up powder extraction from the print chamber, making cleaning faster and reducing downtime. This results in a smoother workflow and greater productivity in additive manufacturing.

MATERIAL PRESERVATION FOR REUSE AND COST SAVINGS
Thanks to pneumatic conveying technology, powders are preserved for optimal reuse, minimizing degradation and maintaining high-quality standards. This approach maximizes efficiency and contributes to more sustainable production by reducing waste and lowering costs.

MAXIMUM PROCESS SAFETY WITH INERT GAS
Using inert gases such as argon or nitrogen, our systems prevent oxidation of metal powders, protecting operators and equipment from explosion or fire risks. This ensures a safer work environment, compliant with the strictest industrial standards.

ABSOLUTE SYSTEM SEALING GUARANTEE
Each extraction system is tested to ensure gas-tightness, with a pump pressure of 300 mbar and a maximum drop of 170 mbar per minute. Connections are certified according to DIN 28403, ISO 2861, and BS 4825 standards, and the system is constructed from AISI 304 stainless steel.

OPERATOR SAFETY
Every system is tested to guarantee an absolute seal: with a pump pressure of 300 mbar and a maximum drop of only 170 mbar per minute. Certified connections (DIN 28403, ISO 2861, BS 4825) and AISI 304 stainless steel ensure durable and safe performance.

MANUFACTURING