Additive

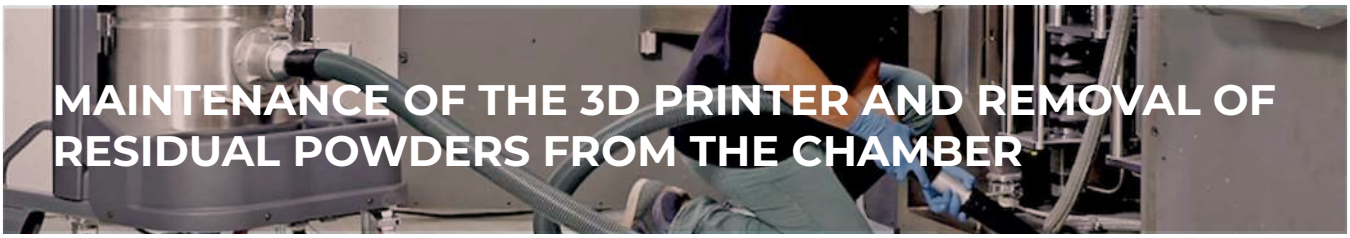
INDUSTRIAL VACUUM SOLUTIONS FOR

Additive Manufacturing

DELFIN

FOR A DUST-FREE WORLD

ADDITIVE MANUFACTURING: MAIN APPLICATIONS



TYPES OF MATERIALS TO BE VACUUMED

SUCTION OF PLASTIC POWDERS

The SLS (Selective Laser Sintering) technology uses a laser to heat and aggregate powder particles without fully melting them. This process allows for the creation of **three-dimensional objects** layer by layer, particularly suitable for **plastic materials**. SLS is ideal for **prototyping and the production of complex parts,** even for **series production**.

SUCTION OF METALLIC POWDERS

The SLM (Selective Laser Melting) technology fully melts the powder particles, producing a solid and homogeneous material. Using a **high-power laser**, SLM is particularly effective with **metals and alloys**, offering high mechanical properties and precision. This technology is highly valued in sectors such as **aerospace and automotive,** where **complex geometries** and high strength are required.

NEW RANGE OF CERTIFICATIONS

VACUUMS FOR ENVIRONMENTS THAT ARE NOT ATEX CLASSIFIED

Suitable for **non-ATEX classified** areas, **ACD** vacuums provide **safe collection** of **combustible powders**. Compliant with the **IEC 60335-2-69** standard and **ATEX certified** for internal **zone 20**, they ensure a high level of **safety against explosion** risks, making them ideal for industrial applications where reliable **protection is required, even in non-ATEX classified areas.** Available in **Dry Type** or **Wet Type (INERT)** versions.

II 1/-D Ex h IIIC T80°C (internal) Da/-

ATEX VACUUMS - EX DRY TYPE

Ideal for **ATEX classified environments (Zone 22 and Zone 21)**, these vacuums are perfect for the collection of non-reactive powders, both **plastic and metallic**, suitable for containing powders that generate an **internal zone 20**, thanks to a high level of **internal protection (Ex Tb)** and high **filtration efficiency (H14/ 99.995%)**. They ensure maximum safety against explosion risks, also from a legal standpoint, as they are **certified by accredited third-party** entities wherever safety and compliance in the **ATEX** field are required.

1/2D EX h tb IIIC T80°C (INTERNAL) / T95°C (EXTERNAL) Da/Db

EX WET TYPE VACUUMS FOR REACTIVE POWDERS

Specifically designed for the collection of **reactive and self-igniting powders**, the WET TYPE solutions are ideal for powders such as **aluminum, titanium, and other self-igniting or highly combustible metal powders**. They use a neutralizing fluid that eliminates ignition risks with an efficiency of over **95%**, as demonstrated by **test reports** from accredited **third-party entities.** Equipped with a coalescing H filter, these systems ensure **maximum safety and compliance for the handling of highly reactive powders.**

II 1/3D Ex h tb IIIC T80°C (INTERNAL) T95°C (EXTERNAL) Da/Dc

SERIE	COMPACT	MEDIUM	LARGE	EXTRA
	MTL 301/302	MTL 451/452	DM2/DM3	ZFR EV
NON-ATEX AREAS: ACD	MTL 302 ACD BP	MTL 452 ACD BP	DM3 EL ACD BP	SI
ATEX ZONE 22	MTL 301 1/3D BP	-	DM2 EL 1/3D BP	SI
ATEX ZONE 21	MTL 301 1/2D BP	MTL 451 1/2D BP	DM2 1/2D BP	NO
CONDUCTIVE POWDERS: INERT	-	MTL 452 ACD INERT BP MTL 451 1/2D INERT BP	DM2 EL 1/3D INERT BP DM2 EL 1/2D INERT BP	SI
POWER	1,1 kW	1,1 kW	2,2/3,3Kw	0,15 to 5,5Kw
FLOW RATE	150 m^3/h	215-360 m^3/h	430-360 m^3/h	up to 3500 m^3/h
VACUUM	3700 mmH_2O	2250 /2500 mmH_2O	2250/2500 mmH_2O	280 mmH_2O
FILTERING EFFICIENCY	H14	H14	H 14	Classe M
CONTAINER CAPACITY	13 L	45 L	100 L	100 L
DIMENSIONS	46x48x90h cm	61x66x133h	77x66x168h cm	78x85x246h cm

Test vibrazione con tente accreditato e Test conduttività ATEX per accessori

COMPACT SOLUTIONS
for low-risk plastic and metallic powders

MODELS 302/301

BL/BP HEAD
Delfin is the first manufacturer to have designed, tested, and certified its single-phase heads for ATEX Zones 21 and 22 or ACD, with official marking for protection against dust Ex tb IP64 T95°C.ACD and ATEX 22 versions with bypass motors. ATEX 21 version with brushless motor.

Third party certified **soundproofing system** with noise level test

Vacuum gauge and indicator for clogged filter warning

H14/HEPA filter with high filtration efficiency (99.995%, Compliance EN17348)

High-efficiency filter with a surface area of 1.1 m² and efficiency of 99.99% (first stage of filtration) CLASS M.

Spark proof suction inlet

Stainless steel container AISI 304, 40-liter drum, with the option to use disposable filter bags.

Compact design for ease of transport, container cleaning, and filter maintenance.

COMPACT SOLUTIONS
for plastic and metallic powders

MODELS 452/451

BL/BP HEAD
Delfin is the first manufacturer to have designed, tested, and certified its single-phase heads for ATEX Zones 21 and 22 or ACD, with official marking for protection against dust Ex tb IP64 T95°C. ACD and ATEX 22 versions with bypass motors. ATEX 21 version with brushless motor.

Third party certified **soundproofing system** with noise level test

Vacuum gauge and indicator for clogged filter warning

H14/HEPA filter with high filtration efficiency (99.995%, Compliance EN17348)

Primary anti-static pocket filter CLASS M, with high efficiency and filtering surface.
Integrated high containment filter cleaning system to maintain consistent suction performance and prolong filter life.

Spark proof suction inlet

Stainless steel container AISI 304, capacity 45 liters, for dry powder collection (Dry mode).

Stainless steel container AISI 304, with INERT system (WET, for high explosion risk powders).

Compact design for ease of transport, container cleaning, and filter maintenance: highly ergonomic and easy-to-clean quick-release container for the rapid disposal of residual material.

INDUSTRIAL SOLUTIONS
for plastic and metallic powders

MODELS DM2/DM3

BL/BP HEAD
Delfin is the first manufacturer to have designed, tested, and certified its single-phase heads for ATEX Zones 21 and 22 or ACD, with official marking for protection against dust Ex tb IP64 T95°C.ACD and ATEX 22 versions with bypass motors. ATEX 21 version with brushless motor.

Third party certified **soundproofing system** with noise level test

Vacuum gauge and indicator for clogged filter warning

H/HEPA filter with high filtration efficiency (99.995%, Compliance EN17348)

Primary anti-static pocket filter CLASS M, with high efficiency and filtering surface.

Integrated high containment filter cleaning system to maintain consistent suction performance and prolong filter life.

Spark proof suction inlet

Stainless steel container AISI 304, capacity 45 liters, for dry powder collection (Dry mode).

Stainless steel container AISI 304, with INERT system (WET, for high explosion risk powders).

Industrial design, robustness and maneuverability, ease of cleaning container and filter maintenance: highly ergonomic quick-release container for rapid disposal of residual material.

ELECTROFANS
Dust collectors, for the extraction of airborne suspended powders

ZEFIRO EV, DRY OR WET VERSIONS

High air flow electrofan certified ATEX 3D and compliant with EN14986, with motorization from 1,15 kW to 5.5 kW, air flow (from 1100 m^3/h to 3500 m^3/h).

H/HEPA filter for retaining particles down to 0.18 microns and motor protection (in DRY versions).

Primary anti-static pocket filter CLASS M, with high efficiency and filtering surface (in DRY version).

Filtering cartridges for suspended liquids (Demister + coalescing filter) standard on WET/INERT version.

Integrated high containment filter cleaning system to maintain consistent suction performance and extend the filter's lifespan.

Stainless steel container AISI 304, capacity from 45 to 100 liters, for dry powder collection (Dry mode).

Stainless steel container AISI 304, with INERT system (WET, for powders with high explosion risk), capacity 45/100 liters.

Industrial design, robustness, and maneuverability, ease of cleaning the container and maintaining filters: highly ergonomic quick-release container for rapid disposal of residual material.

Possibility of direct extraction from processing machinery, or use with extraction arm.

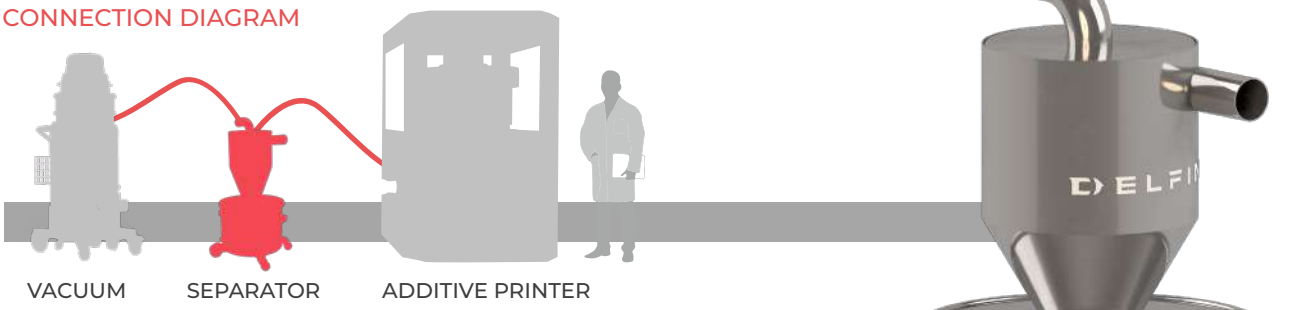
SEPARATORS

For greater efficiency and flexibility, the vacuum cleaner can be used with one or more separators, offering the following advantages:

- Easy management, recovery, or disposal of collected powders.
- Protection of the main filter and improvement of suction performance and motor lifespan.
- Prevention of the risk of mixing different materials, thanks to a dedicated collection unit for each type of powder.
- Reduction in filter consumption, leading to time and maintenance cost savings.

All non-metallic ATEX accessories and parts from Delfin comply with the new standard EN17348, which ensures surface and volume resistances lower than 10^8 Ω according to EN 17348, tested by an accredited laboratory.

CONNECTION DIAGRAM



Cyclonic pre-separator retains up to ≥ 98% of powders.

Reduces the amount of powders reaching the filter and increases performance.

Made of stainless steel.
Prevents contamination when vacuuming different types of powders.

Inerting of highly combustible metal powders.
User friendly disposal and maintenance.

FOR POLYMERS AND CONDUCTIVE AND NON-CONDUCTIVE METALS

TECHNICAL DATA	SEP.EX-001	ESD.SEP-0467
Type of Dust	Highly reactive and self-igniting powders	Low-risk plastic powders.
ATEX Marking	Ex II 3D Ex h IIIC T85°C Dc	-
Inlet	50 mm	50 mm
Oil Capacity | Powder Capacity	27 L | 13 L	- | 20 L
Dimensions	50x60x112h cm	45x40x81h cm
Weight	36 kg	15 kg

SPECIAL CUSTOM EXECUTIONS AVAILABLE UPON REQUEST

ACCESSORIES

BRUSH

RUBBER NOZZLE

RUBBER TRUNCATED CONE

RUBBER CONICAL END

SCRAPER SUCTION CUP

FILTER FI.0469.0000

FLAT METAL NOZZLE

TRUNCATED CONE WITH 90° TIP IN RUBBER

ARTICULATED ARM FOR ASPIRATION OF SUSPENDED POWDERS

DOUBLE CURVE AND FLOOR CLEANING BRUSH

FLEXIBLE CONDUCTIVE TUBES IN POLYURETHANE AND PVC

SUCTION ARM WITH HOOD

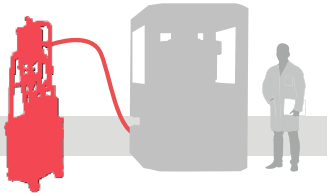
OTHER DELFIN SOLUTIONS FOR ADDITIVE MANUFACTURING:

PNEUMATIC CONVEYING

Delfin designs and manufactures pneumatic conveying solutions, both standard and custom, for loading and recovering powders on 3D printers. These solutions are available with compressed air (Venturi) or electric feeding, allowing for optimized recovery efficiency even for highly combustible powders, thanks to applied experience with inert gases and sealed recirculation solutions (Gastight/closed loop).

The **Gastight technology** enables the extraction of powders from the printer without contact with oxygen during aspiration. By using the inert gas present in the printing chamber as a carrier, the powder is extracted and reintroduced into the closed cycle, reducing waste and allowing for the reuse of powders for subsequent prints.

CONNECTION DIAGRAM



WHAT DELFIN OFFERS

CERTIFIED SAFETY, QUALITY & EFFICIENCY

ACD CERTIFICATIONS FOR NON-ATEX AREAS

CERTIFIED MOBILE MACHINES TO CONTAIN AN INTERNAL ZONE 20

TESTED HIGH SAFETY SOLUTIONS FOR COLLECTING REACTIVE POWDERS

INERTIZING SYSTEMS ERGONOMIC AND EASY TO MAINTAIN

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