

3D PRINTING - EVOLVING TECHNOLOGIES

In traditional machine tool production, the standard process is usually subtractive (subtraction of material through milling, drilling, grinding, and so on). Today, a new technology has integrated and partly replaced traditional subtractive production: 3D Printing Additive Manufacturing is a process that enables to create a finished part by aggregating raw materials, including polymers, metals and other powders.

Powder Bed Fusion technology (PBF)

Selective Laser Sintering (SLS) and **Selective Laser Melting (SLM)** technologies require dedicated solutions of powder collection to guarantee safety and efficiency during the production process, cleaning and maintenance of 3D printers, and quality of the finished product.

Regardless of the materials, which can be either hazardous and highly explosive metal powders such as aluminium or titanium, chrome-nickel, stainless steel, inconel, or polymeric plastic powders, or inert powders such as stone, ceramic or concrete, Delfin has designed over the years dedicated systems and solutions with several advantages and benefits when it comes to handle such powders.

WHY USE DELFIN INDUSTRIAL VACUUMS



Maintenance of the 3D Printer and removal of residual powders from the building chamber

Deep cleaning of finished products



Cleaning of production environment

ADDITIONAL BENEFITS OF DELFIN VACUUM SOLUTIONS



AVOID CROSS
CONTAMINATION OF POWDERS



RECLAIMING OF
POWDERS



WORKERS SAFETY AND
PREVENTION OF THE RISK
OF EXPLOSION

Delfin is a global leader in the manufacturing of industrial vacuum equipment, ranging from portable vacuums, central vacuum systems, engineered solutions, pneumatic conveying systems, for industrial cleaning. Our mission is to create value by designing innovative solutions that improve efficiency, safety, and productivity.

Our aim is to use our expertise to help our customers to achieve their goals.



VACUUM SOLUTIONS FOR 3D PRINTING

Contact us for more information



Delfin Industrial Corporation
2010 E Center Circle, Bldg C • Suite 300 • Plymouth, MN 55441
Tel 877-205-9015
sales@delfinindustrial.com • delfinindustrial.com

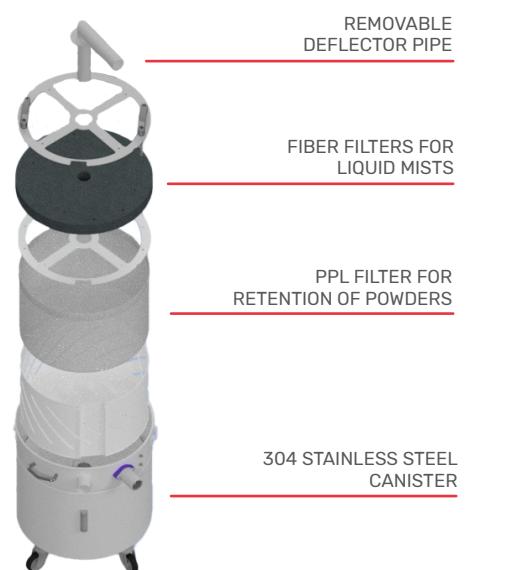
INERT SOLUTIONS FOR REACTIVE METAL POWDERS

Inert EX technology allows for safe vacuuming of potentially explosive powders directly into an inert liquid (oil or other solution, depending on the type of powder). This eliminates the risk of an explosion inside the machine by removing one of the explosion factors, even in presence of sources of ignition.

INERT CANISTER

A PPL filter retains the vacuumed powder in the inert bath while three other fibre filters retain the mist generated from the vacuuming. The system consists of a series of modular elements that ensure ease of use in assembly, disassembly and powders disposal, without the use of tools.

Our solutions are dust ignition proof certified by notified testing labs as compliant with regulations for prevention of explosion and handling explosive powders. Both inner design and external structure, are marked according to the most update international explosion proof standards.



RANGE



TECHNICAL DATA	ZFR EV AP Z22 K2 INERT	DG 50 INERT	MTL451 ATEX 22 INERT	SEP.EX-001
Power	3.5 HP	6.2 HP	1.5 HP	-
Voltage	460 V - 60Hz 3~	460 V - 60Hz 3~	115 V - 60Hz 1~	
Max air flow	765.2 CFM	294.3 CFM	211.9 CFM	-
Max waterlift	14.2 inH2O	104.3 inH2O	90.1 inH2O	-
Primary filter	Droplet separator	Star - Polyester ANT M	Star	Star - Polyester ANT L
Canister	Stainless steel AISI 304			
Dust capacity	6.6 gal	3 gal	1.4 gal	3 gal
Oil capacity	13.7 gal	7 gal	2.8 gal	7 gal
Dimensions	30.7 x 33.4 x 96.8 in	26 x 46 x 57 in	23 x 25 x 53 in	19.6 x 23.6 x 44 in



Available with ATEX certification for zone 22 and inner part zone 20

SOLUTIONS FOR NON REACTIVE POWDER (POLYMER AND METALS)

Delfin industrial vacuums enable the recovery of polymer powders, reduce maintenance costs, guarantee efficiency of the 3D printer and quality of the finished parts. Moreover, Delfin dust collectors are the ideal solution for extraction at the source on 3D additive machinery.



RANGE



TECHNICAL DATA	MTL 300 BL C2D2	ZFR EV AP 560	451 BL C2D2
Power	1.5 HP	6.4 HP	1.5 HP
Voltage	115 V - 60 Hz 1~	460 V - 60 Hz 3~	115 V - 60 1~
Max air flow	121.8 CFM	1059.4 CFM	121.8 CFM
Max waterlift	90.6 inH2O	15.7 inH2O	90.6 inH2O
Filter surface	4.5 ft ²	54 ft ²	22 ft ²
Collection capacity Container	3 gal Integrated	26 gal Detachable	11.9 gal Detachable
Dimensions	18 x 17 x 31 in	31 x 33 x 98 in	23 x 25 x 51 in



Available with ATEX certification for zone 22 and inner part zone 20

ADDITIONAL SOLUTIONS AND ACCESSORIES

SEPARATORS

To work with even more efficiency and flexibility, it is possible to use the vacuum with one or more separators, with the following benefits:

- ✓ Prevention of the risk of mixing different materials, thanks to a dedicated collection unit for each type of powder.
- ✓ Easy handling, recovery or disposal of the collected powders.
- ✓ Primary filter protection and improvement of suction performance and motor life over time.

POLYMER AND NON REACTIVE METALS



CHROME, STAINLESS STEEL, INCONEL, COPPER

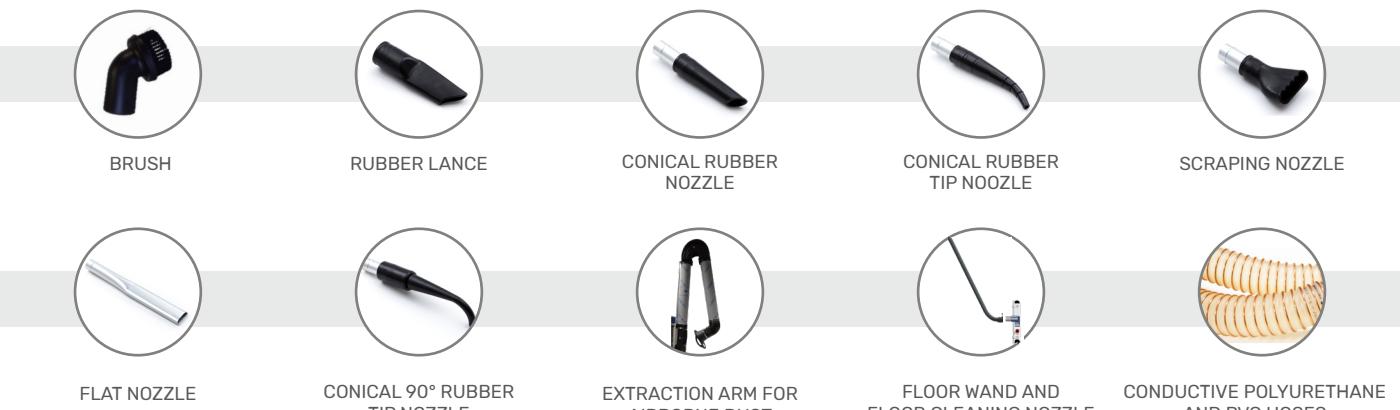
- Reduces the amount of powder reaching the vacuum and increases the life time of filter and motor
- Avoids cross contamination when vacuuming different powders

REACTIVE METAL



ALUMINUM, TITANIUM

- Inertization of reactive metal powders
- Easy disposal of material



PNEUMATIC CONVEYORS

Among the RANGES OF SOLUTIONS DESIGN by Delfin are the pneumatic conveying systems, that allow the loading of powders on 3D printers. We offer pneumatic conveyors powered by both electrical supply and compressed air supply, in ATEX and/or inert atmosphere. Customized solutions can also be engineered for integration on 3D printers, including inert gas solutions for reactive metal powders

- AUTOMATIC LOADING OF PRINTER
- MATERIAL OR RECOVERY
- AUTOMATIC TRANSFER AND RECOVERY
- CUSTOMIZED SYSTEMS FOR LARGE CAPACITIES WITH DOSING UNITS