

DELFIN · II 3D EX TC III C T135°C XDC

# Delfin ZFREVE AP 1/3D 560 INERT K2



The Delfin ZFREVE AP 1/3D 560 INERT K2 is a stationary industrial INERT vacuum system -- not a mobile vacuum, but a fixed installation with centrifugal fan, INOX demister and a hydro-oleophobic coalescing cartridge in H14 class. The centrifugal fan is ATEX 3GD IP65-certified (2.2 kW IE3, 4.4 A, 400 V three-phase) and delivers 1300 m<sup>3</sup>/h airflow -- on par with a large central suction installation. The collection principle is two-stage: first the INOX demister that retains droplets and coarser particles, then the coalescing cartridge that captures fine aerosol. The neutralisation bath (27 L liquid, variable level 24-44 L) inactivates reactive dust directly in the collection tank. Used where airflow and filter volume outgrow a standard vacuum: central suction at larger process plants with reactive powder and Zone 22 classification.

## APPLICATIONS

- Fixed central suction installation at larger process plants in Zone 22
- 3D-printing factories with multiple suction points and reactive metal powder
- Defense industry's larger ammunition facilities with stationary installation
- Light-metal machining in aerospace with centralised dust capture
- Process plants where mobile vacuums cannot deliver the required airflow

# Technical specifications

<b>ATEX marking</b>	II 3D Ex tc IIIC T135°C XDC
<b>Internal / external zone</b>	20 / 22
<b>Motor type</b>	Centrifugalventilator IE3 (2,2 kW, 4,4 A, 3-faset), ATEX 3GD IP65 IIIC
<b>Airflow</b>	1300 m <sup>3</sup> /h
<b>Vacuum</b>	27 mbar (280 mmH <sub>2</sub> O)
<b>Container</b>	44 L
<b>Sound pressure</b>	74 dB(A)
<b>Filter class</b>	H class
<b>Filter type</b>	HEPA H14 hydro-oleophob coalescing-kartusche (EN 1822-5), 99,995 % MPPS
<b>Primary filter</b>	INOX-demister (rustfrit staal-metalmesh, AISI 304)
<b>Cleaning system</b>	Demister-afdryingning (automatisk) + manuel skift af coalescing-kartusche
<b>Collection system</b>	INERT neutralisation bath
<b>Material</b>	AISI 304 rustfrit staal (beholder, demister, kapsling)
<b>IP class</b>	IP65
<b>Power</b>	2.2 kW
<b>Current</b>	4.4 A
<b>Voltage</b>	400 V / 50 Hz / 3~
<b>Inlet</b>	Diameter 125 mm
<b>Dimensions (L x W x H)</b>	780 x 850 x 2460 mm
<b>Weight</b>	120 kg

# Questions and answers

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## What does INERT mean in this context?

INERT denotes a vacuum cleaner with a neutralising liquid bath in the collection tank. Dust is channelled directly into the liquid and inactivated immediately, so it cannot react with oxygen, heat or sparks. The technology is developed for reactive metallic dust (aluminium, titanium, magnesium, zirconium, lead dust from shooting ranges), where conventional dry collection would itself be an ignition source.

## Is the INERT system tested to EN 17348:2022?

Yes. The entire Delfin INERT range is performance-tested to EN 17348:2022 -- the harmonized European standard for industrial vacuum cleaners in ATEX zones. The test confirms that the neutralisation bath actually inactivates reactive dust under real operating conditions, not just in a lab setup. Documentation available on request.

## What types of dust is INERT technology intended for?

Reactive metallic dust: aluminium and aluminium alloys, titanium, magnesium, zirconium, fine iron powder, lead dust and primer residue from shooting ranges, and pyrophoric powders from aerospace and defense. For non-reactive dust (organic process dust, plastics, etc.) the INERT technology adds no further safety -- a standard ATEX or ACD model without liquid bath is selected instead.

## How does the HEPA H14 final filter work together with the liquid bath?

The neutralisation bath inactivates dust at the moment of collection, but there will always be a fine aerosol fraction that passes the liquid surface. The HEPA H14 filter captures 99.995 % of particles down to 0.3 micrometres per EN 1822-5 (MPPS method) before exhaust. The combination secures both safe collection (no reactive dry particle) and clean exhaust (no health-hazardous aerosol). The filter is Included/Incluso as standard on all INERT models.

# Contact and advisory

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