

DELFIN · II 3D EX H TC IIIC T80°C (INT) /T165°C (EXT) DC

# Delfin ZFR 75 INERT



The Delfin ZFR 75 INERT is the three-phase INERT version of the Zefiro family: a side-channel blower (3 kW, 6.5 A, 400 V) built for 24/7 continuous operation without maintenance, combined with a 44-litre neutralisation tank (37 L liquid + 7 L material) in AISI 304. The included pressure relief valve protects against overpressure when the filter clogs, and the H-HEPA final filter (99.995 % MPPS per EN 1822-5) ensures clean exhaust. ATEX-certified for Zone 22 (II 3D Ex h tc IIIC) and performance-tested to EN 17348:2022. Suited to large reactive powder volumes where 24-hour operation is required.

## APPLICATIONS

- 24/7 central cleanup of reactive metal powder in Zone 22
- Large 3D-printing farms with aluminium or titanium powder
- Stationary installation at defense ammunition facilities
- Powder metallurgy with round-the-clock operation and pyrophoric powders
- Battery production with large volumes of reactive electrode materials

# Technical specifications

<b>ATEX marking</b>	II 3D Ex h tc IIIC T80°C (int) /T165°C (ext) Dc
<b>Internal / external zone</b>	22 / 22
<b>Motor type</b>	Sidekanalblaeser, 3-faset (3 kW, 6,5 A)
<b>Airflow</b>	318 m <sup>3</sup> /h
<b>Vacuum</b>	294 mbar (3000 mmH <sub>2</sub> O)
<b>Container</b>	44 L
<b>Sound pressure</b>	75 dB(A)
<b>Filter class</b>	H class
<b>Filter type</b>	Klasse H HEPA H14 (EN 1822-5), 99,995 % MPPS, 26.000 cm <sup>2</sup> filterflade
<b>Primary filter</b>	Stjerne/taske polyester ANT M-klasse antistatisk, 30.000 cm <sup>2</sup> , diameter 500 mm
<b>Cleaning system</b>	Manuel filterrensning + trykdigningsventil inkluderet
<b>Collection system</b>	INERT neutralisation bath
<b>Material</b>	Lakeret staalkonstruktion (krop), AISI 304 INERT-beholder, ABS tilbehoersholder
<b>IP class</b>	IP65
<b>Power</b>	3.0 kW
<b>Current</b>	6.5 A
<b>Voltage</b>	400 V / 50 Hz / 3~
<b>Inlet</b>	Diameter 50 mm
<b>Dimensions (L x W x H)</b>	790 x 660 x 1700 mm
<b>Weight</b>	95 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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