DELFIN · II 1/2D EX H TB IIIC T80°C (INT) /T95°C (EXT) DA/DB

Delfin DM2 1/2D INERT

The Delfin DM2 1/2D INERT is the 1/2D counterpart to the DM2 1/3D INERT: same 44 L INERT tank (37 L liquid + 7 L material) in AISI 304, same HEPA H14 with 26,000 cm² filter, but upgraded for continuous operation in ATEX Zone 21 with internal Zone 20 (II 1/2D Ex h tb IIIC). The single-phase brushless motor (2.2 kW) delivers 430 m³/h airflow -- the highest in the DM2 family -- at 221 mbar. Used where reactive metallic dust and prolonged ATEX atmosphere require simultaneous uncompromised protection.

APPLICATIONS

- Continuous operation at 3D-printing plants with metal powder in Zone 21
- Larger ammunition facilities with Zone 21 classification
- Light-metal machining in aerospace with prolonged ATEX atmosphere
- Powder metallurgy with pyrophoric powders in Zone 21 areas
- Process plants where liquid capacity and airflow are both critical

Technical specifications

ATEX marking	II 1/2D Ex h tb IIIC T80°C (Int) /T95°C (ext) Da/Db
Internal / external zone	20 / 21
Motor type	1-faset brushless-motor (2,2 kW, 16 A ved 230 V)
Airflow	430 m³/h
Vacuum	221 mbar (2250 mmH_2O)
Container	44 L
Sound pressure	74 dB(A)
Filter class	H class
Filter type	HEPA H14 (EN 1822-5), 99,995 % MPPS, 26.000 cm² filterflade
Primary filter	Stjerne/taske polyester ANT M-klasse antistatisk, 30.000 cm², diameter 500 mm
Cleaning system	Manuel filterrensning + indikator for tilstopning
Collection system	INERT neutralisation bath
Material	AISI 304 rustfrit staal (beholder)
IP class	IP64
Power	2.2 kW
Current	16 A
Voltage	115/230 V / 50-60 Hz
Inlet	Diameter 50 mm
Dimensions (L x W x H)	770 x 660 x 1680 mm
Weight	90 kg

Questions and answers

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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