DELFIN · II 3D EX H IIIC T80°C (INT) / T135°C (EXT) DC

Delfin ZFR EV 420 Z22 K07

The Delfin ZFR EV 420 Z22 K07 is the entry-level model in Delfin's centrifugal-fan based ZEFIRO deduster range -- a stationary ATEX dust collector for Zone 22-classified areas. At its core is a 0.75 kW centrifugal fan (three-phase 400 V, IE3 motor) delivering 1,000 m³/h airflow at 180 mmH²O (18 mbar) static vacuum -- a characteristic optimised for source capture with extraction arm or central piping, not for hand-held suction. Filtration is two-stage: a star-shaped polyester primary filter (L class, 20,000 cm² surface) retains coarser particles, and a HEPA H14 final filter (99.995 % efficiency at MPPS per EN 1822-5) ensures exhaust that is clean down to the finest health-hazardous particles. Collection is in a detachable 45-litre steel container with internal plastic liner, keeping cleaning simple and contamination-free. The model is ATEX-certified II 3D Ex h IIIC and built to the harmonised standard EN 17348:2022 -- the European norm for industrial vacuums in ATEX zones.

APPLICATIONS

• Extraction-arm mounted source capture at welding workstations in Zone 22 classified production halls
• Central suction of process dust in smaller mills, feed plants and bakeries with ATEX zone classification
• Grinding and polishing dust from metal processing on heavily classified laboratory and production equipment
• Bag and sack emptying of combustible powder in coatings, plastics manufacturing and fine chemistry under Zone 22 regime
• Permanent installation at newly established production cells where a mobile ATEX vacuum cannot be permanently coupled

Technical specifications

ATEX marking	II 3D Ex h IIIC T80°C (int) / T135°C (ext) Dc
Internal / external zone	22 / 22
Motor type	Centrifugalventilator IE3 (0,75 kW, 3-faset 400 V), Ex h IIIC T135°C ekstern / T80°C intern, Ex tb Dust Tight Certified
Airflow	1000 m³/h
Vacuum	18 mbar (180 mmH_2O)
Container	45 L
Sound pressure	70 dB(A)
Filter class	H class
Filter type	HEPA H14 (EN 1822-5), 99,995 % MPPS, 10 m² filterflade -- standard inkluderet
Primary filter	Stjerne/taske polyester L-klasse (IEC 60335-2-69), 20.000 cm², diameter 420 mm, manuel rensning
Cleaning system	Manuel filterrensning via udvendig hank
Collection system	Plastic bag
Material	Malet staalkonstruktion (AISI 304 som option)
IP class	IP55
Power	0.75 kW
Voltage	400 V / 50 Hz / 3~
Inlet	Diameter 100 mm
Dimensions (L x W x H)	580 x 630 x 1800 mm
Weight	60 kg

Questions and answers

What is a deduster, and how does it differ from a conventional industrial vacuum?

A deduster (centrifugal-fan based particle collector) is a stationary dust collector designed to capture airborne particles via high airflow at relatively low static vacuum. Where a mobile industrial vacuum delivers 100-300 m³/h at 200-300 mbar (designed to draw through a long hose into a bin on the floor), the ZFR EV 420 K07 delivers 1,000 m³/h at just 18 mbar (designed to capture diffuse particles at the source via extraction arm or central piping). These are two different working principles: point collection versus volume capture. The deduster's strength is continuous, automatic operation with large airflow.

What dust types is the ZFR EV 420 K07 designed for?

The model is intended for dry combustible dust and fine suspended particles -- typically metallic grinding dust, polymer dust from plastics processing, organic process powders such as flour and spices, and fine chemicals in powder form. The filter class is L (IEC 60335-2-69) with HEPA H14 final filter (EN 1822-5), so the exhaust meets even stringent workplace requirements. The model is NOT designed for wet or sticky materials, large mechanical chips, or reactive metallic dust (all of these require specialised models -- wet variants, heavier chassis or INERT liquid bath).

How is the ZFR EV 420 K07 ATEX-certified for Zone 22?

The marking is 'II 3D Ex h IIIC T80°C (int) / T135°C (ext) Dc' -- group II (above-ground industry), category 3 for dust (Zone 22 external, EPL Dc). The type of protection is 'h' (constructive safety per EN ISO 80079-37) for dust group IIIC (all dust effect groups including conductive). Internal surface temperature is limited to 80°C, external to 135°C -- important to ensure that dust contacting the enclosure does not ignite. The centrifugal fan and control box are both 'Ex tb Dust Tight Certified', and the entire unit is performance-tested to EN 17348:2022, the harmonised European standard for industrial vacuums in ATEX zones.

Should an extraction arm be used, or can it be connected directly to a machine?

Both are valid, and the choice depends on the scenario. With an articulated extraction arm (TA.0177.0000 oe150 or TA.0511.0000 oe200, 3,000 mm reach) the model becomes a flexible source-capture station -- ideal for welding fume extraction, grinding workstations or bag emptying. Without an arm the deduster can be connected directly to a machine or process via the 100 mm suction inlet -- typically a CNC, grinder or mixer with fixed suction tubing. Tubo-flex reductions (SL.6883.0200 from oe200/100) allow adaptation to other hose dimensions. Earth grounding (MT) is included as standard.

Contact and advisory

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