DELFIN · II 1/2D EX H IIC T160°C DA/DB

Delfin DG VL 125 EX1/2D

The Delfin DG VL 125 EX1/2D is the mid-range model in the DG VL range's dual-certified flagship family -- an industrial three-phase side-channel blower at 18.5 kW with notified-body third-party certification per EN 17348:2022. The model delivers 1100 m³/h airflow and 3100 mmH²O vacuum and is equipped with a self-cleaning filter system (SELF CLEAN) that automatically shakes or pulse-jets the primary filter during operation -- a marked step up from the DG EXP family's manual filter cleaning. The HEPA H14 absolute filter at 103.500 cm² and the 70,000 cm² antistatic polyester primary filter deliver 99.995 % MPPS separation efficiency and extended service intervals. The ATEX marking II 1/2D Ex h IIIC T160°C Da/Db covers internal Zone 20 + external Zone 21, and the model is built for 24/7 operation in pharmaceutical process plants, chemical production lines, metalworking with conductive dust and heavy ATEX installations where notified-body documentation is a contract requirement. A PTC motor heat sensor is standard on this size and protects against thermal overload during extended high-load operation.

APPLICATIONS

• 24/7 continuous dust collection in pharmaceutical GMP process plants with internal Zone 20 requirements
• Central ATEX vacuum for multi-operator facilities with 1100 m³/h reserve airflow and long hose/pipe installation
• Chemical production with heavy continuous dust loads where self-cleaning filter reduces maintenance visits
• Metalworking with IIIC-class conductive dust (aluminium, magnesium, titanium) and Zone 21 coverage requirement
• Process plants where HEPA filter area of 103.500 cm² gives 24-48 month service intervals under moderate dust load
• Central vacuum system with fixture installation -- 200 kg weight and 1.80 m footprint allow permanent

placement without wheel requirement
• Audit-heavy industries' (pharma, chemical, offshore) compliance requirements for notified-body EU type-examination and ISO 9001 quality management in production

Technical specifications

ATEX marking	II 1/2D Ex h IIIC T160°C Da/Db
Internal / external zone	20 / 21
Motor type	Sidekanalblaeser, 3-faset (trifase), industriel udfoerelse
Airflow	1100 m³/h
Vacuum	304 mbar (3100 mmH_2O)
Container	160 L
Sound pressure	78 dB(A)
Filter class	H class
Filter type	HEPA H14 (EN 1822-5), 99,995 % MPPS, 103.500 cm² filterflade, standard inkluderet
Primary filter	Stjerne/taske antistatisk polyester M-klasse (ANT M), 70.000 cm², Ø 560 mm
Collection system	Plastic bag
Material	AISI 304 rustfrit staal (beholder standard; filterhus som option)
IP class	IP65
Power	18.5 kW
Current	32.5 A
Voltage	400 V / 50 Hz / 3~
Inlet	Diameter 120 mm
Dimensions (L x W x H)	1800 x 770 x 2000 mm
Weight	200 kg

Questions and answers

How does the self-cleaning filter system on the DG VL range work, and what is the difference from manual filter cleaning?

The DG VL series self-cleaning filter system (SELF CLEAN) combines two mechanisms: cyclic pulse-jet cleaning of the primary filter (star/pocket) and automatic vibration shaking via an eccentric motor mounted on top of the filter chamber. During operation the pulse is typically activated every 30-60 seconds or on detected pressure drop, loosening accumulated dust and sending it down into the collection tank. Practically this means the primary filter retains its nominal flow capacity over the entire working day without manual cleaning. On the DG EXP range (DG 30/70 EXP EX1/2D) the operator must stop the machine and shake the filter manually after approximately 2-4 hours of operation under heavy dust load -- a productivity loss of 15-30 minutes per interval, completely eliminated by SELF CLEAN.

Why choose the DG VL 125 EX1/2D over the EX1/3D variant?

Performance is identical between the EX1/2D and EX1/3D variants -- same 1100 m³/h, same 3100 mmH²O, same cabinet and filter construction. The difference is solely the covered zone area: the EX1/2D may be used in external Zone 21 (explosive dust atmosphere likely during normal operation), while the EX1/3D may ONLY be used in Zone 22 (rare or brief dust atmosphere). The EX1/2D variant is therefore chosen when: (1) your ATEX explosion-protection document classifies the environment as Zone 21, (2) you need the flexibility to move the machine between Zone 21 and Zone 22 areas without changing equipment, or (3) you are making a long-term investment and want to avoid an upgrade if future process changes raise the zone classification. In price terms the EX1/2D is more expensive than the EX1/3D due to stricter certification requirements; the surcharge is typically 10-15 %.

What is the function of the PTC motor heat sensor on the DG VL 125, and is it a legal requirement?

The PTC motor heat sensor (Positive Temperature Coefficient thermistor) is fitted directly in the motor windings and measures winding temperature continuously. When temperature exceeds the motor's thermal limit (typically 130-150°C depending on insulation class), sensor resistance rises sharply and triggers the motor relay to disconnect. This protects the motor against thermal overload during long continuous operation, at high ambient temperature or on phase loss. On the DG VL 125 with 18.5 kW motor and 32.5 A current draw, the PTC sensor is standard -- the manufacturer's assessment is that it is necessary on this motor size to provide 10+ years of reliable operating life. PTC protection is not a direct legal requirement but is indirectly required by the Machinery Directive for motor protection (Annex I, 1.5.6) in case of thermal failure risk.

Sound pressure 78 dB(A) -- where is it measured, and how does it compare to the DG EXP family?

The noise level of 78 dB(A) is measured per EN ISO 3744 at 1 m distance in free air without suction accessories. Compared to the DG 30/70 EXP (72 dB(A) both), the DG VL 125 sits 6 dB(A) higher -- which is expected given the higher airflow (1100 m³/h versus 420-560 m³/h). In practical production environments the noise source is often dominated by surrounding process equipment and not the vacuum cleaner itself. The Danish Working Environment Act action limit for hearing protection is 85 dB(A) LEX,8h -- the DG VL 125 at 78 dB(A) is substantially below the limit even under 8 hours of continuous operation. More

important for the user: when the self-cleaning filter is activated short pressure pulses can occur 5-10 dB(A) higher -- these are typically under 1 second and included in the average measurement.

Contact and advisory

PARTICULAIR

Particulair
Højtoften 12
2690 Karlslunde, Denmark
CVR: 34129894
Phone: (+45) 70 23 12 03
E-mail: sales@particulair.com
Web: particulair.eu
Product page: particulair.eu/ex-vac/en/atex-dust/dg-vl-125-1-2d/

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