

DELFIN · II 1/3D EX H IIIC T160°C DA/DC

# Delfin DG VL 125 EX1/3D



The Delfin DG VL 125 EX1/3D 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 m<sup>3</sup>/h airflow and 3100 mmH<sub>2</sub>O 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 cm<sup>2</sup> and the 70,000 cm<sup>2</sup> antistatic polyester primary filter deliver 99.995 % MPPS separation efficiency and extended service intervals. The ATEX marking II 1/3D Ex h IIIC T160°C Da/Dc covers internal Zone 20 + external Zone 22, 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 m<sup>3</sup>/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 22 coverage requirement
- Process plants where HEPA filter area of 103.500 cm<sup>2</sup> 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

<b>ATEX marking</b>	II 1/3D Ex h IIIC T160°C Da/Dc
<b>Internal / external zone</b>	20 / 22
<b>Motor type</b>	Sidekanalblaeser, 3-faset (trifase), industriel udfoerelse
<b>Airflow</b>	1100 m <sup>3</sup> /h
<b>Vacuum</b>	304 mbar (3100 mmH <sub>2</sub> O)
<b>Container</b>	160 L
<b>Sound pressure</b>	78 dB(A)
<b>Filter class</b>	H class
<b>Filter type</b>	HEPA H14 (EN 1822-5), 99,995 % MPPS, 103.500 cm <sup>2</sup> filterflade, standard inkluderet
<b>Primary filter</b>	Stjerne/taske antistatisk polyester M-klasse (ANT M), 70.000 cm <sup>2</sup> , Ø 560 mm
<b>Collection system</b>	Plastic bag
<b>Material</b>	AISI 304 rustfrit staal (beholder standard; filterhus som option)
<b>IP class</b>	IP65
<b>Power</b>	18.5 kW
<b>Current</b>	32.5 A
<b>Voltage</b>	400 V / 50 Hz / 3~
<b>Inlet</b>	Diameter 120 mm
<b>Dimensions (L x W x H)</b>	1800 x 770 x 2000 mm
<b>Weight</b>	200 kg

# Questions and answers

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## 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.

## What is the difference between the DG VL 125 EX1/3D and EX1/2D?

Motor, cabinet, filter and performance are identical between the EX1/3D and EX1/2D variants of the DG VL 125 -- only the ATEX marking and covered zone area differ. The EX1/3D (marked II 1/3D Ex h IIC T160°C Da/Dc) may be used in areas classified as external Zone 22, where an explosive dust atmosphere occurs only rarely or briefly during normal operation. The EX1/2D covers the stricter external Zone 21 (explosive dust atmosphere likely during normal operation). Both variants cover internal Zone 20 through the third-party certification -- the difference is only where the model may be used in the environment. Choose the EX1/3D for most industrial production environments (typically Zone 22 around process equipment); choose the EX1/2D when zone classification is Zone 21 or when future-proofing against zone reclassification in facility changes is valued.

## 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 m<sup>3</sup>/h versus 420-560 m<sup>3</sup>/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

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