DEPURECO · II 1/2D EX HTC IIIC T140°C DA/DB

Depureco PUMA 20 DEX 1/2D

The PUMA 20 DEX 1/2D is the PUMA family's vacuum specialist: a 15 kW motor delivers 950 m3/h at a full 350 mbar -- the highest vacuum in the standard-PUMA Zone 21 range. Same 175 L chassis as the PUMA 10/15, but with the motor power dedicated to maximum mbar. ATEX II 1/2D Ex htc IIIC T140°C Da/Db, H14 HEPA included, TUEV panel. The choice when dust is heavy or fine, hoses are long, or you need vacuum reserve under a fully loaded filter.

APPLICATIONS

- Heavy dust (mineral, metal, cement) in Zone 21
- Long hose runs (20-30 m) where vacuum falls with distance
- Fine dust below 10 micron (e.g. pharmaceutical micronisation)
- Bulk dust collection at warehouse filling and chemical processing
- Established installations losing power with age -- PUMA 20 gives 350 mbar buffer

Technical specifications

ATEX marking	II 1/2D Ex htc IIIC T140°C Da/Db
Internal / external zone	20 / 21
Motor type	Sidekanalblaeser 3-fase (15 kW), TUEV-certificeret el-panel + remote control
Airflow	950 m³/h
Vacuum	350 mbar (3569 mmH_2O)
Container	175 L
Sound pressure	74 dB(A)
Filter class	M class
Filter type	Stjernefilter antistatisk polyester klasse M, 45.000 cm2, manuel rens + H14 absolutfilter 110.000 cm2 (inkluderet)
Primary filter	Stjernefilter antistatisk polyester klasse M, 45.000 cm2
Cleaning system	Manuel filterrens
Collection system	Detachable container
Material	Lakeret staalkonstruktion, AISI 304 stoevbeholder
IP class	IP65
Power	15 kW
Voltage	400 V / 50-60 Hz
Inlet	Diameter 100 mm
Dimensions (L x W x H)	850 x 1550 x 1980 mm
Weight	290 kg

Questions and answers

Why is the flow 950 m3/h but the vacuum a full 350 mbar -- where's the trade-off?

The 15 kW motor is tuned for higher pressure ratios. Compare with PUMA 15 (11 kW, 950 m3/h, 300 mbar): same peak flow but 17% more mbar. Physically it's the same volumetric flow at higher compression -- the motor works harder per cubic metre. For long hoses and fine dust that's exactly what you need, because flow reduction with distance is far greater than vacuum reduction. If you have no pressure drop to overcome, the PUMA 15 is sufficient.

How many mbar do I need in a typical industrial installation?

Rule of thumb: 3-5 mbar per metre of 100 mm hose at 950 m3/h, plus 50-150 mbar filter pressure drop under load, plus 20-50 mbar nozzle pressure drop. At 15 m hose: about 60-75 mbar hose + 100 mbar filter + 30 mbar nozzle = 190 mbar consumed before the nozzle gets anything. PUMA 20's 350 mbar therefore gives 160 mbar effective at the nozzle -- suitable for fine dust. PUMA 15's 300 mbar gives only 110 mbar -- too tight for 15 m with fine dust.

Is the PUMA 20 suitable for atomised cement or construction dust?

In principle yes, with two caveats. (1) Cement dust is aggressive on filters -- the star filter needs cleaning more often than for organic dust, and filter life is reduced. Consider the SP variant with cartridge + reverse jet for longer intervals between filter changes. (2) Moist cement dust clumps and can block the hose; keeping the material dry is critical. The T140°C margin is fine for cement (ignition temperature >400°C).

Can I integrate the PUMA 20 with a dust collector for pre-separation?

Yes. Depureco offers pre-separator units (DM range) placed ahead of the PUMA suction. The pre-separator catches 80-90% of dust before it reaches the PUMA filter, extending filter life and reducing pressure drop. Typical use: central department with high dust loading where filter cleaning mid-shift is undesirable. Contact us for sizing of the combined solution.

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/puma-20-dex-1-2d/

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