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

Depureco PUMA 10 SP DEX 1/2D

The PUMA 10 SP DEX 1/2D is the entry point for 24/7 operation in Zone 21: 7.5 kW motor + a star filter of fully 120,000 cm2 cleaned automatically by reverse jet + TUEV panel with remote control. 750 m3/h at 270 mbar through a 100 mm inlet into a 175 L container. ATEX II 1/2D Ex htc IIIC T140°C Da/Dc (Da/Dc because of the reverse-jet pulse). H14 HEPA (110,000 cm2) included. Same footprint and electrical connection as PUMA 10 DEX (standard), but without the manual filter-cleaning routine. The choice for permanent Zone 21 installations where production can't stop for filter cleaning.

APPLICATIONS

- 24/7 production with Zone 21 permanent classification
- Automated lines where operators aren't nearby
- Food/pharma where filter cleaning is regulatorily challenging
- Installations with a larger filter surface (120,000 cm2) for longer filter life
- Closed production cells running overnight without staffing

Technical specifications

ATEX marking	II 1/2D Ex htc IIIC T140°C Da/Dc
Internal / external zone	20 / 21
Motor type	Sidekanalblaeser 3-fase (7.5 kW), TUEV-certificeret el-panel + remote control
Airflow	750 m³/h
Vacuum	270 mbar (2753 mmH_2O)
Container	175 L
Sound pressure	74 dB(A)
Filter class	M class
Filter type	Stjernefilter antistatisk polyester klasse M, 120.000 cm2, reverse jet cleaning (automatisk) + H14 absolutfilter 110.000 cm2 (inkluderet)
Primary filter	Stjernefilter antistatisk polyester klasse M, 120.000 cm2
Cleaning system	Automatisk reverse jet cleaning
Collection system	Detachable container
Material	Lakeret staalkonstruktion, AISI 304 stoevbeholder
IP class	IP65
Power	7.5 kW
Voltage	400 V / 50-60 Hz
Inlet	Diameter 100 mm
Dimensions (L x W x H)	850 x 1550 x 1980 mm
Weight	295 kg

Questions and answers

Why does PUMA SP use a 120,000 cm2 star filter while FOX SP uses a 90,000 cm2 cartridge?

Different filter housings and different pulse geometry. The PUMA's larger chamber accommodates a coarsely unfolded star filter that reverse jet can pulse across the entire surface without cartridge retaining plates. This gives 33% more surface than FOX SP and is often more robust against coarse dust (star filters don't suffer the same fold-clumping as cartridges). Cartridges (FOX SP), conversely, are better for fine dust with a tendency to settle on surfaces.

What does the reverse-jet system cost in compressed-air consumption per month?

About 150-200 litres/hour at 6 bar, = about 36-48 m3/24-hour period = about 110-144 m3/month in continuous operation. Converted to compressor electricity (typically 0.1-0.15 kWh/m3): about 15-25 kWh/month. Not a large OPEX item compared to the machine's own 7.5 kW motor (roughly 1000 kWh/month), but it does require a compressed-air infrastructure.

Does the SP variant have any performance loss compared to the DEX standard?

No -- actually slightly better. Flow and vacuum are identical (750 m3/h / 270 mbar), but the star filter at 120,000 cm2 has 2.7x more surface than DEX's 45,000 cm2. That means lower effective pressure drop across the filter at the same load, which translates to more consistent suction at the nozzle throughout the shift. The performance gap widens with dust loading -- under light loading, there is no difference.

Can the PUMA 10 SP run in parallel with another unit for redundancy?

Yes -- typically with a small manifold and automatic T-valves. On primary machine fault, the secondary valve opens and suction transfers to PUMA 2. Assumes matching flow requirements. Depureco doesn't have a standard duplex kit, but an integrator can build one using PUMA models as the base. Consult us for specification.

Contact and advisory

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