

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

Depureco PUMA 30 S DEX 1/2D



The Depureco PUMA 30 S DEX 1/2D is the suction-prioritised heavy-duty machine in the PUMA HD range with 1/2D certification -- 18.5 kW three-phase side-channel blower calibrated to highest terminal vacuum (380 mbar) through a 130 mm inlet. It is the right tool when you have long hose runs, fine sticky dust, or extraction from blind enclosures where airflow cannot move as freely as with a short direct run. Applications range from API pharmaceutical raw materials and battery electrolyte paste to roasting dust from energy-ash handling. The 180,000 cm² antistatic polyester M class cartridge handles fine dust fractions down to 0.5 micron, and the 110,000 cm² H14 absolute filter third stage ensures Zone 21 surroundings are not contaminated by discharge. Automatic reverse jet cleaning standard, 175 L AISI 304 container, TUEV-certified electrical panel. 620 kg heavy-duty chassis, IP65. ATEX II 1/2D Ex htc IIIC T140°C Da/Db.

APPLICATIONS

- API pharmaceutical and battery-electrolyte raw material handling with Zone 21 around production lines
- Energy-ash and combustion-residue collection with fine sticky dust
- Long hose runs (>30 m) for central collection from multiple operator positions
- Blind enclosures and closed process equipment where high vacuum is required to draw dust out
- Micronised mineral dust (graphite, silica, talc) in Zone 21 production environments

Technical specifications

ATEX marking	II 1/2D Ex htc IIIC T140°C Da/Db
Internal / external zone	20 / 21
Motor type	Sidekanalblaeser 3-fase (18.5 kW), TUEV-certificeret el-panel + remote control
Airflow	1180 m ³ /h
Vacuum	380 mbar (3875 mmH ₂ O)
Container	175 L
Sound pressure	78 dB(A)
Filter class	M class
Filter type	Cartridge antistatisk polyester klasse M, 180.000 cm ² , integreret reverse jet cleaning (automatisk). H14 absolutfilter 110.000 cm ² inkluderet.
Primary filter	Cartridge antistatisk polyester klasse M, 180.000 cm ²
Cleaning system	Automatisk reverse jet cleaning (standard)
Collection system	Detachable container
Material	Lakeret staalkonstruktion heavy-duty, AISI 304 stoevbeholder
IP class	IP65
Power	18.5 kW
Voltage	400 V / 50-60 Hz
Inlet	Diameter 130 mm
Dimensions (L x W x H)	1050 x 1950 x 2300 mm
Weight	620 kg

Questions and answers

When should I choose the S model over the P model?

Choose S (suction-prioritised) when pipe pressure drop is high: long runs, many bends, fine sticky dust that clogs light runs, or blind enclosures. S delivers 380 mbar vacuum -- twice that of P (170 mbar) -- but most flow is smaller (1180 vs 1940 m³/h). Rule of thumb: over 25 m of hose or dust below 5 micron choose S; large volumes of coarse fractions in short runs choose P. Feel free to contact us with a piping diagram and we'll run a pressure-drop calculation to make the right choice.

Is 18.5 kW a downgrade compared to the P model's 22 kW?

No, it's calibration. Side-channel blowers have a specific curve -- higher vacuum requires more motor torque per cubic metre of air, but smaller total air volume. Depureco fully utilises 18.5 kW at the S model's operating point: 380 mbar x 1180 m³/h is actually the same hydraulic power as the P model's 170 mbar x 1940 m³/h. The two models deliver nearly identical work per kWh -- the difference is where on the vacuum/flow curve the performance is tuned. If that seems counterintuitive, remember shaft work = pressure x volume; reduce volume, up the pressure.

Is the machine suitable for pharmaceutical cGMP environments?

Yes to level-2 (raw materials and process-close) but contact us for level-1 (sterile filling) where a validated hygienic design with rounded-corner AISI 316L contact and SIP/CIP connection is available as an option. The standard PUMA 30 S 1/2D has AISI 304 dust container with easy-pull-out design, fitting for a particle sampling port and H14 DOP test port. All IQ/OQ documentation parts supplied on request. Note: the size (1050 x 1950 mm footprint) requires spatial planning in cGMP environments where you normally use SCM-50 or smaller mobile units.

What about battery electrolyte collection? Is there a special chemical protection?

The standard AISI 304 container is compatible with LFP, NMC and LCO electrolyte dust in dry form, but **not** with free-flowing liquids containing LiPF₆. For lithium salts and organic carbonate dust we recommend the option with AISI 316L container and silicone gasket between filter panel and chassis (resists HF formation from LiPF₆ if the dust absorbs atmospheric moisture). The cartridge filter can also be upgraded to PTFE-laminated polyester for stronger chemical resistance. Contact us for dimensioning check -- we work closely with battery-sector ATEX authorities.

Contact and advisory

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