TIGER-VAC · II 2GD EX D IIA T3 GB / EX T IIIC T200°C DB IP6X -- LCIE 03 ATEX 6297 -- EN 17348

Tiger-Vac EXP1-35L (DT) RE HEPA (MRP)

The Tiger-Vac EXP1-35L (DT) RE HEPA (MRP) is a pharma-oriented ATEX combined vacuum certified II 2GD to EN 17348 for simultaneous Zone 1 gas and Zone 21 dust. The detachable 35 litre tank (DT) makes emptying quick and cleanroom-friendly, and the Manual Reverse Purge (MRP) uses a conductive aluminised spunbond filter cartridge that can be manually reverse-pulsed to release finer sticky dust -- the type of powder that mechanical filter shake alone cannot clean. A 1.0 kW TEFC motor delivers 224 m3/h at 1550 mmH2O, and ISO Class 4 cleanroom compatibility makes it suitable for pharma and biotech. HEPA H14 final filter is standard; ULPA filter can be specified for research labs and high-purity requirements.

APPLICATIONS

- Pharmaceutical tablet press and capsule filling with sticky powder dust
- Hormone and high-potency API production where MRP cleaning is critical
- ISO Class 4 cleanrooms with detachable tank for fast disposal
- Research labs where optional ULPA filter ensures maximum air purity
- Biotech pilot production with simultaneous Zone 1 vapours and Zone 21 powder

Technical specifications

ATEX marking	II 2GD Ex d IIA T3 Gb / Ex t IIIC T200°C Db IP6X -- LCIE 03 ATEX 6297 -- EN 17348
Internal / external zone	-- / 21
Motor type	1-faset TEFC-motor, eksplosionssikret (Ex d IIA T3 Gb / Ex t IIIC T200°C Db), 1.0 kW / 4.5 A
Airflow	224 m³/h
Vacuum	152 mbar (1550 mmH_2O)
Container	35 L
Sound pressure	78 dB(A)
Filter class	H class
Filter type	HEPA H14 (EN 1822-5, 99,995 % @ 0,3 µm MPPS), 211027B -- ULPA tilvalg
Primary filter	Reverse Purge filterpatron, konduktiv aluminiseret spunbond polyester (214181A), 16" x 3,63" ID x 7,932" OD, 1" foldninger
Cleaning system	Manual Reverse Purge (MRP) -- manuel omvendt-puls af filterpatron
Collection system	Detachable container
Material	AISI 304 rustfri staal (undtagen vogn)
IP class	IP6X
Power	1.0 kW
Current	4.5 A
Voltage	230 V / 50 Hz / 1~
Inlet	Diameter 50 mm
Dimensions (L x W x H)	640 x 640 x 1420 mm
Weight	54 kg

Questions and answers

What is a Reverse Purge filter cartridge and how does it work?

A Reverse Purge filter cartridge (214181A) is a cylindrical filter with vertical pleats of conductive aluminised spunbond polyester. When the filter cake becomes too thick, the cleaning handle is activated: airflow is briefly reversed, dust is released from the filter and falls into the container. The cartridge is 16 inches high with 3.63" ID -- a large surface that keeps filter cleaning effective even for fine sticky powders such as lactose and API. An SD skirt (214177) can be specified for extra filter capacity in the same housing.

When should I choose ULPA over HEPA H14?

HEPA H14 captures 99.995 % at MPPS (0.3 µm) and is standard. ULPA (U15-U17) captures 99.9995 % -- 99.999995 % at the same particle size, but higher efficiency in the nanometre range. In pharmaceutical production, HEPA H14 is sufficient for the vast majority of requirements (GMP Annex 1, ISO Class 4). ULPA is typically chosen only where extremely high-potency substances are handled (cytostatics, hormones below 10 µg/m3 OEL) or where operator protection must be at OEB5 level. ULPA costs more in operation (shorter service life, more expensive filter).

What does it mean that the cart is powder coated and not stainless?

The base version of the EXP1-35L MRP has the vacuum housing itself in AISI 304 stainless, but the cart (4-wheel base) is powder-coated steel to keep the price down. For pharma and cleanrooms the cart can be upgraded to AISI 304 via option 218169-UPGRADE -- this is the standard recommendation for GMP environments and wet floor cleaning. The cart material does not affect ATEX certification; both are safe, but stainless is more robust against cleaning chemicals and hygienically superior.

What is the difference between MRP and MRPFT?

MRP (Manual Reverse Purge) uses one large filter cartridge that is pulsed manually -- typically on models like the EXP1-35L. MRPFT (Manual Reverse Purge with Filter Tubes) uses several parallel cylindrical filter tubes, each pulseable -- typically on larger stationary units such as the CD-230V EX MRPFT. The principle is the same (reverse airflow releases the filter cake), but more filter tubes provide greater total filter area and suit high-volume process extraction. For mobile pharma units, MRP with a single cartridge is simpler and matches smaller container sizes.

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-combi/exp1-35l-dt-re-hepa-mrp/

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