

TIGER-VAC · II 1/2GD EXTERNAL: EX DB H IIB T4 GB -- EX H TB IIIC T135 C DB IP65 -- INTERNAL: EX H IIC T6 GA -- EX H IIIC T50 C DA -- -5 C <= TA <= +37 C -- EN 17348 DT/LC -- LCIE 03 ATEX 6295 X -- IECEX LCI 10.0040X -- ATEX 3RD PARTY -- ISO CLASS 4 CLEANROOM-COMPATIBLE -- MINDRE END 10 OHM MODSTAND

## Tiger-Vac CD-3 EX ULPA (MRAC) Z1-2-21-22



The Tiger-Vac CD-3 EX ULPA (MRAC) Z1-2-21-22 is the extended pharma version of the CD-3 EX platform -- equipped with a Middle Ring Activated Carbon (MRAC) cartridge with 8 kg activated carbon that adsorbs toxic and odorous vapours (VOC) together with the dust collection. Drive specs as standard CD-3 EX (W&D): 4 kW TEFC, 299 m<sup>3</sup>/h, 3380 mmH<sub>2</sub>O, 56.8 L dust + 64.4 L liquid. The activated carbon cartridge is available in four variants depending on the specific gas spectrum: Regular VOC, MERSORB (mercury), KOGC3/KINA3 (acid vapours) or A-3 (ammonia/arsine/phosphine). The MRAC version is essential for pharma applications where the recovered substances also release vapours -- e.g. certain pharma CMR substances, semiconductor fabs with chemical exposure, and laboratories with solvent handling.

### APPLICATIONS

- Pharma CMR substances that release toxic vapours (cytostatics, hormones, beta-lactam antibiotics)
- Semiconductor and mercury handling with MERSORB cartridge
- Acid handling in chemical laboratory with KOGC3/KINA3 cartridge
- Ammonia and arsine handling in semiconductor fab with A-3 cartridge
- Pharma cleanroom housekeeping where VOC emission must be controlled in addition to particulate filtration

# Technical specifications

<b>ATEX marking</b>	II 1/2GD External: Ex db h IIB T4 Gb -- Ex h tb IIIC T135 C Db IP65 -- Internal: Ex h IIC T6 Ga -- Ex h IIIC T50 C Da -- -5 C <= Ta <= +37 C -- EN 17348 DT/LC -- LCIE 03 ATEX 6295 X -- IECEx LCI 10.0040X -- ATEX 3rd party -- ISO Class 4 cleanroom-compatible -- mindre end 10 ohm modstand
<b>Internal / external zone</b>	20 / 21
<b>Motor type</b>	3-faset TEFC induction-motor, eksplosionsbeskyttet (Ex db h IIB T4 Gb / Ex h tb IIIC T135 C Db IP65) -- 3rd party certified
<b>Airflow</b>	299 m <sup>3</sup> /h
<b>Vacuum</b>	331 mbar (3380 mmH <sub>2</sub> O)
<b>Container</b>	56.8 L
<b>Sound pressure</b>	82 dB(A)
<b>Filter class</b>	H class
<b>Filter type</b>	HEPA H14 (EN 1822, 99,995 % MPPS) standard inkl. + ULPA U15 (99,999 % MPPS 0,12 micron) -- aerosol leak-testet, OSHA-compliant
<b>Primary filter</b>	Hovedfilter SD* statisk afladende m/pre-filter SD* og liquid filter (separat for væske-opsamling)
<b>Cleaning system</b>	Ingen aktivt filterrens-system -- skiftes ved mætning
<b>Collection system</b>	Detachable container
<b>Material</b>	AISI 304 og 316 rustfri stål konstruktion -- mindre end 10 ohm modstand til jord
<b>IP class</b>	IP65
<b>Power</b>	4.0 kW
<b>Current</b>	8.7 A
<b>Voltage</b>	400 V / 50 Hz / 3~
<b>Inlet</b>	Diameter 50 mm
<b>Dimensions (L x W x H)</b>	1100 x 510 x 1310 mm
<b>Weight</b>	160 kg

# Questions and answers

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## What is the difference between CD-3 EX (W&D;) and CD-3 EX (MRAC)?

Drive specs are identical (4 kW, 299 m<sup>3</sup>/h, 3380 mmH<sub>2</sub>O, 82 dB(A), 56.8 L dust + 64.4 L liquid, 160 kg, AISI 304/316). The difference is the filter stack: the standard W&D; version has HEPA H14 + ULPA U15 absolute filters. The MRAC version adds a Middle Ring with Activated Carbon -- a cartridge with 8 kg activated carbon that adsorbs toxic and odorous vapours (VOC, acid vapours, mercury vapours depending on carbon type). Choose W&D; for standard pharma applications; choose MRAC when the recovered substances also emit harmful vapours.

## Why 82 dB(A)?

The CD-3 EX uses a 4 kW TEFC motor with high flow (299 m<sup>3</sup>/h), giving a higher noise level than smaller machines. 82 dB(A) is above the occupational health limit of 80 dB(A) for daily exposure without hearing protection. For continuous use the operator must wear hearing protection (SNR  $\geq$  25 dB recommended). If lower noise is critical, see the CD-63L EX (W&D;) which is 72 dB(A) but with lower flow.

## What does "less than 10 ohm resistance" mean?

The whole machine (body, cart, wheels, tools) has less than 10 ohm resistance to ground -- measured per EN 60079-32-1. This is necessary for safe discharge of static electricity that can otherwise build up from the collected dust and liquid. ESD ignition (with arc) can ignite combustible dust or vapour at relatively low energy (less than 1 mJ for IIIC dust) -- therefore ESD grounding is mandatory on ATEX vacuums. The CD-3 EX's low resistance is specifically designed to meet this requirement.

## Can it handle combustible powder?

Yes -- combustible powder per the ATEX directive is part of the certificate's coverage. Specifically: II 1/2GD with IIIC marking covers conductive and non-conductive combustible powder. For metallic powders (aluminium, iron, magnesium, lithium) the optional conductive metal dust motor (Class II Group E in North America / Group IIIC in Europe) plus a liquid bath immersion system must be used to neutralise self-ignition risk.

# Contact and advisory

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