TIGER-VAC · II 2D EX H TB IIIC T135°C DB IP65 -- LCIE 03 ATEX 6295 X -- EN 17348 DT -- EKSTERN CERTIFICERING (ZONE 21), UDEN INTERN ZONE 20-CERTIFICERING

Tiger-Vac CD-36L EX DT (MRP) ULPA WITH SS CART 2D

The Tiger-Vac CD-36L EX DT (MRP) ULPA WITH SS CART 2D is the Z21 variant of the series -- marked II 2D to EN 17348 DT, i.e. category 2 for external dust (Zone 21) without internal Zone 20 certification. Hardware is identical to the 1/2GD variant (same chassis, filter, tank and cleaning system), but the certification scope only covers external Zone 21 dust. This makes the model ideal in pharmaceutical and food production where the workroom is Zone 21 without simultaneous gas risk, and where the internal vacuum process does not lie in a Zone 20. Manual Reverse Purge (MRP) cleans the static-dissipative filter cartridge without opening the unit -- the operator turns a handle on the side and airflow briefly reverses through the cartridge so the cake drops into the tank. A ULPA U15 final filter (99.999 % at 0.12 µm, IEST-RP-CC001 / EN 1822 MPPS) is standard and aerosol leak tested before shipment, making the unit ISO Class 4 (former Class 10) cleanroom compatible. The entire housing is built in AISI 304 stainless steel, IP65 protected.

APPLICATIONS

- Pharmaceutical solid-form production in Zone 21 (without simultaneous gas risk)
- Food production where stainless SS304 and ULPA filtration are required
- Cleanrooms ISO Class 4 (former Class 10) where ULPA exhaust is mandatory
- Production rooms where the operator prefers manual filter cleaning (MRP) without opening the unit
- Mobile tasks where a 36 L detachable tank and conductive wheels are an advantage

Technical specifications

ATEX marking	II 2D Ex h tb IIIC T135°C Db IP65 -- LCIE 03 ATEX 6295 X -- EN 17348 DT -- Ekstern certificering (Zone 21), uden intern Zone 20-certificering
Internal / external zone	-- / 21
Motor type	3-faset TEFC-motor (standard), eksplosionssikret (Ex db h IIB T4 Gb / Ex h tb IIIC T135°C Db), 1,5 kW / 3,6 A, 400 V / 50 Hz
Airflow	212 m³/h
Vacuum	249 mbar (2540 mmH_2O)
Container	36 L
Sound pressure	72 dB(A)
Filter class	H class
Filter type	ULPA U15 (EN 1822, 99,999 % @ 0,12 µm MPPS / 99,9995 % @ 0,18 µm IEST-RP-CC001), part 211027, aerosol-leak-testet
Primary filter	Statisk ledende aluminized spun bond polyester reverse-purge patron (214181A), 16" x 3,63" ID x 7,932" OD, 1" plisser
Cleaning system	Manual Reverse Purge (MRP) med statisk ledende reverse-purge patron -- manuel omvending af luftstroemmen uden aabning
Collection system	Detachable container
Material	AISI 304 rustfri staal
IP class	IP65
Power	1.5 kW
Current	3.6 A
Voltage	400 V / 50 Hz / 3~ (standard) -- 230 V / 50 Hz / 1~ option
Inlet	Diameter 50 mm
Dimensions (L x W x H)	780 x 560 x 1780 mm
Weight	99 kg

Questions and answers

What is the difference between the 2D variant and the 1/2GD variant?

The hardware is practically identical (same chassis, filters, tank, cleaning system, dimensions). The difference lies in the scope of ATEX certification. The 2D variant (112157B1-SS / B3-SS) is certified II 2D for pure dust environments in external Zone 21 without internal Zone 20 risk -- i.e. the interior of the vacuum is not certified to contain explosive atmospheres for extended periods. The 1/2GD variant (112160B1-SS / B3-SS) is certified II 1/2GD and covers both internal Zone 0/20 and external Zone 1/21 for gas and dust simultaneously -- suited where the process itself generates an explosive atmosphere inside the vacuum and the surrounding environment may contain both gas and dust. Rule of thumb: if you have process equipment (reactor, mixer) that the vacuum is tightly coupled to and which itself holds Zone 0/20 internally, choose 1/2GD. If you have pure Zone 21 dust environments (pharma tablet production, food processing without gas risk), 2D is fully sufficient and less expensive.

What is Manual Reverse Purge (MRP)?

MRP uses a static-dissipative aluminized spun bond cartridge (214181A, 40 cm x 9.2 cm) as the main filter. When vacuum drops or after a shift the operator activates a lever on the side of the filter housing that briefly reverses airflow through the cartridge. This "reverse purge" shakes the dust cake loose and it falls into the detachable 36 L tank. Benefits: no need to open the machine for cleaning, no electronic valves requiring separate certification, and significantly longer intervals between filter changes. Note that MRP only cleans the reverse-purge cartridge -- the downstream ULPA U15 final filter is not cleaned and must be replaced when restricted (typically annually or by vacuum monitoring).

Why should I choose the three-phase over the single-phase TEFC motor?

Three-phase 400 V delivers the same performance (212 m3/h / 2540 mmH2O) at lower current draw (3.6 A versus 12.3 A on single-phase). This gives lower motor heating, less wear, and smaller cable sizing. For continuous operation three-phase is usually the right choice when 400 V supply is available -- which is standard in most industrial sites. Single-phase 230 V is offered as an option where only household or service connections are available (e.g. temporary setups or service activities). Note: on the 2D version the single-phase variant has the same rated power (1.5 kW) as three-phase. On the 1/2GD variant three-phase is 2.2 kW standard while single-phase is only 1.5 kW -- so there is a real performance difference on the 1/2GD version.

What does ULPA U15 versus HEPA H14 mean in practice?

HEPA H14 (EN 1822) filters 99.995 % at MPPS (Most Penetrating Particle Size, approx. 0.12-0.3 µm) -- the standard requirement for pharmaceutical and laboratory applications. ULPA U15 is one step up: 99.999 % at MPPS and 99.9995 % at 0.18 µm (IEST-RP-CC001). The difference is only a fivefold higher retention on paper (99.995 % vs 99.999 % = about 1000 particles vs 200 particles per million getting through), but in ISO Class 4 cleanrooms (former Class 10) the exhaust requirement is so strict that U15 is the only practical solution -- the exhaust must not itself add particles to the room. For ordinary production rooms (not cleanrooms) H14 usually provides ample safety at lower filter replacement cost. Choose U15 if you operate in cleanrooms, handle particularly toxic or carcinogenic active substances, or if your quality system mandates it.

Contact and advisory

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