

TIGER-VAC · II 2GD EX D IIA T3 GB -- EX T IIIC T200°C DB IP6X -- 0 °C ≤ TA ≤ +40 °C -- LCIE 03 ATEX 6297 -- EN 17348 WT

Tiger-Vac EXP1-10 (IT-40L) EX DT (CFE) HEPA W/3D TOOL KIT



The Tiger-Vac EXP1-10 (IT-40L) EX DT (CFE) HEPA W/3D TOOL KIT is the enhanced version of Tiger-Vac's mini immersion separator. The principle is the same: recovered powder is drawn straight into a liquid bath instead of sitting dry in a container, which Tiger-Vac describes as recovery and inertisation of combustible dust in liquid. As long as the particles stay covered they cannot form a dust cloud. Two things set this model apart from the base version. First, it runs on either water or oil, which matters for the metals that react with water -- there, oil is the only viable route. Second, it has a detachable tank (DT), so the tank can be wheeled away and swapped for an empty one without the machine standing idle. The recovery tank needs 12.3 L of liquid before use, and the conductive disposable wet bag is rated at 4.5 L. Degassing vent and liquid level indicator are as on the base model. CFE stands for Coalescing Filter Element -- a coalescing filter that strips moisture from the exhaust air and filters at HEPA grade, stated by Tiger-Vac as 99.97 % at 0.3 micron. The motor is single-phase TEFC, 1 kW (Ex d IIA T3 Gb), 224 m3/h at 1550 mmH2O. Tank in AISI 304 stainless steel. A complete static-dissipative (SD) accessory set and a dedicated 3D tool kit are included.

APPLICATIONS

- Reactive metal powder that does not tolerate water -- run the bath with oil instead
- Recovery from SLM and DMLS printers, build chamber, overflow and sieving station
- Production with frequent emptying, where a detachable tank saves downtime
- Zone 1 gas and Zone 21 dust, where both vapours and combustible dust may occur
- Metallurgical laboratories and powder stations in additive manufacturing

Technical specifications

ATEX marking	II 2GD Ex d IIA T3 Gb -- Ex t IIIC T200°C Db IP6X -- 0 °C <= Ta <= +40 °C -- LCIE 03 ATEX 6297 -- EN 17348 WT
Internal / external zone	-- / 21
Motor type	1-faset TEFC-motor, eksplosionssikret (Ex d IIA T3 Gb / Ex t IIIC T200°C Db IP6X), 1 kW / 4,5 A
Airflow	224 m³/h
Vacuum	152 mbar (1550 mmH ₂ O)
Container	4.5 L
Sound pressure	79 dB(A)
Filter class	H class
Filter type	CFE koalescensfilter i HEPA-grad -- Tiger-Vac angiver 99,97 % ved 0,3 mikrometer
Primary filter	Væskebad (immersion) med vand eller olie -- pulveret opsamles vådt i en ledende engangspose
Cleaning system	Væskebad -- ingen tør filterrensning; badet skiftes sammen med vådposen
Collection system	Detachable container
Material	AISI 304 rustfrit stål
IP class	IP6X
Power	1.0 kW
Current	4.5 A
Voltage	230 V / 50 Hz / 1~
Inlet	Diameter 38 mm

Questions and answers

When should I choose oil rather than water in the bath?

When the powder reacts with water. Several metals used in additive manufacturing form hydrogen on contact with water -- magnesium and, under certain conditions, fine-grained aluminium among them -- and hydrogen in a closed tank is exactly what you do not want. That is why the DT version exists: it can run with oil instead, so the bath still keeps the powder wet without a chemical reaction taking place. Which liquid is right for your particular powder depends on alloy, particle size and how the powder is stored, and it should be settled with the powder manufacturer and with Tiger-Vac before commissioning. We are happy to help get that settled.

What is the practical benefit of a detachable tank?

That the machine does not have to stand idle while you empty it. The tank is released from the filter head and wheeled away on its own casters, and an empty tank goes in its place. With a fixed tank the whole machine goes out of service while the bath is emptied, the bag sealed and a new bath filled. For occasional cleaning that hardly matters. In a production line emptying daily it is the difference between a couple of minutes and a quarter of an hour of standstill. Add that a wet bath is heavier to handle than a dry container -- casters under the tank are not a luxury here.

What does EN 17348 WT mean?

EN 17348:2022 is the product standard for vacuums in explosive atmospheres, classifying machines by how the collected dust is handled. DT means dry type -- dry collection. WT means wet type -- wet collection, where the dust is held in a liquid. This model is WT. The classification says the machine is designed and tested specifically to keep combustible dust wet. A DT machine with the same ATEX marking is therefore not a lawful alternative for reactive metal powder. Note that the letters DT appear in two places with different meanings: in EN 17348 DT is a dust class, while in Tiger-Vac model names DT means detachable tank. This machine is called EX DT and is at the same time WT classified -- there is no contradiction.

Where may the machine be placed?

The marking is II 2GD, that is ATEX category 2 for both gas and dust externally. The unit may be placed in Zone 1, where an explosive gas atmosphere is likely in normal operation, and in Zone 21, where the same applies to explosive dust. Ambient temperature must be between 0 °C and +40 °C. There is no separate internal Zone 0/20 marking; internal safety rests on the liquid bath. The certificate is LCIE 03 ATEX 6297.

Contact and advisory

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