DEPURECO · II 1/3D EX H IIIC T160°C DA/DC

Depureco ECOBULL M DEX 1/3D INERT

The ECOBULL M DEX 1/3D INERT is the 100-litre-compact INERT machine for Zone 22 reactive metal powder, where you need twice the collection capacity of the BL 45 but want to avoid the heavily installed three-phase industrial power supply. The motor is a 3D ATEX-certified side-channel blower at 1.8 kW running on ordinary 230V single-phase -- i.e. the same socket as a large domestic electric vacuum. That makes it the natural choice for smaller process rooms and pilot installations where an electrician is not available for 400V installation, but you still need to collect aluminium dust, magnesium chips or lithium powder under N2 atmosphere. The ATEX marking is II 1/3D Ex h IIIC T160°C Da/Dc -- 20 degrees higher surface temperature than BL 45 INERT, because the side-channel blower can develop higher heat, but still below MIT for the majority of industrial reactive powders. The vacuum is 180 mbar and flow is 240 m³/h -- moderate but continuous, ideal for a single collection point running for several hours.

APPLICATIONS

- Pilot plants for battery electrode material development without 400V outlet
- Aluminium grinding cell in small factories where single-phase is the norm
- Pharma pilot production with reactive excipient and Zone 22 overall
- Mobile INERT collection unit for multiple process rooms on one factory site
- R&D; laboratory with periodic metal powder exposure and need for 100 L collection
- Service workshops for light-metal collection after grinding or polishing jobs

Technical specifications

ATEX marking	II 1/3D Ex h IIIC T160°C Da/Dc
Internal / external zone	22 / 22
Motor type	3D ATEX-certificeret sidekanalblæser, 1,8 kW 1-faset 230V 50/60 Hz
Airflow	240 m³/h
Vacuum	180 mbar (1836 mmH_2O)
Container	100 L
Sound pressure	72 dB(A)
Filter class	H class
Filter type	Cartridge-primaerfilter antistatisk polyester HEPA13 (EN 60335-2-69 klasse H)
Primary filter	Cartridge antistatisk polyester klasse HEPA13
Cleaning system	Manuel filterrens (bagudtryk)
Collection system	Detachable container + INERT neutralisation bath
Material	Lakeret staalkonstruktion, AISI 304 stoevbeholder med N2-fluxet inerting-indsats
IP class	IP55
Power	1.8 kW
Voltage	230 V / 50-60 Hz
Venturi units	0 pcs
Inlet	Diameter 50 mm
Dimensions (L x W x H)	660 x 800 x 1630 mm
Weight	95 kg

Questions and answers

Why is it single-phase -- isn't a side-channel blower demanding?

Yes -- but Depureco has specifically chosen a 1.8 kW 230V single-phase variant here, because the ECOBULL M series is intended for small-to-medium installations without industrial electrical infrastructure. The side-channel blower at 1.8 kW draws about 8-9 A at 230V, within a 10 A group fuse at a standard European factory outlet. If you have access to 400V three-phase and need higher flow/vacuum, the ECOBULL T DEX 1/3D INERT (A1087) with 3 kW side-channel blower is the answer. Start current is slightly higher (typically 18-22 A for 50-80 ms) -- make sure your outlet is C-type fused, not B-type.

Why T160°C and not T140°C like the BL 45 INERT?

That is the fundamental difference between a brushless motor and a side-channel blower. Brushless (as in BL 45) typically keeps surface temperature below 140°C under continuous operation, while the side-channel blower motor (which is the only practical solution for 240 m³/h flow) can reach 145-158°C normally. This means the ECOBULL M INERT *must not* be used for powder with MIT below 160°C -- mostly ultrafine metal powders (nano-aluminium, certain lithium-organic compounds). Most industrial metal powders lie in the 200-400°C MIT range, so T160°C is sufficient. Check the powder SDS under "autoignition temperature".

How does it compare to the ECOBULL T DEX 1/3D INERT?

The ECOBULL T has a 3 kW motor, 400V three-phase, 230 mbar vacuum and 340 m³/h flow versus the M model's 1.8 kW / 230V single-phase / 180 mbar / 240 m³/h. Both share the same chassis, same 100 L bin, same inerting system and same cartridge filter class. Choice: take the M if your outlet is single-phase and you have a single smaller collection point (e.g. a grinding cell, a pilot room); take the T if you have 400V installation and multiple points or one very demanding process (e.g. continuous blending station). The T is about 930 € more expensive (5,550 vs 4,620 €) but delivers around 40 % more flow and 30 % more vacuum.

Can I upgrade the cartridge to an H14 absolute filter?

The cartridge primary filter is HEPA13 (99.95 % MPPS at 0.3 µm), and Depureco does not offer a direct drop-in H14 upgrade on the standard model. If you require H14-level (99.995 %), the solution is to connect an after-filter cabinet with H14 at the exhaust -- typically a 60x60 cm unit costing around 800-1,100 € as an add-on. We can help with sizing and one-click installation. The alternative is to switch to a dedicated H14 model in the FOX or PUMA series -- but those do not have an INERT container and are only a relevant alternative if you can tolerate increased oxygen percentage during collection.

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-dust/ecobull-m-dex-1-3d-inert/

SMARTER THINKING • BETTER WORKING