

MDB-COMPACT

CENTRAL FILTER SYSTEM WITH INTEGRATED FAN

The MultiDust Bank (MDB) COMPACT is a compact filter unit with integrated fan, filter cleaning system and dust drawer for connection to an external device, e.g. a welding robot or a cutting table. The fan is placed in a sound absorbing box.

The unit is controlled by a separate control panel (FilterControl), which is included in the package.



Image: MDB-4/COMPACT

APPLICATIONS

The MDB-COMPACT is intended to be used for the following applications:

- MIG-MAG/GMAW welding
- TIG welding
- FCAW welding
- stick/MMAW welding

Combined with an OilShield (limestone feeder) the MDB-COMPACT is also suitable for:

- oil mist
- heavy oil mist in welding fume



SPECIFICATIONS

Physical dimensions and properties

Material (housing):	electro-zinc coated steel (according to DIN EN 10152)
• steel grade	• DC01+ZE
• steel grade no.	• 1.0330
Colour:	
• front and back	• black RAL 9005
• sides and top	• grey RAL 7035
Dimensions FilterControl panel	400 x 300 x 152 mm (15.7 x 11.8 x 6.0 in.)

Filter cartridges

Filter cartridges are not included and must be selected and ordered separately. For more details: refer to the separate data sheet.

Available filter cartridges:	Filter material:
• CART-D (+precoat)	• 100% BiCo polyester
• CART-C (+precoat)	• 100% Bico polyester with aluminium coating (antistatic)
• CART-E (+precoat)	• PTFE impregnated BiCo polyester
• CART-PTFE/10	• 100% BiCo polyester with PTFE membrane
• CART-PTFE/15	
• CART-MB	• 80/20 cellulose/spunbond polyester fibre with polyester nanofibre overlay

Fan

Fan type	radial
Motor design	IEC
Motor protection	by PTC thermistor

Efficiency level	IE3
Motor speed	max. 3500 rpm
Compressed air system	
Required compressed air quality	dry and oil-free according to ISO 8573-3 class 6
Required pressure	4-5 bar (60-75 PSI)
Compressed air connection	8 mm push-in fitting
Activation of filter cleaning	pressure controlled
Filter cleaning cycles	<ul style="list-style-type: none"> • offline at 800/1000/1200 Pa (3.2/4/4.8 in. WG) • online at 1500 Pa (6 in. WG) • forced after 30 running hours <800 Pa (3.1 in. WG)
Electrical data	
Connection voltage of fan	<ul style="list-style-type: none"> • 230V/3ph/60Hz* • 460V/3ph/60Hz • 575V/3ph/60Hz
* The compact design of the unit, in combination with a high air performance, is achieved by using 60 Hz fan technology. For this reason it is necessary to install a variable frequency inverter (VFD) for 50 Hz power grids (e.g. in Europe). For 60 Hz power grids a frequency inverter is optional.	
Connection voltage for control equipment	100-240V AC single phase 50-60Hz
Activation of start/stop device	by 0-24 VDC signal
Ambient conditions	
Process temperature:	<ul style="list-style-type: none"> • min. 5°C (41°F) • nom. 20°C (68°F) • max. 70°C (158°F)
Max. relative humidity	80% (non-condensing)
Outdoor use allowed	no
Storage conditions	<ul style="list-style-type: none"> • 5-45°C (41-113°F) • relative humidity max. 80%
Product combinations	
SHIELD fire safety solutions (prevention):	<ul style="list-style-type: none"> • SparkShield • OilShield • cyclonic spark arrester • limestone feeder
Combination with SHIELD fire detection and suppression products is not possible.	

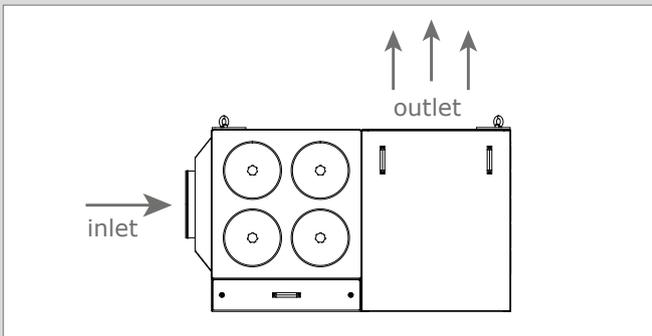
■ Options and accessories	
Compressed air regulator	CAR-KIT
Compressed air sensor (kit)	
Precoat material (for filter cartridges CART-D, CART-C and CART-E)	PRECO-N
Adapter	<ul style="list-style-type: none"> • from Ø 250 mm to Ø 10 in. • from Ø 400 mm to Ø 16 in.
<i>An adapter from Ø 355 mm to 14 in. is not necessary.</i>	
Frequency inverter	<ul style="list-style-type: none"> • VFD-2.2 (2,2 kW / 3 HP) • VFD-4 (4 kW / 5 HP) • VFD-5.5 (5,5 kW / 7.5 HP) • VFD-11 (11 kW / 15 HP)
<i>Refer to Table 1 for selection of frequency inverter.</i>	
■ Scope of supply	
Fan-filter unit (pre-assembled) - Mounting hardware - FilterControl panel	
<i>Not included: Filter cartridges - Frequency inverter</i>	
■ Order information	
Number/package	1
■ Shipping data	
Harmonized Tariff Code	8421.3920.90
Country of origin	Netherlands

Remaining specifications: refer to Table 1 on page 3

APPROVALS/CERTIFICATES

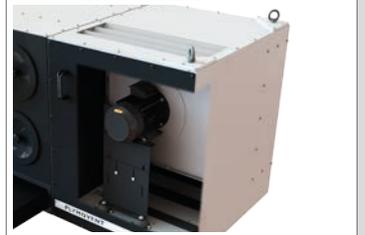
	
	Directive 2011/65/EC (RoHS) valid as of 8 June 2011
	ref. UL-508A <ul style="list-style-type: none"> • 460V/3ph/60Hz (USA) • 575V/3ph/60Hz (Canada)
	Refer to Table 1 / Certification
Fan	AMCA rated

AIRFLOW DIRECTION



FEATURES

SilentFlow™ sound absorbing box along with innovative air flow path reduce both mechanical and airflow noise of the fan.



Lockable high-capacity dust drawer with pull-out protection.



Efficient filtration of dust and welding fume.



The effective RamAir™ pulse amplifier: individually cleaning of the filter cartridges by compressed air pulses.



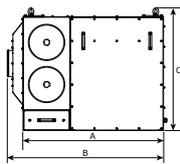
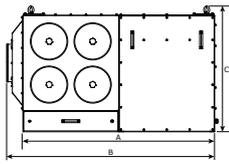
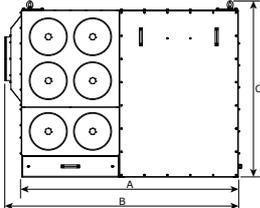
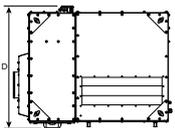
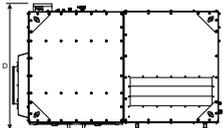
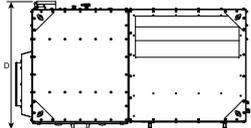
Separate FilterControl panel with system status indicators and control buttons.



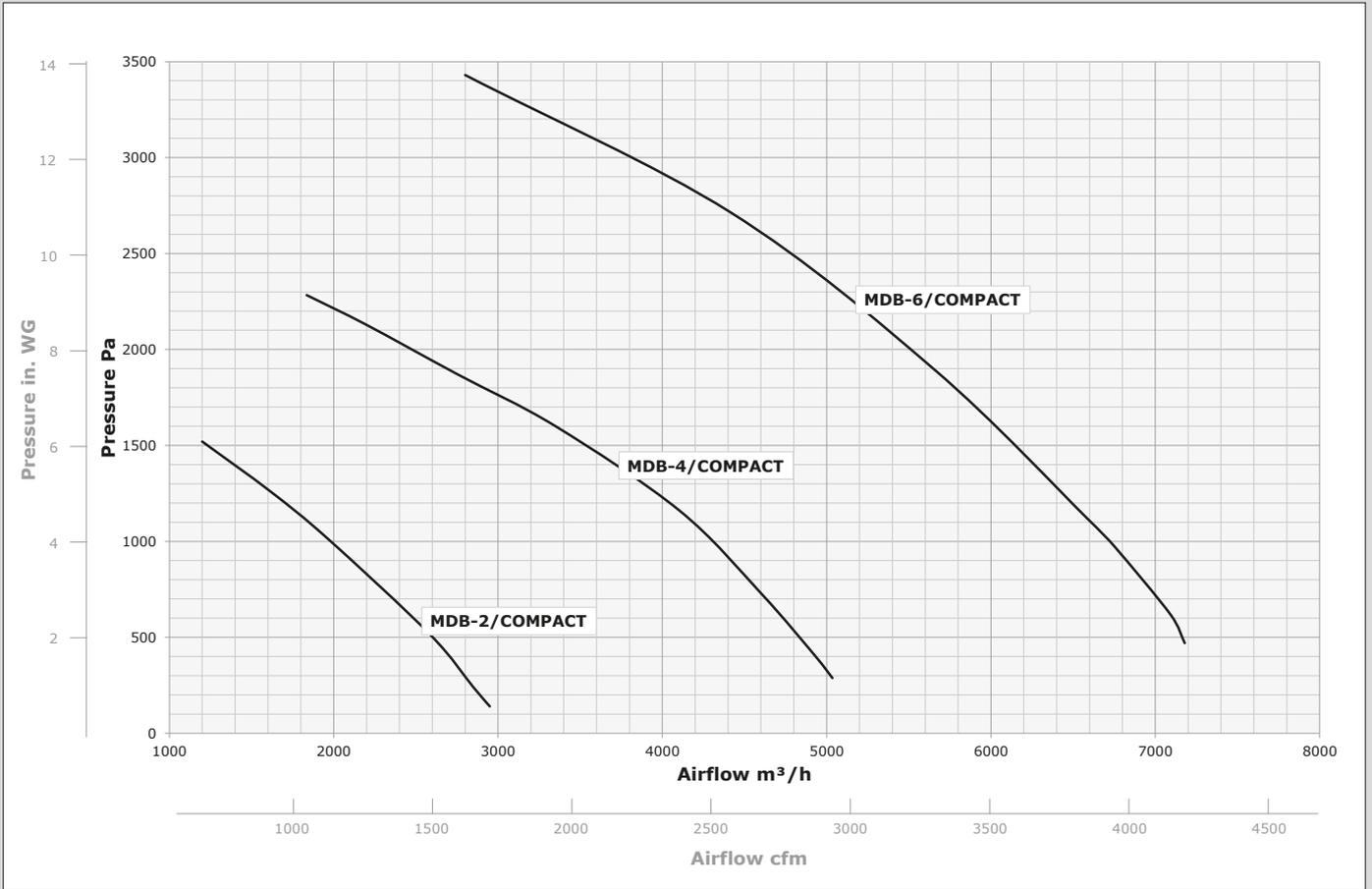
Small footprint due to compact design.



Table 1: Remaining specifications

	MDB-2/COMPACT	MDB-4/COMPACT	MDB-6/COMPACT
■ Physical dimensions and properties			
Front view			
	A 1348 mm (53.1 in.) B 1502 mm (59.1 in.) C 1186 mm (46.7 in.)	A 1801 mm (70.9 in.) B 1955 mm (77.0 in.) C 1190 mm (46.9 in.)	A 2004 mm (78.9 in.) B 2158 mm (85.0 in.) C 1641 mm (64.6 in.)
Top view			
	D 1197 mm (47.1 in.)	D 1206 mm (47.5 in.)	D 1206 mm (47.5 in.)
Inlet connection	Ø 250 mm (9.8 in.)	Ø 355 mm (14.0 in.)	Ø 400 mm (15.7 in.)
Capacity of dust drawer	33 liters (8.7 gallon)	72 liters (19 gallon)	72 liters (19 gallon)
Weight (without filter cartridges and FilterControl panel)	335 kg (739 lbs.)	425 kg (937 lbs.)	600 kg (1323 lbs.)
■ Performance			
Power (fan)	2,2 kW (3 HP)	4,0 kW (5 HP)	7,5 kW (10 HP)
Current draw at:			
• 230V	• 6,5 A	• 12,0 A	• 22,6 A
• 460V	• 3,25 A	• 6,0 A	• 11,3 A
• 575V	• 1,3 A	• 2,4 A	• 4,52 A
Max. airflow (with new CART-D filters; free-blowing)	2850 m ³ /h (1675 cfm)	5025 m ³ /h (2960 cfm)	7180 m ³ /h (4225 cfm)
Sound level (nom.)	69 dB(A)	71 dB(A)	71 dB(A)
	<i>Nominal sound level at 1 m (3 ft) distance at 1000 m³/h (589 cfm) per filter cartridge.</i>		
■ Frequency inverter			
Power grid:			
• 400V/3ph/50Hz Input voltage of fan via VFD	• VFD-4 (required) 230V/3ph/60Hz	• VFD-5.5 (required) 230V/3ph/60Hz	• VFD-11 (required) 230V/3ph/60Hz
• 230V/3ph/60Hz	• VFD-4 (option)	• VFD-5.5 (option)	• VFD-11 (option)
• 460V/3ph/60Hz	• VFD-2.2 (option)	• VFD-4 (option)	• VFD-7.5 (option)
• 575V/3ph/60Hz	• VFD 2,2 kW (option)	• VFD 4 kW (option)	• VFD 7,5 kW (option)
	<i>Frequency inverters for connection voltage 575V/3ph/60Hz to be sourced locally.</i>		
■ Compressed air system			
Compressed air consumption (per pulse)	35 nl (1.2 ft ³)	75 nl (2.6 ft ³)	75 nl (3.7 ft ³)
Volume of compressed air tank(s)	10 litres (2.6 gallon)	22,9 litres (6 gallon)	11 + 22,9 litres (2.9 + 6 gallon)
■ Order information			
Article no.:			
• 230V/3ph/60Hz	• 0000104084	• 0000104087	• 0000104090
• 460V/3ph/60Hz	• 0000104085	• 0000104088	• 0000104091
• 575V/3ph/60Hz	• 0000104086	• 0000104089	• 0000104092
■ Shipping data			
Gross weight	376 kg (829 lbs.)	471 kg (1038 lbs.)	653 kg (1440 lbs.)
Packing dimensions	1300 x 1600 x 1400 mm (51.18 x 62.99 x 55.11 in.)	1300 x 2100 x 1400 mm (51.18 x 82.67x 55.11 in.)	1300 x 2300 x 1820 mm (51.18 x 90.55 x 71.65 in.)
■ Certification			
MDB-COMPACT with filter cartridges CART-PTFE/15 and additional strobe light	IFA W3 (pending)	IFA W3	IFA W3

PERFORMANCE CHART (60Hz)



Net extraction capacity at the filter inlet (with new/clean filter cartridges)

Application restrictions

Do **not** use the product for the following applications or in the following circumstances: polishing applications in combination with grinding, welding or any other application that generate sparks (fibres from polishing or abrasive flap disks are highly flammable and pose a high risk of filter fires when exposed to sparks) | aluminium laser cutting | arc-air gouging | extraction of aggressive fumes and gases (e.g. from acids, from alkaline, from soldering paste containing lithium) | extraction of hot gases (more than 70°C/158°F continuously) | grinding aluminum and magnesium | flame spraying | extraction of cement, saw dust, wood dust etc. | sucking cigarettes, cigars, oiled tissues and other burning particles, objects and acids | explosive environments or explosive substances/ gases

Product type	MultiDust Bank COMPACT
Article no.	<i>Refer to Order information</i>
Product category	central filter systems
Version	120815/D

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