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MDB-COMPACT PRO

CENTRAL FILTER SYSTEM WITH INTEGRATED FAN

The MDB-Compact PRO 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 MDB-Compact PRO is supplied with intelligent control equipment ControlPro.

MDB = MultiDust® Bank



Image: MDB-4/Compact PRO

APPLICATIONS

The MDB-Compact PRO is intended for use for the following applications:

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

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

- oil mist
- heavy oil mist in welding fume

SPECIFICATIONS

Physical dimensions and properties	
Material (housing): • steel grade • steel grade no.	electro-zinc coated steel (according to DIN EN 10152) • DC01+ZE • 1.0330
Colour: • front and back • sides and top	 • grey RAL 7011 • yellow RAL 1004
Dimensions: • MDB-Compact • ControlPro/Panel *) • ControlPro/HMI	 refer to *Table 1 | Remaining specifications* on page 4 400 x 400 x 210 mm (15¾ x 15¾ x 8¼ in.) 255 x 165 x 125 mm (10 x 6½ x 4⅞ in.)
*) excl. switches and cable glands	
Filter cartridge	
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 Premium Plus	• BiCo spunbond polyester
• CART-D Premium	• spunbond polyester
• CART-D Economy	• cellulose
• CART-C	• BiCo spunbond polyester, antistatic
• CART-E	• BiCo spunbond polyester + PTFE impregnation
• CART-PTFE	• BiCo spunbond polyester + PTFE membrane
• CART-MB	• cellulose with polypropylene microfiber overlay, electrostatically charged
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	push-in fitting: • in: G ⅜ in. • out: 12 mm
Electrical data	
Connection voltage of fan	• 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.*	
Input voltage for magnetic valves	24V DC
Ambient conditions	
Process temperature: • min. • nom. • max.	 • 5°C (41°F) • 20°C (68°F) • 70°C (158°F)
Max. relative humidity	90%
Suitable for outdoor use	no
Storage conditions	• 5-45°C (41-113°F) • relative humidity max. 80%
Product combinations	
SHIELD fire safety solutions (prevention):	
• SparkShield • OilShield	• cyclonic spark arrester • limestone feeder

product data sheet

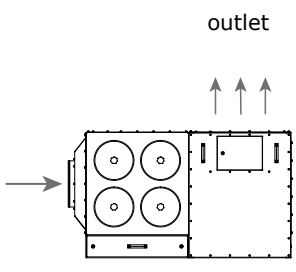
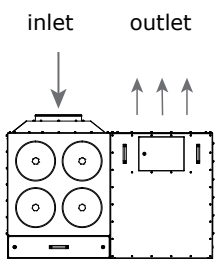
Combination with SHIELD fire detection and suppression products is not possible	
■ Options and accessories	
CAR-KIT	Compressed air regulator
Compressed air sensor	(kit)
PRECO-N	Precoat material (for filter cartridges CART-D, CART-C and CART-E)
Adapter	• from Ø 250 mm to Ø 10 in. • from Ø 400 mm to Ø 16 in.
An adapter from Ø 355 mm to 14 in. is not necessary	
Frequency inverter	• 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)
Refer to Table 1 for selection of frequency inverter	
■ Scope of supply	
Fan-filter unit - Mounting hardware - ControlPro (Panel + HMI) *Not included: Filter cartridges - Frequency inverter*	
■ 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 4

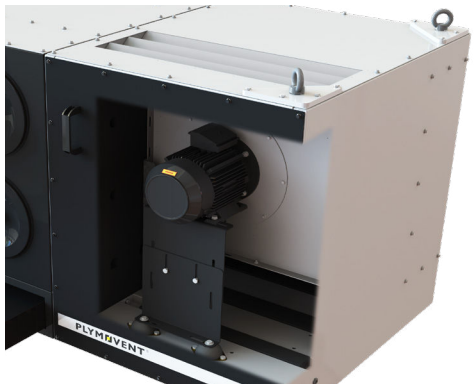
APPROVALS/CERTIFICATES

CE	
RoHS	Directive 2011/65/EC (RoHS) valid as of 8 June 2011
c UL us	Ref. UL-508A • 460V/3ph/60Hz (USA) • 575V/3ph/60Hz (Canada)
MDB-Compact with filter cartridges CART-PTFE/10 or CART-PTFE/15	W3 compliant
Fan	AMCA rated

AIRFLOW DIRECTION

Two possibilities:	
MDB-2/C **MDB-4/C** **MDB-6/C**	**MDB-4/C** **MDB-6/C**
	

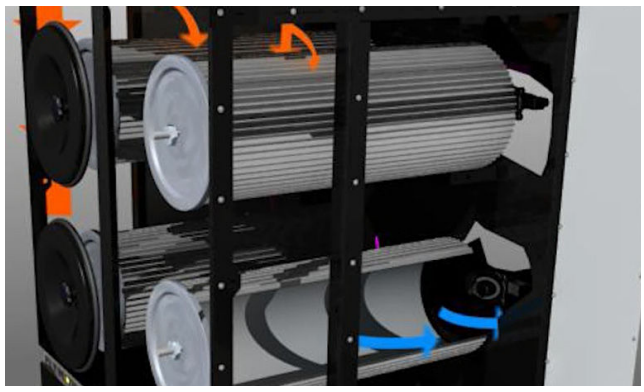
FEATURES & BENEFITS



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

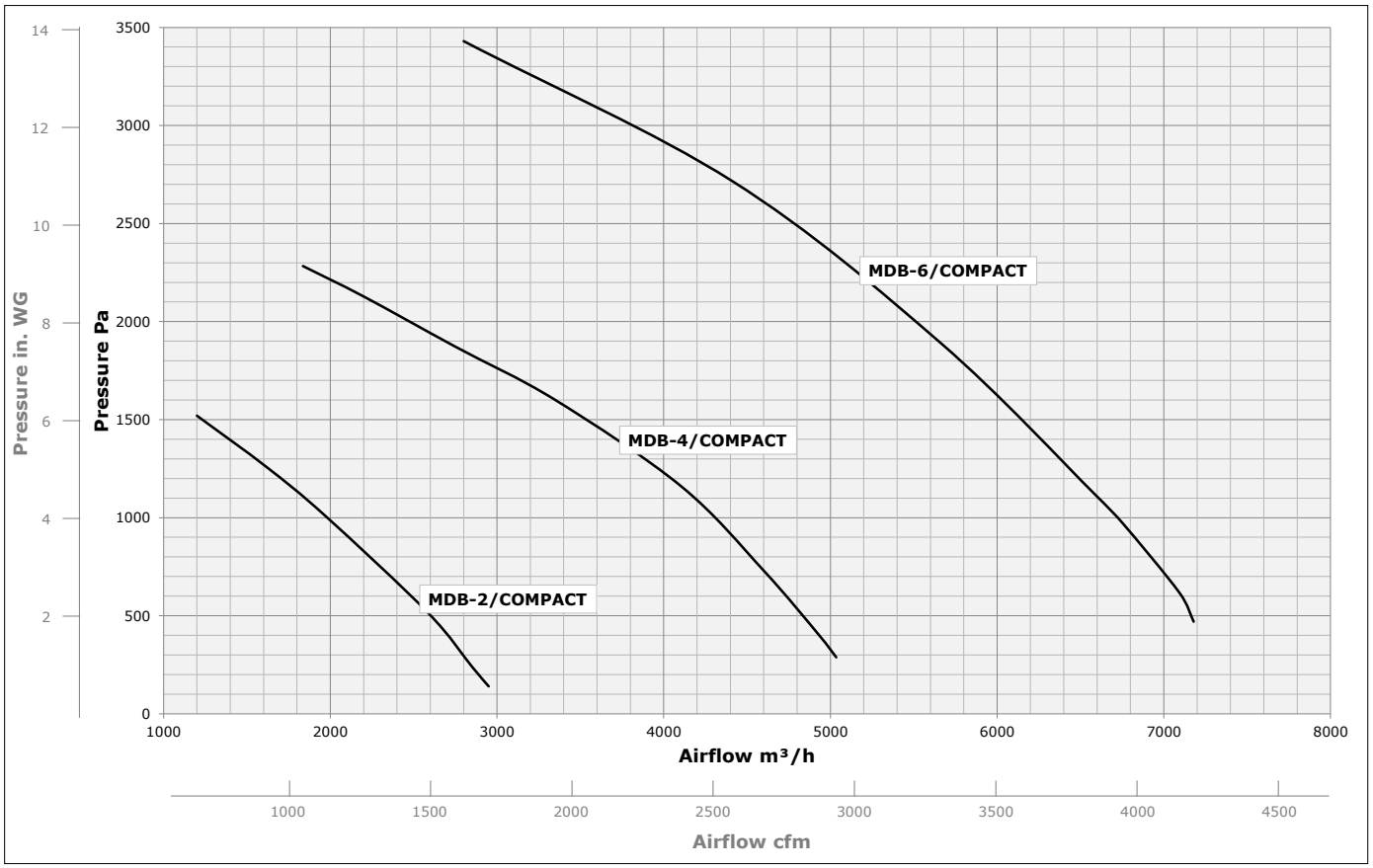


Control equipment: ControlPro (intelligent control panel with HMI with extensive feature package for fan/filter control; remote access via network)



Small footprint due to compact design

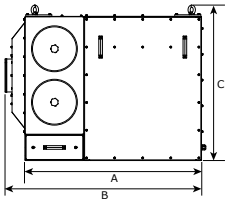
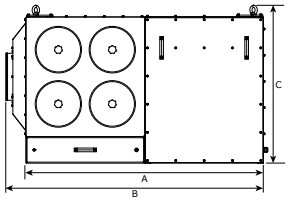
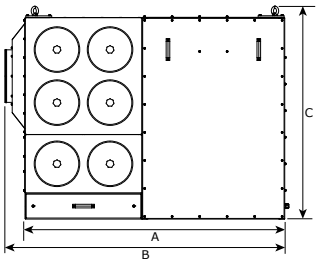
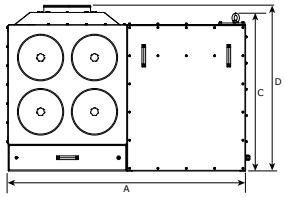
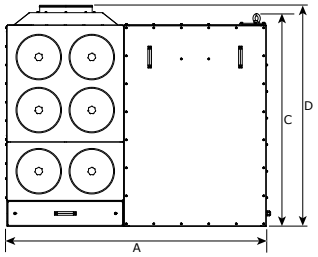
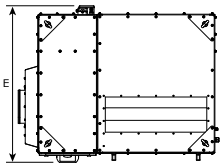
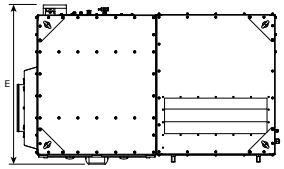
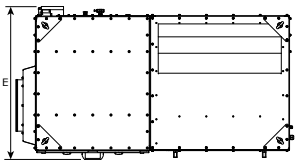
PERFORMANCE CHART (60Hz)



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

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Table 1 | Remaining specifications

		MDB-2/COMPACT	MDB-4/COMPACT	MDB-6/COMPACT
■ Physical dimensions and properties				
Front view	Inlet **left**	 **A** 1348 mm (53⅛ in.) **B** 1540 mm (60⅝ in.) **C** 1190 mm (46⅞ in.)	 **A** 1801 mm (70⅞ in.) **B** 1970 mm (77½ in.) **C** 1190 mm (46⅞ in.)	 **A** 2004 mm (78⅞ in.) **B** 2170 mm (85⅜ in.) **C** 1641 mm (64⅝ in.)
	Inlet **top**		 **A** 1801 mm (70⅞ in.) **C** 1190 mm (46⅞ in.) **D** 1270 mm (50 in.)	 **A** 2004 mm (78⅞ in.) **C** 1641 mm (64⅝ in.) **D** 1720 mm (67¾ in.)
Top view		 **E** 1206 mm (47½ in.)	 **E** 1206 mm (47½ in.)	 **E** 1206 mm (47½ in.)
Inlet connection		Ø 250 mm (9⅞ in.)	Ø 355 mm (14 in.)	Ø 400 mm (15¾ in.)
Capacity of dust drawer		33 litres (8¾ gallon)	72 litres (19 gallon)	72 litres (19 gallon)
Weight (without filter cartridges and control equipment)		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 • 460V • 575V		 • 6,5 A • 3,25 A • 2,89 A	 • 12,0 A • 6,0 A • 5,0 A	 • 22,6 A • 11,3 A • 8,99 A
Max. airflow (with new CART-D filters; free-blowing)		2850 m³/h (1675 CFM)	5025 m³/h (2960 CFM)	7180 m³/h (4225 CFM)
Sound level (nom.)		69 dB(A)	71 dB(A)	71 dB(A)
		Nominal sound level at 1 m (3 ft) distance at 1000 m³/h (589 cfm) per filter cartridge		
■ Frequency inverter				
Power grid:	**Type** / **Art. no.**	**Type** / **Art. no.**	**Type** / **Art. no.**	**Type** / **Art. no.**
• 400V/3ph/50Hz Input voltage of fan via VFD	VFD-4 [1] 230V/3ph/60Hz / 0000113799	VFD-5.5 [1] 230V/3ph/60Hz / 0000113800	VFD-11 [1] 230V/3ph/60Hz / 0000113801
• 230V/3ph/60Hz	VFD-4 [2] / 0000113799	VFD-5.5 [2] / 0000113800	VFD-11 [2] / 0000113801
• 460V/3ph/60Hz	VFD-2.2 [2] / 0000113802	VFD-4 [2] / 0000113803	VFD-7.5 [2] / 0000113804
• 575V/3ph/60Hz	VFD-2.2 [2] / 0000104498	VFD-4 [2] / 0000104499	VFD-7.5 [2] / 0000104500
	[1] required | [2] option		
■ Compressed air system				
Compressed air consumption (per pulse)		35 nl (1¼ ft³)	75 nl (2⅝ ft³)	75 nl (2⅝ ft³)
Volume of compressed air tank(s)		10 litres (2⅞ gallon)	22,9 litres (6 gallon)	11 + 22,9 litres (2⅞ + 6 gallon)

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	MDB-2/COMPACT	MDB-4/COMPACT	MDB-6/COMPACT
Order information			
Article no.: • 230V/3ph/60Hz (236) • 460V/3ph/60Hz (536) • 575V/3ph/60Hz (636)	 • 0000120784 • 0000120785 • 0000120786	 • 0000120787 • 0000120788 • 0000120789	 • 0000120790 • 0000120791 • 0000120792
Shipping data			
Gross weight	376 kg (829 lbs.)	471 kg (1038 lbs.)	653 kg (1440 lbs.)
Packing dimensions	1300 x 1600 x 1400 mm (51⅛ x 63 x 55⅛ in.)	1300 x 1900 x 1600 mm (51⅛ x 74¾ x 63 in.)	1300 x 2100 x 2050 mm (51⅛ x 82⅝ x 80¾ in.)

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 | oil mist | heavy oil mist in welding fume | 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	**MDB-Compact**
Article no.	Refer to Order information
Product category	central filter systems
Version	260822/H

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