

## MDB-2/HV PRO

### HIGH VACUUM FILTER SYSTEM

The MDB-2/HV PRO is a central filter system with integrated blower for connection to a certain number\*) of welding torches via an extraction duct. The powerful high vacuum blower is placed in a sound absorbing box. The two filter cartridges inside the reinforced filter housing are automatically cleaned by compressed air pulses.

The MDB-2/HV PRO package further includes an external spark arrester, frequency inverter and intelligent control panel with HMI.

\*) The max. number depends on the specifications of the torch



### APPLICATIONS

The MDB-2/HV PRO is intended to be used for the following applications:



- MIG-MAG/GMAW welding
- TIG welding
- FCAW welding
- stick/MMAW welding
- stainless steel welding
- grinding
- polishing
- finishing

### 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:	
• housing	• black RAL 9005
• cover plates	• grey RAL 7035

Weight (net):	
• base incl. filter module	• 150 kg (331 lbs)
• blower incl. housing	• 250 kg (551 lbs)

Capacity of dustbin	80 litres
---------------------	-----------

Air inlet position	left or right side
--------------------	--------------------

#### Filter cartridges

Type	CART-PTFE/10
Shape	cylinder
Filter material	BiCo spunbond polyester with PTFE membrane
Filter surface area	2 x 10 m <sup>2</sup>
Welding fume class	W3 according to EN-ISO 21904-1:2020
Filter class	M according to DIN EN 60335-29
Washable	no

#### Compressed air system

Required compressed air quality	dry and oil-free according to ISO 8573-3 class 6
Required pressure	5-10 bar
Compressed air connection	8 mm push-in fitting

Compressed air consumption (per pulse)	35 nl
Volume of compressed air tank	10 litres
Activation of filter cleaning system	pressure controlled, online / offline

#### Blower

Type	high vacuum side channel blower with pressure relief valve
Material	die-cast aluminium
Power	12,5 kW at 50Hz 14,5 kW at 60Hz

*The compact design of the MDB-2/HV PRO, in combination with a high air performance, is achieved by using 60 Hz fan technology. You must install the supplied VFD-HV/ Panel (frequency inverter) for 50 Hz power grids (e.g. in Europe) to have the motor run at 60 Hz frequency, thus getting 14,5 kW power.*

Motor speed	max. 3360 rpm
Negative pressure	max. 35.800 Pa at 550 m <sup>3</sup> /h
Available connection voltages	• 380V/3ph/50Hz (435) • 480V/3ph/60Hz (536) • 600V/3ph/60Hz (636)
Noise level	68 dB(A)
Protection class	IP 55

#### Performance

Extraction capacity	• 1000 m <sup>3</sup> /h at 14.000 Pa • 850 m <sup>3</sup> /h at 23.000 Pa
---------------------	---

*Also refer to the performance chart on the next page*

#### Options and accessories

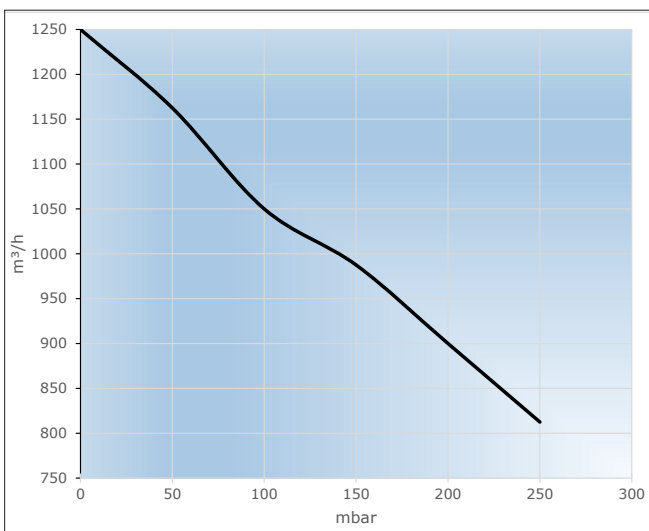
LightTower	external light tower to be used as additional signaling device
------------	--

#### Product combinations

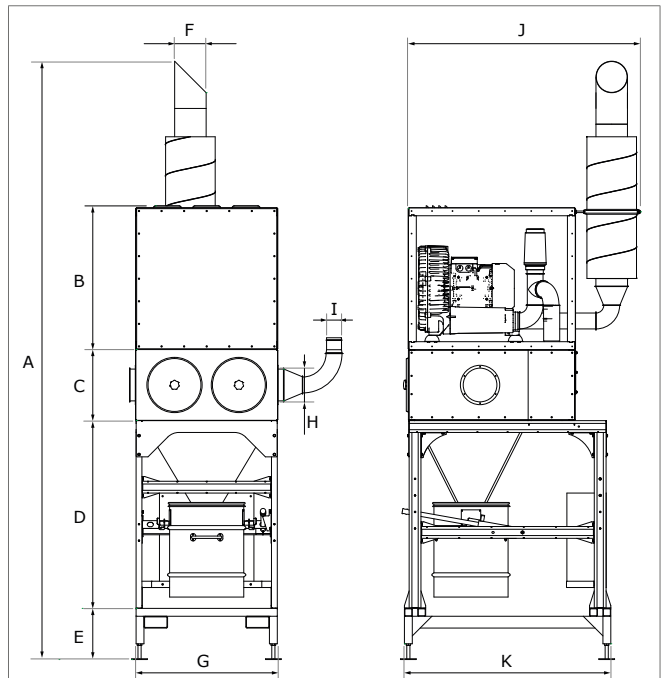
SHIELD fire safety solutions	all components of SHIELD, except for the sliding valves
------------------------------	---

■ Ambient conditions	
Process temperature:	<ul style="list-style-type: none"> <li>• min. • 5°C (41°F)</li> <li>• nom. • 20°C (68°F)</li> <li>• max. • 70°C (158°F)</li> </ul>
Max. relative humidity	80%
Suitable for outdoor use	no
Storage conditions	<ul style="list-style-type: none"> <li>• 5-45°C (41-113°F)</li> <li>• relative humidity max. 80%</li> </ul>
■ Scope of supply	
Filter housing incl. filter cartridges, frame and compressed air regulation kit (CAR-KIT)   Dustbin   Blower   SparkTrap (spark arrester)   Duct silencer   ControlPro/Panel (control panel)   ControlPro/HMI (Human Machine Interface)   VFD-HV/Panel (frequency inverter*)   Cable 15 m Panel to HMI   Connection and installation material	
*) Except for article no. 0000118643	
■ Order information	
Article no.:	Type:
• 0000118635	MDB-2/HV PRO (435)
• 0000118548	MDB-2/HV PRO (536)
• 0000118638	MDB-2/HV PRO (636)
• 0000118643	MDB-2/HV PRO (without VFD/Panel*)
*) An alternative motor starter to be arranged locally	
■ Shipping data	
Gross weight (incl. pallet)	
Packing dimensions (incl. pallet)	
Max. number/pallet	
Harmonized Tariff Code	84213925

## PERFORMANCE CHART



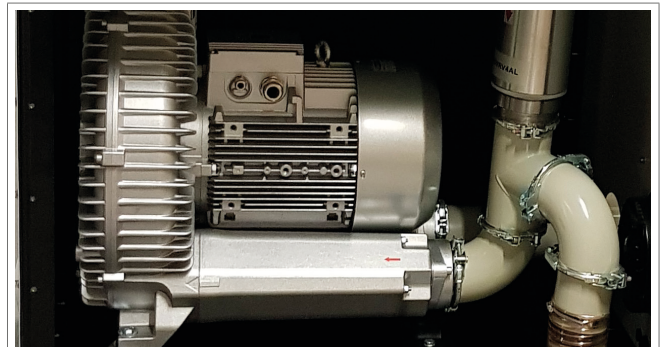
## DIMENSIONS



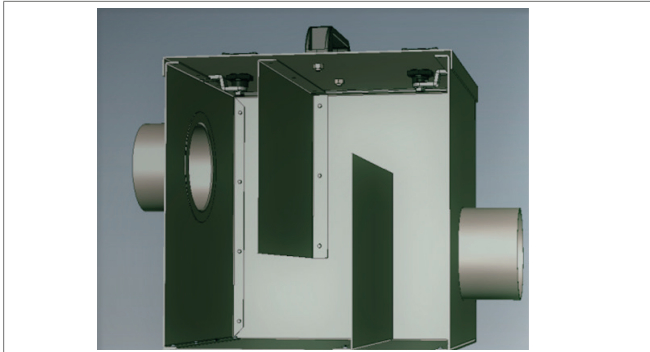
	mm	inch
<b>A</b>	3801	149¾
<b>B</b>	913	36
<b>C</b>	450	17¾
<b>D</b>	1194	47
<b>E</b>	325	12¾
<b>F</b>	Ø 200	Ø 7⅞

	mm	inch
<b>G</b>	897	35¼
<b>H</b>	Ø 200	Ø 7⅞
<b>I</b>	Ø 100	Ø 3⅞
<b>J</b>	1477	58¼
<b>K</b>	1311	51½

## FEATURES & BENEFITS



The blower is placed in a sound absorbing box. An additional duct silencer on the outlet of the unit further reduces the sound level.



SparkTrap | Highly effective labyrinth spark arrester



The effective RamAir™ pulse amplifier: the two filter cartridges are individually cleaned by compressed air pulses



Forklift pockets to transport the unit to its final position after installation

**APPROVALS/CERTIFICATES**

	Directive 2011/65/EC (RoHS) valid as of 8 June 2011
	On ControlPro/Panel (control panel)
UL 508A	On VFD/Panel (frequency inverter) (536 and 636 unit types only)
	On motor

**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  
Article no.  
Product category  
Version

**MDB-2/HV PRO**  
*refer to Order information*  
central filter systems  
18JUNE2024/C

Always check the latest version on [www.plymovent.com](http://www.plymovent.com)