

OILSHIELD

LIMESTONE FEEDER

Limestone dosing system to be installed between SparkShield (spark arrester) and filter system. By negative pressure, small amounts of limestone powder are extracted in the filter inlet duct, where it mixes with oily welding fume. This reduces fire risk in the connected filter system due to sparks or spontaneous combustion. At the same time it enhances the lifespan of the filter cartridges.

The limestone feeder contains two different agitator mechanisms to avoid the limestone in the reservoir from arching and ratholing. The amount of limestone that is used by the system is dosed by a screw conveyor.

The performance of the OilShield is safeguarded by two pressure sensors.



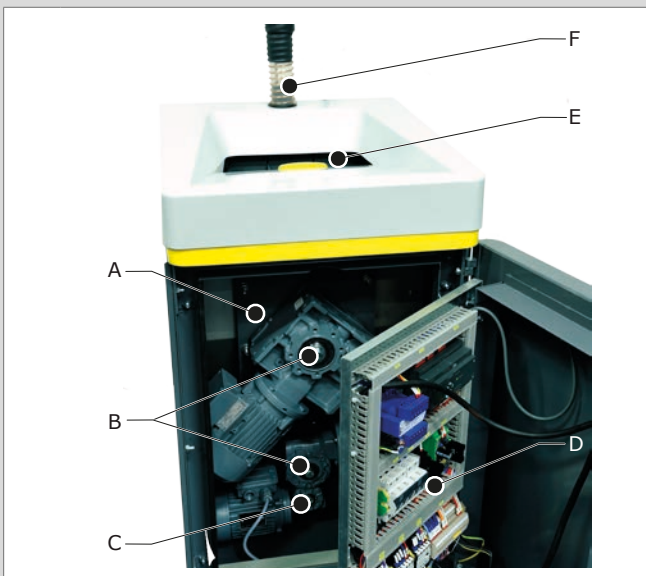
APPLICATIONS

OilShield is part of Plymovent's SHIELD fire safety solutions and recommended to be used in applications with a high fire risk, such as:

- robotic welding of oily stamped products
- robotic and automatic welding of oily products
- manual welding of oily products



MAIN COMPONENTS



A	Limestone reservoir
B	Agitator mechanism (2)
C	Screw conveyor
D	Controls (inside door)
E	Limestone refill lid
F	Limestone outlet duct
	Booster fan + fan support (not shown)

SPECIFICATIONS



■ Physical dimensions and properties

Material housing	steel
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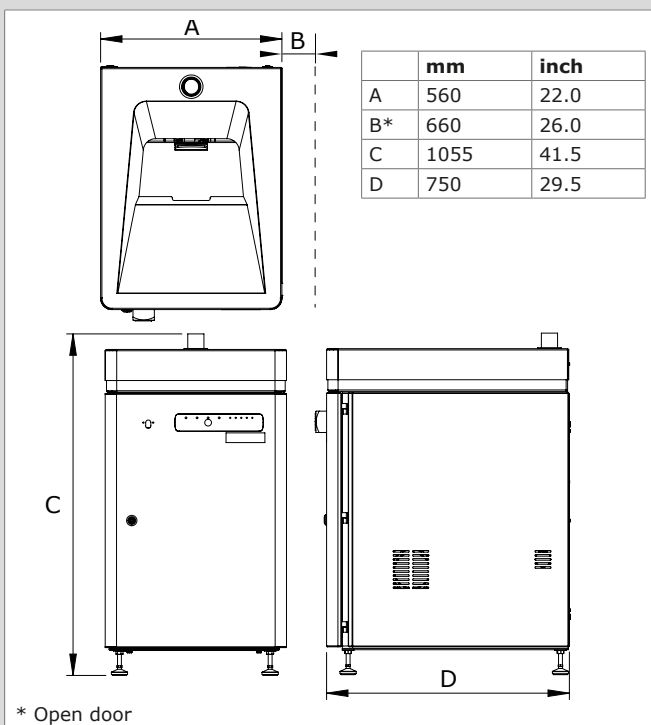
Colour:	<ul style="list-style-type: none"> • housing • top cover 	<ul style="list-style-type: none"> • grey RAL 7011 • grey RAL 7035
Weight:	<ul style="list-style-type: none"> • OilShield (net; without limestone) • booster fan + fan support 	<ul style="list-style-type: none"> • 172 kg (379 lbs) • 27 kg (60 lbs)
Contents limestone reservoir	70 litres/18.5 gallon (equals to 75 kg/165 lbs of limestone)	
Limestone alarm level	<25 kg (55 lbs); add 50 kg (110 lbs)	
Limestone quality:	<ul style="list-style-type: none"> • carbonate content • mean particle size (d50%) 	<ul style="list-style-type: none"> • Calcium carbonate: • >95% • preferably 26 µm (min. 13 µm) <p><i>For detailed specifications of the recommended limestone quality, refer to the user manual.</i></p>
Limestone consumption	default: 12,5 g per MDB filter cartridge per hour	
Protection class control box	in accordance with: <ul style="list-style-type: none"> • IEC 60204 • UL 508A 	
Distance to main duct	max. 10 m (33 ft)	
Required airflow in duct	min. 9 m/s (30 ft/s)	
■ Electrical data		
Connection voltage	<ul style="list-style-type: none"> • 400V/3ph/50Hz • 480V/3ph/60Hz • 600V/3ph/60Hz 	
Motor power:	(50 and 60Hz) <ul style="list-style-type: none"> • upper (agitator) • 250 W (1/3 HP) • middle (agitator) • 375 W (1/2 HP) • lower (screw conveyor) • 90 W (1/8 HP) • booster fan • 750 W (1 HP) 	
■ Ambient conditions		
Operating temperature:	<ul style="list-style-type: none"> • nom. • min. • max. 	
Max. relative humidity	80%	

Outdoor use allowed	no
Storage conditions	<ul style="list-style-type: none"> • 5-40°C (41-104°F) • relative humidity max. 80%
Options and accessories	
External light tower	for wall mounting
Scope of supply	
– Package 1: Fan support incl. earth wire – Inlet adapter – Vibration damper (4) – Pressure switch – PVC pressure tube 1000 mm (40 in.) – Hose Ø 160 mm (6.3 in.) – Mounting material	
– Package 2: Booster fan	
– Package 3: Limestone feeder – Transparent hose 500 mm (20 in.), inner Ø 50 mm (2 in.) – Heat shrink tubing 150 mm (6 in.) – Hose clamp – Key – Protection bracket	
Order information	
Connection voltage: – with PLC Siemens Logo!	Article number:
• 400V/3ph/50Hz	• 9760002030
• 480V/3ph/60Hz	• 9760002040
• 600V/3ph/60Hz	• 9760002050
– with PLC Allan-Bradley	
• 400V/3ph/50Hz	• 0000100973
Number/package	1
Shipping data	
Gross weight	230 kg (507 lbs)
Packing dimensions	600 x 800 x 1800 mm (23.6 x 31.5 x 70.9 in.)
Harmonized Tariff Code	8479 8997 90
Country of origin	Netherlands


APPROVALS/CERTIFICATES

	
	ref. UL-508A

DIMENSIONS



CONTROL PANEL



A	Power on
B	Limestone dosing active
C	Limestone dosing - turbo
D	Failure/attention (+ orange LED E/F/G/H/I)
E	Fill up limestone
F	Close refill lid
G	Limestone pipe clogged
H	Call service engineer
I	System/fan off

WORKING PRINCIPLE

Limestone is applied in small quantities and makes sticky welding fume behave like dry welding fumes, enhancing filter cleaning and filter cartridge life. The limestone reduces the risk of fire due to sparks and spontaneous combustion to a minimum.

The limestone feeder comes with an additional booster fan to be mounted to the main duct by a fan support. It runs simultaneously with the agitator mechanisms and the screw conveyor.

SAFETY

To create a fire-safe situation at all times, the entire extraction and filter system is automatically switched off*:

- when the limestone reservoir is empty
- when the limestone refill lid has been open >60 minutes
- if there is no underpressure in the OilShield

* If connected to a System Control Panel

FEATURES

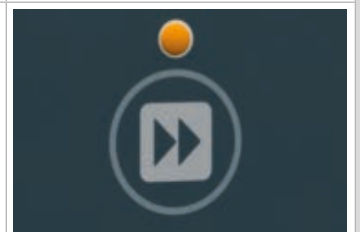
Dust-free limestone refill due to rim extraction under top cover.



Low operational cost due to inexpensiveness of limestone. Accurate dosing adjusted to the size of the connected filter system.



Turbo button for 100% limestone dosing during a preset time. Used to provide new filter cartridges with an initial layer of limestone.



The separate booster fan guarantees the required airflow to transport the limestone through the vertical duct in any circumstance.



External light tower as additional warning device (option).



OVERVIEW SHIELD SYSTEM



Product type

OilShield

Article no.

refer to order information

Product category

SHIELD fire safety solutions

Version

070513/E

Always check the latest version on www.plymovent.com