



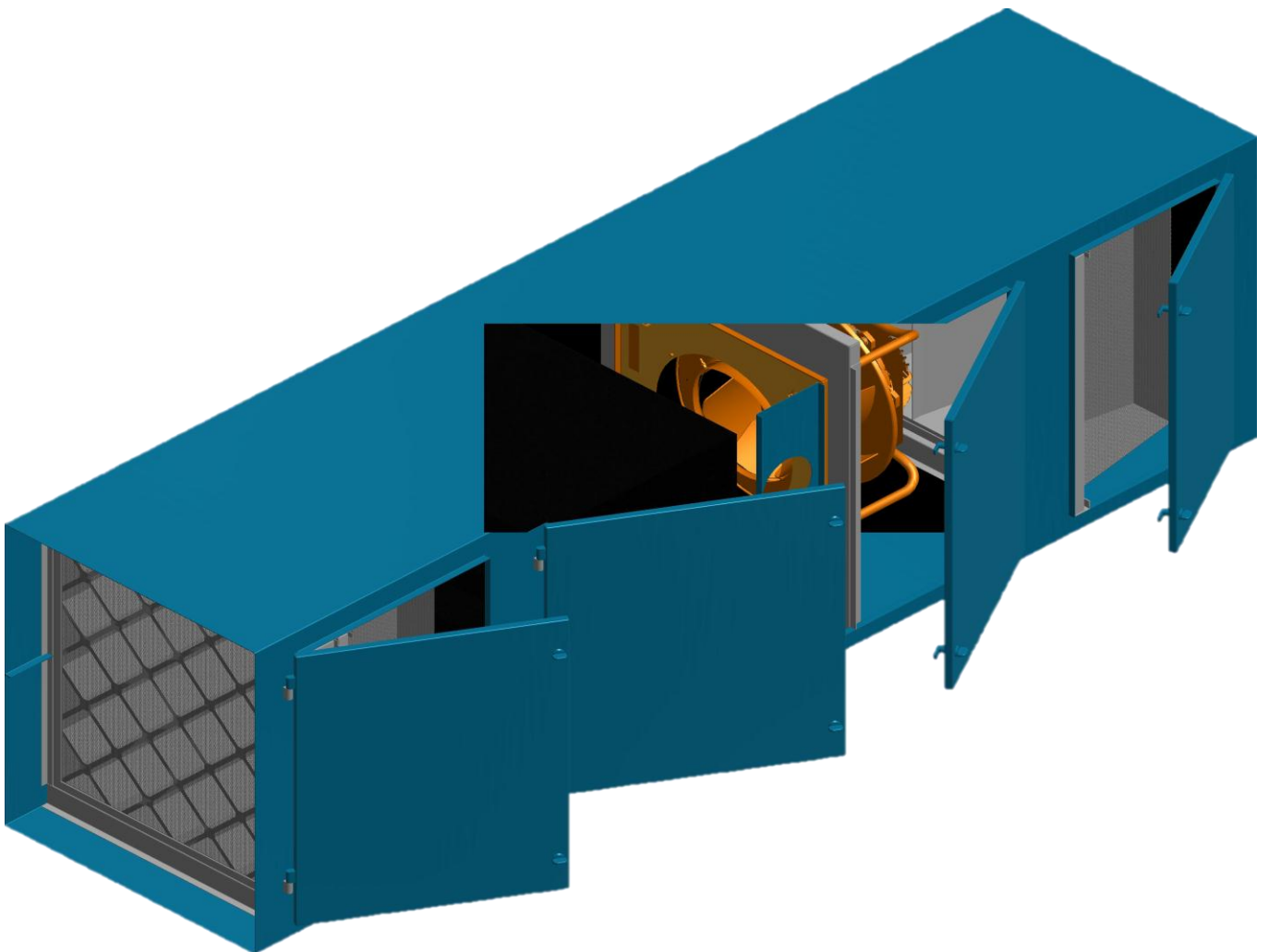
SHAMON
AIR & FILTRATION

Volume

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SHAMON AIR&FILTRATION EQUIPMENT (NZ) LTD

SAFESORB HS1184CF Horizontal Gas Scrubber



Owner's Manual

HS 1184CF

Owner's Manual

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August 2013

Description

Horizontal Gas Scrubber unit.

The HS series Gas Scrubber Unit comprises a series of particulate and gaseous contaminant filters within a compact cabinet. The purpose of this unit is to scrub the gaseous contaminant and reduce the particle levels to that specified by the client or client's consultant.

Contaminated air is drawn through the unit and filtered in multiple stages including activated media gaseous filtration. A Coalesce filter/G4 grade and F8 deep bed filter are provided to remove dust and oily vapour from the air. The air then passes through activated carbon where the odour is removed. The air then passes through the final stage of F9 deep bed filter. The clean air is then discharged outside.

Operating Instructions

The SAFE HS series Gas Scrubber Unit is easily operated and requires little operator attention.

The HS series Gas Scrubber Unit is designed for continuous operation. Visual checks of the gauge panel and control box are recommended to check that the unit is functioning correctly.

Operator Controls

Start/Stop Control

Under normal conditions the HS series Gas Scrubber Unit would run continuously.

Start operation by switching local isolator to “On” position. The green light on the control panel will be illuminated.

Stop operation by switching local isolator to “Off” position. The light is off.

Fault Indication

Dust Filters

Pressure drop across the filters is monitored by a Magnehelic gauge (Optional) mounted on the unit. Based on the fan pressure a change filter level will be indicated. Ignoring the filter pressure gauge could result in a loss of airflow through the unit.

Gas Filtration Media

The pressure drop across the Adsorbtion Stage (Activated Carbon) gas filtration cartridges does not change as the media becomes spent.

To determine the condition of the media the maintenance engineer must have a sample of the media analysed by a SAFE representative. This test should be planned and performed routinely.

Filters not fitted.

The HS series Gas Scrubber Unit can be fitted with a pressure switch and timer delay (Optional). In the event that the unit has a cartridge filter missing or the cartridges are not properly filled in the final bank the green indicator light on the control box will go out and the fan will stop. The problem needs to be fixed and then the isolator turned from the ON position back to OFF and then on again. The timer delay allows for the fan to come up to speed before the pressure switch is re activated.

Doors not closed.

The HS series Gas Scrubber Unit can be fitted with micro switches on the access doors that are normally closed (Optional). In the event that the unit doors are open an indicator light on the control box will go on and the fan will cease running. The doors need to be closed for the fan to resume normal operation.

Routine Maintenance

The SAFE HS series Gas Scrubber Unit requires little routine maintenance.

The HS series Gas Scrubber Unit requires the following regular maintenance to maintain top performance and to minimise odour emission.

Monthly Maintenance

Filters

- ◇ Replace stage one filter if required.
- ◇ Clean dust from around inside surfaces of cabinet

Electrical

- ◇ Inspect control cabinet for loose connections

General

- ◇ Check for missing screws and latches
- ◇ Clean unit
- ◇ Treat any corrosion

Fan Section (In some cases this may not be part of the Scrubber Unit)

- ◇ Check for free rotation of fan
- ◇ Check for excessive fan noise
- ◇ Check fan motor current is normal

Quarterly Maintenance

Beyond the normal monthly maintenance, the following items should be checked on a quarterly basis:

Filters

- ◇ Inspect stage two filters. These must be replaced when final pressure drop is reached or there is a significant reduction in Airflow.
- ◇ Take sample of stage three and four gaseous filtration media pellets and forward to local SAFE (NZ) Ltd representative for condition analysis. Replace when spent.

Annual Maintenance

Beyond the normal monthly and quarterly maintenance, the following items should be checked on an annual basis:

Fan Section (In some cases this may not be part of the Scrubber Unit)

- ◇ Check for fan bearing wear
- ◇ Confirm fan mounting rubbers are secure

Technical Details

The SAFE HS series Gas Scrubber Unit is constructed from readily available components to assist ease of long term maintenance.

The HS series Gas Scrubber Unit is designed and built in New Zealand to robust industrial standards. The components of the unit have been selected for their durability and reliability.

Technical Data

General

Model Designation	HS 1184CF
Configuration	Horizontal Discharge; Floor or Duct Mounted

Fans

Type	EBM EC CENTRIFUGAL K3G315
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Capacity

Air Flow	900 l/s max. @ 350 Pa Internal Resistance 650 Pa Final with dirty filters.
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Filtration

Dust efficiency	F9
Gas residence time	0.18 seconds per stage @ 900 l/s

Electrical

Supply, Neutral and Earth.

Must NOT be installed after a fan speed controller.
Contactor & Overload must be sized to fan.

Parts List

Part Code	QTY	Item Description
		FILTERS
FF011SC19	1	PRE FILTER / COALESCE – G4 590 x 590 x 80(D)
RIGID F8	1	SECONDARY FILTER – SAFE/AAF DEEP BED PLEATED – F8
FFUB18P	4	SAFE ACTIVATED CARBON MODULE (145 x 445 x 600d) filled with activated carbon media 10kg per Cell
FM090	40kg	Activated carbon media 10kg per Cell
RIGID F9	1	FINAL STAGE FILTER – SAFE/AAF DEEP BED PLEATED – F9
		FAN
K3G315	1	EC CENTRIFUGAL FAN MODULE Ø315

Equipment Drawings

The SAFE HS series Gas Scrubber Unit is designed for simplicity of service and for durability. The design is proven in service in New Zealand industrial environments.

The HS series Gas Scrubber Unit is constructed from Galvanised steel sheet and is finished with a baked enamel coating (Optional). The electrical components are proven in service in New Zealand industrial environments. Qualified electricians to New Zealand Electrical Standards have carried out the electrical design and manufacture.

Schedule of Drawing

Enclosed are the following workshop drawings of this unit for reference.

HSU-1184CF

ISOMETRIC VIEW

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Date: **OCTOBER 2013**
 KITCHEN EXHAUST SCRUBBER

Model: HSU-1184CF	
Material: ELECTROGALV.	
Colour: STONE BEIGE	
Weight: (kg) 275	
Design Spec:	
Airflow (l/s)	950
Ext. Static (Pa)	250
Noise dB(A) at design airflow:	
Fan only (Free):	
Fan:	
Quantity:	
No. of Speeds:	
Design fan speed:	
Power:	
FL Amps:	
Filtration:	
Residence time:	
Pre filter:	
Final Filter:	
Scale: 1:25	
Drawn By: BENG	Rev 0
Signed:	Dwg No.

Approved for construction
 Date:
 Signed: