

## Safe Change

Wozair manufactures a range of radial and axial flow Safechange® HEPA Filter Units for use with HVAC extract systems where radioactive or other toxic effluents may be present.



## Safechange High Efficiency Particulate Air Filter Units

These filter housings are specifically designed, manufactured and tested for compliance with the latest industry standards but are suitable for a range of applications in both nuclear and commercial industries.

The housings can be manufactured to offer up multiple configurations regarding inlet and outlet discharge.

In systems with airflows greater than 950 l/sec, individual housings can be manifolded together to form a filter bank or by installing a multi-insert (EP2 style) bag change filter housing, with one accommodating up to 10 filters.

The designs are such that High Efficiency Particulate Air (HEPA) filter can be changed without the risk of contamination to personnel and the environment.

### Features & Benefits

- Plug-in radial filter housing complete with HEPA filter insert and change bag
- Manually operated inlet and outlet dampers providing isolation from the ventilation system to conduct the filter change
- In-bleed depression relief system to reduce the internal pressure to near room conditions to allow the access cover to be removed and to conduct the filter change
- Differential pressure tapping points to monitor filter condition connected to a pressure gauge and transmitter

### Technical Information

#### Airflow

Individual filter housings are available in various arrangements to suit an airflow of up to 950 l/sec, or smaller increments.

EP2 style filter housings are available in various arrangements to suit an airflow of up to 9,500 l/s.

#### Air Pressure

Filter housings are usually designed and tested to a maximum differential air pressure of 6,000 Pa.

#### Design Duty

Standard: 950 l/sec and 470 l/sec

Non-standard: 280 l/sec, 160 l/sec and 75 l/sec

#### Testing

Full NDT of all containment welds and case leak tested

## Materials of Construction

#### Casing:

Stainless Steel 304L/316L (1.4307/1.4404)

White epoxy painted Carbon Steel

#### Flanges:

Filter housing casing is provided with 6 mm flat face flanges for bolting into high integrity ductwork. Alternate flange arrangements and flange thickness's can be considered on request.

## Mechanical Options

- HEPA Filters
- Ferroxy testing
- Electric heater to reduce relative humidity of incoming air
- Spark Arrestors
- Pre-filter
- Primary and secondary stage HEPA filtration
- Acoustic silencers
- Duct connection flexible couplings with backing flange
- Manifolds
- Supports
- Inlet and outlet Isolation Dampers
- Depression Relief Systems
- PVC Safechange bags
- Heat seal unit
- Scissor table

For further information on filter housings please refer to our data sheet - Bag Change Plug-in HEPA Filter Housings

All filter housings are of a fully welded design using approved weld procedures and welders coded to BS EN ISO 9606-1.

Non-destructive testing (NDT) of welding can be performed on request.

## Performance

#### Safechange filter housings radial and axial

1. Radial straight through 180 degrees - 450 Pa clean and 800 Pa dirty; Radial 90 degrees - 450 Pa clean and 800 Pa dirty
2. Radial housing Maximum operating pressure: 3 kPa
3. Safechange Radial; Volume flow rates offered
  - a. 75 l/s (150 cfm) (non-standard)
  - b. 160 l/s (340 cfm) (non-standard)
  - c. 280 l/s (600 cfm) (non-standard)
  - d. 470 l/s (1000 cfm)
  - e. 950 l/s (2000 cfm)
4. Axial - Safechange Axial housing pressure drop; 350 Pa clean and 700 Pa dirty typical for HEPA filter only
5. Safechange housing; the units are generally designed in accordance with EG\_0\_1711 (Design Guide for filter housings) for circular plug-in filters to achieve the 99.99% efficiency to AESS30/95100, ES\_0\_1737



## Ordering

<b>Type:</b> SCR / SCA	<b>Type:</b> EP2
<b>Material:</b> 316L	
<b>Capacity:</b> 75 l/s 160 l/s 280 l/s 470 l/s 950 l/s	<b>Capacity:</b> 2 Filter = 1900 l/s 4 Filter = 3800 l/s 6 Filter = 5700 l/s 8 Filter = 7600 l/s 10 Filter = 9500 l/s
<b>Type:</b> Safechange Radial = SCR Safechange Axial = SCA Safechange Multi Filter = EP2  <b>Case Material:</b> <u>Stainless Steel</u> Low Carbon 1.4307 = 304L Low Carbon 1.4404 = 316L  <u>Carbon Steel</u> White epoxy painted = PCS	
<b>Order Code Example:</b> SCR/316L/950 l/	<b>Order Code Example:</b> EP2/4/316L/3800 l/s

<b>Type:</b> SCR / SCA	<b>Capacity:</b> 950L
<b>Material:</b> 316L	
<b>Capacity:</b> 75l/s 160 l/s 280 l/s 470 l/s 950 l/s	<b>Capacity:</b> = 75L = 160L = 280L = 470L = 950L
<b>Type:</b> Safechange Radial = SCR Safechange Axial = SCA  <b>Case Material:</b> <u>Stainless Steel</u> 1.4307 = 304L 1.4404 = 316L  <u>Carbon Steel</u> White epoxy painted = PCS	
<b>Order Code Example:</b> SC/316L/950L	

<b>Type:</b> EP2	<b>Capacity:</b> E9500L
<b>Material:</b> 316L	
<b>EP2:</b> 2 Filter 4 Filter 6 Filter 8 Filter 10 Filter	<b>Capacity:</b> = 1900 l/s = 3800 l/s = 5700 l/s = 7600 l/s = 9500 l/s
<b>Type:</b> Safechange Multi Filter = EP2  <b>Case Material:</b> <u>Stainless Steel</u> 1.4307 = 304L 1.4404 = 316L  <u>Carbon Steel</u> White epoxy painted = PCS	
<b>Order Code Example:</b> EP2/4/316L/3800L	

## Additional Images

Radial housings



Axial housings



## Mobile Safe Change Filtration Units

Wozair Limited manufacture a range of mini-mobile, mobile and modular HEPA filter housings using various configurations to suit customer requirements. These are primarily designed for filtering and processing exhaust air during the decommissioning of radioactive or other contaminated facilities.

All mini-mobile, mobile and modular HEPA filter units incorporate a filter housing or housings fitted with a plug-in radial or axial filter insert which is changed using the bag in, bag out method and fan. Units are designed to be either portable or fixed with manifolds (if required) and self-contained, requiring connection of inlet and outlet ducting and an electrical supply once in position on site.

Individual filter housings are available in two sizes and are designed to pass through standard doorway openings wherever possible.

Mini Mobile units are used mainly for temporary ventilation applications whereas Standard Mobile units are used in larger temporary ventilation systems.

### Features & Benefits

- Plug-in radial filter housing complete with HEPA filter insert and change bag
- Two-stage contra-rotating axial flow fans (mobile units and systems with high pressure loss) or single stage axial flow fan/centrifugal fan (mini-mobile)
- Control panel with 5 pin 415/3/50Hz electrical connector socket, variable speed drive for fan motor control with keypad controller, start and stop push buttons, emergency stop and high filter differential pressure status/alarm
- Manually operated inlet and outlet dampers providing isolation from the ventilation system to conduct the filter change
- In-bleed depression relief system to reduce the internal pressure to near room conditions to allow the access cover to be removed and to conduct the filter change
- Differential pressure tapping points to monitor filter condition connected to a pressure gauge and transmitter
- Support frame with 4 off lockable castor wheels and jacking screws



## Technical Information

### Airflow

Individual filter housings are available in various arrangements to suit an airflow of up to 950 l/sec, or smaller increments.

In systems with airflows greater than 950 l/sec, individual housings can be positioned together to form a filter bank.

### Available Design Duty

Standard: 950 l/sec and 470 l/sec.

Non-standard: 280 l/sec, 160 l/sec and 75 l/sec

### Testing

Full NDT of all containment welds

## Materials of Construction

### Casing:

#### Materials

Stainless Steel 304L/316L (1.4307/1.4404)

White epoxy painted Carbon Steel

### Flanges:

Filter housing casing is provided with 6 mm flat face flanges for bolting into high integrity ductwork. Alternate flange arrangements and flange thickness's can be considered on request.

## Mechanical Options

- HEPA Filters
- Emcel Filters
- Pressure
- Instrumentation
- In-line HEPA Filters to pressure instruments
- Ferroxyl testing
- Electric heater to reduce relative humidity of incoming air
- Spark Arrestors
- Pre-filter
- Primary and secondary stage HEPA filtration
- Acoustic silencers
- Duct connection flexible couplings with backing flange
- Manifolds
- Supports
- Inlet and outlet Isolation Dampers
- Depression Relief Systems
- PVC Safe change bags
- Heat seal unit
- Scissor table

For further information on filter housings please refer to our data sheet - Safe Change HEPA Filter Housings

All filter housings are of a fully welded design using approved weld procedures and welders coded to BS EN ISO 9606-1.

Non-destructive testing (NDT) of welding is performed as standard by a third party.

Performance

Safe change filter housings radial and axial

- 1. Radial straight through 180 degrees - 450 Pa clean and 800 Pa dirty; Radial 90 degrees - 450 Pa clean and 800 Pa dirty
- 2. Radial housing Maximum operating pressure: 3 kPa
- 3. Safe change Radial; Volume flow rates offered
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- 4. Axial - Safe change Axial housing pressure drop; 350 Pa clean and 700 Pa dirty typical for HEPA filter only
- 5. Safechange housing; the units are generally designed in accordance with EG\_0\_1711 (Design Guide for filter housings) for circular plug-in filters to achieve the 99.99% efficiency to AESS30/95100, ES\_0\_1737

Maintenance

Refer to Wozair maintenance manual  
Filter change out will be subject to site conditions

Ordering

Type:	MFU	Capacity:	950l/s
Material: 316L			
Capacity:		Capacity:	
75 l/s		= 75 l/s	
160 l/s		= 160 l/s	
280 l/s		= 280 l/s	
470 l/s		= 470 l/s	
950 l/s		= 950 l/s	
Type:			
Mobile Filter Unit		= MFU	
Mobile E Unit		= MEU	
Case Material:			
Stainless Steel			
Low Carbon 1.4307		= 304L	
Low Carbon 1.4404		= 316L	
Carbon Steel			
White epoxy painted		= PCS	
Order Code Example:			
MFU/316L/950 l/s			

Additional Images



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