Martindale

FRAME AND WALL MOUNTED FILTRATION SYSTEMS AND 10M AIRLINE HOSE

FRAME MOUNTED FILTRATION SYSTEM: M25/180F WALL MOUNTED FILTRATION SYSTEM: M25/180W

Warning – Compressed air can be dangerous. It is important that you read these instructions before you use the equipment.

Usage

The filter system consists of three filtration units which will remove liquids, solid contaminants, oil vapour and odours from the compressed air supply and provides clean breathing air to the operators. The equipment is designed for the removal of solid particulate, oil aerosols and hydrocarbon vapours and odours. The system will not reduce the levels of carbon monoxide or other noxious gases or vapours, which may be present. See BS 4275:1997 for guidance.
The units are fitted with a 1/4" input hose tail adapter, a 0.5-10 bar adjustable regulator, twin output 'quick-snap' style hose connectors for 1 or 2 operators, a 0-11bar (0-160 psi) pressure gauge as a guide to output pressure .

Regulator

The regulator is an integral part of the pre-filter bowl assembly and will regulate the input pressure in the range of 0.5-10 bar.
The regulators adjustment knob can be locked into position by pressing down (a positive clip will be heard) pull to unlock.
Turning the knob Anti-clockwise reduces pressure - clockwise increases.
Adjustments should be made under flow conditions.

Inlet/Outlet connections

The compressed air input is via a 1/4" BSP tailpiece to which a suitable input hose must be secured. If a different connector is required the hose tail may be removed with a spanner by unscrewing the hose tail in an anti-clockwise direction. The new connector to be fitted must have a male 1/4" BSP tread to be screwed in to the filter bank. It is recommended that the new connector thread be sealed with PTFE tape or a suitable sealing compound.

The outlet 'quick snap' connectors should NOT be changed or tampered with and should be used in conjunction with M25/10M 10 meter air line hose (5/16" bore) which has compatible connections.

Filter elements (see diagram 1)

The first filter (A) is the pre-filter, the pre-filter removes the bulk of the contamination in the compressed air. Liquids and the larger solids are removed by centrifugal separation, while the finer solids are removed by the easy clean 25-micron nylon mesh filter element. The auto dump valve drain allows collected liquid to be discharged either when the pressure drops to about 0.06 bar (i.e. when the air to the filter system is shut off), or manually by displacing the valve-pin within the valve body at any time.

The second filter (B) is a high efficiency oil removing coalescing filter which extracts further free moisture as well as minute particles of dirt and oil (aerosols). The high efficiency element retains the solid particles down to sub-micrometer size and the aerosols of oil and water are coalesced into larger particles within the element. As the air flows from the inside to the outside these particles grow in size until they reach the outer surface of the element where they migrate through and down the porous foam outer layer. The droplets are held within the plastic bowl until the unit is drained in the same way as the pre-filter.

The third filter (C) consists of an activated carbon element which removes from the air various unpleasant odours carried over from the compressor. The design of the element ensures that the air passes through the full depth of carbon giving the highest degree of odour removal and long life. The element incorporates a Red colour indicator, should this become visible it is an indication of oil aerosol and a malfunction of the coalescing unit. The colour indication will be seen around the bottom edge of the element.

Maintenance

1. To service the equipment, first disconnect or shut off the air supply.
2. Remove appropriate plastic bowl by unscrewing with a clockwise rotation when viewed from the top of the unit, taking care not to lose the '0'-ring sealing gasket.
3. Pre-filter. (A) Unscrew the nylon filter element, which will also release the centrifugal swirl deflector. To clean the filter components wash in paraffin followed by soapy water. To clean the polycarbonate bowl, wash in soapy water; **DO NOT** use solvents, as they will destroy the bowl. After cleaning inspect components carefully for damage, especially the filter mesh and gaskets, ensure that the auto drain valve is not choked, any damaged components should be replaced. On re-assembly a thin smear of silicone grease will be helpful in seating the gasket and easing the bowl tightening.
4. Coalescing oil filter. (B) Unscrew the filter element and discard, wash the bowl with soapy water and check that the auto drain valve is not choked. Examine all component parts for damage and replace as necessary. Replace filters element and re-assemble using a thin smear of silicone grease on threads and gaskets.
5. Odour filter. (C) Unscrew the filter element and renew if discoloured, wash the bowl with soapy water if contaminated with oil or wipe out thoroughly with clean dry cloth. Examine component parts for damage and replace as necessary. Re-assemble filter element and bowl using a thin smear of silicone grease on threads and gaskets.

Warnings and Guidelines

1. The compressor intake should be located in a clean air situation and well away from sources of fumes such as I.C. engine exhausts
2. Lubricated compressors should be well maintained to ensure minimum oil carryover, this will give longer filter life. Compressors using PTFE piston rings are not generally recommended for breathing air systems due to risks of overheating and toxic fumes being created
3. High air temperatures can cause breakdown of lubricating oils to produce Carbon Monoxide therefore effective compressor cooling is essential
4. For operators using breathing air in enclosed areas (e.g. tanks, pipes and manholes) a reserve of air should be provided to cater for compressor failure
5. Air supply lines should be capable of passing a minimum of 180 litres per minute for each operator

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6. Vent compressor air receivers regularly to minimise water in air supply lines and filter system
7. Regular checks for purity of breathing air supplied by a compressor should be carried out in accordance with BS 4275:1997
8. Do not expose the Polycarbonate bowls to solvents
9. The maximum operating pressure of the system is **10 bar with 50 °C**

Spares

PART No. DESCRIPTION

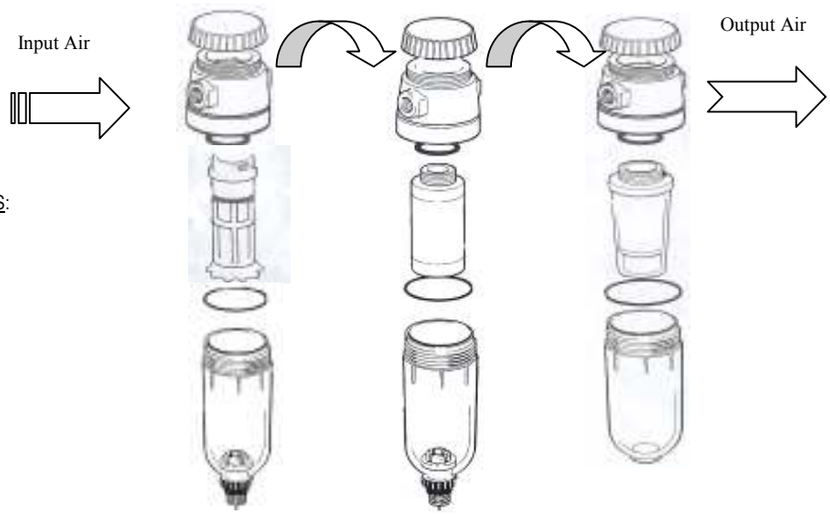
M25/BA	Spare Bowl Assembly Including Valve & seating Ring	
M25PFE	Spare Particulate Filter Element	(Pkt of 3)
M25/OFE	Spare Oil Filter Element	(Pkt of 1)
M25/ODFE	Spare Odour Element	(Pkt of 1)

SUITABLE FOR USE WITH THE FOLLOWING MARTINDALE SYSTEMS:

Airforce Airfed System.
Airforce Airfed Welding system.
Airforce Connectair system.

Refer to separate instructions included with the head pieces.
Refer to literature for accessory part numbers (eg regulators)

Diagram 1 A B C



10 METRE 5/16" BORE COMPRESSED AIRLINE HOSE: M25/10M

The **M25/10M** compressed air hose is manufactured from flexible PVC and is supplied with "Quick Snap" connectors on each end.

Cleaning
The outside of the hose may be cleaned using warm (less than 50ºC) soapy water. It should be thoroughly rinsed with clean water after washing. Do not allow any water to enter the bore of the hose. Excess water should be dried off with a cloth and the hose should then be left to dry. Do not store with a coil diameter less than 150mm.

Storage Conditions
In order to maintain maximum life from the hose it should be kept clean and between -5ºC and +55ºC out of direct sunlight. Ideal storage conditions are around 15ºC in a dry, uncontaminated atmosphere (R.H. < 60%) in original packaging. Transport in original packaging. If stored correctly the hose has a shelf life of 5 years.

Check Before Use
Visually inspect the hose before each use. Do not use if the hose appears damaged, deteriorated or holed. If a leak is suspected the hose may be checked by connecting the male end of the hose to a compressed air supply between 40 (3 Bar) and 140 P.S.I. (10 Bar)) and, with the female end detached from any equipment, submerging the hose in a few inches of water. A stream of bubbles will indicate leaking air; there should be no air leakage.

Use
The hose should normally be used with a maximum supply pressure of 140 P.S.I. (10 Bar).
Recommended limits of operating temperatures are 0ºC to + 40ºC
The hose offers good resistance against oxidising and reducing agents and dilute acids and alkalines however we would recommend that contact of the hose with any contaminants should be avoided where possible. Do not kink or crush the hose. Do not leave the hose where it might be crushed or damaged or where it may form a potential hazard.

Warning
Trailing lengths of hose can form a potential hazard.

Guarantee
All Martindale Compressed Air Systems are guaranteed free from any faults in materials or workmanship. Should any such faults develop within 12 months of purchase then Centurion Safety Products Ltd will, at their discretion, repair or replace the unit without charge.