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## Operating Instructions for KSF filter

M-2/1/EN/1

These Operating Instructions are designed to give the end user the relevant information to ensure correct operation and a safe working environment.

All personnel working on the KSF filter must have read and understood the Operating Instructions and all safety regulations prior to commencing work. The Operating Instruction must always be available to the user.



### 1. Safety

#### 1.1 Correct Use

The TROX KSF is a high performance filter to trap suspended particles or aerosols, and provide containment for protection of maintenance personnel in hazardous conditions, for example toxic and radioactive systems. The gas tight filter housing is available with or without pre-filter in various designs and specifications.

The use of the KSF filter for any other purpose than its design function shall be at the end users risk and deemed to be incorrect. TROX shall not be liable for any resulting damage/injury caused by incorrect use.

#### 1.2 General Information on Safety

A copy of the Operating and Safety Instructions should be stored near the KSF filter.

The operator shall ensure that the KSF filter is maintained in perfect condition and that all relevant statutory, environmental and other binding regulations are observed.

#### 1.3 Personnel Selection and Qualification

The TROX KSF filter can only be operated by conscientious and reliable people.

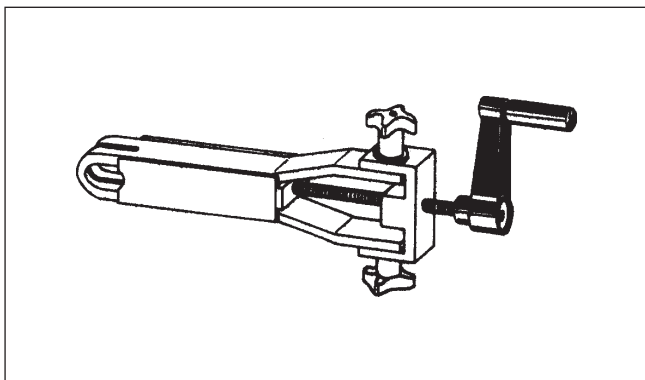
It is the responsibility of the end user to provide the necessary operator training.



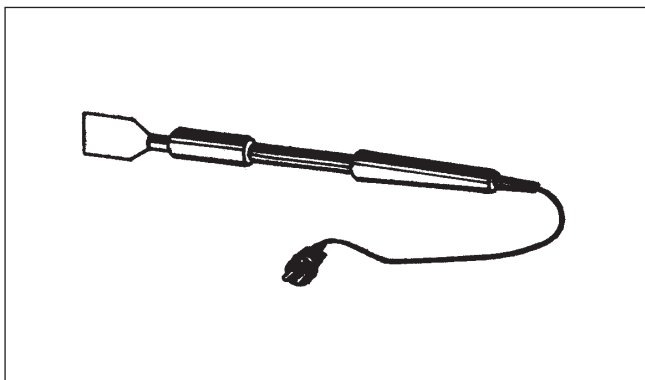
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### 2. Tools



#### 2.1 Welding device for maintenance sacks



### 1.4 Safety Work

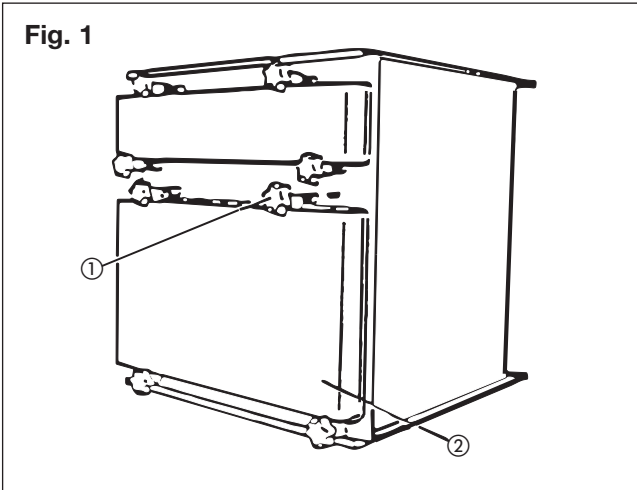
The operator must satisfy himself that the KSF filter is in a serviceable and safe condition before commencing any commissioning work.

Work on the KSF filter shall only be permitted on the authority of the end user.

Before carrying out any maintenance tasks always ensure the KSF filter is on a firm surface and that the system fans have been switched off. Any negative pressure within the safe-change filter should be dissipated before removing any access door.

The maintenance sack (plastic bag) and the filter cell should at all times be handled with great care to prevent accidental damage. If the sack is cut or ripped it will negate the containment/safety features associated with this type of filter.

Fig. 1

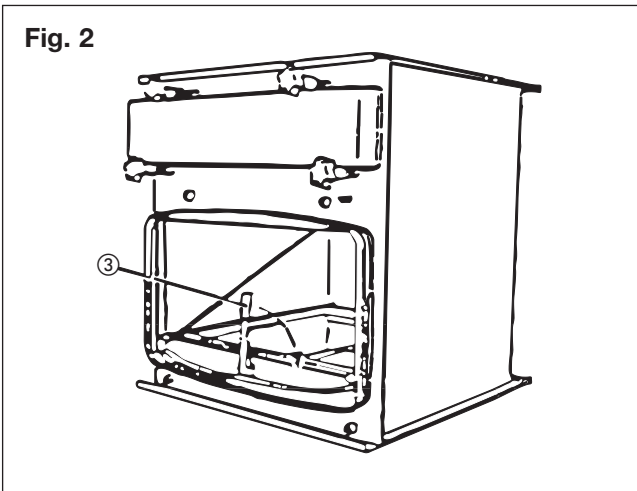


### 3. Operation

#### 3.1 Commissioning

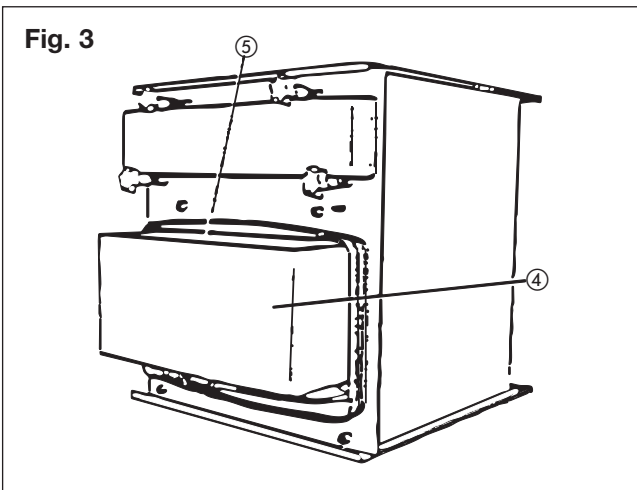
Unscrew 4-star knob bolts ① and remove access door ②. Place access door in a safe position away from operatives.

Fig. 2



Rotate the lever ③ 90° clockwise to release clamping device.

Fig. 3

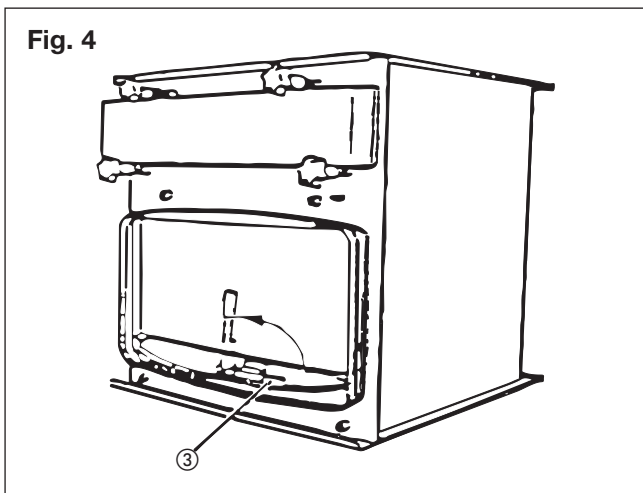


Insert the particulate filter cell ④ with the seal ⑤ facing up.

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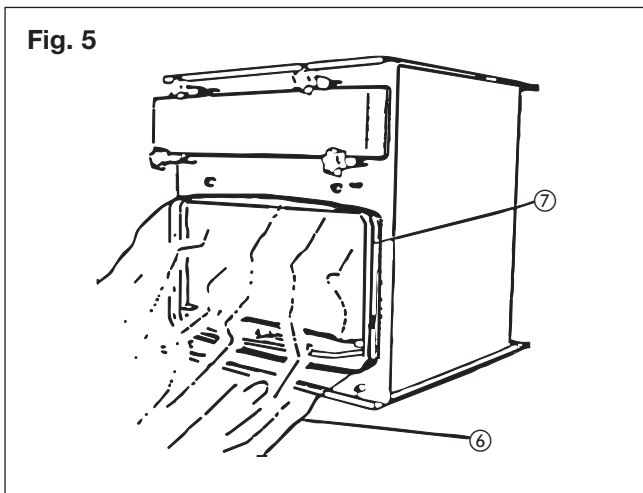
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Fig. 4



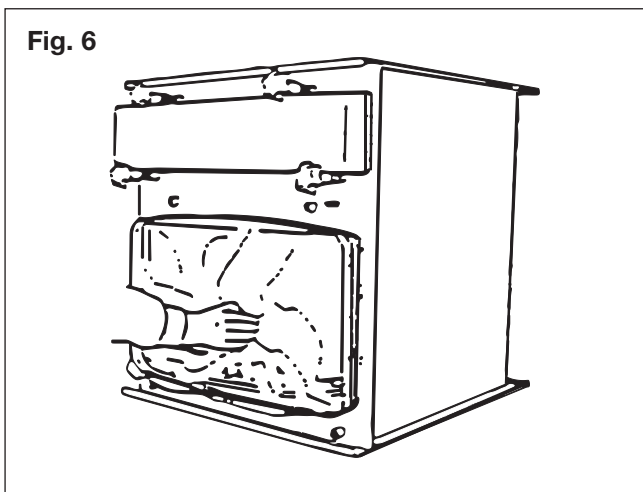
Rotate lever ③ 90° counter clockwise, as far as possible, to tighten clamping device.

Fig. 5



Place maintenance sack ⑥ over maintenance board and secure in the first groove with the rubber clamping ring ⑦.

Fig. 6



Carefully roll up the maintenance sack and place in front of the particulate filter cell.

**Note:**

Maintenance sack must not protrude outside the maintenance board. Replace access door and fully tighten 4 star knob bolts by hand.

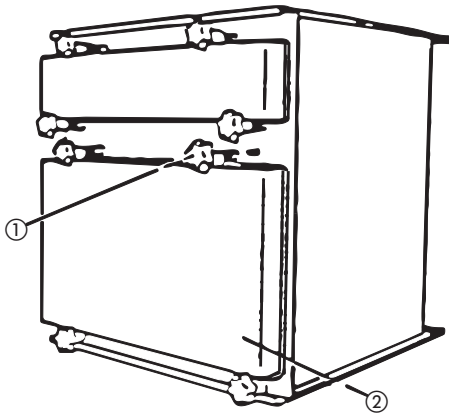
**Caution!**

The housing door can only be fitted when the lever of the filter cell clamping device is in the vertical (fully clamped) position.

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Fig. 1



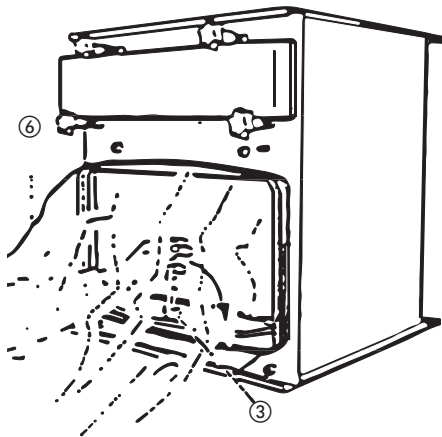
### 3.2 Changing the filter cells

**Note:**

This section details changing of the main filter cell. The procedure for changing the pre-filter cell is the same as the main filter, except the cell clamping arrangement differs in operation. The pre-filter clamping frame utilizes a handle which is pushed into the housing for positive clamping and pulled out of the housing to release clamping. The pre-filter door can only be fitted when the clamping handle is in the fully clamped position.

Unscrew 4-star knob bolts ① and remove access door ②. Place access door in a safe position away from operatives.

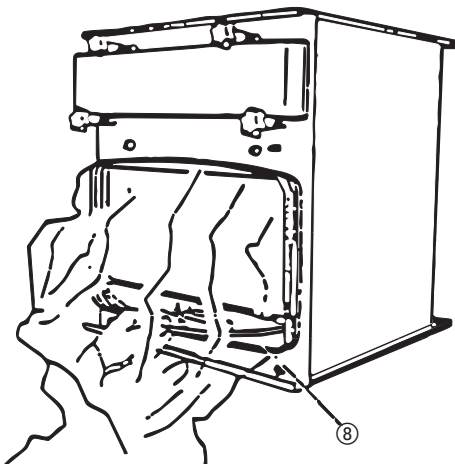
Fig. 2



Unroll maintenance sack ⑥.

Rotate lever ③ 90° clockwise to release clamping device.

Fig. 3

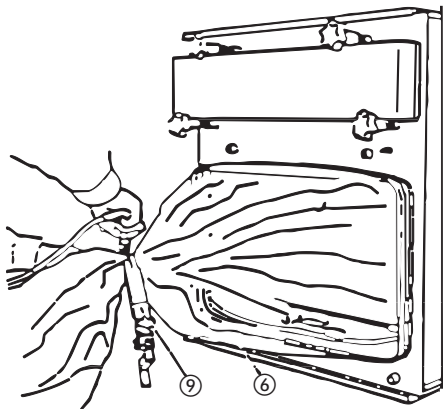


Pull the cell release cord ⑧ to partially withdraw filter cell from the housing. Carefully remove the filter cell and place at the far end of the maintenance sack.

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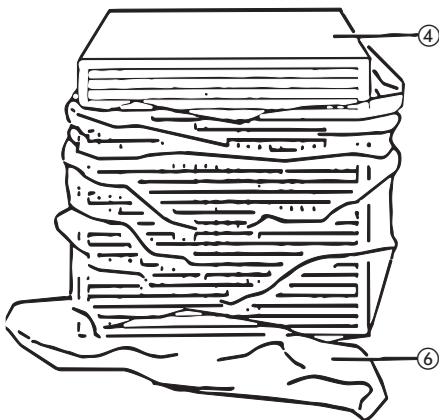
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Fig. 4



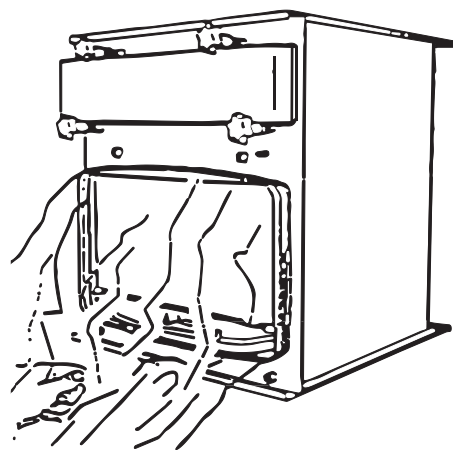
Weld the maintenance sack ⑥ airtight with the welding device ⑨. Encased dirty filter cell can now be safely disposed of.

Fig. 5



Carefully insert new particulate filter cell ④ in new maintenance sack ⑥.

Fig. 6



Offer up new filter, in its plastic sack, to the KSF housing and attach open end to the maintenance board rear (2<sup>nd</sup>) groove, secure in place using a new rubber clamping ring.

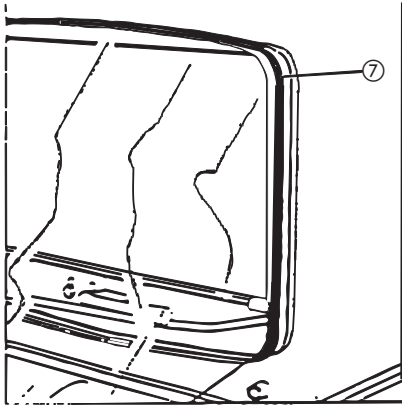
Grasp the old welded sack end and carefully remove from the first groove of the maintenance board. Pass old sack and rubber clamping ring to the bottom of the new sack. Lift new filter cell to top of the new sack and partially insert into housing. Manoeuvre old sack underneath new filter cell ensuring that the old bag is not trapped between underside of filter and clamping frame. Fully insert new filter cell into housing and clamp by rotating the clamping handle 90° counter clockwise as far as it will go.

Pass the old welded sack and rubber clamping ring to the extreme far end of the new sack and weld airtight using the welding device. Encased old sack and clamping ring can now be safely disposed of.

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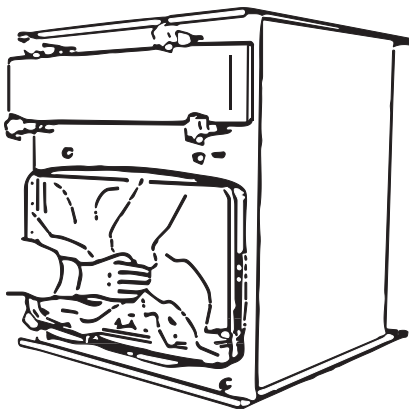
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**Fig. 7**



Carefully move clamping ring of new maintenance sack from the rear (2<sup>nd</sup>) groove on the maintenance board to front (1<sup>st</sup>) groove. This ensures the correct starting position for the next particulate filter change.

**Fig. 8**

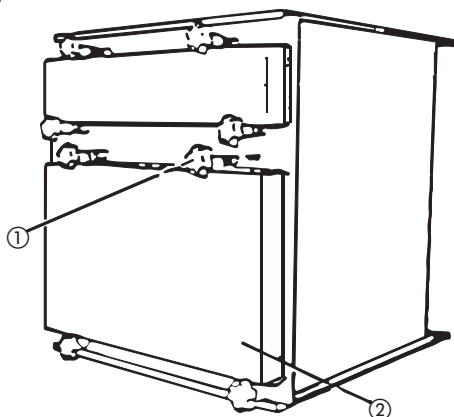


Carefully roll up maintenance sack and place in front of the particulate filter cell.

**Note:**

Maintenance sack must not protrude outside the maintenance board.

**Fig. 9**



Replace access door ① and fully tighten the 4-star bolts by hand.