This manual contains operation and maintenance information for series DWF(A) / EDWF(A) 1505, 3005, 4505, 6005 and related specifications. For customer specific models, there are additional instructions on those data sheets. The pressure filters listed above are intended for the filtering of liquid media.

1. Safety instructions

Prior to operating the filter, operation and maintenance instructions need to be read carefully. Failure to follow these instructions could lead to death, severe injury or property damage. Eaton does not assume liability for any damage that occurs to due misuse of equipment.

Follow the operating conditions specified on each data sheet. Operating outside of these parameters can cause damage to important pressure holding parts and sealing. Pay special attention to excess pressure, temperature range and operating fluid. The compatibility of filter components with the operating fluid should always be considered before operation.

Always wear safety goggles and gloves when working on the filter. Under working conditions, the filter housing is pressurized. Do not try to loosen or remove any part of the filter or the filter housing during operation. The operating fluid could escape at high pressure and high temperatures. This does not apply to the offline vessel that is not under operation. Leaking operating fluid can cause injury and burns. Do not open the filter housing until you make sure it is not pressurized. The filter surface may be hot and cause burns. When changing the filter, check the operating temperature before touching any surface during operation. If you come into contact with the operating fluid, please follow the safety instructions provided by the fluid manufacturer.

To ensure proper fit and function, only use Eaton spare parts.

2. Installation

The filter is supplied and delivered ready to be installed. The mounting position of the filter is vertical. The filter has to be fitted with fastening screws in size and amount according to the corresponding fastening bore holes of the filter housings. The filter should be mounted to minimize tensile forces on the filter housing and change-over valve. The piping should be connected with flanges.

During installation ensure that:

- No dirt and no impurities of foreign fluids penetrate the filter.
- The connections for input and output are correctly attached to the pipe system.
- The pipe system is connected to the filter to minimize stress on the filter.
- Ensure the filter element is accessible for service and change out.

Clogging indicators should be installed according to the instructions on the unit specific data sheet and the instructions in this manual.

3. Commissioning

Ensure the filter installation is complete and the system is clean before commissioning. Follow these instructions to purge the filter before commissioning the system:

1. Before commissioning, ensure that the filter element and seals are clean and properly installed
2. Place the switchgear lever in the middle position
3. Open the air bleed screws or connections. Connect tubes that lead to a drain pan (air-bleed connection information can be found on data sheet 1651)
4. Allow the operating fluid to drain (reduce volume flow from 10 to 50 l/min or 2.6 to 13.2 GPM until it is bubble-free and flows out of both air bleeding tubes
5. Shut of application flow
6. Remove the air bleeding tubes and close the air-bleed bore holes or air-bleed connections
7. Switch to the filter housing you would like to operate first by using the switch gear lever. Instructions for using this switchgear are on a label on the filter housing.

4. Change of elements

Change the filter elements when the unit pressure differential on the clogging indicator reaches the maximum pressure differential specified for each unit on the data sheet. Do not allow the pressure differential to exceed 6 bar (87 psi) before replacing the elements.

Follow these instructions to change the filter element without interrupting filter operation:

1. Open the pressure balance valve
2. Move the switchgear lever from the operating vessel to the vessel you need to service. Switch gear instructions are located on a label on the filter vessel
3. Close the pressure balance valve
4. Connect the air-bleed and the drain plug to the operating vessel and pipe to a collection pan to catch the operating fluid
5. Keep the air bleed and drain plug open until no more operating fluid drains out
6. Loosen the screws of the lid on the vessel that needs servicing and remove the filter lid
7. Remove the filter elements
8. Clean the filter housing. Ensure that no dirt or cleaning fluid get into the clean side (center tube) of the filter element

9. Insert the clean filter element into the filter housing.
10. Place the filter lid back onto the filter housing and tighten the screw plugs. The screws need to be tightened diametrically. Recommended tightening torques listed in the table below:

M16	M20	M24	M27	M30	M33
80 ± 8 Nm 59 ± 6 ft-lb	160 ± 15 Nm 118 ± 11 ft-lb	250 ± 25 Nm 184 ± 8 ft-lb	400 ± 40 Nm 295 ± 30 ft-lb	600 ± 60 Nm 443 ± 44 ft-lb	700 ± 70 Nm 516 ± 52 ft-lb

11. Close the drain plugs
12. Open the pressure balance valve until operating fluid flows out of the air bleed connection without bubbles
13. Close the pressure balance valve and air bleeder
14. Retighten the screws on the lid after the vessel was pressurized for the first time.

After following these instructions to change the filter element, the serviced filter vessel is ready for operation

CAUTION: Ensure the absolute cleanliness of the filter element is maintained during the entire servicing period. No dirt or impurities should penetrate the filter. The new elements should remain packaged until they are installed to prevent contamination. While removing an element from the a recently out of operation filter housing, make sure the element is fully discharged from any voltage caused by static charging during operation with certain fluids

Do not damage element seals during servicing. All sealing have to be checked on a regular basis to avoid leakage and potential development of an explosive atmosphere. Any damaged seals will need to be replaced. Any damaged seals have to be replaced. **FAILURE TO FOLLOW THIS WARNING COULD LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.**

5. Cleaning of the filter element

Microglass (VG) or paper (P) filter media cannot be cleaned and need to be replaced when the dirt-holding capacity is reached. Wire mesh (G) filter media can be cleaned and used again. Follow the cleaning specification for Eaton filter elements, sheet no. 21070-4 and 39448-4 to clean wire mesh filter media.

6. Pressure difference measuring

If the filter assembly includes a clogging indicator, the indicator will measure the pressure difference across the filter element. The method of pressure reading varies depending on the type of indicator installed. It can be a visual, visual-electric or electronic reading. Additionally the G ¼" connections from the switchgear can be used for external pressure gauges. Measuring connections are recommended on data sheet 1650.

7. Special applications

This filter can be used in the special applications listed below. Please follow the instructions if you are operating the filter in these environments.

Operation in explosive areas

WARNING: There are additional requirements for filters that are installed in explosive areas. Please follow the instructions on Eaton Document No. 41269. **FAILURE TO FOLLOW THIS WARNING COULD LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.**

Flushing operation for machines with a higher flow rate

If flushing the filter is required before operating the equipment, follow Eaton Document No. 51354.

8. Service

For product technical support and service, please contact the local Eaton support team. All locations and contact information are listed below.

Spare parts respectively wearing parts have to be ordered according to the spare part list of the filter data sheet.

North America
44 Apple Street
Tinton Falls, NJ 07724
Toll Free: 800 656-3344
(North America only)
Tel: +1 732 212-4700

Europe/Africa/Middle East
Auf der Heide 2
53947 Nettersheim, Germany
Tel: +49 2486 809-0

Friedensstraße 41
68804 Altlußheim, Germany
Tel: +49 6205 2094-0

An den Nahewiesen 24
55450 Langenlonsheim, Germany
Tel: +49 6704 204-0

China
No. 3, Lane 280,
Linhong Road
Changning District, 200335
Shanghai, P.R. China
Tel: +86 21 5200-0099

Singapore
4 Loyang Lane #04-01/02
Singapore 508914
Tel: +65 6825-1668

Brazil
Rua Clark, 2061 - Macuco
13279-400 - Valinhos, Brazil
Tel: +55 11 3616-8400

For more information, please email us at *filtration@eaton.com* or visit *www.eaton.com/filtration*

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