



Powering Business Worldwide

UM15 Filter unit



Operating Instructions **Version 1.1**





Version valid from: 1/22/2024

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1. Safety information

1.1. Signal word list

- Any failure to observe any safety instruction in this user manual constitutes a risk to life and limb.
- The annotations are marked with the following signal words:
 -  **DANGER** *DANGER* indicates a dangerous situation which, if not managed, will lead to death or serious injury.
 -  **WARNING** *WARNING* indicates a dangerous situation which, if not managed, may lead to death or serious injury.
 -  **CAUTION** *CAUTION* together with the danger symbol indicates a dangerous situation which, if not managed, may lead to minor or moderate injuries.
- Any failure to observe any safety instruction in this user manual which, though not resulting injury, does result in damage to the system and its functionality, is identified by the following signal words:
 -  **NOTICE** *NOTICE* describes the correct usage of the device.
- The above signal words can be combined with the safety warning symbols or warning symbols.



General hazard



Danger of electricity



Hazardous to the environment



Risk of burns

1.2. Safety instructions

 **CAUTION** Caution: The UM units are not suitable for the treatment of water-based liquids!



In the event of leaks, collect the oil using proper methods (oil binding agents).

 **NOTICE** The UM15 units are suitable for indoor use only and must not be installed outdoors!

1.3. General provisions

- The UM15 unit may only be used for specific applications. Any application beyond this shall be deemed not to be in accordance with the intended purpose. EATON Technologies GmbH accepts no liability for damage resulting from improper use.
- All operators must read and understand this manual before commissioning the unit. Changes to the system may only be made with the express permission of EATON Technologies GmbH.
- For damage caused by:
 - Failure to observe these operating instructions
 - Failure of due diligence during transport, installation and operation
 - Improper repair
 - Failure to maintain the unit

EATON Technologies GmbH assumes no liability.

- We reserve the right to make design changes to the system. The contents of these operating and maintenance instructions are subject to change without notice.

1.4. Intended use

The UM15 circulating filter units are mobile filter units corresponding to the technical parameters of the 4019 data sheets. They are intended for the fine filtration of hydraulic oil based on mineral oil and for extracting water from such fluids.

The UM15 circulating filter units remove oil from a container connected via a hose line in order to clean it of dirt and water. The cleaned oil is pumped into the designated container. The foreign matter accumulates in the filter. The device must be supervised during operation.

The maximum permissible size of dirt particles in the operating fluid should be < 200 µm. Larger dirt particles will cause premature wear of the gear pump.

1.5. Areas of application—compatibility

The UM15 units are only suitable for operation on hydraulic and lubricating oil systems within the following operating limits:

- Hydraulic oils (H, HL, HLP, HLPD, HV)
- Natural esters (HETG)
- Synthetic esters (HEES)
- Gearbox oils (C, CL, CLP)

NBR (Perbunan) is used as a sealing material!

2. Technical data

Pump performance:	15 L/min at 2800 rpm
E-motor:	0.18 KW, 2800 rpm
Alternating current:	230 V, 50 Hz
Compressive load capacity:	max. 4 bar
Filter fineness:	10 µm(c)
Weight:	approx. 14 kg
Operating medium:	see 1.5; 10 to 400 mm ² /s Other media on request

3. Commissioning

3.1. Initial and idle condition

The circulating filter unit is supplied in a ready-to-use condition. The initial and idle condition is characterized as follows:

- The filter unit is not connected to the power supply network.
- The combined OFF - ON switch and motor-protective circuit breaker is switched off (switch position O).
- Suction and drain hoses are wound up. The open ends of the hose line are located in the respective holding tubes.
- The filter is equipped with a ready-to-use filter cartridge.
- The filter is empty.

The initial and idle condition must be restored after operation and after repair or maintenance.

3.2. Operational readiness

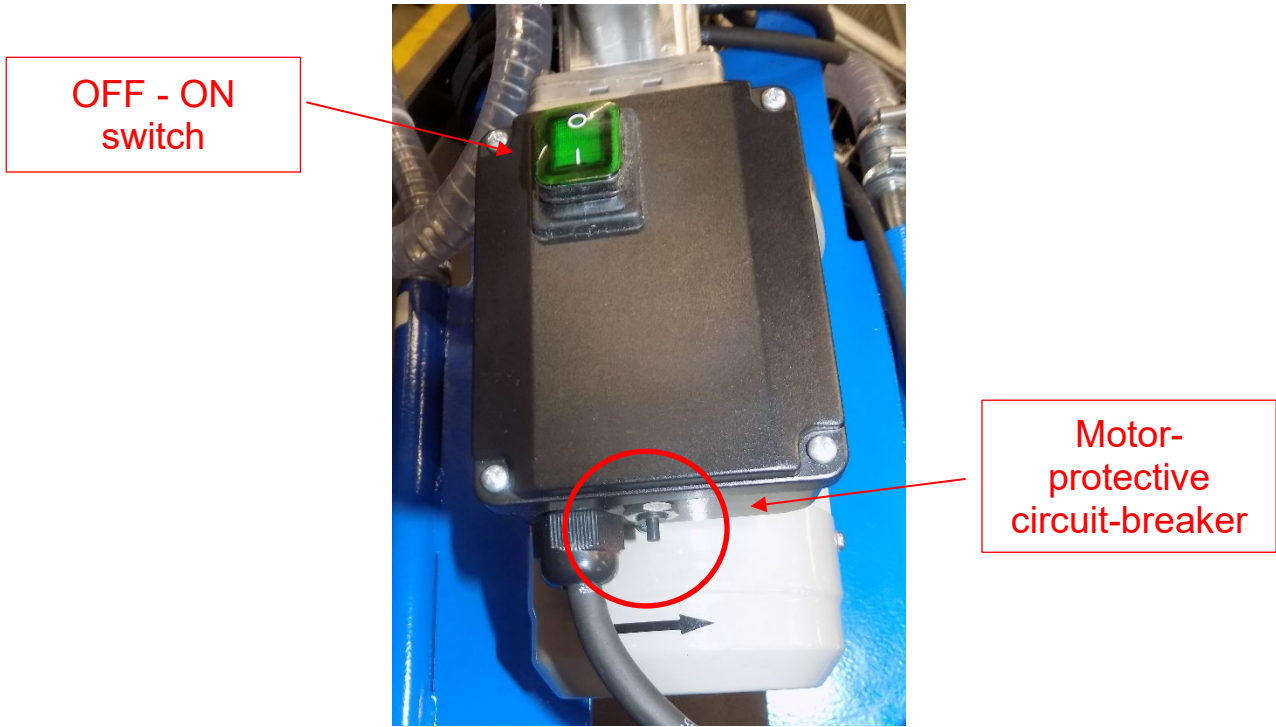
The cleanliness of the open hose ends, especially those of the drain hose, must be checked each time before commissioning. Contaminants must be removed with solvent before the hose ends come into contact with the operating fluid to be filtered.

The suction and drain hose must be attached to the respective connection points and immersed in the operating fluid.

The open end of the suction hose must be immersed in the operating fluid by at least 100 mm during operation.

It must be ensured that the circulating fluid can enter and exit freely at the open ends of the hose lines.

The circulating filter unit is switched on and off using the combined OFF - ON switch and motor-protective circuit breaker.



3.3. Reaction in the event of faults/troubleshooting

The motor-protective circuit breaker serves as overload protection for the electric motor, disconnecting it from the supply voltage in the event of an overload. This can occur if the current consumption of the electric motor is too high:

- When taking in cold oil
- In the case of high ambient or operating temperatures
- If the grid voltage is incorrect

To rectify this fault, the device should be allowed to cool down for a period of time. To restart the unit, the motor-protective circuit breaker must be actuated (see figure).

3.4. Replacing the filter cartridge

The filter cartridge must be changed when contamination of the filter cartridge is signaled by the contamination indicator "O" on the filter (red display field).

The filter cartridge must be changed when the filter unit is in the idle condition (device plug disconnected from the grid).

To remove the contaminated filter cartridge, unscrew it from the filter top in a counter-clockwise direction. Collect the oil contained in the filter cartridge in a suitable container.

Depending on the level of contamination in the open filter housing, it may be necessary to clean the filter top before a new filter cartridge is inserted.

Lubricate the seal of the replacement filter cartridge with the operating fluid. Position the filter cartridge and turn it clockwise until the seal touches the filter top, followed by another half turn.

The replacement cartridge must not be removed from the packaging until just before it is inserted into the filter housing, at which point it must be checked for integrity (no visible mechanical damage) and completeness.

Ensure that neither the filter housing nor the replacement cartridge are contaminated with dirt at any point during the replacement process.

3.5. Cleaning the filter housing

It is necessary to clean the filter housing if liquid containing coarse contaminants has been filtered and visible dirt is present in the filter housing. The filter housing is to be cleaned during filter cartridge replacement.

The interior of the filter housing must be cleaned with conventional cleaning equipment and solvents.

During the cleaning process, ensure that no dirt comes into contact with the clean side and that no solvent remains in the filter housing.

3.6. General notes

- When carrying out any work on or with the circulating filter unit, care must always be taken to ensure that suitable protective equipment is worn in accordance with accident prevention regulations (UVV).
- The electric motor is equipped with a thermal and pressure-dependent safety switch, which takes effect in the event of overload and automatically switches off the electric motor.
- If the protective function has taken effect on the electric motor, the status of the contamination indicators must be checked and the element designated as contaminated must be replaced.
- The electrical equipment has an IP 54 protection rating (device must not be used outdoors!)

4. Declaration of conformity



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EG-Konformitätserklärung EC-Declaration of Conformity CE-Déclaration de conformité

Hersteller: <i>Manufacturer/fabricant:</i>	Eaton Technologies GmbH	
Anschrift: <i>Adress/adresse:</i>	Friedensstrasse 41 D-68804 Altlussheim	
Geräteart: <i>Type of device/Description:</i>	Umlauffiltereinheit, mobil Circulation filter unit, mobile Unité de filtre de circulation, mobile	
Typen: <i>Types/types:</i>	UM 15 – UM 125	
Wir erklären in alleiniger Verantwortung, daß das (die) oben bezeichnete Produkt(e) mit folgenden Europäischen Richtlinien übereinstimmt (übereinstimmen): <i>We declare under our sole responsibility that above product(s) is (are) in conformity with the following directives:</i> <i>Déclarons sous notre seule responsabilité, que le(s) produit(s) repond(ent) aux directives suivantes:</i>	2006/42/EG	Maschinenrichtlinie
	2006/42/EC	Directive on Machinery
	2006/42/CE	Directive relative aux machines
	2004/108/EG	EMV Richtlinie
	2004/108/EC	EMC Directive
	2004/108/CE	Directive CEM
Angewandte harmonisierte Normen und technischen Spezifikationen: <i>Applied harmonised standards and technical specifications:</i> <i>Normes harmonisées et spécifications techniques:</i>	DIN EN ISO 4413:2011-04	
	DIN EN ISO 12100:2011-03	
	DIN EN ISO 13857:2008-06	
	DIN EN 60204-1:2007-06+A1:2009+Ber.1:2010	
	DIN EN 61000-6-3:2011-09	
	DIN EN 61000-6-1:2007-10	
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