

Action code: **WHEN CONVENIENT**

Boll & Kirch Hydraulic Oil Filters for ME Engines

SL2018-662/JOF
June 2018

Concerns

Owners and operators of MAN B&W two-stroke marine diesel engines.
Types: ME/ME-C

Summary

New SFF elements with backflow protection and 25-micron elements are offered at discounted price at: mai@bollfilter.de

Enclosure

Manual for the Super Fine Filter (SFF)

.....

Dear Sir or Madam

The ME hydraulic oil filter consists of an automatic backflushing filter for normal operation. Furthermore, the filter assembly has a redundancy filter that can be used if the main filter fails.

Recent issues reported have led us to recommend the actions described in the table on page 2, if Boll & Kirch super-fine filters are installed.

Yours faithfully



Mikael C Jensen
Vice president, Engineering



Stig B Jakobsen
Senior manager, Operation



SFF filter

Head office (& postal address)
MAN Diesel & Turbo
Teglhølmegade 41
2450 Copenhagen SV
Denmark
Phone: +45 33 85 11 00
Fax: +45 33 85 10 30
info-cph@mandieselturbo.com
www.mandieselturbo.com

PrimeServ
Teglhølmegade 41
2450 Copenhagen SV
Denmark
Phone: +45 33 85 11 00
Fax: +45 33 85 10 49
PrimeServ-cph@mandieselturbo.com

Production
Teglhølmegade 35
2450 Copenhagen SV
Denmark
Phone: +45 33 85 11 00
Fax: +45 33 85 10 17
manufacturing-dk@mandieselturbo.com

Forwarding & Receiving
Teglhølmegade 35
2450 Copenhagen SV
Denmark
Phone: +45 33 85 11 00
Fax: +45 33 85 10 16
shipping-cph@mandieselturbo.com

MAN Diesel & Turbo
Branch of MAN Diesel & Turbo SE,
Germany
CVR No.: 31611792
Head office: Teglhølmegade 41
2450 Copenhagen SV, Denmark
German Reg.No.: HRB 22056
Amtsgericht Augsburg

Background

Until 2015, the redundancy filter was specified as a 25-micron filter, which was rarely used.

However, since 2015 new engines have been specified with super-fine redundancy filters (SFF) for the hydraulic ME system. The 25-micron redundancy filter was therefore replaced with an SFF intended for use during flushing, thereby reducing the time for flushing. SFF filter elements have also been installed as a retrofit, as they improve the oil cleanliness when used occasionally.

However, we have recently experienced two kinds of issues with SFFs from Boll & Kirch:

- On one G80 and on two G95 bore engines the SFF elements have burst because the oil direction was reversed in the high-pressure ME system. The root cause is still unknown.
- In a number of cases, the alarm for too high a pressure drop across the redundancy filter was triggered, although the oil was clean according to our specification and the filter was not blocked by dirt.

The latter was a result of the very fine filtration and a rather small flow area in the filter element. The alarm issue does not exist for ME filters of the 6.64.1 type and size 100, for which reason this filter can be used without restrictions after installation of SFF elements with backflow protection.

Action

It is necessary to do as described in the table below.

Engines delivered from shipyard with Boll & Kirch SFF redundancy filter	Engines retrofitted with Boll & Kirch SFF redundancy filter
<p>25-micron filter elements must be installed in the redundancy filter to avoid triggering the pressure drop alarm. Such filter elements are offered to shipowners at a discounted price.</p> <p>*) For ME filters of the type 6.64.1 and size 100, SFF elements with backflow protection are offered to shipowners at a discounted price.</p> <p>For indication of the filter type, the serial number, hull number and a photo of the nameplate is mandatory.</p> <p>E-mail contact: mai@bollfilter.de, subject "Upgrade SFF".</p> <p>This campaign expires on 1 November 2018.</p>	<p>In order to avoid triggering the pressure drop alarm, the original 25-micron filter element must be installed in the redundancy filter.</p> <p>*) When existing SFF elements have been used up, new SFFs with backflow protection can be ordered from PrimeServ Copenhagen by writing to: dr-cph@mandieselturbo.com</p>

*) Please note that SFFs both with and without backflow protection can still be used for additional oil cleaning with stopped engine in accordance with the instructions in the manual enclosed.

For more information about this Service Letter, please write to our Hydraulic New Design department at: ld@mandieselturbo.com

Manual for the Super Fine Filter (SFF)

The SFF is applicable for ME/ME-C/ME-B engines with a BOLL & KIRCH Auto-Filter version 6.72 or 6.64.

The present filter configuration consists of a main 6µm filter (specified to maintain the oil cleanliness level by removing particles generated in service) and a redundancy 25µm filter (if the main filter should fail). See Figure 1.

By exchanging the filter insert in the redundancy filter with cartridges with extended filtration ability, the SFF, it is possible to clean the oil from ISO4406 xx/19/15 (engine requirement) to ISO4406 xx/16/13 (ME system requirement) in one pass through the redundancy filter. The SFF removes ~99% of all 6µm particles.

Installation procedure

Remove the top cover of the Redundancy filter. Take out the Redundancy filter and store it in the box which the SFF came in. Install the new SFF in the same compartment as the Redundancy filter i.e. see Figure 1 (2). For large bore engines the SFF contains several cartridges and will be mounted on a holder. For small bore engines the SFF comes as single cartridges.

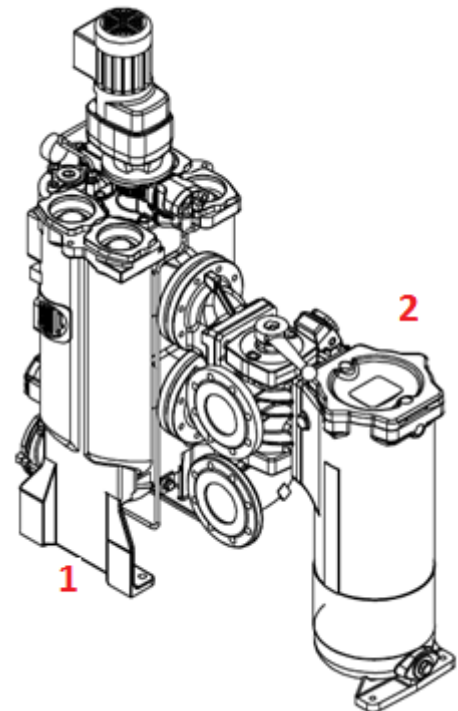


Figure 1 – BOLL & KIRCH Auto-Filter. (1) Main filter and (2) Redundancy filter.

The SFF shall only be used during harbour stay and not with engine running!!

Procedure for use once a month and after the main tank has been topped up

We recommend using the SFF during the following two occasions:

1. During port stay, run with the SFF with stopped engine once a month.
2. When the hydraulic oil main tank is topped up, we recommend using the SFF to catch possible particles from the new oil.

The procedure for use is:

- Once a month when the vessel is in port
- The engine must be stopped and the HPS start-up or electrically driven HPS pumps shall **not** be running.
- Check that no/low pressure is present before and after the HPS on the MOP.
- Open the redundancy compartment and remove the 25micron filter and install the SFF filter.
- Direct the hydraulic flow to the SFF filter with the handle (shown in Figure 2).
- Open flushing valve Pos.115 – (see Figure 3, green square. The red line will show the flow)
- Start main lube oil pumps – check that there is only 2-3bar available after the HPS.
- Run with this configuration for **2 hours**.
- Close flushing valve Pos.115.
- Direct the hydraulic flow to the main filter.
- Open the redundancy compartment and remove the SFF filter and install the 25micron filter.
- The engine can now be started again.

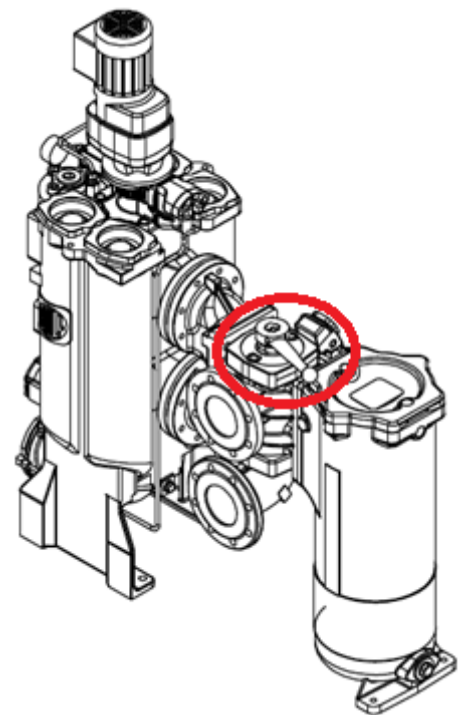


Figure 2 – The handle used for changing between the Main filter and the SFF/Redundancy filter.

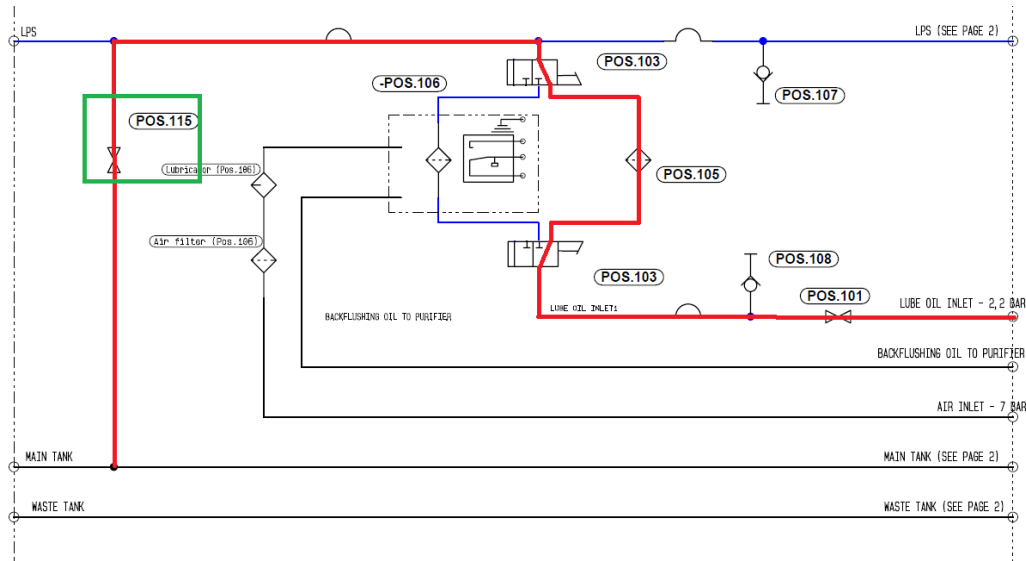


Figure 3 – Hydraulic diagram for ME/ME-C engine.

If the SFF is filled up with particles the pressure might get too low on the supply to the ME engine, there are several ME alarms which will be activated. The pressure drop over the filter can also be read directly on the BOLL & KIRCH Auto-Filter.

In case the SFF is filled up with particles, it needs to be exchanged. Please contact PrimeServ Copenhagen .

NB The SFF should NOT be used all the time as a Main filter. It should only be used on temporary basis, for improving the cleanliness of the hydraulic system oil.