

Dear Sirs

With the increasing number of electronically controlled ME engines in service, there is a need for customer-friendly and tailor-made solutions that are suited for any number of engines in any fleet.

MAN Diesel & Turbo has therefore developed a new overhaul programme for the engine-driven HPS pump and its control loop. The programme covers pumps and valves across makes.

The HPS pump overhaul programme includes dismantling, inspection, complete overhaul and test according to new specifications in an approved and calibrated test rig. Overhauled pumps are returned with a full report.

The overhaul programme also supports shipowners and operators in overcoming the challenges that follow in the wake of the Bosch HS3 to HS4 system upgrade. The originally installed Bosch HS3-type proportional valves and pumps have been phased out by the maker, and an upgrade is therefore necessary.

To determine whether your vessel(s) are affected by the change from HS3 to HS4, please check the ID plate on the pump itself. The individual pump ID/name contains either *HS3* or *HS4*.

In short:

- HS3 valve STW0048 no longer available
- HS3 valve STW0070 no longer available
- Successor HS4 4WPRE proportional valve
- New pumps are available with HS4 only

If you have any questions regarding the HPS Pump Overhaul Programme, please write to HydraulicService-CPH@mandieselturbo.com or download our product descriptions from our [Global Hydraulic Service](#) website.

Yours faithfully



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Action code: **COMMERCIAL**

Hydraulic Service Solutions
HPS Pump Overhaul Programme

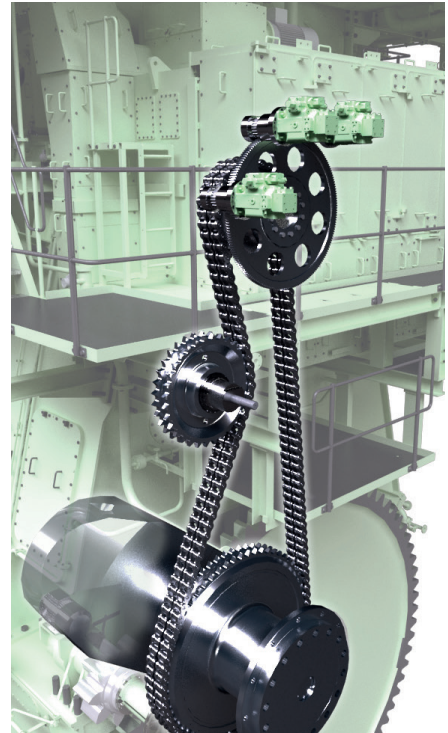
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Concerns

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

Summary

MAN Diesel & Turbo has developed a new overhaul solution for the engine-driven HPS (hydraulic power supply) pumps.



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The three HPS pump overhaul solutions

We have created the three different solutions described below in order to offer our customers a high level of flexibility.

Please note that ECS (engine control system) version 0905, or later, is required in order to implement the upgrade of the proportional valve from HS3 to HS4. However, earlier versions can also be upgraded to meet the necessary requirements.



1

Maintain operation on HS3 valves

Options	HS3	HS4
New pump	●	●
New proportional valve	●	●
Overhaul service	●	●
Exchange service	●	●
Overhaul of proportional valve	●	●
Upgrade HS3 → HS4	●	N/A

Option 1

If an HS3 valve malfunctions or an HS3 pump is overhauled, the HS3 valve can be overhauled and tested as well. However, since it is not possible to exchange all moving parts of the valve, some valves might be damaged beyond repair. This solution is an option for owners with several vessels equipped with HS3 pumps and proportional valves, and where it is not possible to upgrade all vessels within a short timeframe.

Upgrade HS3 valve → HS4 valve + overhaul service on the existing HS3 pump

2

Options	HS3	HS4
New pump	●	●
New proportional valve	●	●
Overhaul service	●	●
Exchange service	●	●
Overhaul of proportional valve	●	●
Upgrade HS3 → HS4	●	N/A

ECS (engine control system) version 0905 or later is required.

Option 2

For owners who are about to overhaul their pumps with HS3 valves and/or would like to upgrade to the HS4 valve. This solution includes a time-saving overhaul service as all valves are upgraded at once. However, to be able to run HS3 pumps with HS4 valves, an upgrade kit is necessary in order for the parts to work together. This is delivered by MAN PrimeServ as part of this solution.

Upgrade HS3 valve and pumps → HS4 valve + new HS4 pumps

3

Options	HS3	HS4
New pump	●	●
New proportional valve	●	●
Overhaul service	●	●
Exchange service	●	●
Overhaul of proportional valve	●	●
Upgrade HS3 → HS4	●	N/A

ECS (engine control system) version 0905 or later is required.

Option 3

This solution is relevant for owners with a worn-out HPS pump, as a new pump automatically includes a new HS4 valve. Therefore, it automatically implies an upgrade from the HS3 valve to the HS4. The upgrade is completed at once, which means that this solution is as time efficient as possible according to your needs.