

INSTALLATION INSTRUCTIONS



Please read operating instructions carefully before putting the pump into operation!

Important! Do **not** use grease when renewing the high pressure plunger seal (pos. 40). Hot water causes grease to wash off the seal which in turn can jam valves! The new seals should only be oiled lightly before installation.

These operating instructions supplement the general operating instructions for the MP Series Pumps.

Supplementary Information

Giant Industries MP4126HT and MP4130HT have been especially constructed for pumping hot water e.g. steam boiler storage. The plunger seals (40) on the water side are made out of a high temperature-resistant material. To further increase seal life, rinsing chambers behind the high-pressure seals are filled at the factory with special hot water-resistant grease (Staburags NBU12). In combination with this, the pump has a grease nipple on one side and a hose connection on the other. As the pump will drip shortly after being put into operation, the leakage can be led off using a hose. The grease pad should be refilled twice a year (despite the presence of leakage). The pump high pressure seals should only be changed when leakage becomes a continual flow or when pressure drops or when a lack of water is established.

Alternatively, the manufacturer of the steam-boiler-unit installation engineer can replace the grease depository by using water cooling. To do this, the grease nipple is removed so a second hose connection can be fitted through which defined lower temperature water is led to cool the high pressure seals. Leakage from the high pressure seals is absorbed into the cooling water. Leakage to the outside only occurs if the low pressure seals, which seal the grease pad or cooling water, are worn.

Cooling Water Definition

The cold water 86 °F - 104 °F (30 °C - 40 °C) can be guided into the pump from either side and flows out on the opposite side e.g. into a drain or back to a condensate tank. The cold water flow rate should be at least 0.13 GPM (0.5 L/min) and must be put into use as soon as the pump is started.

If the cold water doesn't start flowing immediately when the pump is put into operation, the ceramic plunger (298) in particular, could crack under the cold shock.

Important! The cooling water must be delimited to avoid lime formation due to warming.

Plant Lay-Out

For correct functioning of the pump, the following points must be adhered to.

a) Pressure in Suction Side

The stipulated NPSHR is the minimum required pressure above the vapour pressure of the medium and is never to fall short of this figure. Temperature and vapour pressure of the medium, the geodetical height of the location, the flow rate and loss of friction in the suction line, must all be taken into consideration. It may be necessary to install a booster pump (centrifugal pump) in the suction line.

b) Pulsation

Due to its construction, the plunger pump creates pulsation in the suction and discharge lines. Suction pulsation in particular must be dampened in order to prevent resonance in the suction line which in turn, causes cavitation. Therefore, the pump is never to be connected by a rigid pipe but rather by a flexible hose (not reinforced by steel), and if possible, 1.5 to 2 times wider than the suction connection. If a booster pump is used, the hose is to be attached between the booster pump and the high pressure pump.

If several pumps are used, each pump must have its own suction line. If this can't be done, a suction air chamber or a suction flow stabilizer must be installed in front of each pump. The bladder in the stabilizer is to be pretensioned on location.

Depending on the lay-out of the plant, a pressure accumulator may be necessary on the discharge side. This pressure accumulator must be installed right behind the discharge outlet of the high pressure pump. We recommend the use of only one pressure accumulator in the discharge line in order to avoid irritation which could be caused by different pretension levels in the accumulators.

Gas-tension in both the suction flow stabilizer and in the pressure accumulator should be checked regularly.

