

MFP14, MFP14S and MFP14SS Mechanism Servicing and Upgrade Kit Installation and Maintenance Instructions

1. General information

This upgrade kit is for all MFP14s. It can be used to upgrade obsolete mechanisms or to service current ones. This document supersedes previously published instructions.

2. General safety information

Safe operation of the unit can only be guaranteed if it is properly installed, commissioned and maintained by a qualified person in compliance with the operating instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

Handling

An integral lifting eye is fitted to the pump to assist lifting. On no account should this be used to lift anything more than the pump. Always use suitable lifting gear and ensure the pump is safely secured.

When dismantling the pump care should be taken to prevent personal injury from the strong snap-action mechanism. Always handle with care.

Isolation

Consider whether closing isolating valves will put any other part of the system or personnel at risk. Dangers might include: isolation of vents and protective devices or alarms. Ensure isolation valves are turned off in a gradual way to avoid system shocks.

Pressure

Before attempting any maintenance consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the product, this is easily achieved by fitting Spirax Sarco depressurisation valves type DV (see separate literature for details). Do not assume that the system is depressurised even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalise after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required.

Disposal

The product is recyclable. No ecological hazard is anticipated with the disposal of this product providing due care is taken.

3. Removal of an old mechanism (refer to Figures 1 and 2)

- Disconnect the steam inlet and exhaust pipework. Remove the cover bolts and lift the cover from the body.
- Remove the retainer nut (or split pin) from the end of the steam inlet valve.
- Disconnect the mechanism from the float pushrod by removing one split pin and sliding out the shaft. Keep this shaft safe as it will be required when fitting the new mechanism.
- Loosen and remove the mechanism retaining screws.
- The complete mechanism can now be withdrawn from the cover.
- Unscrew the seats, washer gaskets and the inlet valve and remove them from the cover.
Note: their respective positions in the cover.

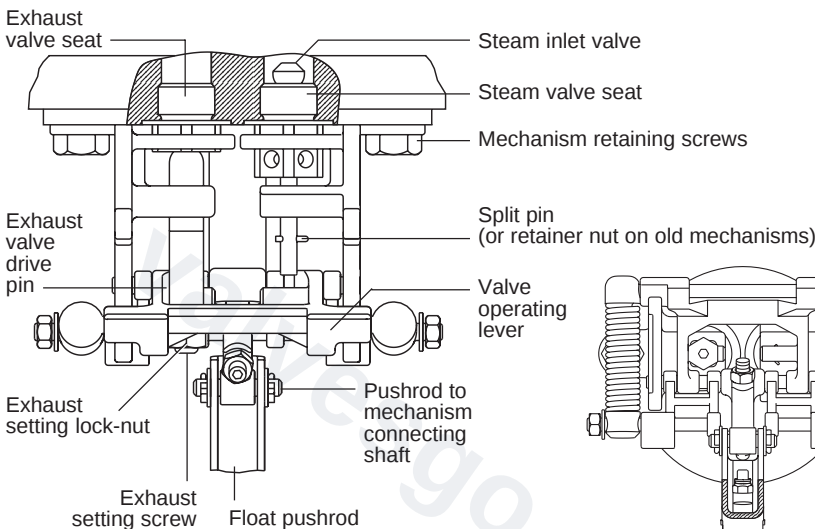


Fig. 1 Replacement mechanism front view

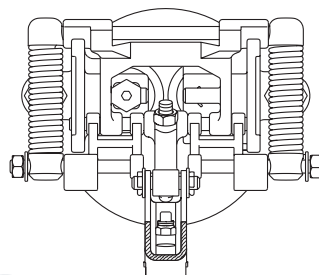


Fig. 2 Replacement mechanism plan view

4. Fitting a new mechanism (refer to Figures 1 and 2)

- Ensure that the seat gasket faces are clean. Screw in new seats, ensuring that the new washer gaskets have been fitted and that the steam valve is fitted into the steam seat. Tighten to 129 - 143 Nm (95 - 105 lbf ft).
- Offer the new mechanism up to the cover, ensuring that it locates over the new valve seats. Ensure that the steam inlet valve is fitted through the guide hole on the mechanism bracket.
- Secure the mechanism to the cover using the 2 off M10 screws provided. Tighten to 38 - 42 Nm (28 - 31 lbf ft).
- With the steam valve pulled through its guide, fit a split pin (provided) through the crosshole in it. Bend the ends of the split pin back around the stem so that they cannot interfere with the stroke of the valve.
- Reconnect the float pushrod to the mechanism using the original shaft and secure the end with a new split pin. The mechanism is now ready for refitting into the pump body. The mechanism trip points are factory set and do not require adjustment during replacement.
- Ensure that the gasket faces are clean from debris and that a new gasket is fitted. Torque tighten the cover bolts to 121 to 134 Nm (89 to 99 lbf ft).
- Reconnect steam and exhaust pipework to the cover.

Note: The replacement mechanism is packed loosely assembled with an elastic band to hold it together. The elastic band must be removed as soon as the mechanism is securely assembled to the cover. The mechanism must not be set with the elastic band in place.