

Frese ALPHA HCR Wafer

DN50-DN450

Installation, Operation & Maintenance instruction

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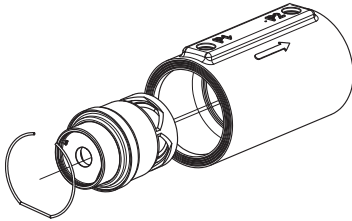
Intro

This document describes installation, commissioning, operation, maintenance and troubleshooting aspects of the Frese ALPHA HCR flow limiting wafers.

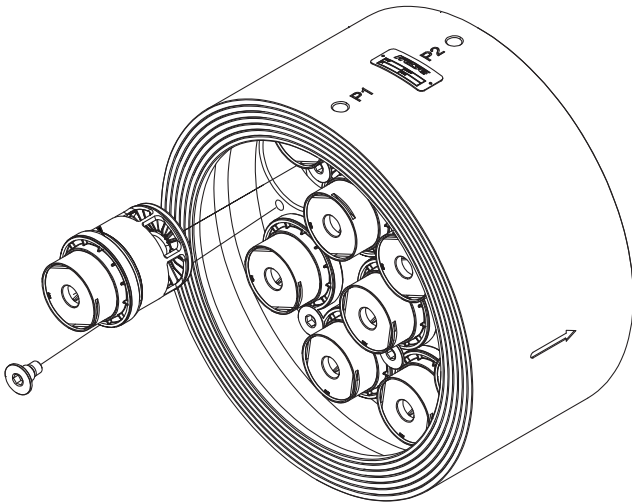
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Installation

FIG 1



Frese ALPHA HCR DN50-DN80



Frese ALPHA HCR DN100-DN450

FIG 1 - Flushing and mounting of the cartridges:

Please note: It is recommendable to flush the system before installing the cartridge. Cartridges can be placed randomly. Bolts for the cartridges must be tightened with a force of 10 Nm.

To secure a good functionality of the system it is recommended to install strainers in the system. For easy cleaning of the strainers, isolation valves on both sides of the strainers are recommended.

Please note

The pipe system shall be properly ventilated to avoid risk of air pockets. Seawater for HCR cartridge shall be filtered with filter mesh of max of 5 mm.

In case HCR cartridges are immersed in water without flow, special cautions to prevent marine growth is to be taken, to maintain correct functionality of flow limiting valve.

FIG 2

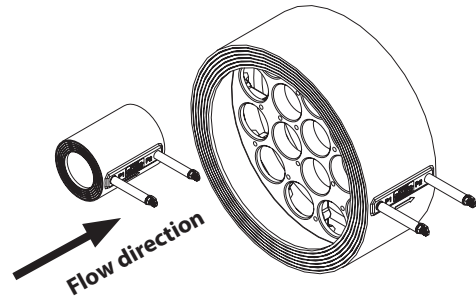


FIG 2: Frese ALPHA HCR Wafer can be installed in either the supply line or the return line. Please observe the flow direction indicated by the arrow on the valve housing.

FIG 3

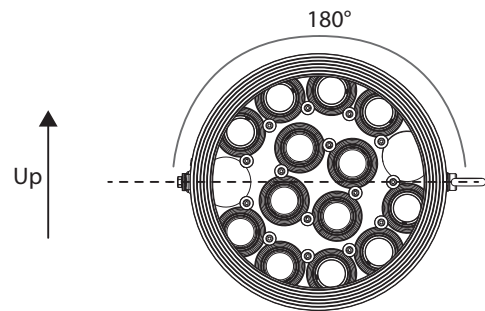


FIG 3: The valve is unaffected by the angle of installation in the piping system. If P/T Plugs are installed, they are recommended to be above the horizontal line, to avoid foreign objects/dirt being trapped near the measuring points inside the valve.

Commissioning

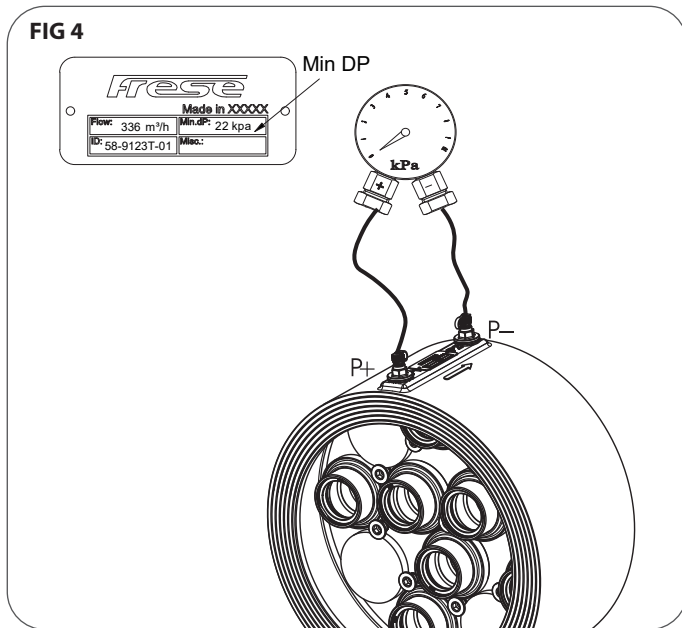


FIG 4: To verify the flow across the valve, the P/T Plugs are used to measure the differential pressure. Then the procedure below must be followed.

Connect the "+ side" of the manometer to the P/T plug marked **P1** on the valve.

Connect the "- side" of the manometer to the P/T plug marked **P2** on the valve.

The nominal flow is available when the differential pressure is equal to or higher than the minimum differential pressure (Min DP) stated on the nameplate.

Frese can supply a handheld manometer, but any other manometer with a maximum diameter of $\varnothing 3.2$ mm and a length of 25 - 40 mm can be used

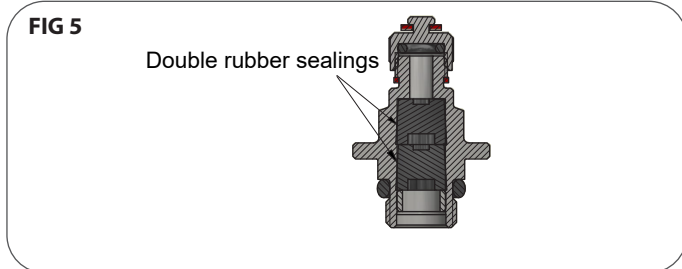


FIG 5: The P/T plugs are self-sealing with double rubber sealings. This avoids the water from flowing out when measuring the differential pressure. A few drops are normal when the needle is pressed into the P/T plug.

Operation

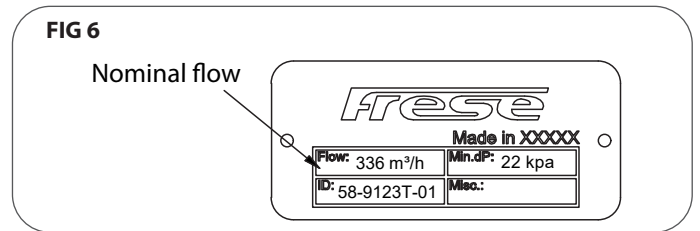


FIG 6: The valves can be supplied with cartridges fitted to the nominal flow stated on the name plate.

The valve is self-acting and requires no user interaction or adjustment. Life expectancy for the performance in normal conditions are 15 years under the condition of following the maintenance schedule.

Maintenance

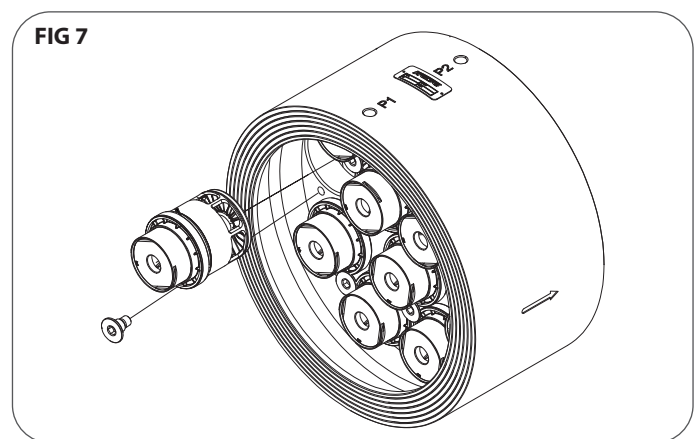


FIG 7: Inspection and mounting of the cartridges:

It is recommendable to inspect the cartridges every 5th year and to replace the cartridges every 10 year.

For seawater applications the cartridges should be replaced every 5 year

Bolts for the cartridges must be tightened with a torque of 10 Nm.

Trouble shooting

If the flow through the valve is wrong please check the following: Measure the differential pressure across the valve as described under **Commissioning**.

If the differential pressure is below the minimum differential pressure (Min DP) please increase the pump pressure or inspect the system for blocked strainers or other causes for unnormal pressure losses in the system.

Please check that the flow direction is according to the arrow on the valve housing.



If the flow still is wrong despite of a correct differential pressure, the valve must be inspected for damages and foreign objects in the valve.