

SEAL WATER CONTROL AND
FLOW METER WITH PRESSURE ALERT

Operation Manual

Overview

This product is designed for controlling and monitoring the sealant flow rate and pressure, and widely used for different types of shaft sealing devices (including gland packing and mechanical seals), running on devices such as pumps, reactors, filters and agitators.

This product can be deployed close to the pumps (or any rotary devices it works with), including other accessories such as pipelines and connectors. If low flow rate alarm is selected, the product can adjust the pressure and flow rate automatically, to ensure the sealing device working properly.

How It Works

As per the photo on the right hand, the filtered and clean sealant goes from Inlet 1 into the system, and then goes to the flow rate measuring unit. Inside the flow rate measuring unit there is a white ring floater and a transparent measuring tube. The floater goes to the left hand direction by the fluid, and when the flow rate is stable, the floater will stay still. In this status the white ring should be at the certain flow rate indicated. The sealant (with particular pressure and flow rate) then goes through Outlet 1 to the sealing device, to cool and lubricate the seal.

For double seal conditions, the sealant goes back to the control system from the seals through Inlet 2, and then goes to the pressure meter (which shows the current pressure of the sealant) and at last, the sealant goes out of the system from Outlet 2 and back to the circulation (if needed).



Product Features

- High quality materials used.
- Easy to install and operate, with clear inspection of the flow rate.
- This product is easy to clean. Cleaning can be done even when the device is running.
- Controls and monitors seal water flow and pressure.
- Predicts seal and packing failures as well as reducing and pre-determining maximum seal water consumption.

Operation Parameters

- Flow Range: 0.8 ~ 3.0 L/min
- Max Pressure Measurement: 10 bar
- Alert: Electrical Sensor, DC PNP/NPN

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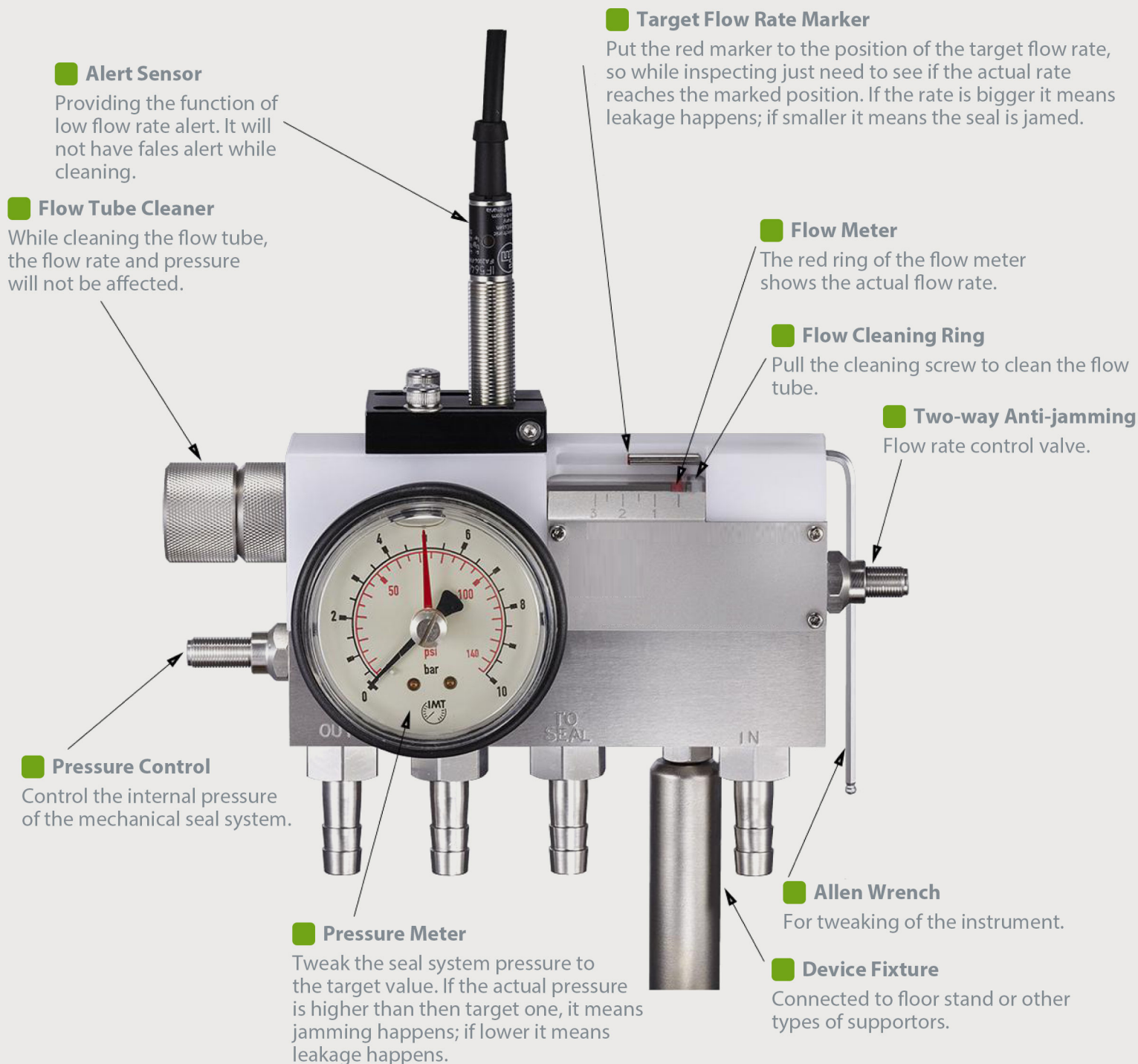
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Components and Spare Parts



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How to Adjust

- Use the "Allen Wrench" to tweak the "Target Flow Rate Marker" to the target or preset value of the flow rate you need.
- Open the "Two-way Anti-jamming Flow Rate Control Valve" and "Pressure Control", to allow the sealant to get in through Inlet 1 and the sealant will push flow meter indicator to go to the left side (which shows the current actual flow rate). Adjust The "Two-way Anti-jamming Flow Rate Control Valve" to make the actual flow rate meet the preset value.
- Adjust the "Pressure Control" to make the actual pressure of the sealant meet the target value you need. This action will change the actual flow rate too simultaneously. So you would need to adjust the flow rate and pressure again till the actual pressure and flow rate both meet their target values.

Seal or Sealant Failure Happens under Below Circumstances

- When the actual flow rate is high, while the actual pressure of the sealant is low, it means the seal is leaking.
- When the actual flow rate is low, while the actual pressure of the sealant is high, it means the seal is jammed or blocked.
- When the actual flow rate and pressure are both low and can not be controlled into bigger values, it means the sealant supply or circulation is problematic.

Cleaning of the Device

The whole cleaning process will not stop the sealant from going into the sealing devices.

- Loosing the "Flow Tube Cleaner".
- Move the cleaner back and forth to ensure the whole tube can be cleaned. Then screw the cleaner into tightened status.



Be advised:

- While cleaning, the pressure and flow rate will not change.
- While cleaning, alert will not be triggered either.

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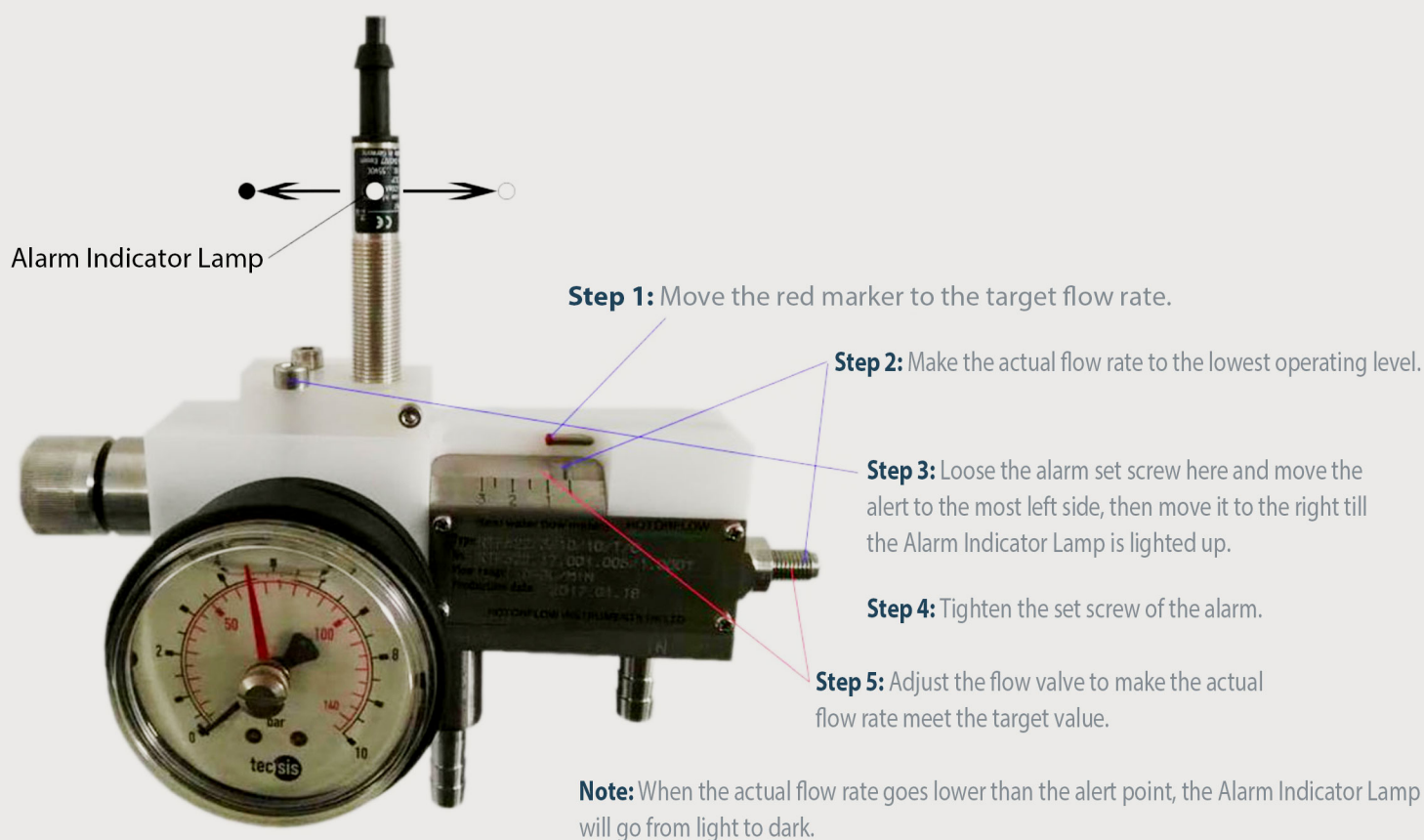
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Configuration of Low Flow Rate Alert



Installation and Enablement

Please follow the steps below to initiate this device.

All new or replaced pipelines will need to be cleaned completely before installation, to prevent any solid or metal particlar to get into the system.

- Install this device to somewhere suitable and close to the pump, then open the sealant valve.
- Adjust the target flow rate into the value needed.
- Open the flow control valve and adjust the actual flow rate to the target value.
- Adjust the pressure on the pressure meter to the target value.
- Configure the low flow rate alert (if needed).

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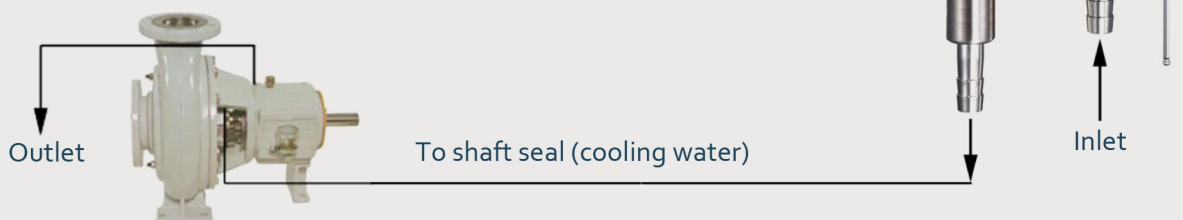
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Subversions and Usages

■ Type FU1 for Single Seals

1. No Pressure Control Valve
2. No Pressure Meter
3. Single-way Valve



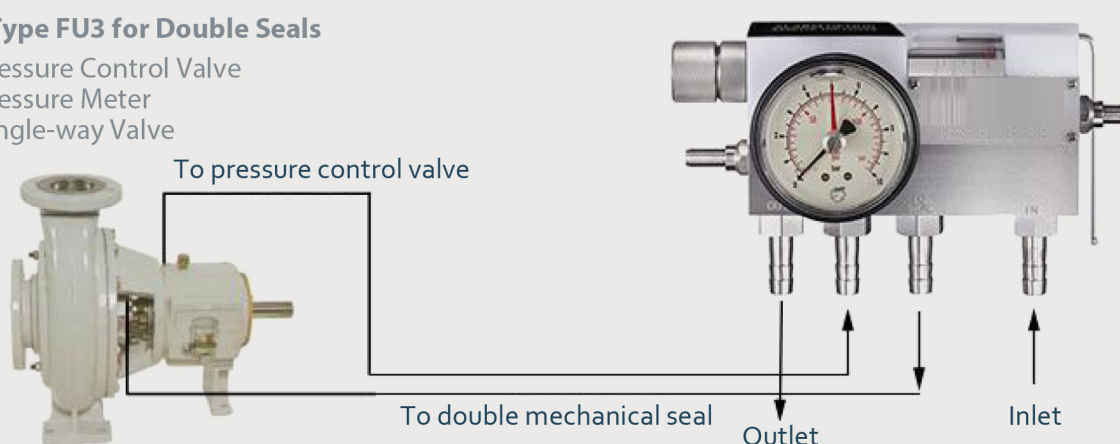
■ Type FU2 for Single Seals

1. No Pressure Control Valve
2. Pressure Meter
3. Single-way Valve



■ Type FU3 for Double Seals

1. Pressure Control Valve
2. Pressure Meter
3. Single-way Valve



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