

EXPERIENCE WITH ELSTER-INSTROMET

Keeping things running smoothly...

The exact operation of turbine or rotary piston gas meters is determined above all by the condition of the ball bearings. The smooth motion of the ball bearings depends on the type of lubricant used, the lubrication interval and the environmental conditions such as the temperature range and the presence of dirt. Many years of experience with such meters operating under an extremely wide range of conditions shows that the use of Elster-Instromet oils guarantees long-term optimum measuring results.

Non-prelubricated ball bearings only have a cover plate on one side to prevent the penetration of dirt. Fresh oil is fed in from the other side of the ball bearing. Special solutions are available for more challenging applications such as flow measurements on ethylene, biogas or high-temperature media.

Prelubricated ball bearings

We recommend the use of prelubricated ball bearings for measurements on clean, dry gas at pressures below 8 bar. For pressures above 8 bar, the use of oil pumps is advisable to guarantee high measuring accuracy in the long term.

If minimum maintenance is important and the meters are mainly used under relatively low loads, then the use of prelubricated ball bearings may be taken into consideration even at higher pressures. Our suppliers fill prelubricated ball bearings with oil in accordance with the specifications. Cover plates on both sides of the ball bearing prevent the penetration of dirt.

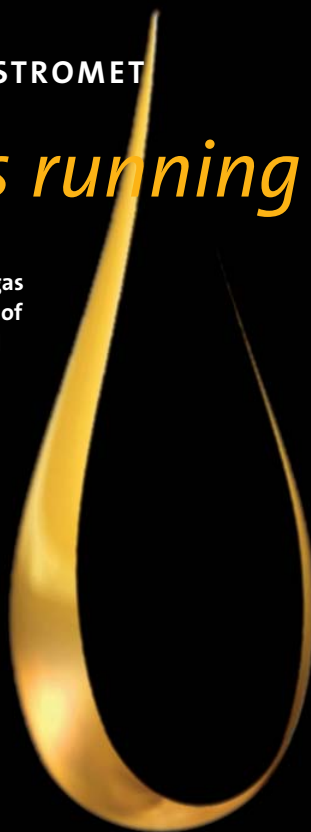
Choice of hand-operated pumps

Two different oil pumps have been available since the start of this year:

- > The small pump for 0.1 cm³ per stroke for SM-RI in DN 50-80
- > The large pump for 0.5 cm³ per stroke for TRZ in DN 80-150 and SMRI in DN 200-800.

Lubrication interval and oil type

Elster-Instromet recommends that flowmeters used with clean, dry gas should be lubricated once every three to four months with the recommended oil. If the gas is not completely dry or clean, more frequent lubrication is recommended. To facilitate the making of repeat orders, we plan to make it possible to lubricate the SM-RI and the TRZ flowmeters with the same type of oil. We will be reporting on this in the next issue of the Profiles.

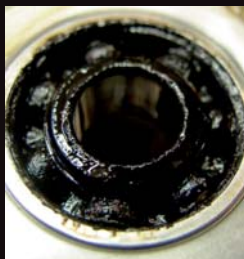
**Automatic lubrication system**

Automatic lubrication is particularly appropriate in applications where high demands are made on accuracy or in cases involving fully automatic data transmission, thus making human intervention on site unnecessary.

For such cases, Elster-Instromet offers an automatic lubrication system driven by an external control unit. The flow computers Z0/Z1 and F1 will also be able to support this function with effect from the end of 2006.

Contamination of ball bearings

The lubricants employed by Elster-Instromet have been found to give good results with commonly used gases over a period of many years. When other lubricants are used, there is a risk that the lubricant will react with the gas.



This can lead to changes in lubrication properties and damage to the bearings. The two photos of practical examples shown on the left illustrate this very clearly.

If you need advice about your installation, do not hesitate to consult your Elster-Instromet contact person. As you know, the choice of lubricating oil is vital if you want to keep things running smoothly!

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