



## Documentation

The following information sheet illustrates the description below:

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| <b>12-W20K-4G-E</b> | Sectional view of the lance with main dimensions |
| <b>00-W20K-8G-E</b> | Diagram of hydraulic system inside the lance     |

## General

The burnerlance 12-LS without needle shut-off is especially suitable for use in or on an oil burner and is designed to operate spill back atomisers.

The burnerlance is suitable for supply pressures from 20 up to 40 bar and fuel temperatures up to 140°C.

## Mounting the atomiser

Often a lance is delivered with the atomiser mounted. This is just to avoid loss during transportation. The atomiser then has been screwed on by hand, not tightened. In this case, you should also mount the atomiser as described below.

To ensure adequate sealing, the sealing surfaces at the adaptor and at the atomiser should not be damaged. Never use any additional sealant on these surfaces.

If necessary, remove the plastic plug from the adaptor and make sure no material stays behind. Make sure all parts involved are clean and free from any dust or other particles. It is advised to apply a little "Molykote HSC" or equivalent compound, on the thread of the atomiser only, to prevent problems when dismantling the atomiser after a longer period. The sealing surface of the adaptor, the inside of the lance and the other parts of the atomiser are to be kept absolutely clean.

Now screw on the atomiser by hand as tight as possible. Tighten it firmly with a spanner. The adaptor has flat sides to hold the lance while screwing or unscrewing the atomiser. These flats exclusively serve this one purpose!

## Connections

The connections (see 00-W20K-8G-E) on the block of the lance are marked as follows:

- S** Fuel supply to the atomiser. The pressure only depends on the desired behaviour for the atomiser.
- R** Fuel return from the atomiser. Fuel output control is achieved by connecting either a pressure or a volume regulator.
- MS** The air or steam supply pressure to the atomiser is available here, allowing evaluation of this pressure by a pressure gauge or sensor.
- MR** The fuel supply pressure to the atomiser is available here, allowing evaluation of this pressure by a pressure gauge or sensor.

To prevent malfunction, be careful when removing the plastic plugs from the connection ports and make sure no material stays behind.

When choosing fittings, make sure that the channels inside the connection block remain fully open. Even a partial blockage at one of the channels inside will inevitably lead to malfunctioning of the burnerlance.



Never use any additional sealant on the thread. The remains getting inside the lance could lead to failures. There are no objections against the use of flat gasket rings to seal the fittings.

## **Function**

During the pre-purge period, the external solenoid valve in the fuel supply line (to port "S") is closed, preventing fuel from reaching the furnace prematurely.

Before opening the external solenoid valve in the fuel supply line, make sure the IGNITION IS TURNED ON. In addition, the external regulator and the combustion airflow are to be adjusted beforehand in such a way that the burner will START ON LOW FLAME.

Shortly after switching on the solenoid valve in the fuel supply line, the fuel pressure at the atomiser will stabilise and the ignition causes a flame.

An external volume or pressure regulator in the return line controls the output flow of the atomiser.

The fuel flow from the atomiser stops a short time after interrupting the power supply to the solenoid valve at port "S".

## **Maintenance**

The burnerlance normally does not require any maintenance. Wear or damage of the orifice and the swirler highly depend on fuel quality. The complete atomiser is easy to exchange. The lance has no moving parts.

After a while some ageing may occur on the atomiser o-ring. This o-ring is separately available for replacement.