



## Documentation

The following information sheets illustrate the description below:

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|---------------------|---|
| <b>12-W20K-4G-E</b> | Sectional view of the lance with main dimensions      |
| <b>12-W101-6E-E</b> | Sectional view of the head of the lance with atomiser |

## 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 air or steam atomisers.

The burnerlance is suitable for supply pressures up to 16 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.

The atomiser is to be built in according to information sheet 12-W101-6E-E. 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 on the block of the lance are marked as follows:

- R** Fuel supply to the atomiser. A filter having meshes smaller than 50 µm should be present. Fuel output control is achieved by connecting either a pressure or a volume regulator.
- S** Compressed air or steam supply to the atomiser. The pressure either is kept constant or under control of a constant differential pressure system. The way of control and the pressure only depend on the behaviour desired for the atomiser.
- MR** The fuel supply pressure to the atomiser is available here, allowing evaluation of this pressure by a pressure gauge or sensor.
- MS** The air or steam 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 "R") is closed, preventing fuel from reaching the furnace prematurely.

Atomising pressure in the lance starts building up after the compressed air or steam to port "S" has been switched on. Before opening the external solenoid valve in the fuel supply line, make sure the IGNITION IS TURNED ON. In addition, the external regulator, the air or steam pressure 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 supply line controls the fuel flow of the atomiser. The air or steam pressure at port "S" either is kept constant or under control of a constant differential pressure system.

The fuel flow from the atomiser stops a short time after interrupting the power supply to the solenoid valve at port "R". After this, the air or steam supply to port "S" should continue for at least 60 seconds. This cleans the atomiser to prevent blockage due to radiated heat from the furnace.

## Maintenance

The burnerlance normally does not require any maintenance. Wear or damage of the nozzle 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.