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B1 System description

The reactant injector DEN is designed for use at a dosing pressure of approximately one bar. It is a dual medium injector with no moving parts for externally mixed media.



- 1 Reactant inlet
- 2 Air inlet
- 3 Fastening screws
- 4 Sealing
- 5 Injector head

B2 Operating conditions

The operating conditions (operating temperature, type of enclosure protection, current and air consumption) are specified in the relevant data sheets. (→ [Data sheet](#))

B3 Assembly and installation

B3.1 General

All assembly and installation operations must be performed by qualified personnel only. The technical data required to install the components (dimensions, weights) are contained in the relevant data sheets. (→ [Data sheet](#))

Electrical installation

Exact information pertaining to the electrical installation must be obtained from the wiring diagram. Analogue signal cables must be shielded. They should be routed separately and not parallel to power-conducting cables and components. The shielding of analogue signal cables must be earthed on one side. (→ [Wiring diagram](#))

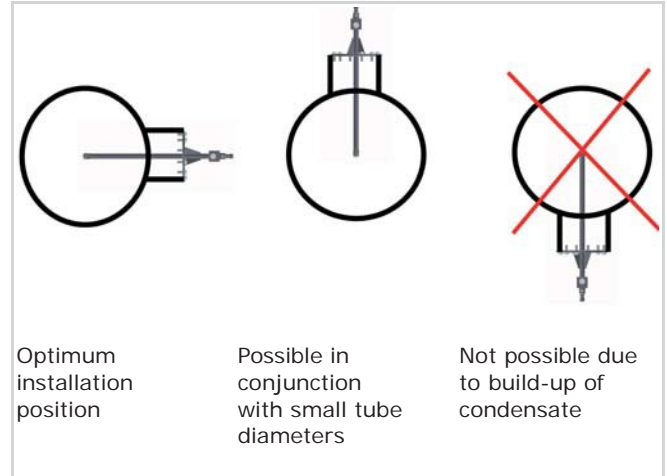
Mechanical installation

All threads that become hot during operation must be treated before assembly with high-temperature-resistant screw lubricant (resistant up to 1200 °C) in order to prevent seizure. A conventional lubricant can be used for threads that do not become hot during operation.

B3.2 Assembly and installation

Installation position

Adhere to the designated installation position for the reactant injector:



Ensure the reactant injector cooling is fully functional before operating the exhaust gas generator and mounting the reactant injector.

Do not mount the reactant injector if either the supply of scavenging air or the power supply to the reactant injector or low-pressure reactant dosing box cannot be guaranteed when the exhaust gas generator is operating.

Reactant injector

Observe the following points when mounting the reactant injector:

- Use only intact seals
- The injector head must point exactly in the direction of flow

In addition, ensure there is sufficient space available to dismount the reactant injector if this should be required.

B4 Commissioning

The system shall be commissioned by Hug Engineering AG or an authorized partner. However, various preparatory measures must be taken to ensure efficient commissioning:

- Check the electrical installation and wiring of the components.
- Check the electric signals.
- Check the compressed-air and reactant lines.
- The engine must be ready for operation.
- The engine cooling system must be operational.

(→ [Maintenance Manual folder](#))

B5 Servicing

B5.1 Inspection

B5.1.1 Connections

Check both the air and reactant connections on the reactant injector for leakages.

B5.1.2 Injector head

To check the injector head it is necessary to remove the whole reactant injector from the exhaust gas pipe. Then it is possible to remove the injector head from the reactant injector.

The injector head must be checked to see if there is any build-up of reactant or hydrocarbon deposits.

The injector head must be disassembled and cleaned if deposits are visible at the outlet openings.

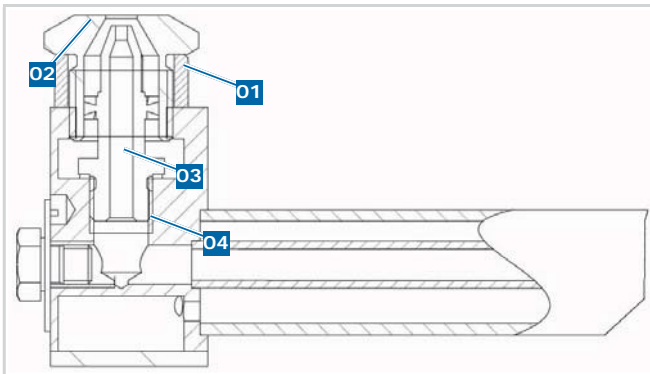
(→ [Maintenance](#))

Once cleaned the reactant injector must be reassembled and mounted back into the exhaust gas pipe.

B5.2 Maintenance

B5.2.1 Injector head

The injector must be dismounted to facilitate removal of any deposits that have built up on the injector head.



- 1 Injector ring
- 2 Injector nozzle cap.
- 03 Injector nozzle insert
- 04 Aluminum seal

To clean the injector nozzle first remove the injector air valve together with the injector ring. If soiled, the injector nozzle insert must also be unscrewed and removed. If the reactant tube in the injector shank is also blocked then it must be replaced.

▶ In an emergency it is possible to unblock the reactant tube using a long drill. As drills are not available in the required length an extension will have to be soldered. Alternatively, clamp a length of welding filler wire with a sharpened tip in a hand-held power drill and try to unblock the tube by repeatedly inserting and removing the rotating wire.

Once the parts have been cleaned reassemble the injector head in the reverse order.

▲ The aluminum seal must be replaced each time the injector head is disassembled.

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► This section is a part of the documentation for the 'Exhaust gas purification system'. You must also observe the chapters 'Foreword', Definition, Safety, Disposal in Index 1 of the folder 'Exhaust gas purification system'.

B1 System description

A detailed system description is provided in the Operating Manual.

(→ [Operating Manual folder](#), [Data sheet](#), [Drawing](#))

B2 Operating conditions

The operating conditions (operating temperature, type of enclosure protection, current and air consumption) are specified in the relevant data sheets. (→ [Data sheet](#))

B3 Assembly and installation

Assembly and installation instructions are provided in the Operating Manual.

(→ [Operating Manual folder](#))

B4 Commissioning**B4.1 General**

System components are generally pre-installed by the customer. This section principally describes the initial commissioning of the individual system components. Service technicians or authorized and trained personnel with corresponding resources are responsible for the initial commissioning and complex service work. System components with electrical equipment must be commissioned in accordance with the corresponding commissioning record protocol.

(→ [Commissioning record protocol](#))

Required resources

As well as personal tools the following equipment and materials are required to commission the exhaust gas purification system:

- Reactant collecting tank

Check assembly and installation

Before commissioning check if the system has been correctly installed.

- ⚠ The compressed air lines must be routed without kinks and not subject to tension; they must not come into contact with hot surfaces.

The compressed air lines must be kept absolutely clean. The lines must be flushed as required.

- ⚠ The reactant lines must be routed without kinks and not subject to tension; they must not come into contact with hot surfaces.

The reactant lines must be kept absolutely clean. The lines must be flushed as required.

B4.2 Check assembly and installation

Text

B4.3 Commissioning

Ensure the reactant injector cooling is fully functional before operating the exhaust gas generator and mounting the reactant injector.

A 'Commissioning record protocol' is used to assist commissioning.

(→ [Commissioning record protocol](#))

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