

Installation, operation and service manual

Safe diagnosis coupling BDA 06




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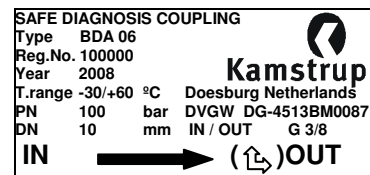
Please read this manual carefully before installing and using the safe diagnosis coupling BDA 06. Kamstrup's warranty obligations do not apply in case of non-observance of this manual.

1 Introduction

The safe diagnosis coupling BDA 06 is a component of the Kamstrup inspection system for pressure regulator stations, as is the PLEXOR® PN 100 test device. The BDA 06 shall be placed in the sensing line towards a safety provision of a pressure regulator station. The functional pressure that occurs, shall not exceed a value of 100 bar. This coupling can only be applied in combination with the purpose-built PLEXOR® connecting hose. A union nut facilitates easy and safe connecting to and disconnecting from a pressure regulator station. Connection and disconnection are safe as no gas can escape, and when disconnected, the safe diagnosis coupling automatically returns to the operational position.

2 Technical data

Article code	: 032100
DVGW approval	: DG-4513BM0087
Pressure class	: PN 100
Nominal width	: DN 10
Connection	: G 3/8 (DIN 3852-2)
Service temperature	: -30 °C to +60 °C
Service life	: > 10,000x connecting and disconnecting operations
Materials	: Enclosure/AlMgSiBi, Protective cap/POM, Piston slide/stainless steel, Sealing/NBR DVGW quality mark



Data Label

3 Safety measures

Work according to applicable regulations and guidelines.

4 Mounting

The safe diagnosis coupling BDA 06 shall be mounted such that the arrow (see bottom of the coupling) points in the flow direction or rather the direction of equipment to be tested. A wrongly made connection can cause damage to the internal sealing. The BDA 06 can best be mounted horizontally in the forward position, to reduce the risk of internal and external contamination. The BDA 06 shall be positioned such that there is sufficient room for easy connecting the PLEXOR® connecting hose. For test equipment of other makes than Kamstrup, it may be important that there is a fixed duct volume between the test device and equipment to be tested. The BDA 06 shall be provided with cutting ring couplers with G 1/4 screw thread (DIN 3852-2/11).

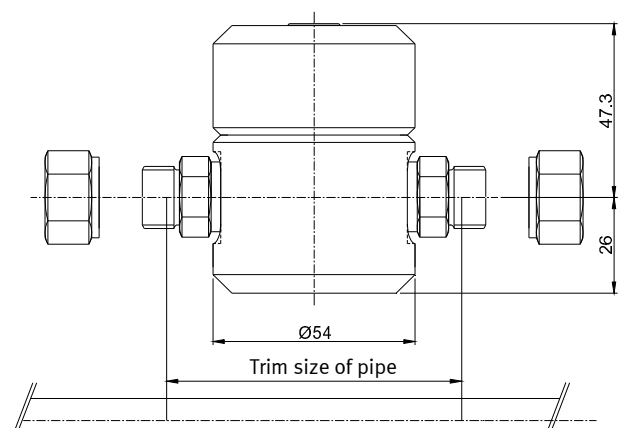


Fig. 1: Position of the safe diagnosis coupling BDA 06

Recommendation: If the BDA 06 is to be installed in a new duct, it is recommended, first to bend and install the duct without the BDA 06, and then to place the BDA 06 as shown in fig. 1.

5 Use

5.1 Connecting

Take the following steps to connect the PLEXOR® connecting hose to the safe diagnosis coupling BDA 06:

- Unscrew the protective cap from the BDA 06.
- Unscrew the protective plug from the PLEXOR® connecting hose.
- Screw the union nut of the PLEXOR® connecting hose on to the BDA 06 until a slight resistance can be felt (approx. 4-5 strokes/2 turns).
- Connect the other end of the PLEXOR® connecting hose to the PLEXOR® PN 100 test device. For this, refer to PLEXOR® PN 100 test device manual.
- Continue to screw the union nut of PLEXOR® connecting hose on to the BDA 06 until it is hand-tight.

Now a safe connection has been made with the BDA 06.

5.2 Disconnecting

Take the following steps to disconnect the PLEXOR® connecting hose from the safe diagnosis coupling BDA 06:

- Loosen the union nut of the PLEXOR® connecting hose by 4 or 5 strokes (2 turns) from the BDA 06.
- De-aerate the PLEXOR® PN 100 test device. For this, refer to PLEXOR® PN 100 test device manual.
- Completely loosen and remove the union nut of the PLEXOR® connecting hose.
- Screw the protective cap back on BDA 06.
- Screw the protective plug into the PLEXOR® connecting hose.
- Check the position of the position slide in the BDA 06. In operating position the position indicator shall protrude slightly from the protective cap.

6 Maintenance

6.1 General

Maintenance of the safe diagnosis coupling BDA 06 is restricted to replacing the O rings. The expected service life of these O rings is at least 20 years.

6.2 Disassembly, assembly

To replace the O rings the following materials are required:

- M4 bolt.
- Tools to remove and replace O rings.
- Pliers for circlip internal.
- Open-end wrench no. 17.
- 3 pcs. new O rings.
- Lubricant.
- Degreasant.

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Disassembly (see fig. 2):

- Remove the circlip internal (no. 2).
- Remove the cover (no. 6) by means of open-end wrench.
- By means of the M4 bolt, carefully pull the complete internal mechanism out of the enclosure (no. 3) and remove the O rings (nos. 1, 4 and 8).

Assembly (see fig. 2):

- Carefully clean all the parts and completely degrease the piston slide (no. 7) and the enclosure (no. 3).
- Grease the O rings (nos. 1, 4 and 8) with the prescribed lubricant (no. 13).
- Place a new O ring (no. 1) on to the piston slide (no. 7), a new O ring (no. 4) on to the cover (no. 6) and a new O ring (no. 8) in the enclosure (no. 3).
- Replace the piston slide (no. 7) in the cover (no. 6).
- Replace this assembly with the spring (no. 5) in the enclosure (no. 3).
- Carefully turn the assembly to hand-tight situation with open-end wrench, again place circlip internal (no. 2) using prescribed tools. Check that the circlip internal has been placed correctly.

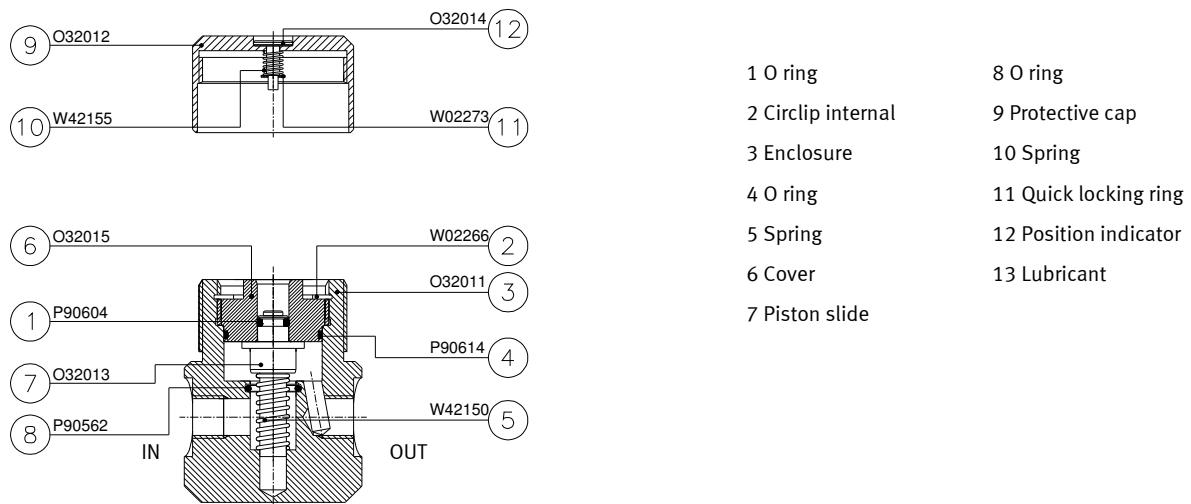


Fig. 2: Cross-section of safe diagnosis coupling BDA 06 with part codes marked.

6.3 Functional check

Smooth running check of the piston slide

Smooth running of the piston slide in the safe diagnosis coupling BDA 06 can easily be checked by actuating the position indicator. No gas will escape when the position indicator is actuated.

Leak tightness check

Once pressure has been put on the BDA 06 and the protective cap has been removed, the BDA 06 can be checked for leak tightness. To do this, the coupling is subjected to a bubble test using leakage detection fluid. After this check, the BDA 06 shall be dried and the protective cap be placed back in position.