

Installation Guide

# Pressure control valve

KDC/GVD 65 - 200 (2½ - 8 in.)



148R9533

148R9533

1

Danfoss 148C206.11

2

Danfoss 148C203.10.10

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Danfoss 148C207.10

4

Danfoss 148C203.10

5

Danfoss 148C209.10

	Nm	LB-feet
DN 65	75	53
DN 80	44	32
DN 100	75	53
DN 125-150	183	135
DN 200	370	272

Імпортёр:ТОВ з іі "Данфосс ТОВ" 04080, Київ 80, п/с 168, Україна

Info for UK customers only : Danfoss Ltd., 22 Wycombe End, HP9 1NB, GB

## ENGLISH

### Installation

#### Refrigerants

Applicable to HCFC, HFC, R717 (Ammonia) and R744 (CO<sub>2</sub>).

Flammable hydrocarbons are not recommended. The valve is only recommended for use in closed circuits. For further information please contact Danfoss.

#### Temperature range

KDC/GVD: -50/+150 °C (-58/+302 °F).

#### Pressure range

The valves are designed for a max. working pressure of 40 bar (580 psig).

#### Installation (Fig. 1)

The valve must be installed with the spindle vertically upwards (fig. 1).

The valve is designed to withstand a high internal pressure. However, the piping system should be designed to avoid liquid traps and reduce the risk of hydraulic pressure caused by thermal expansion. It must be ensured that the valve is protected from pressure transients like "liquid hammer" in the system.

#### Flow direction (Fig. 3)

Important: The flow direction must be from the cone side towards the branch.

#### Welding (Fig. 4)

Remove the actuator before welding to prevent damage to the gasket between the valve body and bonnet, as well as the teflon gasket in the valve seat. Only materials and welding methods, compatible with the valve housing material, must be welded to the valve housing. The valve should be cleaned internally to remove welding debris on completion of welding and before the valve is reassembled.

Avoid welding debris and dirt in the threads of the housing and the bonnet.

The valve housing must be free from stresses (external loads) after installation.

KDC/GVD valves must not be mounted in systems where the outlet side of the valve is open to atmosphere. The outlet side of the valve must always be connected to the system or properly capped off, for example with a welded-on end plate.

#### Assembly (Fig. 5)

Remove welding debris and any dirt from pipes and valve body before assembly. Remove disassembly bolt (pos. 32) after mounting the bonnet and the bonnet bolts have been tightened. The purpose of the bolt is to secure insert from falling out during disassembly and avoid damage of the Teflon seat when bonnet is mounted.

**Note!** Always pull the valve seat back in open position before assembling the valve.

Use DN10 steel pipe for a pilot line. It could be either connected directly to the valve using NPT ¼" thread or using adapter for cutting ring.

#### Tightening (Fig. 5)

Tighten the bonnet with a torque wrench, to the values indicated in the table (fig. 5).

#### Colours and identification

The KDC/GVD valves are painted with a red oxide primer in the factory. Precise identification of the valve is made via the ID ring at the top of the bonnet, as well as by the stamping on the valve body. The external surface of the valve housing must be prevented against corrosion with a suitable protective coating after installation and assembly. Protection of the ID ring when repainting the valve is recommended.

### Maintenance

#### Dismantling the valve (Fig. 4 and fig. 5)

Do not remove the bonnet while the valve is still under pressure.

Evacuate the pipe system in which the valve is installed. Remember to evacuate refrigerant from both sides of the valve (inlet and outlet). Use service port (pos. 15) on the valve to evacuate refrigerant from above the cone.

Mount the dismantling bolt (pos. 32), the hexagon flange nut (pos. 31) and the nylon ring (pos. 30) as shown on fig. 5, and tighten the nut (pos. 31) a few rounds in order to redraw the valve cone from the seat. Remove the bolts. Remove the valve top (actuator).

- Check that the O-ring has not been damaged
- Check that the Teflon seat is free of scratches and impact marks

#### Assembly (Fig. 5)

Remove welding debris and any dirt from pipes and valve body before assembly. Mount the hexagon screw (pos. 32), the hexagon flange nut (pos. 31) and the nylon ring (pos. 30) as shown on fig. 5, and tighten the nut (pos. 31) a few rounds in order to redraw the valve cone from the seat. Remove disassembly bolt after mounting the bonnet and the bonnet bolts have been tightened. The purpose of the bolt is to secure insert from falling out during disassembly and avoid damage of the Teflon seat when bonnet is mounted.

**Note!** Always pull the valve seat back in open position before assembling the valve.

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