



Danfoss CHV 15 Refrigerant Check Valves Installation Guide

[Home](#) » [Danfoss](#) » Danfoss CHV 15 Refrigerant Check Valves Installation Guide 

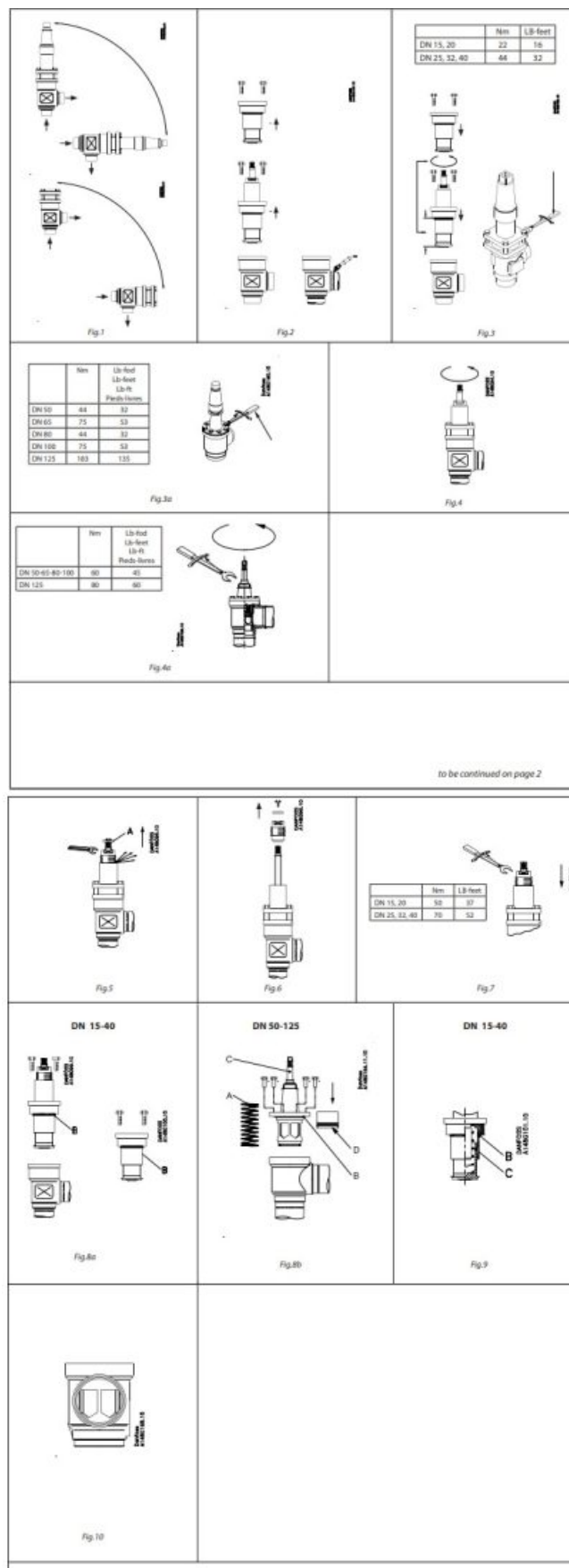


Instruction
SCA/CHV 15 – 125
SCA-SS/CHV-SS 15 – 40
(PS 52 bar / 754 psi)
148R9523

Contents

- [1 CHV 15 Refrigerant Check Valves](#)
- [2 Installation](#)
- [3 Maintenance](#)
- [4 Documents / Resources](#)
 - [4.1 References](#)

CHV 15 Refrigerant Check Valves



Installation

Refrigerants

Applicable to all common non-flammable refrigerants, including R717 and noncorrosive gases/liquids dependent on sealing material compatability.

Flammable hydrocarbons are not recommended.

The valve is only recommended for use in closed circuits.

For further information please contact Danfoss.

Temperature range

–60/+150°C (–76/+302°F)

Pressure range

SCA/CHV 15 – 125 standard range are design for the pressure 40 bar (580 psi) SCA/CHV 15 – 65 special versions and stainless steel are designed for the pressure of 52 bar (752 psi) SCA/CHV 80 – 125 special versions are designed for the pressure of 50 bar (725 psi).

Information about the pressure rating is stamped on the valve body

Installation

The valve must be installed with the spindle on top vertically upwards or in horizontal position (fig. 1). SCA valves should be opened by hand without the use of tools or other devices. 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

Direct the flow towards the cone as indicated by an arrow on the valve housing (fig. 1).

Welding

The bonnet should be removed before welding (fig. 2) to prevent damage to the Orings in the packing gland and 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.

Be careful not to damage the teflon cone ring.

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

Stop check 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

Remove welding debris and any dirt from pipes and valve body before assembly.

Check that the cone has been fully screwed back towards the bonnet before it is replaced in the valve body (fig. 3).

Important for the SCA valves:

Full capacity is only obtained when the spindle is screwed outward, “into bonnet”, i.e. counterclockwise (fig. 3).

Tightening

Tighten the bonnet with a torque wrench, to the values indicated in the table (fig. 3).

Important for SCA/CHV 50 – 125 valves:

For optimal flow the insert must be installed as indicated on the (fig. 10).

Otherwise kv value will be below indicated in the catalogue.

Colours and identification

The SCA and CHV valves are painted with a yellow primer in the factory. Stainless steel valves are not painted. 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 name plate when repainting the valve is recommended.

Maintenance**Packing gland (only SCA types)**

When performing service and maintenance, replace the complete packing gland only, which is available as a spare part. As a general rule, the packing gland must not be removed if there is internal pressure in the valve. However, if the following precautionary measures are taken, the packing gland can be removed with the valve still under pressure:

Backseating (fig. 4)

To backseat the valve, turn the spindle counterclockwise until the valve is fully open.

Pressure equalization (fig. 5)

In some cases, pressure forms behind the packing gland. Hence, a handwheel or a large washer (pos. A) should be fastened on top of the spindle while the pressure is equalized. The pressure can be equalized by slowly screwing out the gland.

Removal of packing gland (fig. 6)

Handwheel and packing gland can now be removed.

Dismantling the valve (fig. 8)

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

DN 15-40 (fig. 8a):

- Check that the gasket (pos. B) has not been damaged.
- Check that the spindle is free of scratches and impact marks.
- If the teflon cone ring has been damaged, the whole cone assembly must be replaced.

DN 50-125 (fig. 8b):

- Check that the spring (pos. A) is intact.
- Check that the o-ring (pos. B) has not been damaged.
- Check that the spindle (pos. C) is free of scratches and impact marks.
- If the teflon cone ring (pos. D) has been damaged, the whole cone assembly must be replaced.

Replacement of the cone (fig. 9)

DN 15-40:

O-ring (pos. C) prevents the cone from falling out. Pull the cone clear of the bonnet. Be careful not to loose the spring. Remove dirt, if any. Mount O-ring (pos. C) on cone. Mount spring and cone in bonnet.

Assembly

Remove dirt, if any, from pipes and housing before assembly. Important for the SCA valves: Full capacity is only obtained when the spindle is screwed outward, "into the bonnet", i.e. counterclockwise (fig. 3). Use a torque wrench to tighten the bonnet (fig. 3).

Tightening

Tighten the bonnet with a torque wrench, to the values indicated in the table (fig. 3).

Tighten the packing gland with a torque wrench, to the values indicated in the table (fig. 7).

Use only original Danfoss parts,

including packing glands and gaskets for replacement. Materials of new parts are certified for the relevant refrigerant.

In cases of doubt, please contact Danfoss.

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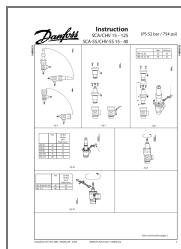
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Documents / Resources



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15-65, 15-125, 15-40, 50-125, CHV 15 Refrigerant Check Valves, CHV 15, Refrigerant Check V
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References

- [User Manual](#)

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