

Danfoss

High-quality Pressure Regulators



REFRIGERATION AND
AIR CONDITIONING



Danfoss - your solution provider

Danfoss offers a wide range of pressure regulators covering the majority of customer demands. Our production utilises state-of-the-art processes and every product is thoroughly tested in accordance with the most demanding standards.

If the component you are looking for is not mentioned in this leaflet or if you have special requirements, our competent personnel are always ready with help and guidance.

Make sure you obtain the right solution - contact your local Danfoss sales company or find us on <http://www.danfoss.com/how2con/>



Condensing pressure regulator systems, types KVR+NRD and KVR+KVD

Both systems are used to maintain a constant and sufficiently high condenser and receiver pressure in air-cooled condensers at low ambient temperature.

Both systems maintain the minimum required pressure differential across the thermostatic expansion valve at low ambient or in low load conditions and give problem-free operation. In this way the required room temperature can be ensured.

The KVR+NRD system:

When the pressure differential on the NRD exceeds 1.4 bar the system ensures hot gas bypass to the receiver.

The KVR+KVD system:

The system makes it possible to adjust the receiver pressure to the required level and to the actual plant.

Connections and sizes:

- KVR - Flare or solder ODF connections
12 → 35 mm (1/2 → 1 3/8 in.)
- NRD - Solder connections
12 mm (1/2 in.)
- KVD - Flare or solder ODF connections
12 → 22 mm (1/2 → 7/8 in.)

Servo-operated capacity regulator (hot-gas bypass), type CPCE and LG

Adapts the compressor capacity to the actual evaporator load. The capacity regulator bypasses from the high-pressure side to the low-pressure side, injecting hot gas between evaporator and thermostatic expansion valve through the liquid gas mixer (LG).

The CPCE is a servo-operated valve. This gives the advantage of a very accurate evaporator temperature independent of the load. The system runs 100% of the time and the coarse on-off temperature control is avoided.

This way of controlling the capacity on a refrigeration system is often used where an accurate temperature is required in order to keep the highest food product quality independent of the load conditions.

Connections and sizes:

- CPCE - Flare or solder ODF connections
12 → 22 mm (1/2 → 7/8 in.)
- LG - Expansion valve ODM connection
Hot-gas ODF connection
Liquid distributor ODF connection
12 → 35 mm (1/2 → 1 3/8 in.)

Capacity regulator (hot-gas bypass), type KVC

Adapts the compressor capacity on single or multi evaporator installations to the actual evaporator load through a bypass from the high-pressure side to the suction side.

This bypass capacity in the form of hot gas/cool gas prevents the suction pressure from becoming too low so avoiding coarse on-off temperature control of the plant.

The benefit is more accurate temperature control of the refrigeration system.

A liquid injection valve and a solenoid valve are often used in combination with this hot-gas bypass valve to avoid too high compressor discharge gas temperatures

Connections and sizes:

- KVC - Flare or solder ODF connections
12 → 22 mm (1/2 → 7/8 in.)



Evaporating pressure regulator, type KVP

Controls the evaporating pressure and the surface temperature on the evaporator independent of small load variations. The temperature differential between the air- and evaporator temperature is minimised.

Food is thus kept at the highest possible quality level by minimizing dehydration and weight losses.

The benefit is longer storage time and reduced food spoilage.

Connections and sizes:

- KVC - Flare or solder ODF connections
12 → 35 mm (1/2 → 1 3/8 in.)

Crankcase pressure regulator, type KVL

Limits the maximum crankcase pressure.

KVL controls the suction pressure during start and at high load conditions and thereby protects the compressor motor against overload.

Using a KVL prevents the suction pressure from becoming too high and overloading the compressor motor, with subsequent cut-out by the motor protection device.

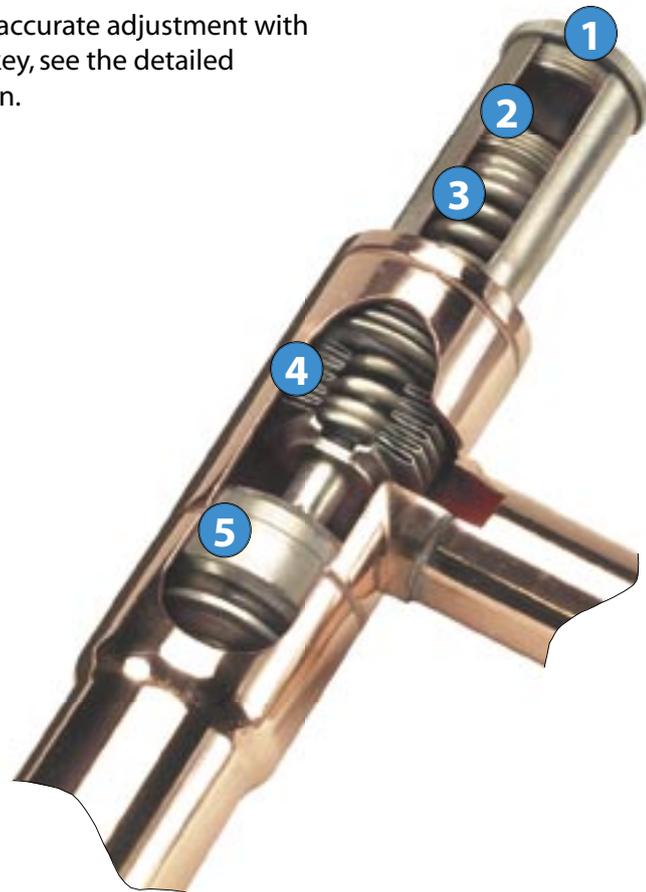
Connections and sizes:

- KVL - Flare or solder ODF connections
12 → 35 mm (1/2 → 1 3/8 in.)

Quality in everything we do

Stainless steel bellows ④ seamless and not welded. The bellows are resistance welded to the adaptor ring giving **very long operating life**.

Easy and accurate adjustment with an Allen key, see the detailed instruction.



- ① *Protective cap*
- ② *Setting screw*
- ③ *Main spring*
- ④ *Stainless steel equalisation bellows*
- ⑤ *Throttling assembly with variable dampening brake*

Benefits:

- The refrigeration system can operate under large load variations
- Very easy adjustment of the set point
- Low-pressure drop over the seat under normal load conditions
- High degree of tightness across the seat in closed position
- Product quality is maintained throughout a long operating life
- Pressure gauge for adjustment or indication

Refrigeration and Air Conditioning Controls, part of the Danfoss Group, is certified in accordance with international standards ISO 9001 and ISO 14001.

Danfoss thus fulfils international standards with respect to product development, design, production, sale and environmental awareness.