Danfoss KDC series multifunctional compressor valve

An indispensable solution of your compressor system

The KDC valve controls the discharge pressure of the compressor to ensure fast build-up of pressure and lubrication pressure. The valve also acts as a check valve in the discharge line of the compressor.

Applicable to all common refrigerants
Including R717 and non corrosive gases/liquids dependent on sealing material compatibility

Partner of your compressor
Tailor-made multifunctional compressor valve, controls the discharge pressure of the compressor to ensure fast build-up of pressure and lubrication pressure.
Introduction

The KDC valve is a multifunction compressor valve. The valve controls the discharge pressure of the compressor to ensure fast build-up of pressure and lubrication pressure. The valve also acts as a check valve in the discharge line of the compressor.

The KDC valve is force-controlled so that when pressure in the oil separator becomes 2 bar (29 psi) higher than the suction pressure, the spring is compressed and the valve opens. In low-pressure units (boosters), the spring requires a differential pressure of 0.5 bar (7 psi) for the valve to open.

Technical data

- **Dimensions**
  DN 65 to DN 200

- **Refrigerants**
  - Applicable to all common non flammable refrigerants including R717 and non corrosive gases/liquids dependent on sealing material compatibility.
  - Special versions for flammable are available, please contact Danfoss.

- **Temperature range**
  –50/+150°C (–58/+302°F).

- **Pressure range**
  The valves are designed for max. working pressure 40 bar g (580 psig).

- **Connections**
  Available with the following connections:
  - Butt-weld DIN (2448)
  - Butt-weld ANSI (B 36.10 Schedule 40), DN 65 - 200 (2½- 8 in.)

Features

- Each valve type is clearly marked with type, size and performance range.
- Angle valves with weld connections.
- Fast build-up of oil pressure in oil separator during start-up.
- High closing force on the cone during standstill, even without differential pressure across the valve.
- Very low pressure drop because of spring force.
- Low part-load without risk of valve chattering.
- Stainless steel bolts.
- Housing and bonnet material is in low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities.
Standard applications

Compressor discharge line after oil separator:

Nominal capacities

High pressure compressor  Capacity table at $t_c / t_o = +35/–15°C$,  QN [kW],  $\Delta p = 0.05$ bar

<table>
<thead>
<tr>
<th></th>
<th>KDC 65</th>
<th>KDC 80</th>
<th>KDC 100</th>
<th>KDC 125</th>
<th>KDC 150</th>
<th>KDC 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>R717</td>
<td>434</td>
<td>656</td>
<td>1128</td>
<td>1851</td>
<td>2829</td>
<td>4207</td>
</tr>
<tr>
<td>R404A</td>
<td>132</td>
<td>200</td>
<td>344</td>
<td>564</td>
<td>863</td>
<td>1283</td>
</tr>
<tr>
<td>R22</td>
<td>157</td>
<td>238</td>
<td>410</td>
<td>672</td>
<td>1028</td>
<td>1528</td>
</tr>
</tbody>
</table>

Booster compressor  Capacity table at $t_c / t_o = –18/–40°C$,  QN [kW],  $\Delta p = 0.05$ bar

<table>
<thead>
<tr>
<th></th>
<th>KDC 65</th>
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</tr>
</thead>
<tbody>
<tr>
<td>R717</td>
<td>229</td>
<td>347</td>
<td>597</td>
<td>978</td>
<td>1496</td>
<td>2225</td>
</tr>
<tr>
<td>R404A</td>
<td>101</td>
<td>153</td>
<td>263</td>
<td>432</td>
<td>661</td>
<td>983</td>
</tr>
<tr>
<td>R22</td>
<td>102</td>
<td>154</td>
<td>265</td>
<td>435</td>
<td>665</td>
<td>990</td>
</tr>
</tbody>
</table>
Danfoss Flexline™

Designed to offer clever simplicity, timesaving efficiency and advanced flexibility the Flexline™ series includes three popular product categories:

ICV Flexline™ – Control valves
ICF Flexline™ – Complete valve stations
SVL Flexline™ – Line components

All products are based on a modular design with no functionality in the housing. This set-up reduces complexity right from the design phase to the installation, commissioning and service. All key to lower total life cycle costs – and major savings.

Go to www.danfoss.com/flexline for more information on the Flexline™ platform.

Global knowhow
Local support

Backed by more than 60 years of experience producing valves and controllers for industrial refrigeration applications Danfoss is a solid partner to turn to when you are looking for quality components.

Our global knowhow combined with local support offers you the best possible products and service.