Transfer Gear Pumps

KF 32...80
with T-Valve
Transfer Gear Pumps KF 32...80 with T-Valve

Description

KF gear pumps are used for pumping a wide variety of fluids.

KF gear pumps are distinguished especially by their wide range of variants which are assembled as required on the modular principle and also permit subsequent upgrade.

The pumps are also suitable for media with low lubricating properties. The KF 32...80 with T-valve comprised an attached pressure control valve with a separate tank connection. By a conformist damping the valve offers a good control characteristic and a good dynamic at a free from vibration operation in all working points of the pump.

The standard pump housing sections are of gray cast iron. The valve housing sections are of spheroidal cast iron.

The gear units are manufactured from high-strength case-hardening steel, hardened and mounted in special multi-compound plain bearing bushes.

The standard drive shaft is sealed by rotary shaft lip-type seal. All pump sizes incorporate helical tooth system. This feature combined with special gear geometry, results in low noise levels and reduced pressure pulsation.

Operating Notes

- The fluids should ensure a certain minimum lubricating properties, should not contain solids and should be chemically compatible.
- Avoid dry operation.
- In order to prevent excessive overpressure, is a safety valve provided in the system.
- The pressure relief valve attached on the pump can be used for the pressure regulation of the pump, if the return conduit on the valve is connected directly with the storage tank.

Construction

![Diagram of KF gear pumps KF 32...80 with T-Valve]

- 10 Tank connection
- 20 T-Valve
- 30 Gear
- 40 Pump housing
- 50 Bearing bush
- 60 Shaft seal
- 70 Drive shaft end
Transfer Gear Pumps KF 32...80 with T-Valve

**Materials**

<table>
<thead>
<tr>
<th>Material</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump housing</td>
<td>EN-GJL-250 (GG 25) or EN-GJS-400-15 (GGG 40)</td>
</tr>
<tr>
<td>Valve</td>
<td>EN-GJS-400-15 (GGG 40)</td>
</tr>
<tr>
<td>Gear</td>
<td>Steel 1.7139</td>
</tr>
</tbody>
</table>
| Bearing bush  | DU (multi-layer friction-type bearings P 10, DP 4)  
Bearings free of nonferrous metal on request |
| Shaft seal    | NBR, FKM, PTFE, EPDM                  |
|               | (other sealing materials on request. E.g. HNBR / CR) |
| O-ring        | NBR, FKM, PTFE, EPDM                  |
|               | (other sealing materials on request. E.g. HNBR / CR) |

**Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal sizes 32...80 cm³</td>
<td>( V_g = 32 / 40 / 50 / 63 / 80 )</td>
</tr>
<tr>
<td>Mounting position</td>
<td>arbitrary</td>
</tr>
<tr>
<td>Direction of rotation</td>
<td>right or left</td>
</tr>
<tr>
<td>Fixing type</td>
<td>flange (DIN ISO 3019)</td>
</tr>
<tr>
<td>Pipe connection on the pump</td>
<td>see datasheet transfer gear pumps KF 4...80</td>
</tr>
<tr>
<td>Pipe connection on the T-Valve</td>
<td>1 ½ SAE flange</td>
</tr>
<tr>
<td>Drive shaft end</td>
<td>ISO R 775 short cylindrical</td>
</tr>
<tr>
<td>Working pressure Outlet port</td>
<td>( p_{n\text{ max}} = 25 \text{ bar} )</td>
</tr>
</tbody>
</table>
| Speed                                   | \( n_{\text{min}} = 200 \text{ 1/min} \)  
\( n_{\text{max}} = 3000 \text{ 1/min} \) |
| Viscosity (dependent on pressure and rotational speed) | \( \nu_{\text{min}} = 12 \text{ mm²/s} \)  
\( \nu_{\text{max}} = 5000 \text{ mm²/s} \) (adapted valve specification) |
| Fluid temperature                       | \( \theta_{m\text{ min}} = -40 \text{ °C} \)  
\( \theta_{m\text{ max}} = 200 \text{ °C} \) |
| Ambient temperature                     | \( \theta_{u\text{ min}} = -20 \text{ °C} \)  
\( \theta_{u\text{ max}} = 60 \text{ °C} \) |

**Direction of Rotation**

The following should be note for direction of rotation:
- when looking at the pump shaft end, the direction of pumping is from right to left if the shaft rotates **counterclockwise**.

With pressure relief valve

![Diagram showing pump direction ccw and cw](Diagram)
Transfer Gear Pumps KF 32...80 with T-Valve

Type Key

Ordering example

| KF | 40 | R | F | 1 | - | T15 | - | /... | - |

- **Pump housing material**
  - not specified
  - EN-GJL-250 (GG 25)
  - GJS
  - EN-GJS-400 (GGG 40)

- **Special No.**

- **Viscosity**
  - not specified
  - 12...300 mm²/s
  - A
  - 300...1000 mm²/s
  - B
  - 1000...5000 mm²/s

- **Pressure valve**
  - T 15 adjustable from 0–15 bar
  - T 25 adjustable from 15–25 bar
  - (only for one direction of rotation)

- **Seal type**
  - 1 Single rotary shaft lip NBR
  - 2 Single rotary shaft lip FKM
  - 3 Single rotary shaft lip PTFE
  - (Further seal types see datasheet transfer gear pumps KF 4...80)

- **Mounting**
  - F DIN flange without outboard bearing
  - G DIN flange with outboard bearing
  - W Mounting angle without outboard bearing
  - X Mounting angle with outboard bearing

- **Direction of rotation**
  - R right
  - L left

- **Nominal size**
  - 32...80

Product name
Transfer Gear Pumps KF 32...80 with T-Valve

Characteristic Curves

Viscosity: 34 mm²/s
Speed: 1450 1/min

**T 15**

![Graph T 15](image)

**T 25**

![Graph T 25](image)
Transfer Gear Pumps KF 32...80 with T-Valve

Dimensions (in mm)

<table>
<thead>
<tr>
<th>Nominal displacement</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>220</td>
<td>184</td>
<td>84</td>
<td>9.5</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>255</td>
<td>213</td>
<td>100</td>
<td>11.2</td>
</tr>
<tr>
<td>80</td>
<td></td>
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</table>
Product Portfolio

Transfer Pumps
Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

Mobile Hydraulics
Single and multistage high pressure gear pumps, hydraulic motors and valves for construction machinery, vehicle-mounted machines.

Flow Measurement
Gear and turbine flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

Industrial Hydraulics / Test Bench Construction
Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).
Technology Test benches / Fluid Test benches.

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