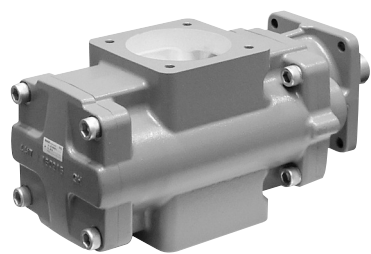


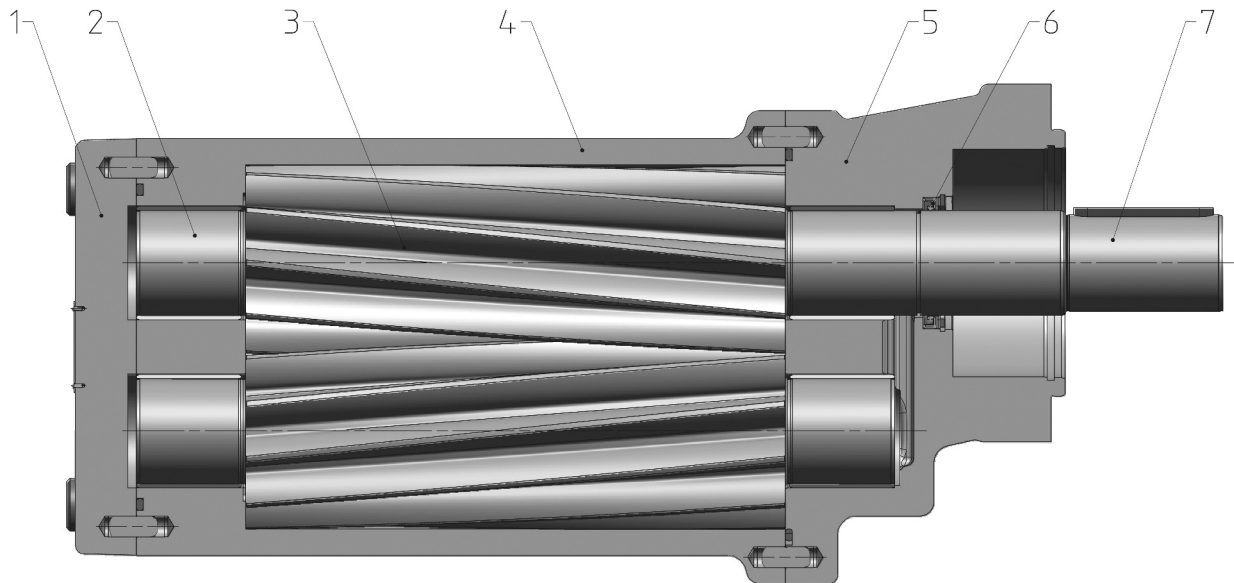
# KRACHT



Gear Pumps

**KF 730...1500**

## Construction



- |                        |                |
|------------------------|----------------|
| 1 End cover            | 5 Flange cover |
| 2 Plain bearing bushes | 6 Shaft seal   |
| 3 Gear                 | 7 Shaft end    |
| 4 Housing              |                |

## Description

Gear pumps KF are used for pumping a wide variety of fluids. Gear pumps KF are distinguished especially by their wide range of variants which are assembled as required on the modular principle and also permit subsequent upgrade. The standard housing sections are of grey 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 single radial lip-type seal. All pump sizes incorporate helical tooth system. This feature, combined with special gear geometry, results in extremely low noise levels and reduced pressure pulsation.

## Working Notes

- The fluids should ensure a certain minimum lubricating properties, should not contain solids and should be chemically compatible.
- Avoid dry operation.
- The pumps may only be operated in the specified direction of rotation, as otherwise the shaft seal will be destroyed.
- In order to prevent excessive overpressure, a safety valve should be provided in the system.

## Variants

- Sealing of the drive shaft:
  - Single radial lip-type seal
  - Double radial lip-type seal (Quench)
  - Mechanical seal
- Outboard bearing to take up input drive-side radial load

## Accessories

- Connecting flanges
- Couplings
- Bell housing
- Quench tank
- Attenuation elements

## Special Design

Various shafts ends and gear units, as well as flange mounted versions, bearing alternatives, multi-stage pump combinations for your special application are available on request.

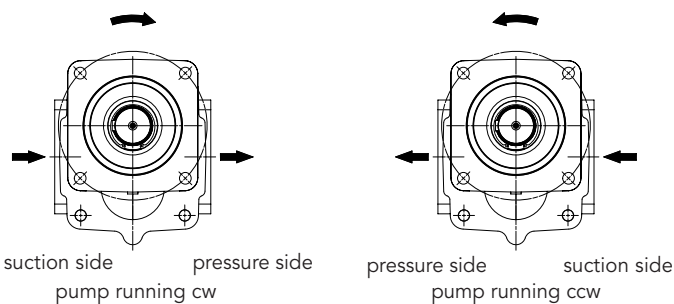
Our Sales engineers will be pleased to advise you.

## Direction of Rotation

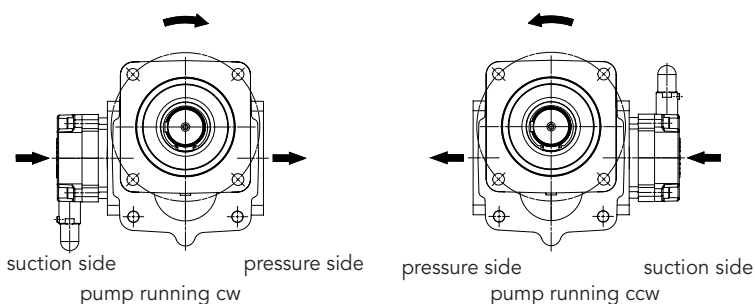
The following should be note for direction of rotation:

- when looking at the pump shaft end, the direction of pumping is from left to **right** if the shaft rotates clockwise.
- when looking at the pump shaft end, the direction of pumping is from right to **left** if the shaft rotates counterclockwise.

### Without pressure relief valve



### With pressure relief valve



## Materials

|                      |   |
|----------------------|---|
| Housing and cover    | EN-GJL-250 (GG 25)<br>EN-GJS-400-15 (GGG 40)  |
| Gear                 | Steel 1.7139  |
| Plain bearing bushes | DU (multi-layer friction-type bearings P 10, DP 4)<br>Bearings free of nonferrous metal on request                    |
| Shaft seals          | Single radial lip-type seals: NBR, FKM, PTFE, EPDM<br>Mechanical seal: Metal-impregnated carbon /SiC, FKM, CrNi-Steel |
| O-ring               | NBR, FKM, EPDM, FEP with FKM-core   |

## Characteristics

|                                |                                      |   |
|--------------------------------|--------------------------------------|---|
| Nominal sizes                  | cm <sup>3</sup> /r                   | 730 / 1000 / 1250 / 1500  |
| Mounting position              |                                      | KF ... R/L/B ... without Quench optional<br>KF ... R/L/B ... with Quench horizontal, Quench connection above  |
| Direction of rotation          |                                      | right or left<br>right and left for reciprocal operation (Continuous operation on request)  |
| Flange connection              |                                      | SAE D 4-hole flange   |
| Housing connection             |                                      | KF 730 / KF 1000 - flange DN 132 / hole circle 180<br>KF 1250 / KF 1500 - flange DN 160 / hole circle 210   |
| Drive shaft end                |                                      | cylindrical Ø 55 mm   |
| Working pressure suction side  |                                      | see chart working pressure  |
| Working pressure pressure side |                                      | see chart working pressure  |
| Speed                          | n                                    | 200 ... 2000 1/min  |
| Recommended speed              |                                      | The speed of the pump must be chosen in such a way that complete pump filling is guaranteed. This is given if the relative pressure at the pump inlet does not fall below -0.4 bar (-0.6 bar briefly e.g. during cold start). |
| Viscosity                      | V <sub>min</sub><br>V <sub>max</sub> | 1.4... 12 mm <sup>2</sup> /s (see chart permissible temperatures)<br>20 000 mm <sup>2</sup> /s (higher viscosities on request)  |
| Fluid temperature              |                                      | see chart permissible temperatures  |
| Ambient temperature            |                                      | see chart permissible temperatures  |

## Permissible Differential Pressure

| Bearing  | Δp <sub>max</sub> [bar]  |                        |                         |
|--|--------------------------|------------------------|-------------------------|
|  | ≥ 1.4 mm <sup>2</sup> /s | ≥ 6 mm <sup>2</sup> /s | ≥ 12 mm <sup>2</sup> /s |
| Multi-layer plain bearing containing lead : DU®, P10 | 3                        | 12                     | 25 <sup>(1)</sup>       |
| Multi-layer plain bearing lead-free : DP4            |                          |                        |                         |
| Plastic plain bearing: Iglidur® G; X; H370           | -                        | 6                      | 10                      |

<sup>(1)</sup> KF 1250 and KF 1500: 20 bar

**Working Pressure**

| Shaft seals standard operation                                     |                  |               |   |                           |              |
|--|------------------|---------------|---|---------------------------|--------------|
|  | Sealing material | Speed [1/min] | Working pressure                        |                           |              |
|  |                  |               | suction side $p_e$ [bar] <sup>(1)</sup> | pressure side $p_b$ [bar] |              |
| Single radial lip-type seal  | NBR / FKM        | ≤ 750         | -0.4 ... 5.0                            | 25 <sup>(2)</sup>         |              |
| Outboard bearing with single radial lip-type seal                  |                  | ≤ 1000        | -0.4 ... 4.0                            |                           |              |
| Double radial lip-type seal with connection possibility for quench |                  | EPDM          | ≤ 1500                                  |                           | -0.4 ... 2.5 |
|  |                  |               | ≤ 2000                                  |                           | -0.4 ... 1.5 |
| Mechanical seal  | PTFE             | ≤ 2000        | -0.4 ... 0.5                            |                           |              |
|  |                  |               | -0.4 ... 2.0                            |                           |              |
|  | FKM              | ≤ 2000        | -0.4 ... 10.0                           |                           |              |

| Shaft seals vacuum operation  |                  |               |                          |                           |
|---|------------------|---------------|--------------------------|---------------------------|
|   | Sealing material | Speed [1/min] | Working pressure         |                           |
|   |                  |               | suction side $p_e$ [bar] | pressure side $p_b$ [bar] |
| Double radial lip-type seal for vacuum operation with connection possibility for quench | NBR / FKM / PTFE | ≤ 2000        | -0.9 ... 0.2             | 25 <sup>(2)</sup>         |

<sup>(1)</sup> short term during start-up status: -0.6 bar

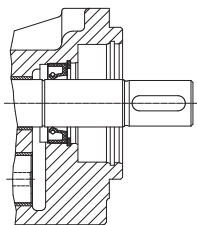
<sup>(2)</sup> KF 1250 and KF 1500: 20 bar

The indicated maximum values are dependent upon the remaining working conditions.  
 Note vacuum operation: The tank installation must be above the suction connection.  
 Other sealing materials on request.

**Permissible Temperatures**

| Media temperature      |                        | Ambient temperature    |                        | Sealing material         |
|------------------------|------------------------|------------------------|------------------------|--------------------------|
| $\vartheta_m$ min [°C] | $\vartheta_m$ max [°C] | $\vartheta_m$ min [°C] | $\vartheta_m$ max [°C] |                          |
| -20                    | 90                     | -20                    | 60                     | NBR                      |
|                        | 200                    |                        |                        | PTFE / FEP with FKM core |
|                        | 120                    |                        |                        | EPDM                     |
|                        | 150                    |                        |                        | FKM                      |

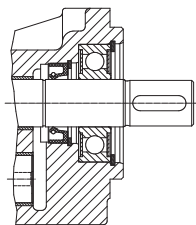
## Variants Shaft End Seals



Pump with single radial lip-type seal

Sealing materials:

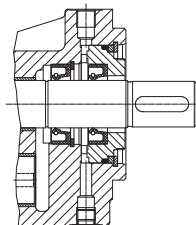
- NBR = sealing type 1
- FKM = sealing type 2
- PTFE = sealing type 3
- EPDM = sealing type 9
- FKM = sealing type 18



Pump with outboard bearing and single radial lip-type seal

Sealing materials:

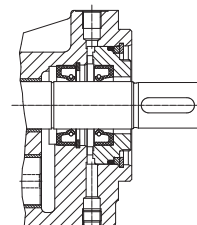
- NBR = sealing type 1
- FKM = sealing type 2
- PTFE = sealing type 3
- EPDM = sealing type 9
- FKM = sealing type 18



Pump with double radial lip-type seal with connection possibility for quench

Sealing materials:

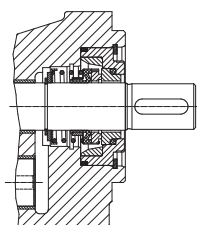
- NBR = sealing type 19
- FKM = sealing type 7
- PTFE = sealing type 4
- EPDM = sealing type 32



Pump with double radial lip-type seal for vacuum operation with connection possibility for quench

Sealing materials:

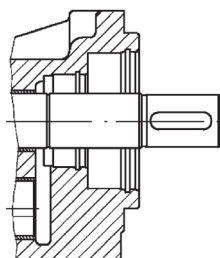
- NBR = sealing type 19
- FKM = sealing type 7
- PTFE = sealing type 4
- Special number: 74



Pump with mechanical seal

Sealing materials:

- FKM = sealing type 40



Pump without shaft sealing

Sealing materials:

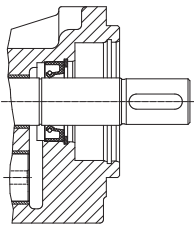
- FKM (O-ring) = sealing type 30
- NBR (O-ring) = sealing type 36

## KF 730 ... 1500 noise optimized for medias with increased air percentage

The noise optimized pumps in the KF series are designed for conveying for medias with increased air content, predominantly for use as lubricating oil pumps in gears. Special measures prevent the otherwise normally increased noise present in auriferous gear oil. The noise levels do not exceed or only barely exceed the measurements with non-auriferous oils. Also, there is no noise spectrum shift to higher, unpleasant frequencies. In applications without auriferous portions in the media, it is not recommended to use this version as it will not bring about noise reduction effects there.

The noise optimized version of the KF pump is marked with the special number **197** at the end of the type key. Pumps with the special number **197** are built as pumps in combination with an electric motor or as mounted pumps. The pump in combination with an electric motor (Fig. 1) does not have an outboard bearing, so it has to be driven via an elastic coupling. The mounted pump (Fig. 2) comes equipped with an outboard bearing to absorb the centrifugal forces such as those which arise when using a flying pinion. Pumps for electric motor drives and mounted pumps are sealed at the shaft end using a lip-type shaft seal.

Fig. 1



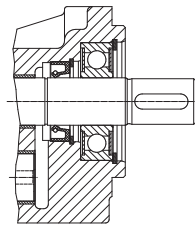
Pump with single radial lip-type seal

Sealing materials:

NBR = sealing type 1

FKM = sealing type 2

Fig. 2



Pump with outboard bearing and single radial lip-type seal

Sealing materials:

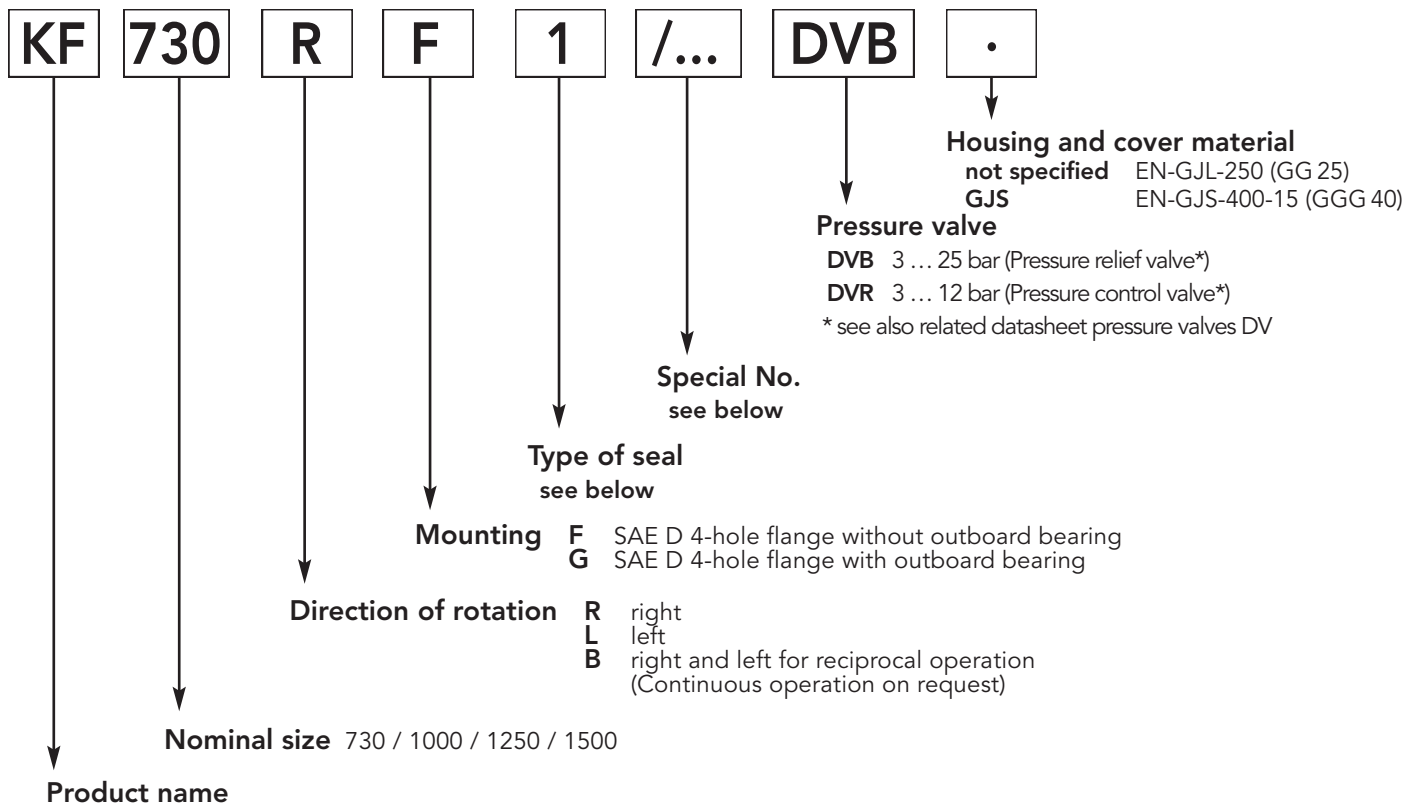
NBR = sealing type 1

FKM = sealing type 2

### Note

The noise optimized version is also available in a spheroidal cast iron version. Dimensions conformable standard pumps.

Type Key (Ordering example)



Seal Type

|   |  |    |   |
|---|--|----|---|
| 1 | Single radial lip-type seal<br>NBR (BABSL)   | 18 | Single radial lip-type seal<br>FKM (BAUMX7)                                   |
| 2 | Single radial lip-type seal<br>FKM (BABSL)   | 19 | Double radial lip-type seal<br>NBR (BABSL)                                    |
| 3 | Single radial lip-type seal<br>PTFE (HN2390) | 30 | without shaft seal<br>o-ring FKM  |
| 4 | Double radial lip-type seal<br>PTFE (HN2390) | 32 | Double radial lip-type seal<br>EPDM (R02-R)<br>(not resistant to mineral oil) |
| 7 | Double radial lip-type seal<br>FKM (BABSL)   | 36 | without shaft seal<br>o-ring NBR  |
| 9 | Single radial lip-type seal<br>EPDM (R02-R)  | 40 | Mechanical seal with FKM<br>secondary seals<br>(L4) AQ2VFF                    |

Special Numbers

|     |  |
|-----|--|
| 74  | Double radial lip-type seal (for vacuum operation)<br>Connection borehole G 1/8 (for Quench) |
| 197 | Noise-optimized version for aerated oils <sup>(1)</sup>                                      |

<sup>(1)</sup> Measures for noise optimisation are only possible for one rotational direction and only effective for aerated oils or vacuum (only in connection with seal versions that are suitable for vacuum operation). Can lead to a reduction of delivery rate.



**Technical Data**

| Nominal size | geom. displacement<br>$V_g$<br>[cm <sup>3</sup> /r] | Working pressure<br>$p_b$<br>[bar] | Maximum pressure (pressure peak)<br>$p_{b \max}$<br>[bar] | Speed range <sup>(1)</sup> |                                      | Perm. radial force <sup>(3)</sup><br>(n = 1500 1/min)<br>$F_{\text{radial}}$<br>[N] | Sound pressure level dB (A) |                   |                   |
|--------------|---|------------------------------------|---|----------------------------|--------------------------------------|---|-----------------------------|-------------------|-------------------|
|              |   |                                    |   | $n_{\min}$<br>[1/min]      | $n_{\max}$ <sup>(2)</sup><br>[1/min] |   | $p_b =$<br>5 bar            | $p_b =$<br>15 bar | $p_b =$<br>25 bar |
| <b>730</b>   | 713.8   | 25                                 | 30  | 200                        | 2000                                 | 2500  | 80                          | 81                | 81                |
| <b>1000</b>  | 985.7   |                                    | 25  |                            |                                      |   | 81                          | 83                | 83                |
| <b>1250</b>  | 1236.2  | 25                                 | 83  |                            |                                      |   | 84                          | 86                |                   |
| <b>1500</b>  | 1473.0  | 20                                 | 83  |                            |                                      |   | 85                          | 86 <sup>(4)</sup> |                   |

<sup>(1)</sup> Comply with media-specific properties.

<sup>(2)</sup> Pay attention to the viscosity.

<sup>(3)</sup> Outside forces are only permissible in combination with an outboard bearing.  $F_{\text{radial}}$  on central shaft end.

<sup>(4)</sup>  $p_b = 20$  bar

For certain working conditions, the minimum or maximum characteristics should not be used.

For example, the max. working pressure is not permissible in combination with low speed and low viscosity.

In such limit ranges, please consult us.

Sound level measured in dB(A) at 1 m distance

Sound level measured with drive motor,

Installation site:

Works hall, quiet sound level = 40 dB(A)

Pump assembly on rigid fastening angle,

Suction and pressure conduits: Hose

measured with gear oil,

Oil viscosity  $\nu = 34 \text{ mm}^2/\text{s}$ ,

Speed  $n = 1500 \text{ 1/min}$ .

Discharge Flow / Input Power

|                     |  | Speed n = 950 1/min           |      |      |      |              |      |      |      |                               |      |      |      |      |      |      |       | Power consumption<br>P [kW] |
|---------------------|--|-------------------------------|------|------|------|--------------|------|------|------|-------------------------------|------|------|------|------|------|------|-------|-----------------------------|
|                     |  | Pressure p <sub>b</sub> [bar] |      |      |      | Nominal size |      |      |      | Pressure p <sub>b</sub> [bar] |      |      |      |      |      |      |       |                             |
| Discharge Q [l/min] |  | 2                             | 4    | 6    | 8    | 10           | 15   | 20   | 25   | 2                             | 4    | 6    | 8    | 10   | 15   | 20   | 25    |                             |
|                     |  | 662                           | 643  | 626  | 609  | 594          | 555  | 520  | 486  | <b>730</b>                    | 4.6  | 6.9  | 9.2  | 11.6 | 14.0 | 20.0 | 26.0  | 32.0                        |
|                     |  | 921                           | 901  | 886  | 864  | 849          | 801  | 760  | 720  | <b>1000</b>                   | 7.4  | 9.3  | 13.7 | 15.9 | 20.3 | 27.2 | 35.4  | 43.6                        |
|                     |  | 1160                          | 1140 | 1121 | 1103 | 1084         | 1041 | 1000 | 961  | <b>1250</b>                   | 8.5  | 12.6 | 16.8 | 20.7 | 24.9 | 35.1 | 45.3  | 55.6                        |
|                     |  | 1389                          | 1371 | 1351 | 1335 | 1316         | 1270 | 1229 | -    | <b>1500</b>                   | 10.3 | 15.1 | 20.0 | 24.8 | 29.8 | 42.0 | 54.2  | -                           |
|                     |  | Speed n = 1450 1/min          |      |      |      |              |      |      |      |                               |      |      |      |      |      |      |       | Power consumption<br>P [kW] |
|                     |  | Pressure p <sub>b</sub> [bar] |      |      |      | Nominal size |      |      |      | Pressure p <sub>b</sub> [bar] |      |      |      |      |      |      |       |                             |
| Discharge Q [l/min] |  | 2                             | 4    | 6    | 8    | 10           | 15   | 20   | 25   | 2                             | 4    | 6    | 8    | 10   | 15   | 20   | 25    |                             |
|                     |  | 1029                          | 1012 | 995  | 980  | 966          | 930  | 896  | 862  | <b>730</b>                    | 10.4 | 14.0 | 17.6 | 21.2 | 24.8 | 34.0 | 43.1  | 52.5                        |
|                     |  | 1413                          | 1399 | 1383 | 1367 | 1351         | 1314 | 1273 | 1236 | <b>1000</b>                   | 14.6 | 19.5 | 24.5 | 29.5 | 34.6 | 47.9 | 59.5  | 71.8                        |
|                     |  | 1783                          | 1765 | 1750 | 1735 | 1720         | 1682 | 1644 | 1609 | <b>1250</b>                   | 21.1 | 26.9 | 33.2 | 39.7 | 45.8 | 61.3 | 77.2  | 92.3                        |
|                     |  | 2130                          | 2116 | 2101 | 2087 | 2072         | 2034 | 1998 | -    | <b>1500</b>                   | 24.3 | 31.6 | 39.3 | 46.9 | 54.2 | 73.0 | 91.7  | -                           |
|                     |  | Speed n = 1150 1/min          |      |      |      |              |      |      |      |                               |      |      |      |      |      |      |       | Power consumption<br>P [kW] |
|                     |  | Pressure p <sub>b</sub> [bar] |      |      |      | Nominal size |      |      |      | Pressure p <sub>b</sub> [bar] |      |      |      |      |      |      |       |                             |
| Discharge Q [l/min] |  | 2                             | 4    | 6    | 8    | 10           | 15   | 20   | 25   | 2                             | 4    | 6    | 8    | 10   | 15   | 20   | 25    |                             |
|                     |  | 810                           | 791  | 774  | 758  | 743          | 705  | 669  | 636  | <b>730</b>                    | 6.4  | 9.3  | 12.2 | 15.0 | 17.9 | 25.2 | 32.5  | 39.7                        |
|                     |  | 1119                          | 1100 | 1084 | 1064 | 1047         | 1005 | 969  | 925  | <b>1000</b>                   | 8.8  | 12.7 | 17.4 | 20.6 | 24.6 | 34.3 | 45.2  | 54.3                        |
|                     |  | 1411                          | 1393 | 1376 | 1358 | 1342         | 1300 | 1259 | 1223 | <b>1250</b>                   | 12.7 | 17.6 | 22.4 | 27.6 | 32.3 | 44.8 | 57.2  | 69.4                        |
|                     |  | 1682                          | 1666 | 1651 | 1634 | 1616         | 1575 | 1534 | -    | <b>1500</b>                   | 15.4 | 20.5 | 26.5 | 32.6 | 38.4 | 53.2 | 68.4  | -                           |
|                     |  | Speed n = 1750 1/min          |      |      |      |              |      |      |      |                               |      |      |      |      |      |      |       | Power consumption<br>P [kW] |
|                     |  | Pressure p <sub>b</sub> [bar] |      |      |      | Nominal size |      |      |      | Pressure p <sub>b</sub> [bar] |      |      |      |      |      |      |       |                             |
| Discharge Q [l/min] |  | 2                             | 4    | 6    | 8    | 10           | 15   | 20   | 25   | 2                             | 4    | 6    | 8    | 10   | 15   | 20   | 25    |                             |
|                     |  | 1247                          | 1230 | 1214 | 1200 | 1187         | 1152 | 1120 | 1087 | <b>730</b>                    | 15.9 | 20.1 | 24.4 | 28.8 | 33.0 | 44.1 | 55.0  | 66.3                        |
|                     |  | 1711                          | 1697 | 1682 | 1667 | 1653         | 1620 | 1582 | 1547 | <b>1000</b>                   | 22.3 | 28.2 | 34.2 | 40.1 | 46.3 | 62.4 | 76.1  | 91.2                        |
|                     |  | 2150                          | 2135 | 2124 | 2111 | 2097         | 2062 | 2029 | 1995 | <b>1250</b>                   | 31.4 | 38.8 | 46.4 | 53.9 | 61.8 | 80.9 | 99.3  | 117.9                       |
|                     |  | 2568                          | 2556 | 2543 | 2531 | 2519         | 2488 | 2457 | -    | <b>1500</b>                   | 37.4 | 46.4 | 55.1 | 64.0 | 73.5 | 96.6 | 117.4 | -                           |

Notes:

- The ratings refer to a mineral oil with a viscosity of 34 mm<sup>2</sup>/s.
- Margin of error for the flow Q + 2.5% ... -5% of the tabular value.
- For viscosity < 30 mm<sup>2</sup>/s take a reduction of the rated flow Q into account.
- The output of the drive motor should be selected 20% higher than tabular value P.
- For viscosity > 100 mm<sup>2</sup>/s, an increase in the required power is necessary, in this case proceed as per description on page 11.
- -3% of discharge flow for the noise-optimized version.

**Calculation of input power**

**Calculation**

$P_{1Pu} = P_{tab} \frac{n}{1450} + f_v \cdot Q$   
 $P_{1Pu}$  = pump power consumption [kW]  
 $P_{tab}$  = power consumption per table [kW] bei 1450 1/min  
 $n$  = speed (1/min)  
     dependent on viscosity!  
     (see speed recommendation)  
 $f_v$  = viscosity factor  $\left[ \frac{kW}{l/min} \right]$   
     (see diagram)  
 $Q = \text{discharge flow [l/min] with } Q = \frac{V_g \cdot n}{1000}$   
 $V_g$  = geometrical displacement [cm<sup>3</sup>/r]

**Conversion factors**

$1 \text{ bar} \triangleq 14.5 \frac{lb}{in^2} = 14.5 \text{ psi}$   
 $1 \frac{l}{min} \triangleq 0.220 \frac{gal}{min} = [U.K.]$

**Example: Pump type KF 1500**

Viscosity  $v = 3000 \text{ mm}^2/s$   
 Working pressure  $p = 10 \text{ bar}$   
 at  $P_{tab} = 54.2 \text{ kW}$   
 $n = 500 \text{ 1/min}$   
 $f_v = 0.017 \frac{kW}{l/min}$   
 $Q = \frac{1473 \cdot 500}{1000} = 736.5 \text{ l/min}$   
 becomes  
 $P_{1Pu} = \left( 54.2 \cdot \frac{500}{1450} + 0.017 \cdot 736.5 \right) \text{ kW}$   
 $P_{1Pu} = 31.2 \text{ kW}$   
 Motorpower output:  $P_{2Mot} = 1.2 \cdot P_{1Pu} = 37.5 \text{ kW}$   
 Select helical geared motor with  $P = 38 \text{ kW}$   
 $n = 500 \text{ 1/min}$

$1 \frac{l}{min} \triangleq 0.264 \frac{gal}{min} = [US]$

**Input Power**

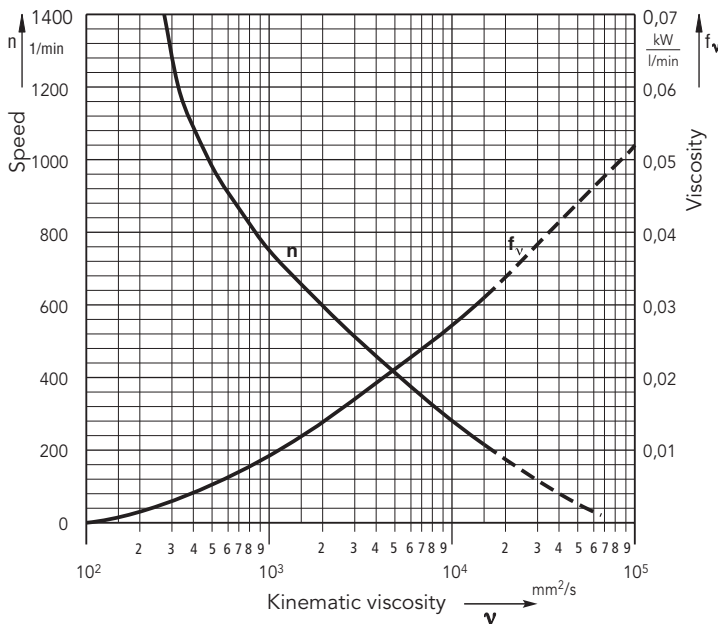
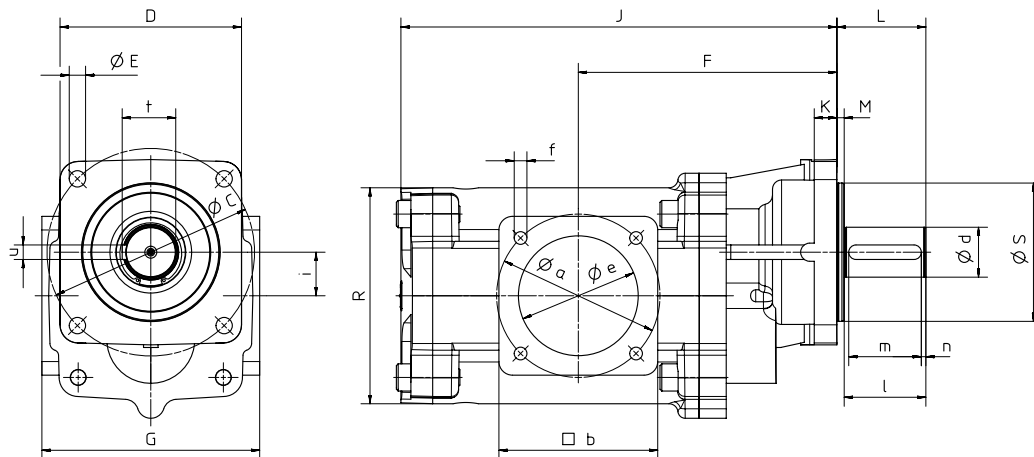


Diagramm:  $n \cdot f_v = f(v)$

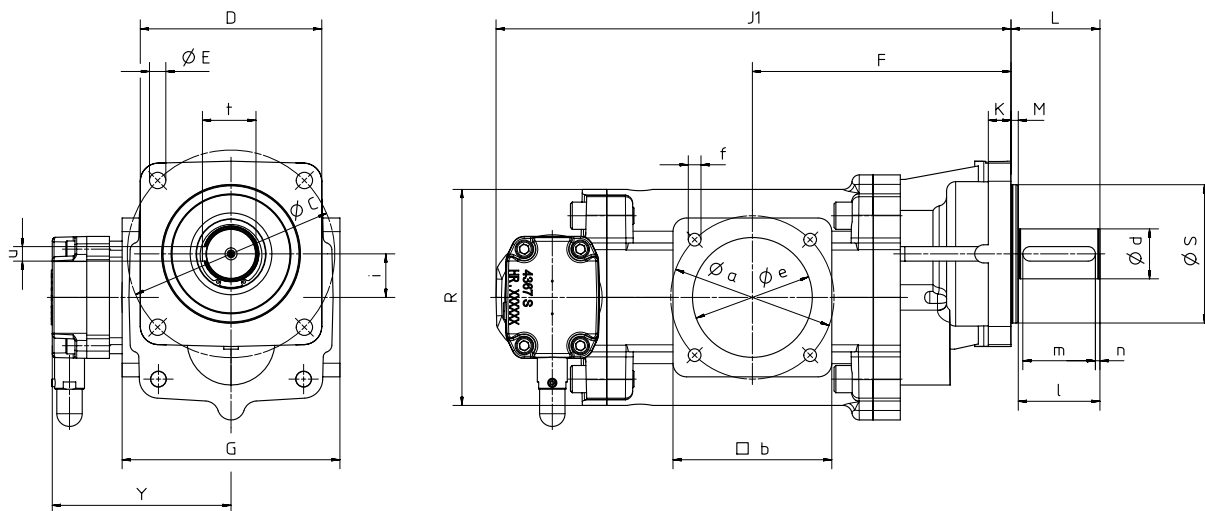
**Note:**

To determine the power consumption always take the max. working viscosity at starting state into consideration. The power of the drive motor should be selected 20% higher than the value determined.

Flange-Mounting Version

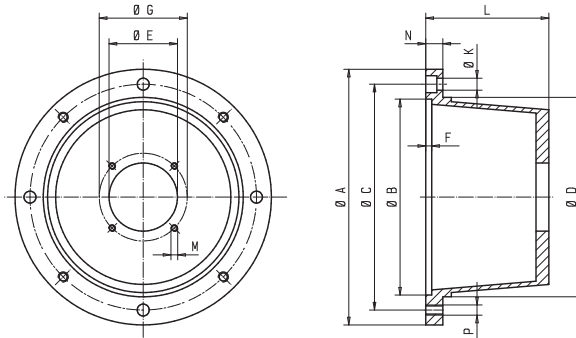


with Pressure valve



| Nominal size | DN  | Dimensions [mm]                 |     |     |                |           |     |    |     |     |       |                |    |    |   |     |                 |           |     |                 |    | Weight [kg] |      |    |    |     |       |
|--------------|-----|---------------------------------|-----|-----|----------------|-----------|-----|----|-----|-----|-------|----------------|----|----|---|-----|-----------------|-----------|-----|-----------------|----|-------------|------|----|----|-----|-------|
|              |     | Suction and pressure connection |     |     |                | Gear Pump |     |    |     |     |       |                |    |    |   |     |                 | Shaft end |     |                 |    | without     | with |    |    |     |       |
|              |     | a                               | b   | e   | f              | C         | D   | E  | F   | G   | J     | J <sub>1</sub> | K  | L  | M | R   | S <sub>h8</sub> | i         | Y   | d <sub>j6</sub> | l  |             |      | m  | n  | t   | u     |
| 730          | 132 | 180                             | 175 | 132 | M16<br>30 deep | 228.7     | 200 | 18 | 285 | 240 | 415   | 502            | 25 | 98 | 8 | 238 | 152.4           | 48        | 197 | 55              | 90 | 80          | 5    | 59 | 16 | 90  | 99.5  |
| 1000         |     | 330                             | 270 | 559 |                |           |     |    | 646 | 102 | 111.5 |                |    |    |   |     |                 |           |     |                 |    |             |      |    |    |     |       |
| 1250         | 160 | 210                             | 205 | 160 | M16<br>30 deep | 228.7     | 200 | 18 | 330 | 270 | 559   | 646            | 25 | 98 | 8 | 238 | 152.4           | 48        | 197 | 55              | 90 | 80          | 5    | 59 | 16 | 124 | 133.5 |
| 1500         |     | 330                             | 270 | 559 |                |           |     |    | 646 | 125 | 134.5 |                |    |    |   |     |                 |           |     |                 |    |             |      |    |    |     |       |

Accessory Bell Housing and Coupling

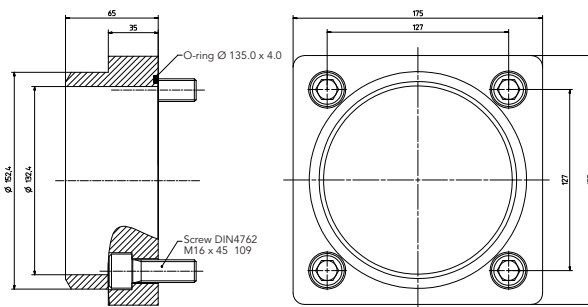


|               | Motor size         | Bell housing        | Coupling               | Dimensions bell housing [mm] |     |     |     |       |     |       |      |      |    |      | Weight [kg] |      |
|---------------|--------------------|---------------------|------------------------|------------------------------|-----|-----|-----|-------|-----|-------|------|------|----|------|-------------|------|
|               |                    |                     |                        | A                            | B   | C   | D   | E     | F   | G     | K    | L    | M  | N    |             | P    |
| KF 730...1500 | 160                | PT 350-A-152,4-256  | RG 42/55-Z50/55-Z75/42 | 350                          | 250 | 300 | 260 | 152,4 | 7   | 228,6 | 18   | M 16 | 26 | M 16 | 4,5         |      |
|               | 180                | PT 350-A-152,4-256  | RG 42/55-Z50/55-Z75/48 | 350                          | 250 | 300 | 260 |       |     |       |      |      |    |      | 256         | 4,5  |
|               | 200                | PT 400-A-152,4-228  | RG 42/55-Z50/55-Z50/55 | 400                          | 300 | 350 | 300 |       |     |       |      |      |    |      | 228         | 5    |
|               | 225                | PT 450-A-152,4-262  | RG 48/62-Z56/55-Z56/60 | 450                          | 400 | 450 | 350 |       |     |       |      |      |    |      | 262         | 7    |
|               | 250                | PT 550-A-152,4-265  | RG 55/74-Z65/55-Z65/65 | 550                          | 450 | 500 | 450 |       |     |       |      |      |    |      | 265         | 11,5 |
|               | 280                | PT 550-A-152,4-275  | RG 65-Z75/55-Z75/75    | 550                          | 450 | 500 | 450 |       |     |       |      |      |    |      | 275         | 13   |
| 315           | PT 660-A-152,4-310 | RG 75-Z85/55-Z85/80 | 660                    | 550                          | 600 | 550 | 8   | 22    | 310 | 32    | M 20 | 18,5 |    |      |             |      |

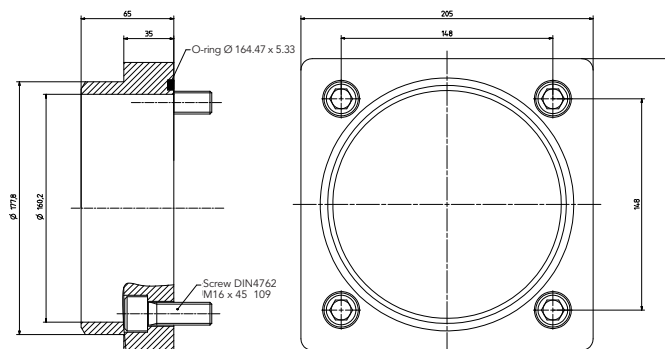
Hub material RG = Grey cast iron

Accessory Connections

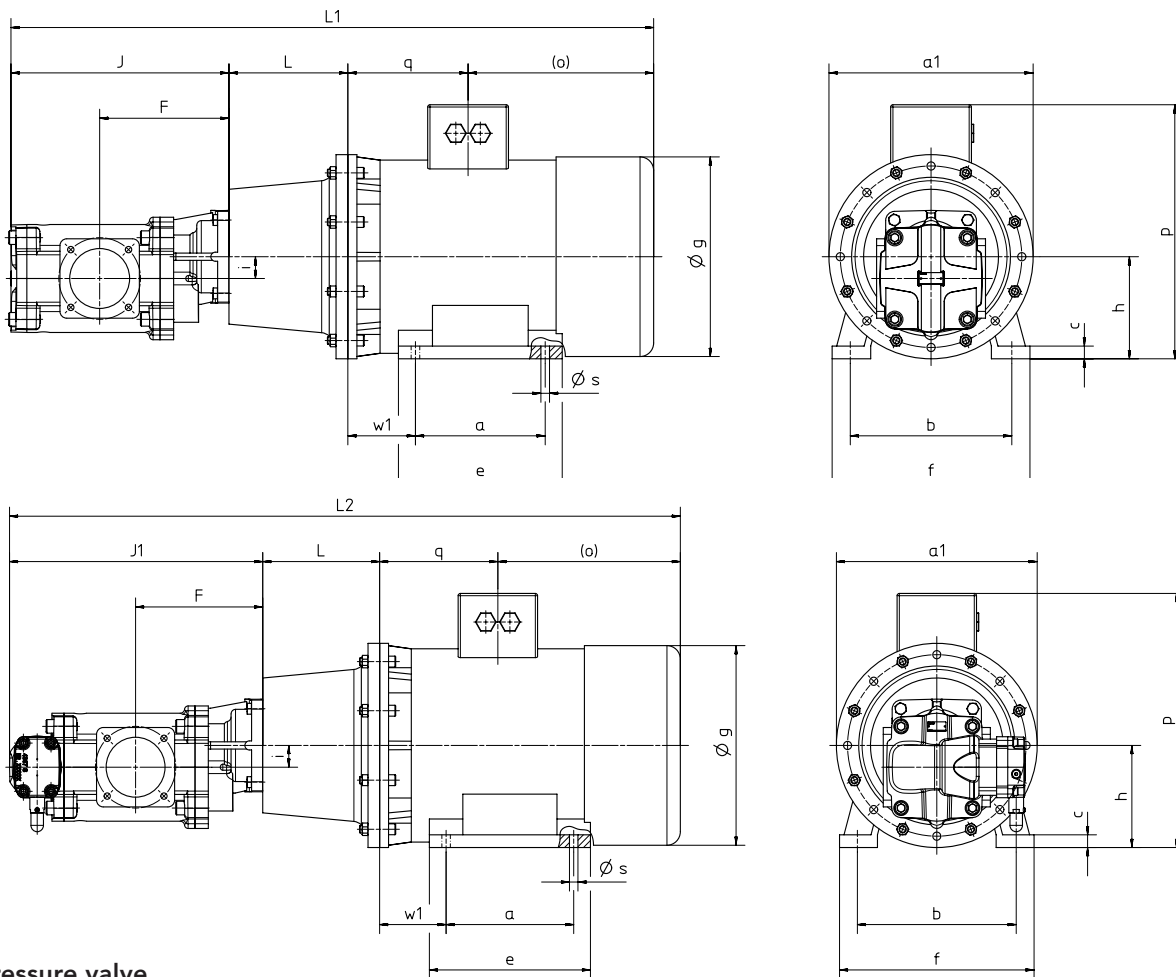
KF730... 1000



KF1250... 1500



**Motor-Pump Assemblies**



with Pressure valve

**Pump sizes [mm]**

| Nominal size | F   | J   | J <sub>1</sub> | I  |
|--------------|-----|-----|----------------|----|
| 730          | 285 | 415 | 502            | 48 |
| 1000         |     | 481 | 568            |    |
| 1250         | 330 | 559 | 646            |    |
| 1500         |     |     |                |    |

**Motor-Pump Assemblies**

| Size | Motor      |               |            |               | Bell housing       | Coupling               | Total weight <sup>(1)</sup><br>[kg] |         |         |         |
|------|------------|---------------|------------|---------------|--------------------|------------------------|-------------------------------------|---------|---------|---------|
|      | 6 pole     |               | 4 pole     |               |                    |                        | KF 730                              | KF 1000 | KF 1250 | KF 1500 |
|      | power [kW] | speed [1/min] | power [kW] | speed [1/min] |                    |                        |                                     |         |         |         |
| 160M | 7.5        | 955           | 11.0       | 1440          | PT 350-A-152.4-256 | RG 42/55-Z50/55-Z75/42 | 260.8                               | 272.8   | 294.8   | 295.8   |
| 160L | 11.0       | 960           | 15.0       | 1440          |                    | RG 42/55-Z50/55-Z75/48 | 266.4                               | 278.4   | 300.4   | 301.4   |
| 180M | -          |               | 18.5       | 1445          |                    | RG 42/55-Z50/55-Z75/48 | 286.9                               | 298.9   | 320.9   | 321.9   |
| 180L | 15.0       | 960           | 22.0       | 1460          |                    | RG 42/55-Z50/55-Z75/48 | 311.5                               | 323.5   | 345.5   | 346.5   |
| 200M | 18.5       | 965           | 30.0       | 1460          | PT 400-A-152.4-228 | RG 42/55-Z50/55-Z50/55 | 385.9                               | 397.9   | 419.9   | 420.9   |
| 200L | 22.0       | 965           | -          | -             |                    | RG 42/55-Z50/55-Z50/55 | 415.4                               | 427.4   | 449.4   | 450.4   |
| 225S | -          | -             | 37.0       | 1470          | PT 450-A-152.4-262 | RG 48/62-Z56/55-Z56/60 | 460.3                               | 472.3   | 494.3   | 495.3   |
| 225M | 30.0       | 975           | 45.0       | 1480          |                    | RG 48/62-Z56/55-Z56/60 | 517.4                               | 529.4   | 551.4   | 552.4   |
| 250M | 37.0       | 975           | 55.0       | 1480          | PT 550-A-152.4-265 | RG 55/74-Z65/55-Z65/65 | 613.5                               | 625.5   | 647.5   | 648.5   |
| 280S | 45.0       | 980           | 75.0       | 1480          | PT 550-A-152.4-275 | RG 65-Z75/55-Z75/75    | 809.0                               | 821.0   | 843.0   | 844.0   |
| 280M | 55.0       | 980           | 90.0       | 1480          |                    | RG 65-Z75/55-Z75/75    | 865.0                               | 877.0   | 899.0   | 900.0   |
| 315S | 75.0       | 980           | 110.0      | 1480          |                    | RG 65-Z75/55-Z75/75    | 1212.7                              | 1224.7  | 1246.7  | 1247.7  |
| 315M | 90.0       | 980           | 132.0      | 1480          | PT 660-A-152.4-310 | RG 75-Z85/55-Z85/80    | -                                   | 1359.1  | 1381.1  | 1382.1  |
| 315L | 110.0      | 980           | 160.0      | 1480          |                    | RG 75-Z85/55-Z85/80    | -                                   | 1448.7  | 1470.7  | 1471.7  |

<sup>(1)</sup> Pump, motor, bell housing and coupling

**Dimensions [mm]**

| Size   | Dimensions <sup>(1)</sup> |                |                |                |     |                |     |     |    |     |     |     |     |       |     |       |    |                |
|--------|---------------------------|----------------|----------------|----------------|-----|----------------|-----|-----|----|-----|-----|-----|-----|-------|-----|-------|----|----------------|
|        | 730                       | 1000           | 1250           | 1500           | L   | a <sub>1</sub> | a   | b   | c  | e   | f   | g   | h   | o     | p   | q     | s  | w <sub>1</sub> |
|        | L <sub>1</sub>            | L <sub>1</sub> | L <sub>1</sub> | L <sub>1</sub> |     |                |     |     |    |     |     |     |     |       |     |       |    |                |
| 160M   | 1166                      | 1232           | 1310           | 1310           | 256 | 350            | 210 | 254 | 17 | 332 | 315 | 325 | 160 | 323   | 410 | 172   | 15 | 108            |
| 160L   | 1211                      | 1277           | 1355           | 1355           | 256 | 350            | 254 | 254 | 17 | 332 | 315 | 325 | 160 | 368   | 410 | 172   | 15 | 108            |
| 180M   | 1248                      | 1314           | 1392           | 1392           | 256 | 350            | 241 | 279 | 27 | 320 | 350 | 360 | 180 | 336   | 450 | 241   | 15 | 121            |
| 180L   | 1286                      | 1352           | 1430           | 1430           | 256 | 350            | 279 | 279 | 27 | 320 | 350 | 360 | 180 | 354   | 450 | 261   | 15 | 121            |
| 200M/L | 1301                      | 1367           | 1445           | 1445           | 228 | 400            | 305 | 318 | 25 | 358 | 388 | 399 | 200 | 373   | 500 | 285   | 19 | 133            |
| 225S   | 1351                      | 1417           | 1495           | 1495           | 262 | 450            | 286 | 356 | 28 | 341 | 436 | 465 | 225 | 391   | 560 | 283   | 19 | 149            |
| 225M   | 1376                      | 1442           | 1520           | 1520           | 262 | 450            | 311 | 356 | 28 | 386 | 436 | 465 | 225 | 404   | 560 | 295   | 19 | 149            |
| 250M   | 1458                      | 1524           | 1602           | 1602           | 265 | 550            | 349 | 406 | 30 | 443 | 484 | 506 | 250 | 436   | 616 | 342   | 24 | 168            |
| 280S   | 1534                      | 1600           | 1678           | 1678           | 275 | 550            | 368 | 457 | 34 | 459 | 557 | 559 | 280 | 470   | 673 | 374   | 24 | 190            |
| 280M   | 1585                      | 1651           | 1729           | 1729           | 275 | 550            | 419 | 457 | 34 | 510 | 557 | 559 | 280 | 495,5 | 690 | 399,5 | 24 | 190            |
| 315S   | 1940                      | 2006           | 2084           | 2084           | 310 | 660            | 508 | 508 | 45 | 672 | 628 | 682 | 315 | 870   | 825 | 345   | 28 | 216            |
| 315M/L | 1790                      | 1856           | 1934           | 1934           | 310 | 660            | 406 | 508 | 45 | 590 | 628 | 682 | 315 | 720   | 825 | 345   | 28 | 216            |

Note

<sup>(1)</sup> Dimensions dependent on motor typ

(drawing: manufacture ADDA).

Other manufactures motors can be supplied on request.

Motor frame sizes are based on DIN 42673/677.

All pump and motor sizes can be combined.

# Product Portfolio

## Gear Pumps

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

## Hydraulics

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

## Flow Measurement

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

## Valves

Cetop directional control and proportional valves, pressure, quantity and stop valves for pipe and slab construction.



KF 730 ... 1500 /GB/08.18

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