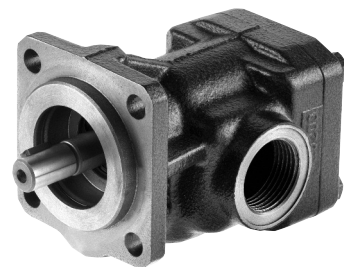


KRACHT



Transfer Gear Pumps

KF 2.5...200

Contents

Technical Data

	Page
Applications / Suitable fluids	4
Construction	5
Variants / Direction of rotation	6
ATEX version	6
Materials / Characteristics	7
Shaft end seals / Variants Shaft End Seals	8 – 9
Version noise optimized for medias with increased air content	10
Type key	11
Technical data	12
Discharge flow / Input power	13 – 14

Dimension Sheets

Flange-mounting version with pipe thread	Nominal size 2.5 – 25 ...	15
Flange-mounting version with SAE-connection	Nominal size 2.5 – 200 ..	16
Pump with mounting angle, pipe thread	Nominal size 2.5 – 25 ...	17
Pump with mounting angle, SAE 1 ½-connection	Nominal size 32 – 80 ...	17
Flange-mounting version with universal arrangement	Nominal size 2.5 – 25 ...	18
Flange-mounting version with universal arrangement	Nominal size 32 – 80 ...	19
Flange-mounting version with universal arrangement U2	Nominal size 32 – 80 ...	19
Flange-mounting version with universal arrangement U2	Nominal size 100/112 ..	21
Couplings		22
Bell housing	Nominal size 2.5 – 200 ..	23
Motor-pump assemblies with pipe thread	Nominal size 2.5 – 25 ...	24 – 25
Motor-pump assemblies with SAE-connection	Nominal size 32 – 80 ...	26 – 27
Motor-pump assemblies with SAE-connection	Nominal size 100...200 ...	28 – 29
Threaded flange / Welding flange / Accessory liquid seal		30 – 31

Applications, Suitable Fluids

Applications

Centrifuge construction,
Coating machines, Compressors

Engine construction

Filling stations, Filter systems

Generator construction

Heat transfer systems, Heavy electrical machines

Lubricant manufacturers, Lubricating oil systems

Machine-building industry, Machine tools,
Manufacture of apparatus,
Marine engine construction,
Metal-forming machines, Metering systems

Paint industry, Plain metal bearing production,
Printing machines, PUR machinery

Refrigerators, Rubber and tire manufacturing

Tank plant construction,
Transmission building
Turbine construction

Vacuum machinery

Waste oil - disposal
- transport
- treatment

Suitable fluids

Adhesives, Antifreeze

Bore oils

Cutting oils

Diesel oils, Drawing compound

Emulsions

Fuel oils, L, EL, H

Gear oils, Grease

Hardening oils, Heat transfer media,
Heavy oils, Hydraulic fluids

Isocyanate

Lubricating oils, Lacquers

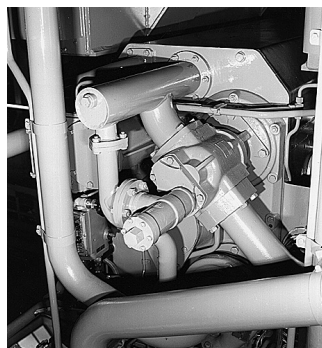
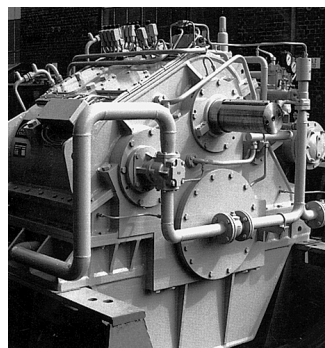
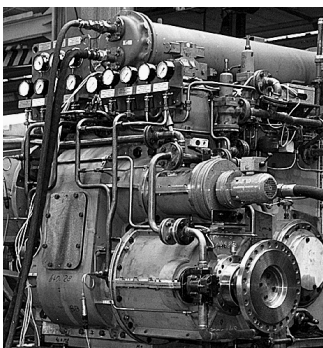
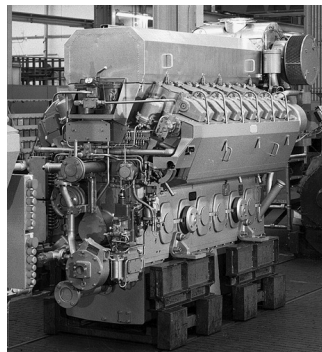
Motor oils

Paint, Paraffins, Plastics, Polyols

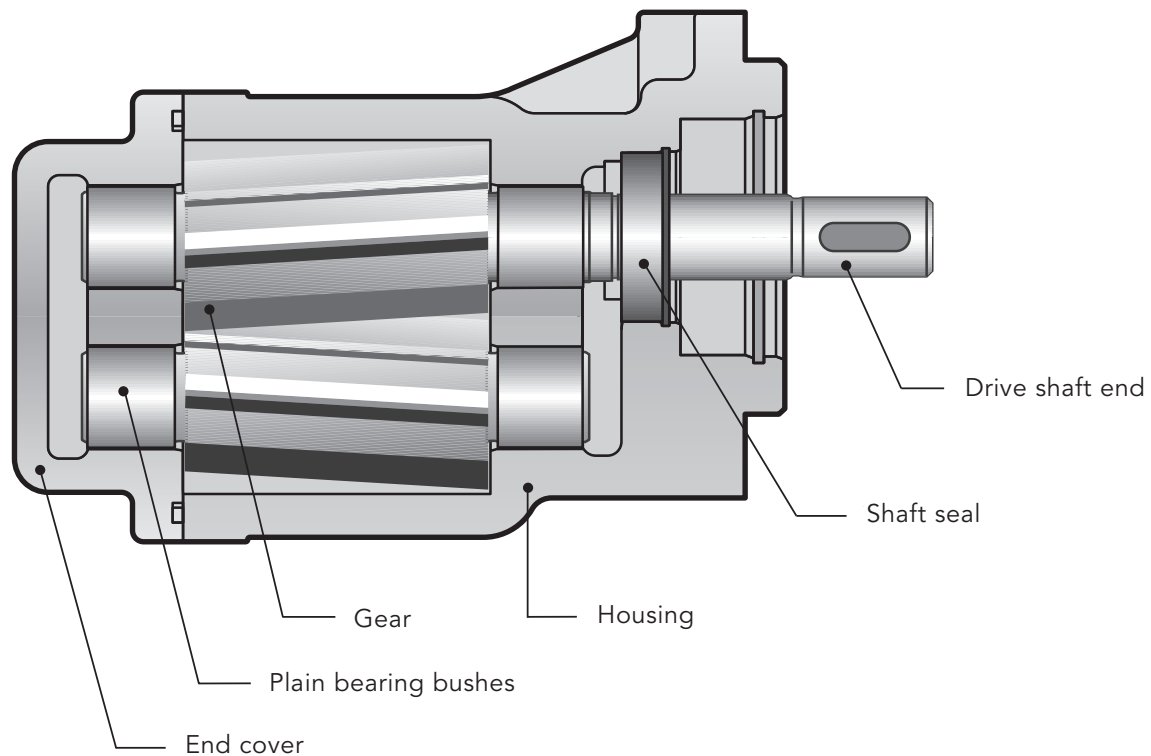
Printing inks, Processing oils

Resins, Rolling oils

Waste oils, Waxes



Construction



Product Features

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

Transfer 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 pumps are also suitable for media with low lubricating properties.

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 rotary shaft 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 or on the pump.
- The pressure relief valve attached to the pump may only be used as safety valve for short-term operation.
- A separate pressure relief valve with return line to the reservoir must be foreseen, if a partial discharge flow has to be drained over a prolonged period.

Variants

- Sealing of the drive shaft:
 - Rotary shaft lip-type seal
 - Double rotary shaft lip-type seal (Quench)
 - Mechanical seal
- Outboard bearing to take up input drive-side radial load
- Pressure relief valve for pump and system
- Uniform discharge flow direction with changing direction of rotation by means of flange-mounting valve combination (universal device).

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.

Accessories

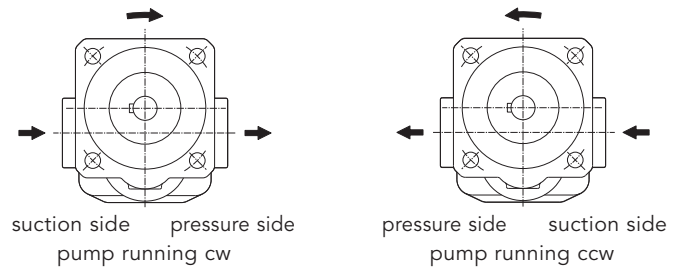
- Connecting flanges
- Couplings
- Bell housing
- Quench tank
- Attenuation elements

Direction of Rotation

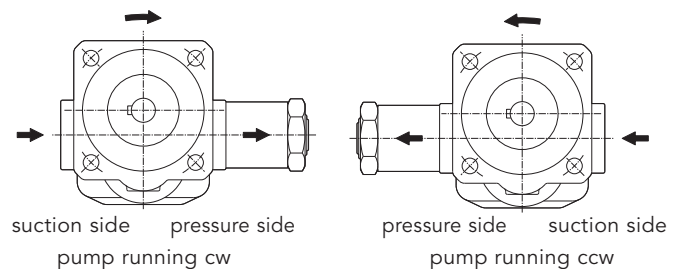
The following should be note for direction of rotation:

- 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



With universal device

Direction of rotation right and left

Direction of rotation consistent, see dimension sheets page 18 to 21.

ATEX-Version

	KF 2,5...112 with lip-type seal	KF 2,5...112 with double lip-type seal
In Ex-area max. suitable for category	EX II 2G T4 EX II 2D T135 °C	EX II 2G T4
Perm. working pressure inlet port in bar	-0.4 ... +0.5	-0.4 ... +0.5
Perm. working pressure outlet port in bar	25	25
Perm. viscosity in mm ² /s	12 ... 20 000	12 ... 20 000
Max. speed in 1/min (viscosity dependent))	3 000	3 000
Perm. mounting position	Horizontal or shaft end toward bottom	Horizontal quencher up
Perm. media temperatures in °C	-10 ... +80	-10 ... +80
Perm. ambient temperatures in °C	-20 ... +60	-20 ... +60
Comments	Vertical mounting with shaft end up on request. In executing with outboard bearing max. speed 1500 1/min. In dust Ex-area, permissible only with non-conductive dusts. Dust-proof capsuling of pump shaft and coupling required.	Not suitable for dust-Ex. Execution with quench feed and quencher.

Additional products available on request.

Materials

Housing and cover	EN-GJL-250 (GG 25) EN-GJS-400-15 (GGG 40) on request
Gear	Steel 1.7139
Plain bearing bushes	DU (multi-layer friction-type bearings P 10, DP 4) Bearings free of nonferrous metal on request
Shaft end seals	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

Nominal sizes 2.5...200 cm ³	$V_g =$	2.5 / 4 / 5 / 6 / 8 / 10 / 12 / 16 / 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100 / 112 / 125 / 150 / 180 / 200
Mounting position		KF... R/L/B ... without Quench optional KF... R/L/B ... with Quench horizontal, Quench connection above KF... U ... horizontal, Pressure connection above KF... U2...optional
Direction of rotation		right or left right and left
Fixing type		flange (DIN ISO 3019)
Pipe connection	KF 2.5...25 KF 32...200	Whitworth pipe thread, SAE flange SAE flange
Drive shaft end		ISO R 775 short-cylindrical
Working pressure suction side		see chart page 8
Working pressure pressure side	P_n	25 bar (higher pressures on request)
Speed	KF 2.5...200	200 ... 3 000 1/min
Viscosity (dependent on pressure and rotational speed)	mm ² /s	12 ... 20 000 6 ... 20 000 (GJS-version)
Fluid temperature		see chart page 8
Ambient temperature	$V_u =$	-20 °C ... 60 °C (-4 °F ... 140 °F) -40 °C... 60 °C Sealing type 23 (KF 2,5...80) -40 °C... 60 °C Sealing type 31 (KF 32...112)

Shaft End Seals

	Sealing material	Pressure suction side* bar	Fluid temperature	
			°C	°F
Pump with single rotary shaft lip	NBR	-0.4...1.0	-10...90	14...194
	FKM max. 750 1/min	-0.4...6.0	-10...150	14...302
	max. 1000 1/min	-0.4...5.0		
	max. 1500 1/min	-0.4...4.0		
	max. 2000 1/min	-0.4...3.0		
	max. 3000 1/min	-0.4...2.0		
FKM (low temperature)	-0.4...0.5	-30**...150	-22**...302	
	EPDM	-0.4...0.5	-10...120	14...248
	PTFE	-0.4...2.0	-10...200	14...392
Pump with outboard bearing and single rotary shaft lip	NBR	-0.4...1.0	-10...90	14...194
	FKM max. 750 1/min	-0.4...6.0	-10...150	14...302
	max. 1000 1/min	-0.4...5.0		
	max. 1500 1/min	-0.4...4.0		
	max. 2000 1/min	-0.4...3.0		
	max. 3000 1/min	-0.4...2.0		
	PTFE	-0.4...2.0	-10...200	14...392
Pump with double rotary shaft seal with connection borehole for liquid seal (quench)	NBR	-0.4...1.0	-10...90	14...194
	FKM max. 750 1/min	-0.4...6.0	-10...150	14...302
	max. 1000 1/min	-0.4...5.0		
	max. 1500 1/min	-0.4...4.0		
	max. 2000 1/min	-0.4...3.0		
	max. 3000 1/min	-0.4...2.0		
	PTFE	-0.4...2.0	-10...200	14...392
Pump with double rotary shaft seal for vacuum operation with connection borehole for liquid seal (quench)	NBR	-0.9...0.2	-10...90	14...194
	FKM	-0.9...0.2	-10...150	14...302
	PTFE	-0.9...0.2	-10...200	14...392
Pump with triple rotary shaft seal for vacuum and normal operation with connection borehole for liquid seal (quench)	NBR	-0.9...1.0	-10...90	14...194
	FKM max. 750 1/min	-0.9...6.0	-10...150	14...302
	max. 1000 1/min	-0.9...5.0		
	max. 1500 1/min	-0.9...4.0		
	max. 2000 1/min	-0.9...3.0		
	max. 3000 1/min	-0.9...2.0		
Pump with mechanical seal	FKM	-0.4...10.0	-10...150	14...302
	PTFE	-0.4...10.0	-10...200	14...392
	EPDM	-0.4...10.0	-10...120	14...248
Pump with mechanical seal and connection borehole for liquid seal (quench)	FKM	-0.4...10.0	-10...150	14...302

Speed: 200–3000 1/min

The indicated maximum values are dependent upon the remaining working conditions.

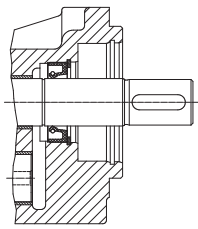
In case of universal devices, pay attention to limitation of $P_{e \text{ min}}$.

Other sealing materials on request.

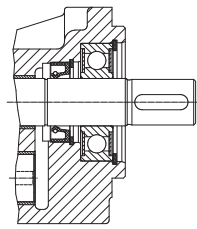
* short term during start-up status: -0.6 bar

** only in connection with housing and cover material EN-GJS-400 (GGG 40)

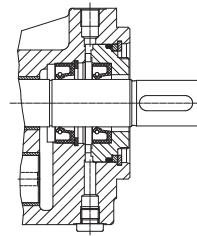
Variants Shaft End Seals



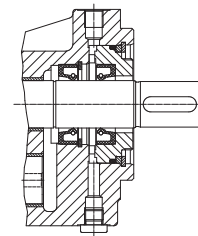
Pump with single rotary shaft lip
 Fixing type: F/W
 Sealing materials:
 NBR = sealing type 1
 FKM = sealing type 2
 PTFE = sealing type 3
 EPDM = sealing type 9
 FKM low temperature = sealing type 23/31



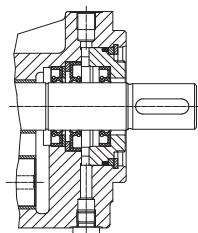
Pump with outboard bearing and single rotary shaft lip
 Fixing type: G/X
 Sealing materials:
 NBR = sealing type 1
 FKM = sealing type 2
 PTFE = sealing type 3



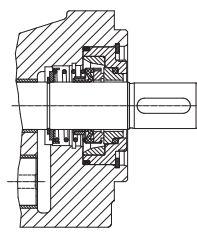
Pump with double rotary shaft seal with connection borehole for liquid seal (quench)
 Fixing type: F/W
 Sealing materials:
 NBR = sealing type 19
 FKM = sealing type 7
 PTFE = sealing type 4
 EPDM = sealing type 32



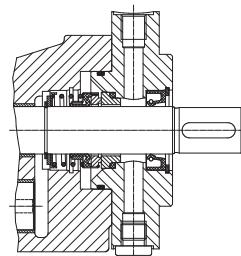
Pump with double rotary shaft seal for vacuum operation with connection borehole for liquid seal (quench)
 Fixing type: F/W
 Sealing materials:
 NBR = sealing type 19
 FKM = sealing type 7
 PTFE = sealing type 4
 EPDM = sealing type 32
 Special number: 74



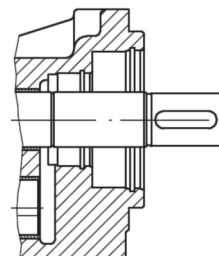
Pump with triple rotary shaft seal for vacuum and normal operation with connection borehole for liquid seal (quench)
 Fixing type: F/W
 Sealing materials:
 NBR = on request
 FKM = on request



Pump with mechanical seal
 Fixing type: F/W
 Sealing materials:
 FKM = sealing type 5
 PTFE = sealing type 6
 EPDM = sealing type 20



Pump with mechanical seal and connection borehole for liquid seal (quench)
 Fixing type: F/W
 Sealing materials:
 FKM = sealing type 5
 Special number: 198



Pump without shaft sealing
 Fixing type: F/W
 Sealing material:
 FKM o-ring = sealing type 30

KF 2.5...200 noise optimized for medias with increased air content

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 transmissions. Special measures prevent the otherwise normally increased noise present in auriferous transmission 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

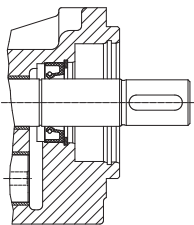
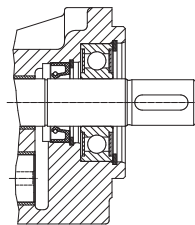


Fig. 2



Pump with
single rotary shaft lip

Fixing type: F/W

Sealing materials:

NBR = sealing type 1

FKM = sealing type 2

Special number: 197

Pump with outboard bearing
and single rotary shaft lip

Fixing type: G/X

Sealing materials:

NBR = sealing type 1

FKM = sealing type 2

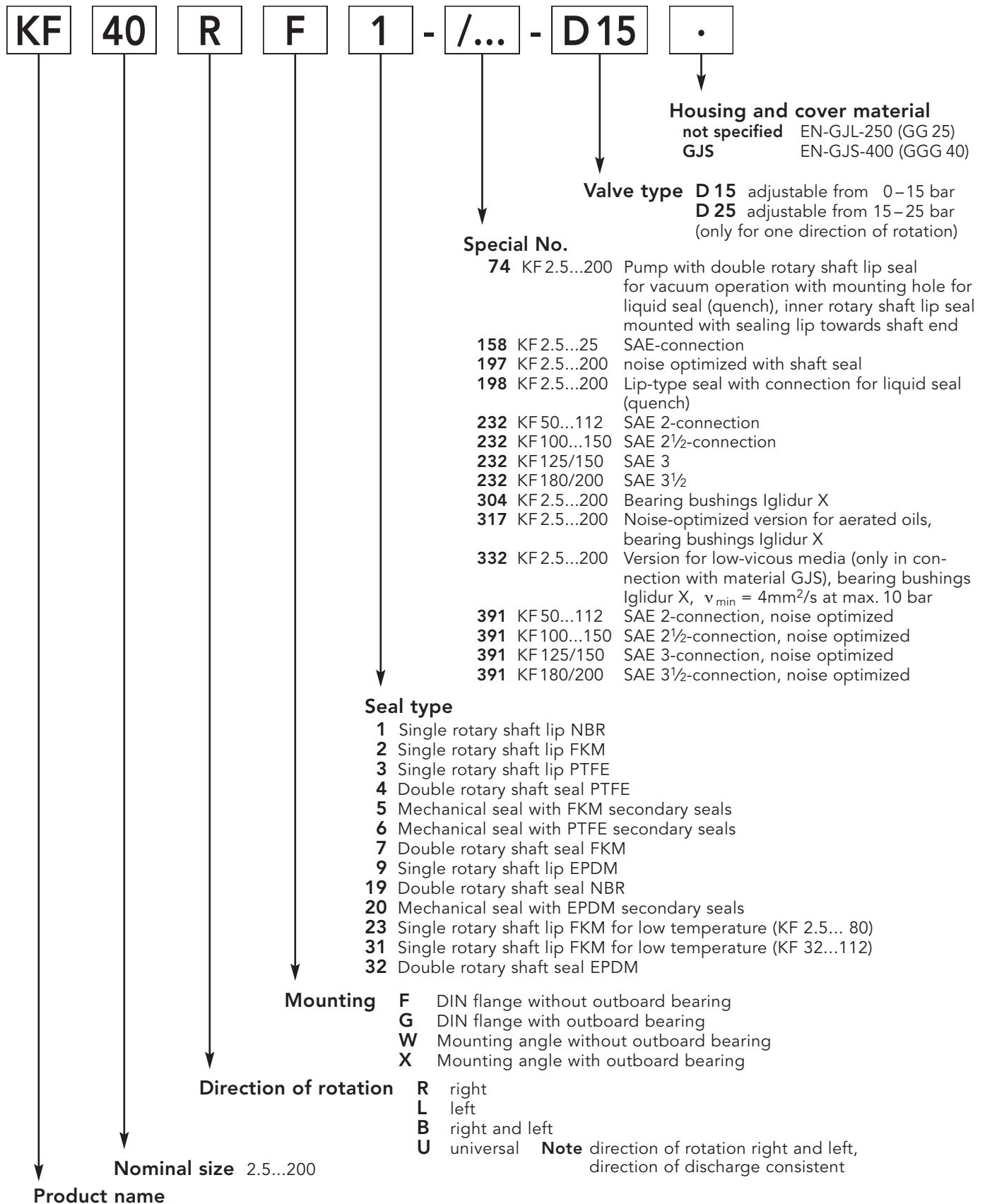
Special number: 197

The noise optimized version is also available in a ductile cast iron version. We can supply these pumps in the ATEX version also.

Note

Dimensions conformable standard pumps

Type Key (Ordering example)



Technical Data

Nominal size	geom. displacement V_g cm ³ /r	Working pressure* p_b bar	Maximum pressure (pressure peaks) p_{max} bar	Speed range		Permissible load** (n = 1500 1/min) F_{radial} N	Sound level dB (A)		
				n_{min} 1/min	n_{max} 1/min		$p = 5$ bar	$p = 15$ bar	$p = 25$ bar
2.5	2.55	25	40	200	3000	700	≤ 65	≤ 66	≤ 67
4	4.03								
5	5.05								
6	6.38								
8	8.05								
10	10.11								
12	12.58								
16	16.09								
20	20.1								
25	25.1								
32	32.12								
40	40.21								
50	50.2								
63	63.18								
80	80.5								
100	101.5								
112	113.5								
125	129.4								
150	155.6								
180	186.6								
200	206.2								
						1500	≤ 67	≤ 68	≤ 68
					2500		≤ 65	≤ 65	≤ 65

Remark

* Working pressure p_b = perm. sustained pressure (higher pressures on request)

** Permissible load only for version with outboard bearing. F_{radial} at centre of shaft end.

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 transmission oil,

Oil viscosity $\nu = 34$ mm²/s,

Speed n = 1500 1/min.

Power Consumption

Speed n = 950 1/min

Discharge Q in l/min	Pressure p _b in bar								Nominal size	Pressure p _b in bar								Power consumption P in KW
	2	4	6	8	10	15	20	25		2	4	6	8	10	15	20	25	
	2.3	2.3	2.2	2.2	2.2	2.1	2.0	1.9		2.5	0.03	0.04	0.05	0.06	0.08	0.09	0.11	
3.7	3.6	3.6	3.5	3.4	3.3	3.1	2.9	4	0.04	0.05	0.07	0.08	0.09	0.13	0.16	0.20		
4.6	4.5	4.5	4.4	4.3	4.1	3.8	3.6	5	0.04	0.06	0.08	0.10	0.11	0.16	0.20	0.25		
5.8	5.7	5.6	5.5	5.4	5.1	4.9	4.6	6	0.05	0.07	0.09	0.12	0.14	0.19	0.25	0.30		
7.3	7.2	7.1	7.0	6.8	6.5	6.2	5.8	8	0.06	0.09	0.11	0.14	0.17	0.24	0.31	0.38		
9.2	9.0	8.9	8.7	8.6	8.2	7.7	7.3	10	0.07	0.10	0.14	0.17	0.21	0.29	0.38	0.47		
11.4	11.3	11.1	10.9	10.7	10.2	9.6	9.1	12	0.08	0.12	0.16	0.21	0.25	0.36	0.47	0.58		
14.6	14.4	14.2	13.9	13.7	13.1	12.4	11.7	16	0.09	0.15	0.20	0.26	0.31	0.45	0.60	0.74		
18.2	18.0	17.7	17.4	17.1	16.3	15.5	14.7	20	0.10	0.18	0.25	0.32	0.39	0.56	0.74	0.92		
22.8	22.4	22.1	21.7	21.3	20.4	19.4	18.3	25	0.12	0.21	0.30	0.39	0.48	0.70	0.92	1.14		
29	29	28	28	27	26	25	23	32	0.2	0.3	0.4	0.5	0.6	0.9	1.2	1.5		
37	36	36	35	34	33	31	29	40	0.2	0.4	0.5	0.6	0.8	1.1	1.5	1.8		
46	45	44	43	43	41	38	36	50	0.3	0.5	0.6	0.8	1.0	1.4	1.9	2.3		
58	57	56	55	54	51	48	45	63	0.4	0.6	0.8	1.0	1.2	1.8	2.4	2.9		
73	72	71	69	68	65	61	58	80	0.4	0.7	1.0	1.3	1.6	2.3	3.0	3.7		
93	92	89	88	87	83	80	77	100	0.6	0.9	1.3	1.8	2.3	3.2	3.9	4.4		
100	99	97	96	94	93	88	83	112	0.8	1.0	1.6	2.2	2.8	3.5	4.5	5.0		
118	113	108	102	97	92	88	84	125	1.6	1.5	1.7	1.8	2.4	3.6	4.9	6.1		
142	138	134	129	124	119	113	107	150	2.1	2.2	2.3	2.5	3.1	4.4	5.8	7.2		
171	167	163	157	151	145	140	133	180	2.6	2.6	2.7	3.0	3.9	5.4	6.9	8.4		
190	186	182	176	171	166	161	154	200	2.9	3.0	3.1	3.5	4.4	6.0	7.7	9.3		

Speed n = 1450 1/min

Discharge Q in l/min	Pressure p _b in bar								Nominal size	Pressure p _b in bar								Power consumption P in KW
	2	4	6	8	10	15	20	25		2	4	6	8	10	15	20	25	
	3.6	3.6	3.5	3.5	3.5	3.4	3.3	3.2		2.5	0.04	0.05	0.08	0.1	0.12	0.14	0.16	
5.7	5.6	5.6	5.5	5.4	5.3	5.1	4.9	4	0.06	0.08	0.10	0.12	0.15	0.20	0.25	0.30		
7.1	7.1	7.0	6.9	6.8	6.6	6.4	6.1	5	0.07	0.10	0.12	0.15	0.18	0.24	0.31	0.38		
9.0	8.9	8.8	8.7	8.6	8.3	8.0	7.8	6	0.08	0.11	0.15	0.18	0.21	0.30	0.38	0.47		
11.3	11.2	11.1	11.0	10.9	10.5	10.2	9.8	8	0.09	0.14	0.18	0.22	0.26	0.37	0.47	0.58		
14.2	14.1	14.0	13.8	13.6	13.2	12.8	12.4	10	0.11	0.16	0.21	0.27	0.32	0.45	0.58	0.72		
17.7	17.6	17.4	17.2	17.0	16.5	15.9	15.4	12	0.12	0.19	0.26	0.32	0.39	0.55	0.72	0.89		
22.6	22.4	22.2	22.0	21.7	21.1	20.5	19.8	16	0.16	0.26	0.37	0.47	0.57	0.82	1.08	1.33		
28.3	28.0	27.7	27.4	27.1	26.4	25.6	24.7	20	0.17	0.28	0.39	0.49	0.60	0.87	1.14	1.41		
35.3	35.0	34.6	34.3	33.9	32.9	31.9	30.9	25	0.20	0.34	0.47	0.61	0.74	1.08	1.41	1.75		
45	45	44	44	43	42	40	39	32	0.3	0.5	0.7	0.8	1.0	1.4	1.9	2.3		
56	56	55	55	54	52	50	49	40	0.4	0.6	0.9	1.1	1.3	1.8	2.3	2.9		
70	70	69	68	67	65	63	61	50	0.5	0.8	1.1	1.3	1.6	2.3	2.9	3.6		
89	88	87	86	85	82	79	77	63	0.7	1.0	1.3	1.7	2.0	2.9	3.7	4.5		
113	112	111	109	108	105	101	98	80	0.8	1.2	1.7	2.1	2.5	3.6	4.7	5.8		
142	141	138	137	136	132	129	126	100	1.2	1.7	2.2	2.7	3.2	4.4	5.7	6.9		
157	156	154	153	151	150	145	140	112	1.4	2.0	2.6	3.1	3.7	5.1	6.5	7.8		
182	178	174	170	167	160	154	149	125	2.4	2.3	2.6	2.7	3.7	5.4	7.4	9.3		
223	219	215	211	208	199	191	183	150	3.3	3.3	3.5	3.8	4.7	6.7	8.9	11.0		
267	263	259	255	252	243	235	228	180	3.9	4.0	4.1	4.7	5.9	8.2	10.6	12.8		
292	289	286	283	280	273	266	259	200	4.4	4.6	4.8	5.3	6.7	9.2	11.7	14.2		

The ratings refer to a mineral oil with a viscosity of 34 mm²/s.

Margin of error for the flow Q + 2.5 % ... - 5 % of the tabular value. For viscosity < 30 mm²/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 mm²/s, an increase in the required power is necessary, in this case proceed as per description on page 15.

Discharge Flow / Input Power

Calculation

$$P_{1Pu} = P_{tab} \cdot \frac{n}{1450} + f_v \cdot Q$$

P_{1Pu} = pump power consumption (kW)

P_{tab} = power consumption per table (kW) at 1450 1/min

n = speed (1/min)
dependent on viscosity!
(see speed recommendation)

f_v = viscosity factor $\left[\frac{\text{kW}}{\text{l/min}} \right]$
(see diagram)

Q = discharge flow (l/min) with $Q = \frac{V_g \cdot n}{1000}$

V_g = geometrical displacement (cm³/r)

Example: Pump type KF 80

Viscosity $v = 3000 \text{ mm}^2/\text{s}$

Working pressure $p = 15 \text{ bar}$

at $P_{tab} = 3.6 \text{ kW}$

$n = 500 \text{ 1/min}$

$f_v = 0.017 \frac{\text{kW}}{\text{l/min}}$

$$Q = \frac{80.5 \cdot 500}{1000} = 40 \text{ l/min}$$

becomes

$$P_{1Pu} = \left(3.6 \cdot \frac{500}{1450} + 0.017 \cdot 40 \right) \text{ kW}$$

$P_{1Pu} = 1.92 \text{ kW}$

Motorpower output: $P_{2Mot} = 1.2 \cdot P_{1Pu} = 2.3 \text{ kW}$

Select helical geared motor with

$P = 3.0 \text{ kW}$

$n = 500 \text{ 1/min}$

Conversion factors

$$1 \text{ bar} \triangleq 14.5 \frac{\text{lb}}{\text{in}^2} = 14.5 \text{ psi}$$

$$1 \frac{\text{l}}{\text{min}} \triangleq 0.220 \frac{\text{gal}}{\text{min}} = [\text{U.K.}]$$

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

Input Power

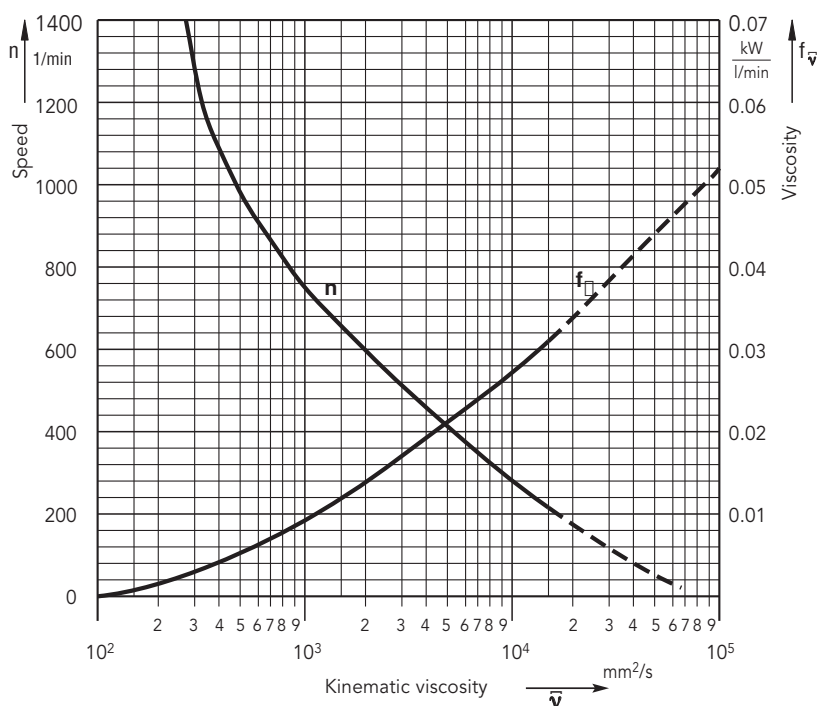


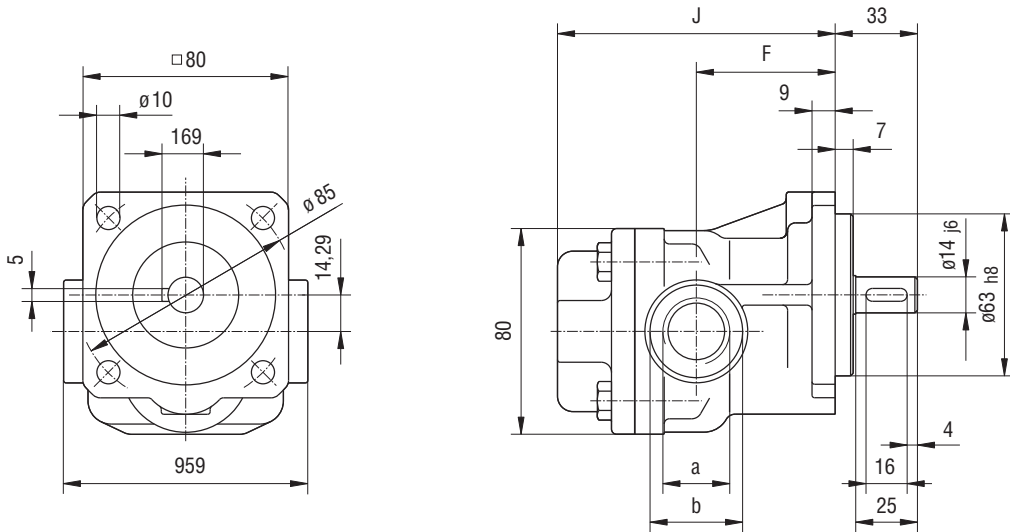
Diagramm: $n, f_v = f(v)$

Note:

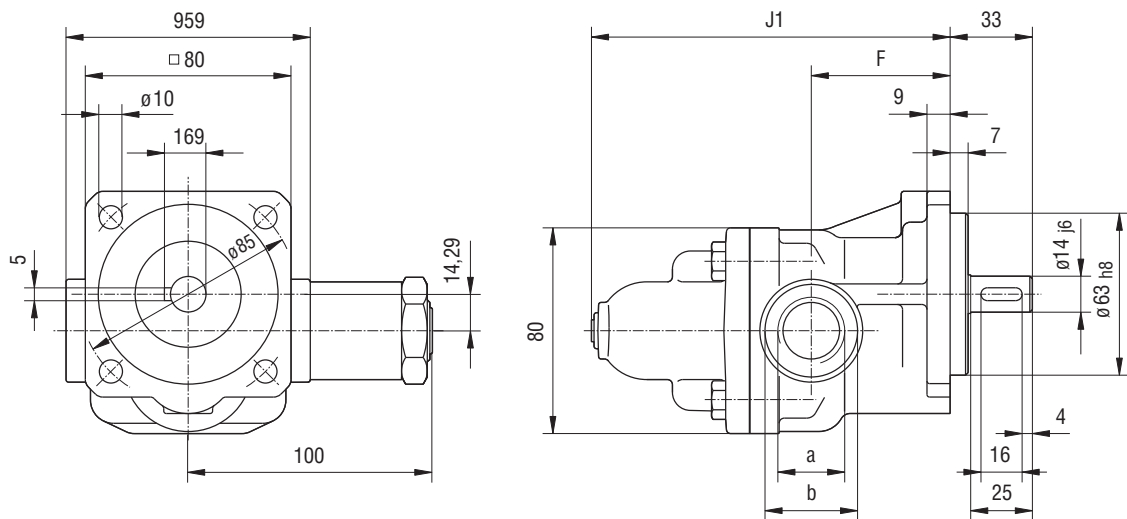
To determine the power consumption, always take the max. working viscosity at starting state into consideration. The power of the drive motor should be selected 20% higher than the value determined.

Flange-Mounting Version with Pipe Thread

KF 2.5... 25



KF 2.5... 25 with pressure relief valve

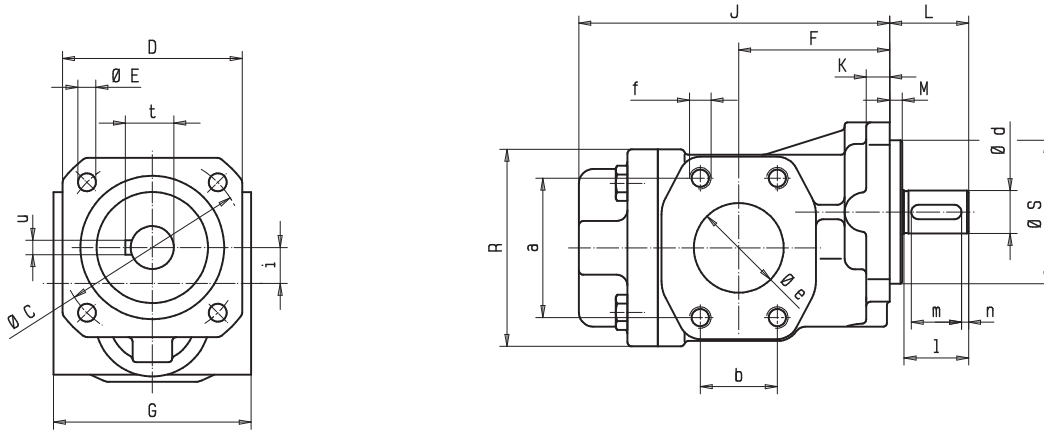


Nominal size	Suction and pressure connection		F	J	J ₁	Weight in kg	
	a	b				without valve	with valve
2,5...12	G 3/4 17 deep	Ø 36	54	109	140	2.9	3.7
16...25	G 1 19 deep	Ø 42	63	131	161	3.5	4.3

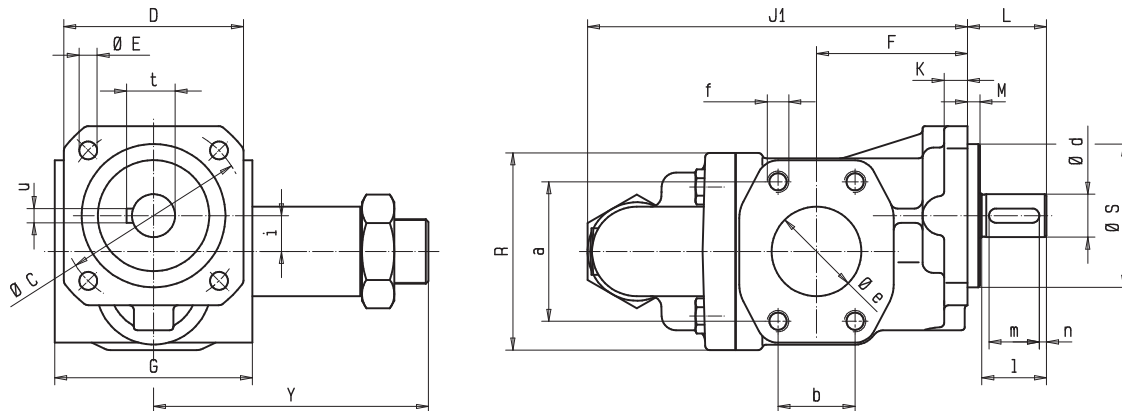
(Dimensions in mm)

Flange-Mounting Version with SAE-Connection

KF 2.5...200



KF 2.5...200 with pressure relief valve

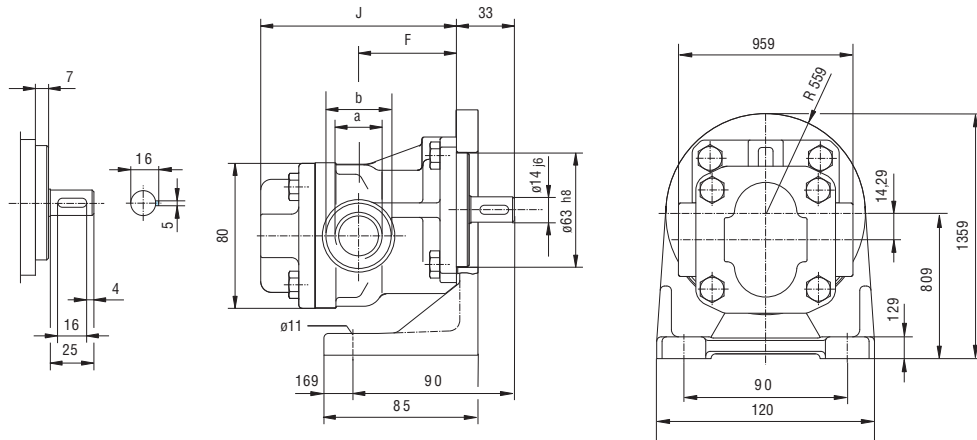


Nominal size	Sp.-No.	SAE	Dicht.	Suction- and pressure connection				Pump sizes														Shaft end						Weight in kg																	
				a	b	e	f	C	D	E	F	G	J	J ₁	K	L	M	R	S _{h8}	i	Y	d _{j6}	l	m	n	t	u	without valve	with valve																
2.5...12	158	3/4"	-	47.6	22.2	19.5	M10-15 deep	85	80	10	54	109	140																	4.2	5.0														
16...25	158	1"	-	52.4	26.2	25.0	M10-17 deep				63	131	162																4.8	5.6															
32...50	-	1 1/2"	-	69.9	35.7	38.0	M12-20 deep	103	100	10	84	110	173	212																7.7	9.5														
63/80	-	1 1/2"	-	77.8	42.9	50.0					100				208	247																	9.4	11.2											
50	232	2"	-										84				121	212																	7.7	9.5									
63/80	232	2"	-			100								206	217																		9.4	11.2											
100/112	-	2"	-	88.9	50.8	63.5	M12-20 deep	145	135	14	102	130	220.5	262.5	17																														
100/112	-	2"	31																																										
100/112	232	2 1/2"	-																																										
100/112	232	2 1/2"	31																																										
125/150	-	2 1/2"	-	106.4	61.9	76.2	M16-32 deep	145	135	14	120	245.0	282.0																																
180/200	-	3"	-																																										
125/150	232	3"	-																																										
180/200	232	3 1/2"	-																																										
180/200	232	3 1/2"	-	120.7	69.9	88.9					120	245.0	282.0																																
180/200	232	3 1/2"	-	120.7	69.9	88.9					130	261.5	298.5																																
180/200	232	3 1/2"	-	120.7	69.9	88.9					120	245.0	282.0																																
180/200	232	3 1/2"	-	120.7	69.9	88.9					130	261.5	298.5																																

(Dimensions in mm))

Pump with Mounting Angle, Pipe Thread

KF 2,5...25

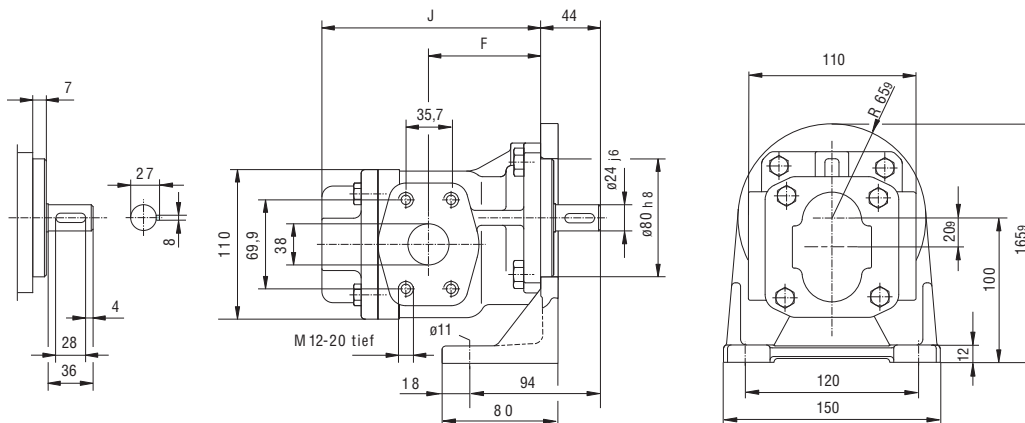


Nominal size	Suction and pressure connection		F	J	Weight in kg
	a	b			
2,5...12	G 3/4 17 tief	Ø 36	54	109	4,2
16...25	G 1 19 tief	Ø 42	63	131	4,8

(Abmessungen in mm)

Pump with Mounting Angle, Pipe Thread, SAE 1 1/2-connection

KF 32... 80

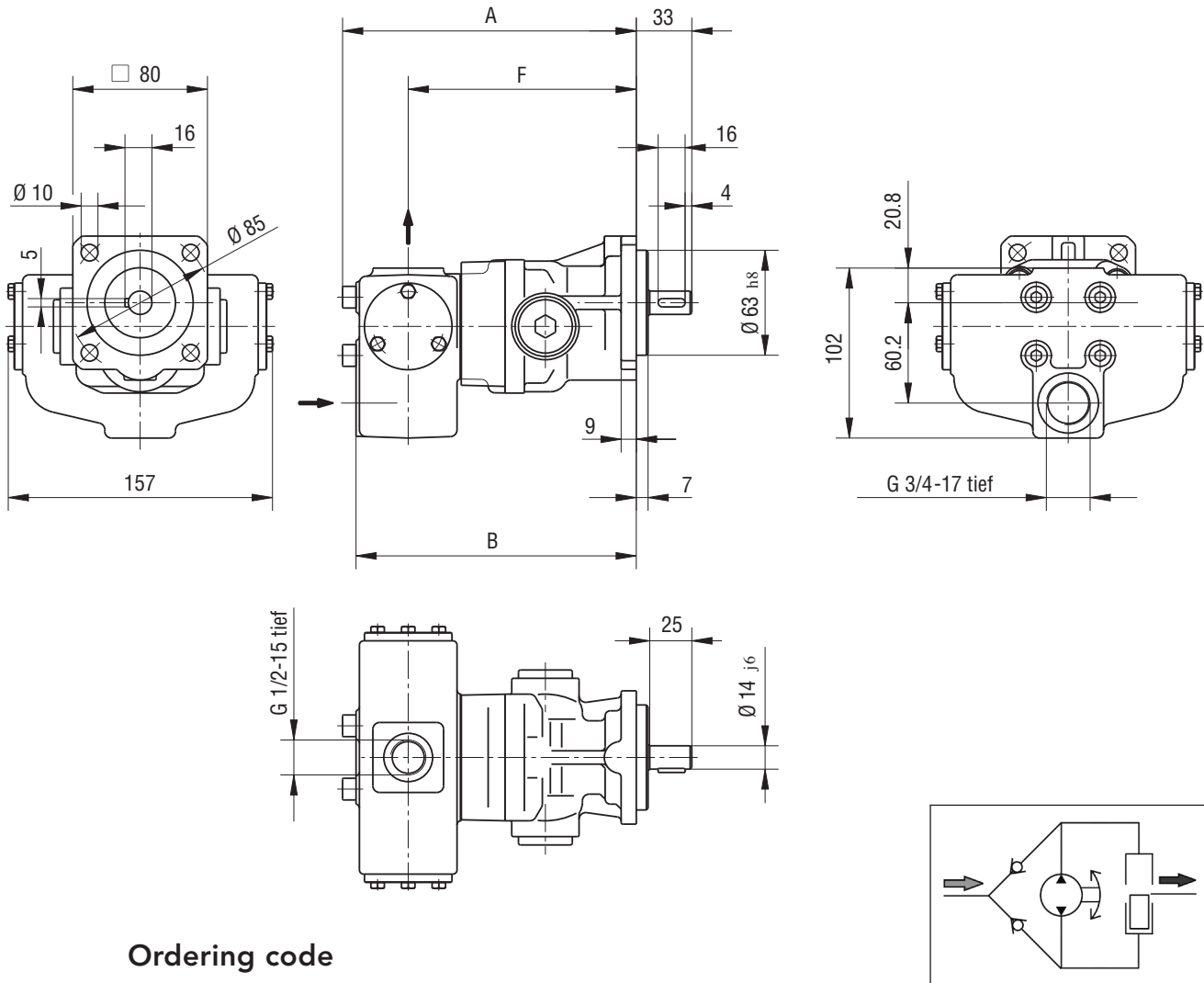


Nominal-size		F	J	Weight in kg
32...50	SAE 1 1/2	84	173	9.5
63 / 80	SAE 1 1/2	100	208	11.2

(Abmessungen in mm)

Flange-Mounting Version with Universal Arrangement

KF 2.5...25



Ordering code

KF . UF .

Seals $\frac{1}{2}$

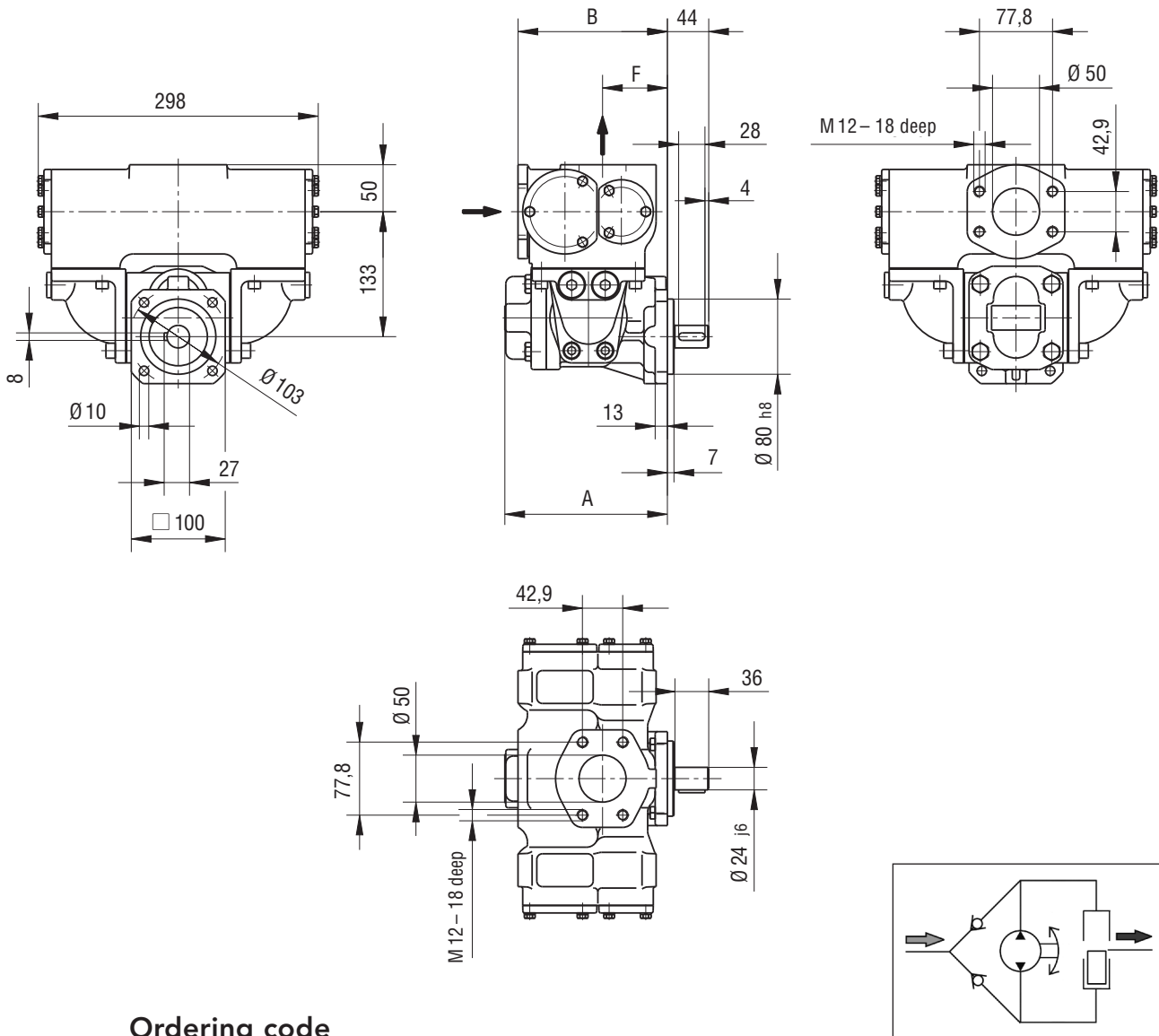
Nominal size	A	B	F	Weight in kg	Perm. manometr. low pressure at the pump suction connection p_e bar
2.5					0.35
4					
5					
6	174.5	166.5	135.5	6.9	
8					
10					
12					
16					
20	196.5	188.5	157.5	7.5	
25					

(Dimensions in mm)

Mounting position horizontal, Pressure connection above

Flange-Mounting Version with Universal Arrangement

KF 32...80



Ordering code

KF . UF .

Seals ¹/₂

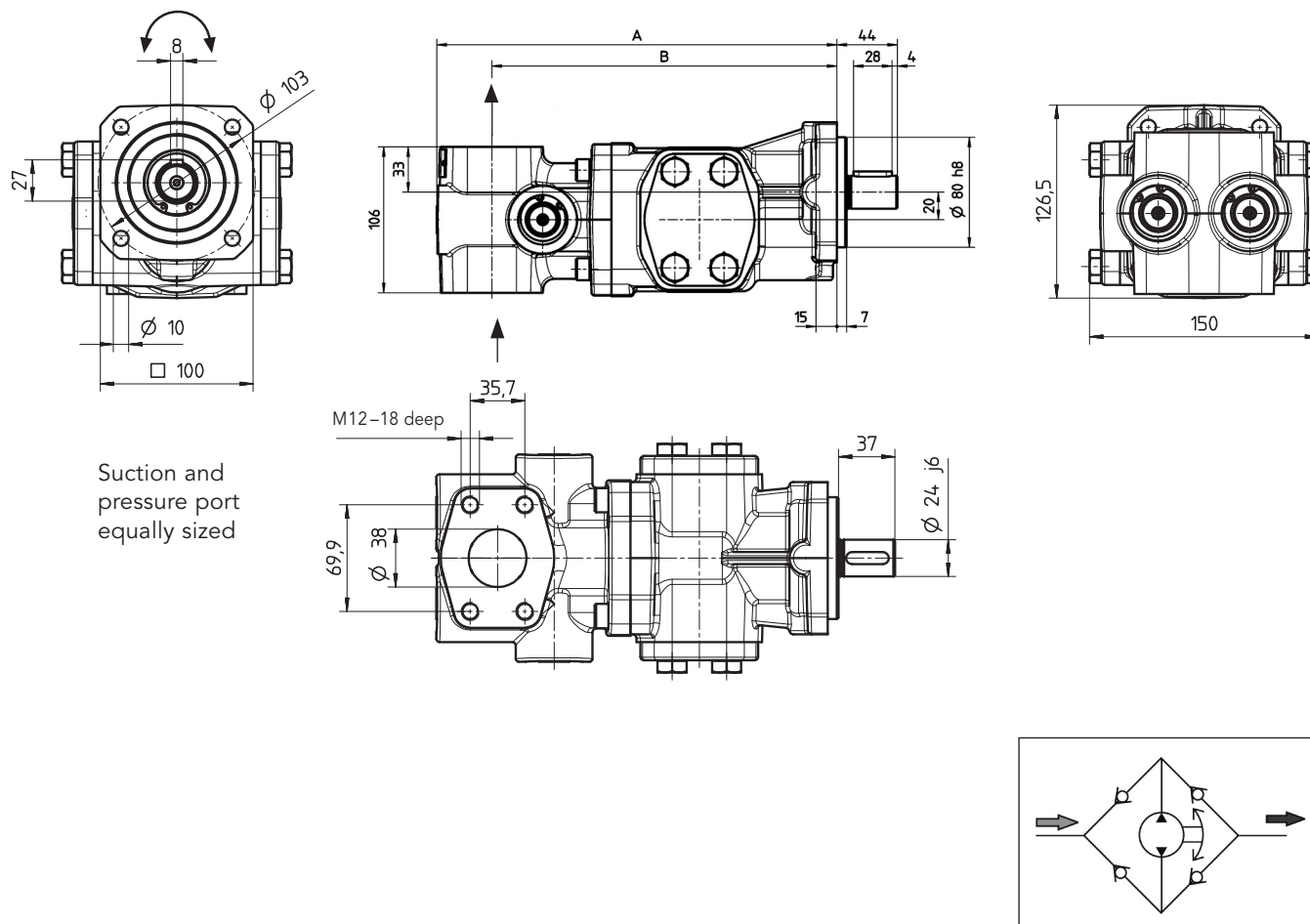
Nominal size	A	B	F	Weight in kg	Perm. manometr. low pressure at the pump suction connection p_e bar
32 40 50	173	159	69	27.5	0.35
63 80	208	175	85	29.5	

(Dimensions in mm)

Mounting position horizontal, Pressure connection above

Flange-Mounting Version with Universal Arrangement U2

KF 32...80

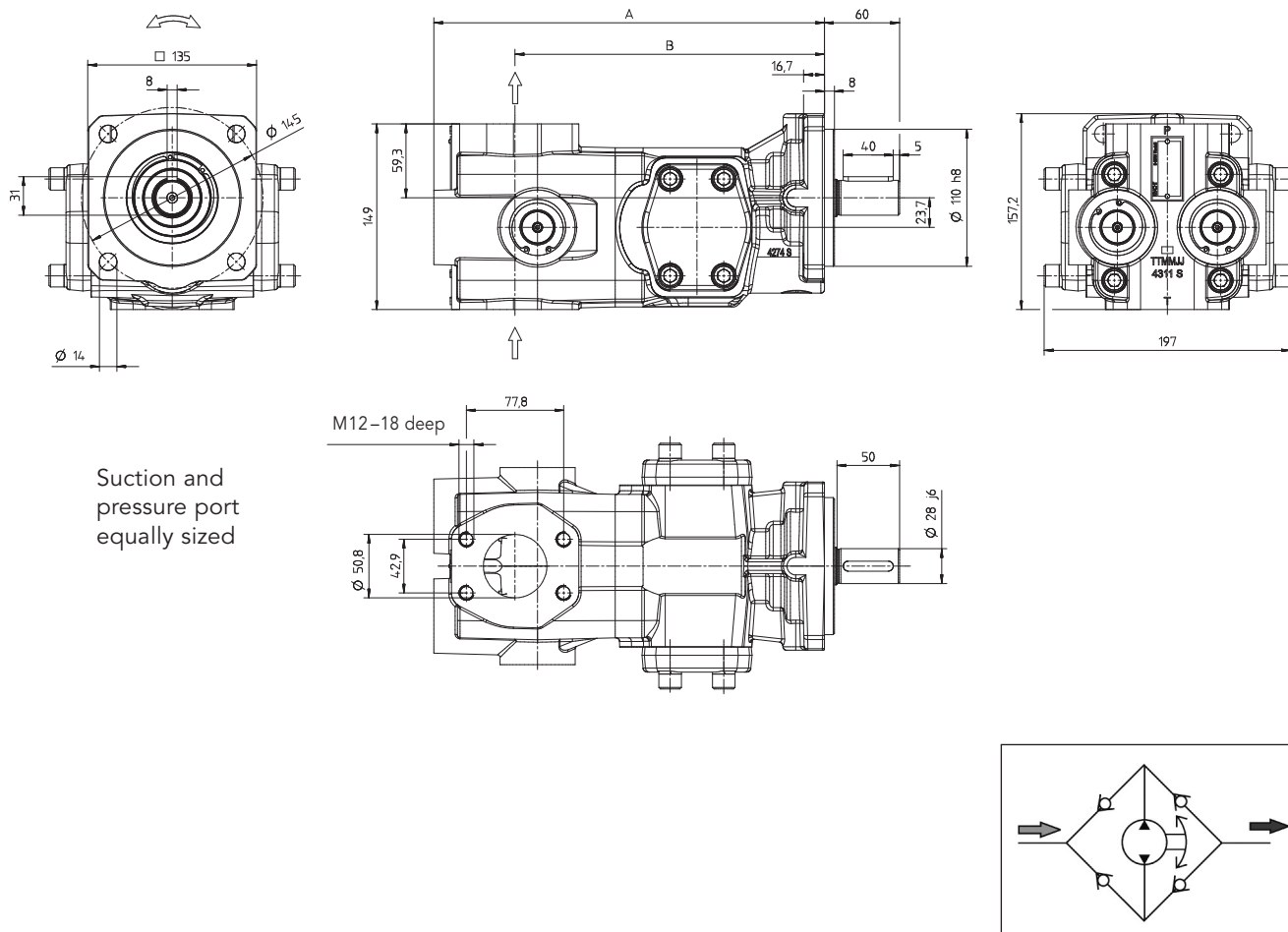


Nominal displacement	A	B	Weight in kg
32			
40	256	216	15.5
50			
63	291	251	17.5
80			

(Dimensions in mm)
Mounting position optional

Flange-Mounting Version with Universal Arrangement U2

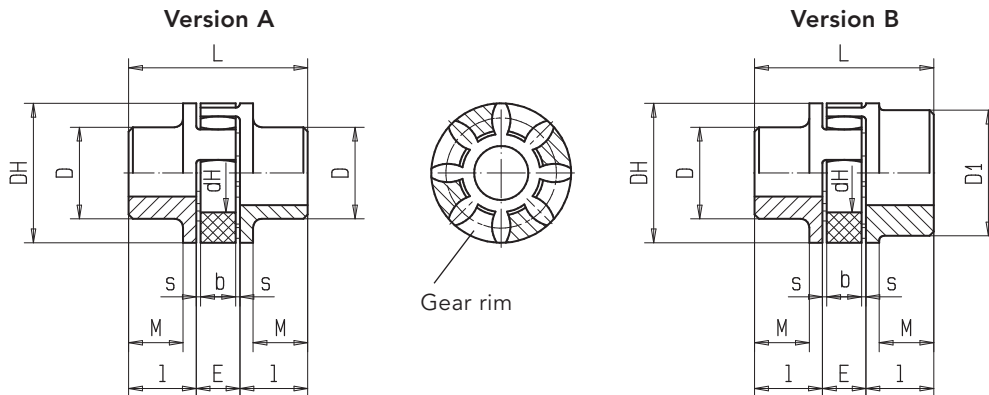
KF 100/112



Nominal displacement	A	B	Weight in kg
100 112	312,5	247,5	21.6

(Dimensions in mm)
Mounting position optional

Accessory Couplings



	Ordering code	Coupling size	Weight kg	Moment of inertia kgm ²	Pre bore		Finished bore		Dimensions (in mm)											
					part 1	part 2	min.		max.		l	E	s	b	L	M	DH	D	D ₁	dh
							part 1	part 2	part 1	part 2										
Version A	RA 19-Z25/...-Z25/..	19	0.117	0.00003	4	-	6	-	19	-	25	16	2	12	66	20	40	32	-	18
	RA 24-Z30/...-Z30/..	24	0.24	0.00008	6	-	8	-	24	-	30	18	2	14	78	24	55	40	-	27
	RA 28-Z30/...-Z30/..	28	0.39	0.0002	8	-	10	-	28	-	30	20	2.5	15	80	28	65	48	-	30
Version B	RA 19/24-Z25/...-Z25/..	19/24	0.129	0.00004	4	17	6	19	19	24	25	16	2	12	66	20	40	32	-	18
	RA 24/28-Z30/...-Z30/..	24/28	0.26	0.0001	6	22	8	24	24	28	30	18	2	14	78	24	55	40	-	27
	RA 28/38-Z35/...-Z35/..	28/38	0.46	0.0003	8	26	10	28	28	38	35	20	2.5	15	90	28	65	48	-	30
	RA 38/45-Z45/...-Z45/..	38/45	0.89	0.0008	10	36	12	38	38	45	45	24	3	18	114	37	80	66	-	38
	RA 42/55-Z50/...-Z50/..	42/55	1.39	0.0018	12	40	14	42	42	55	50	26	3	20	126	40	95	75	-	46
	RG 42/55-Z50/...-Z75/..	42/55	3.57	0.005	12	40	14	42	42	55	50/ 75	26	3	20	151	40	95	75	-	46

Type Key KF Coupling

Ordering example

R.* 38 - Z 45/38 - Z 45/38

Coupling size

Pump side
cylindrical

Motor side
cylindrical

coupling hub length and hub bore

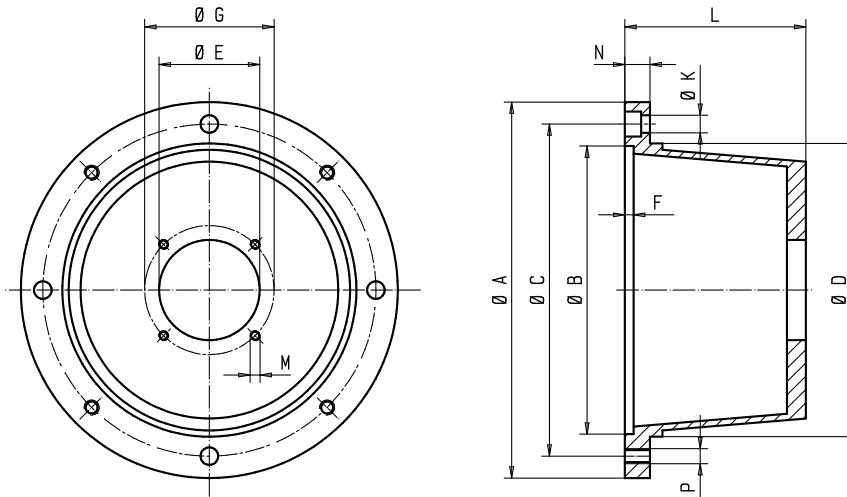
.*	Hub material
A	AL
G	GG

Working temperature:
-20 °C to +80 °C (-4 °F to 176 °F)
(short duration temperature peaks
up to 120 °C / 248 °F are permissible).

Weights and mass moments of inertia refer
to max. finish machined bore without slot.
Finish-machined bores to ISO Fit H7,
parallel key slots in accordance with DIN 6886 Sh.1.

Bell Housing

KF 2,5... 25 Aluminum bell housing

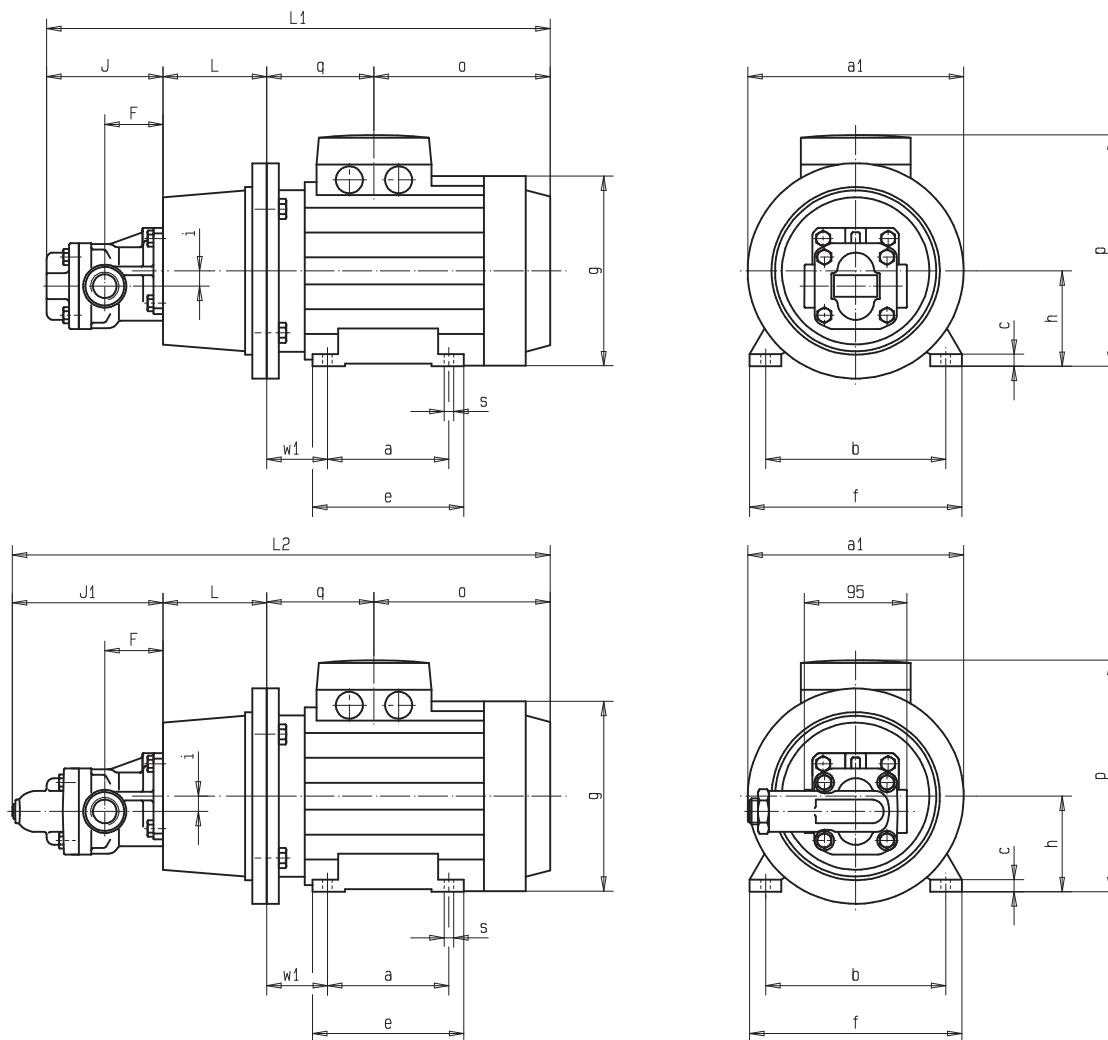


	Motorbaugröße	Bell housing	Coupling	Dimensions (in mm)											Weight kg	
				A	B	C	D	E	F	G	K	L	M	N		P
KF 2,5...25	71 S	PT160-A-063-80	RA19-Z25/14-Z25/14	160	110	130	110	63	7	85	9	80	M8	13	M8	1.01
	71															
	80 S	PT200-A-063-100	RA19-Z25/14-Z25/19	200	130	165	145	63	7	85	11	100	M8	16	M10	1.06
	80															
	90 S	PT200-A-063-100	RA19/24-Z25/14-Z25/24	200	130	165	145	63	7	85	11	100	M8	16	M10	1.06
	90 L															
	100 LS	PT250-A-063-120	RA24/28-Z30/14-Z30/28	250	180	215	190	63	7	85	14	120	M8	19	M12	1.75
100 L																
112 M																
KF 32...80	80 S	PT200-A-080-100	RA19/24-Z25/24-Z25/19	200	130	165	145	80	7	103	11	100	M8	16	M10	1.41
	80															
	90 S	PT200-A-080-110	RA24-Z30/24-Z30/24	200	130	165	145	80	7	103	11	110	M8	16	M10	1.19
	90 L															
	100 LS	PT250-A-080-124	RA24/28-Z30/24-Z30/28	250	180	215	190	80	7	103	14	124	M8	19	M12	1.42
	100 L															
	112 M															
	132 S	PT300-A-080-144	RA28/38-Z35/24-Z35/38	300	230	265	234	80	7	103	14	144	M8	20	M12	2.10
	132 M															
160 M	PT350-A-080-188	RA38/45-Z45/24-Z45/42	350	250	300	260	80	7	103	18	188	M8	26	M16	3.05	
160 L																
KF 100...200	100 L	PT250-A-110-135	RA24/28-Z30/28-Z30/28	250	180	215	190	110	7	145	14	135	M12	18	M12	1.4
	112 M		* RA24/28-Z30/24-Z30/28													
	132 S	* PT300-A-110-144	RA28/38-Z35/28-Z35/38	300	230	265	234	110	7	145	14	168 *144	M12	20	M12	2.0 *1.6
	132 M		* RA28/38-Z35/24-Z35/38													
	160 M	PT350-A-110-188	RA38/45-Z45/28-Z45/42	350	250	300	260	110	7	145	18	188	M12	26	M16	2.9
	160 L		* RA38/45-Z45/24-Z45/42													
180 M	PT350-A-110-204	RA42/55-Z50/28-Z50/48	350	250	300	260	110	7	145	18	204	M12	26	M16	3.0	
180 L		* RG42/55-Z50/24-Z75/48														

* Flange mounting version seal 31

Motor-Pump Assemblies with Pipe Thread

KF 2.5 ... 25



with pressure relief valve

KF 2.5 ... 25 Pump sizes (in mm)

Nominal size	Pump sizes		
	F	J	J ₁
2.5...12	54	109	140
16...25	63	131	162

Motor-Pump Assemblies with Pipe Thread

KF 2.5 ... 25

Frame size	Power Speed Motor 6 pole		Power Speed Motor 4 pole		Bell housing	Coupling	Total weight * kg	
	kW	1/min	kW	1/min			Nominal size 4...12 16...25	
71	0.18	880	0.25	1350	PT160-A-063-80	RA19-Z25/14-Z25/14	11.5	12.1
71	0.25	900	0.37	1370			11.5	12.1
80	0.37	900	0.55	1370	PT200-A-063-100	RA19-Z25/14-Z25/19	13.5	14.1
80	0.55	900	0.75	1420			15.5	16.1
90 S	0.75	935	1.1	1425	PT200-A-063-100	RA19/24-Z25/14-Z25/24	17.5	18.1
90 L	1.1	935	1.5	1420			20.5	21.1
100	1.5	940	2.2	1430	PT250-A-063-120	RA24/28-Z30/14-Z30/28	25.5	26.1
100	–	–	3	1430			28.5	29.1
112	2.2	940	4	1435			35	35.6

* with pressure relief valve add, weight 0.8 kg

KF 2.5 ... 25 Dimensions

Frame size	Dimensions (in mm)																			
	4...12 16...25		4...12 16...25		L	i	a ₁	a	b	c*	e*	f*	g*	h	o*	p*	q*	ø s*	w ₁	
	L ₁ *	L ₁ *	L ₂ *	L ₂ *																
71	414	436	445	467	80	14.2	160	90	112	10	105	132	145	71	158	188	67	7	45	
80	459	481	490	512	100	14.2	200	100	125	10	130	160	165	80	170.5	217	79.5	10	50	
90 S	469	491	500	522	100	14.2	200	100	140	12	130	175	185	90	177.5	235	82.5	10	56	
90 L	494	516	525	547	100	14.2	200	125	140	12	155	175	185	90	202.5	235	82.5	10	56	
100	555	577	586	608	120	14.2	250	140	160	14	176	196	205	100	247.5	252	78.5	12	63	
112	564	586	595	617	120	14.2	250	140	190	14	180	220	230	112	247.0	292	88	12	70	

Note: Flange connection same outer dimensions as for pipe connection

Note

* Dimensions dependent on motor typ
(drawing: manufacture ADDA).

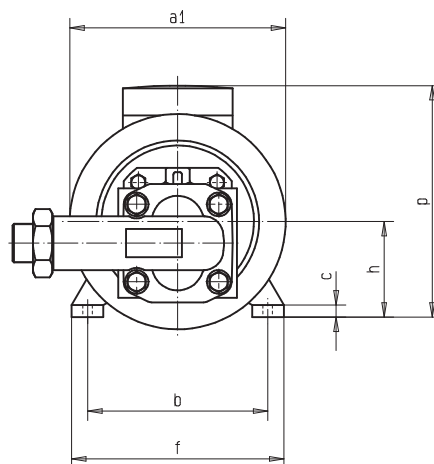
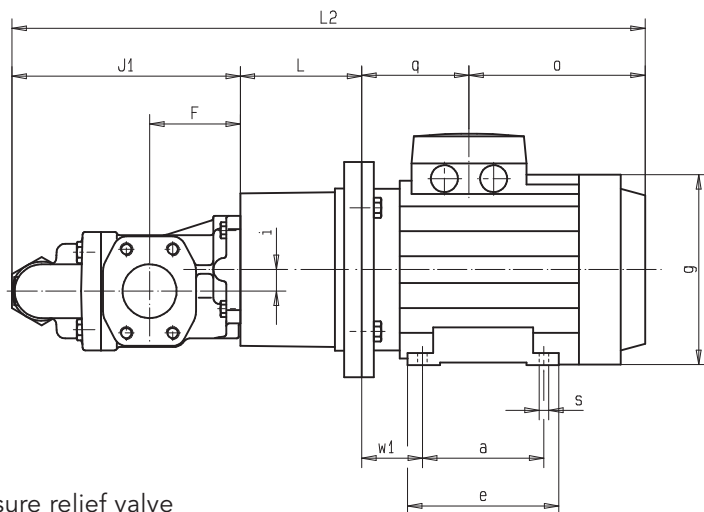
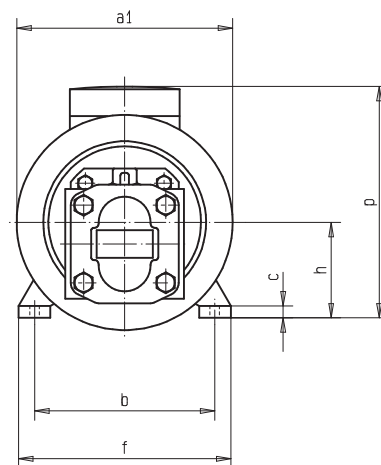
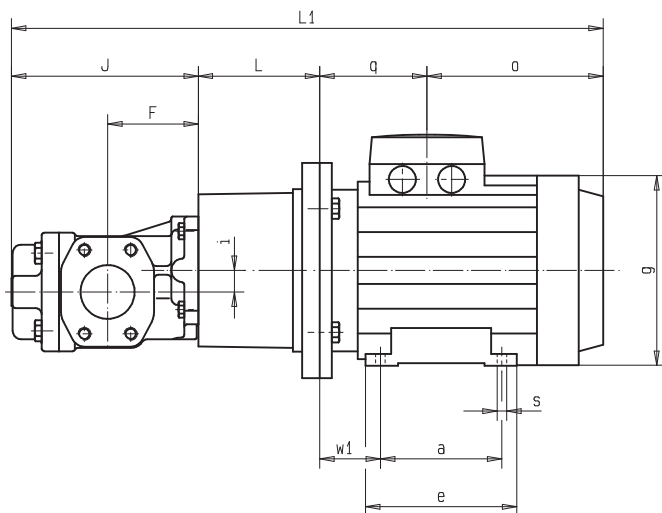
Other manufactures motors can be supplied on request.

Motor frame sizes are based on DIN 42673/677.

All pump and motor sizes can be combined.

Motor-Pump Assemblies with SAE-Connection

KF 32... 80



with pressure relief valve

KF 32... 80 Pump sizes (in mm)

Nominal size	F	J	J ₁
32...50	84	173	212
63 / 80	100	208	247

Motor-Pump Assemblies with SAE-Connection

KF 32... 80

Frame size	Power Speed Motor 6 pole		Power Speed Motor 4 pole		Bell housing	Coupling	Total weight * kg	
	kW	1/min	kW	1/min			Nominal size 32...50 63...80	
80	0.37	900	0.55	1370	PT200-A-080-100	RA19/24-Z25/24-Z25/19	18.5	19.5
80	0.55	900	0.75	1420			19.5	21
90 S	0.75	935	1.1	1425	PT200-A-080-110	RA24-Z30/24-Z30/24	21	23
90 L	1.1	935	1.5	1420			23.5	25.5
100	–	–	2.2	1430	PT250-A-080-124	RA24/28-Z30/24-Z30/28	29.5	31
100	1.5	940	3	1430			32	34
112	2.2	940	4	1435			38.5	40
132 S	3	940	5.5	1430	PT300-A-080-144	RA28/38-Z35/24-Z35/38	49.5	51.5
132 M	4	945	7.5	1430			59	60.5
132 L	5.5	945	–	–			61	62.5
160 M	7.5	955	11	1440	PT350-A-080-188	RA38/45-Z45/24-Z45/42	81	82.5
160 L	11	960	15	1445			101	102.5

* with pressure relief valve add. weight 1.8 kg

KF 32... 80 Dimensions

Frame size	Dimensions (in mm)																			
	32...50 63...80				32 - 80															
	L ₁ *	L ₁ *	L ₂ *	L ₂ *	L	i	a ₁	a	b	c*	e*	f*	g*	h	o*	p*	q*	ø s*	w ₁	
80	523	558	562	597	100	20	200	100	125	10	130	160	165	80	170.5	217	79.5	10	50	
90 S	543	578	582	617	110	20	200	100	140	12	130	175	185	90	177.5	235	82.5	10	56	
90 L	568	603	607	642	110	20	200	125	140	12	155	175	185	90	202.5	235	82.5	10	56	
100	623	658	662	697	124	20	250	140	160	14	176	196	205	100	247.5	252	78.5	12	63	
112	532	567	571	606	124	20	250	140	190	14	180	220	230	112	247	252	88	12	70	
132 S	673	708	712	747	144	20	300	140	216	16	176	252	270	132	262	325	94	12	89	
132 M	712	747	751	786	144	20	300	178	216	16	213	252	270	132	301	325	94	12	89	
160 M	891	926	930	965	188	20	350	210	254	17	262	290	320	160	394	390	136	14.5	108	
160 L	891	926	930	965	188	20	350	254	254	17	306	290	320	160	394	390	136	14.5	108	

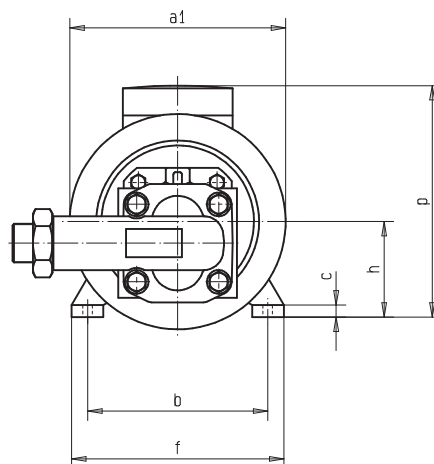
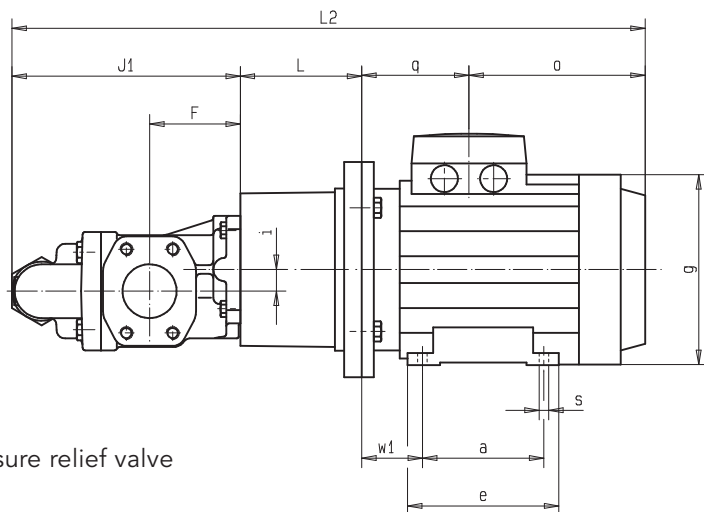
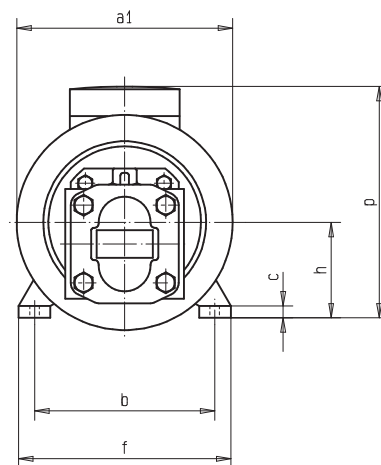
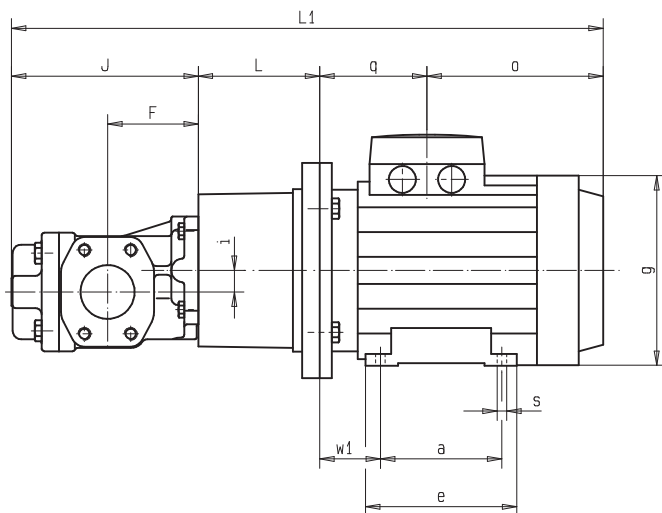
Note

* 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.

Motor-Pump Assemblies with SAE-Connection

KF 100...200



with pressure relief valve

KF 100...200 Pump sizes (in mm)

Nominal-size	F	J	J ₁
100/112	102	220.5	262.5
125/150	120	245	282
180/200	130	261.5	298.5

Motor-Pump Assemblies with SAE-Connection

KF 100...200

Frame size	Power Speed		Leistung Drehzahl		Bell housing	Coupling	Total weight *		
	Motor	6 pole	Motor	4 pole			kg	Nominal size	
	kW	1/min	kW	1/min			100/112	125/150	125/150
100	–	–	2.2	1430	PT250-A-110-135	RA24/28-Z30/28-Z30/28	37.5	43.5	46.5
100	1.5	940	3	1430		**RA24/28-Z30/24-Z30/28	40.5	46.5	49.5
112	2.2	940	4	1435			47.5	53.5	56.5
132 S	3	940	5.5	1430	PT300-A-110-168 **PT300-A-110-144	RA28/38-Z35/28-Z35/38	58	64	67
132 M	4	945	7.5	1430		**RA28/38-Z35/24-Z35/38	67	73	76
132 L	5.5	945	11	–			69	75	78
160 M	7.5	955	15	1440	PT350-A-110-188	RA38/45-Z45/28-Z45/42	89	95	98
160 L	11	960	18.5	1445		**RA38/45-Z45/24-Z45/42	109	115	118
180 M	–	–	18.5	1445	PT350-A-110-204	RA42/55-Z50/28-Z50/48	129	135	138
180 L	15	960	22	1460		**RG42/55-Z50/24-Z50/48	139	145	148

* * with pressure relief valve KF 100-200 add. weight 2.7 kg

** Sealing version 31

KF 100...200 Dimensions

Frame size	Dimensions (in mm)																			
	100/112 125/150 180/200			100/112 125/150 180/200																
	L ₁ *	L ₁ *	L ₁ *	L ₂ *	L ₂ *	L ₂ *	L	a ₁	a	b	c*	e*	f*	g*	h	o*	p*	q*	ø s*	w ₁
100	670.5	695	711.5	712.5	754	770.5	124	250	140	160	14	176	196	205	100	247.5	252	78.5	12	63
112	579.5	604	620.5	621.5	663	679.5	124	250	140	190	14	180	220	230	112	147	292	88	12	70
132 S	720.5	745	761.5	762.5	804	820.5	144	300	140	216	16	176	252	270	132	262	325	94	12	89
132 M	759.5	784	800.5	801.5	843	859.5	144	300	178	216	16	213	252	270	132	301	325	94	12	89
160 M	938.5	963	979.5	980.5	1022	1038.5	188	350	210	254	17	262	290	320	160	394	390	136	14.5	108
160 L	938.5	963	979.5	980.5	1022	1038.5	188	350	254	254	17	306	290	320	160	394	390	136	14.5	108
180 M	1001.5	1026	1042.5	1043.5	1085	1101.5	204	350	279	279	27	300	348	360	180	336	450	241	15	121
180 L	1039.5	1064	1080.5	1081.5	1123	1139.5	204	350	279	279	27	338	348	360	180	354	450	261	15	121

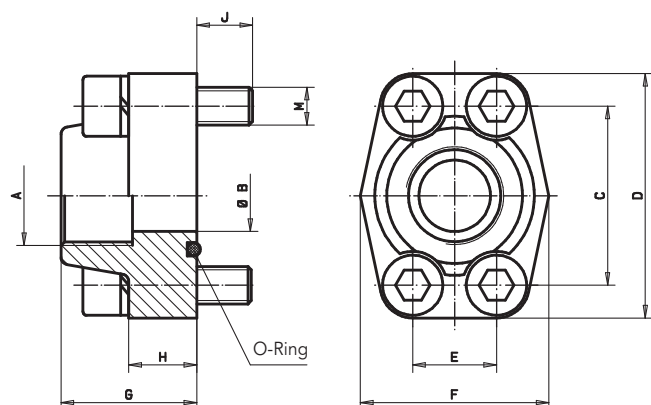
Note

* 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.

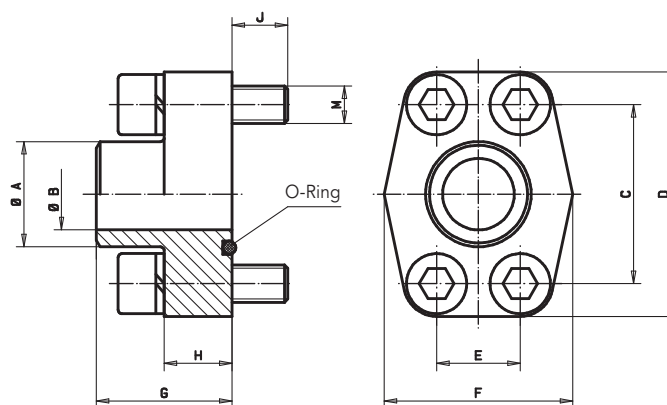
All pump and motor sizes can be combined.

Accessory Connections

SAE-Threaded Flange



SAE-Welding Flange



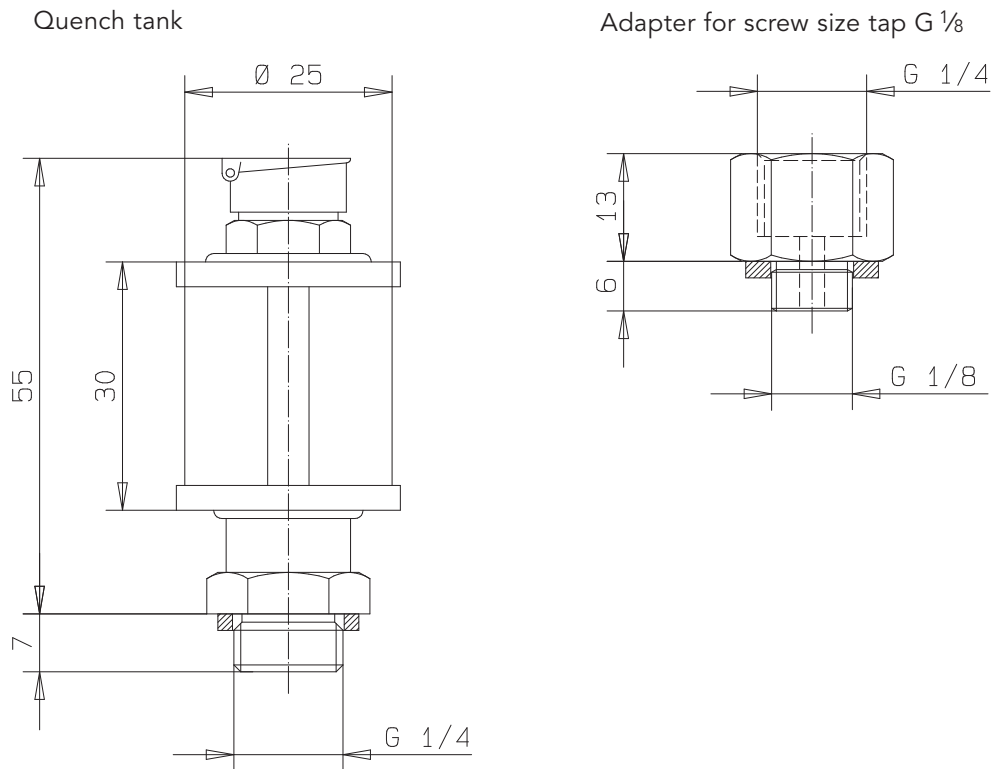
SAE-Threaded Flange Dimensions

SAE	A	B	C	D	E	F	G	H	I	M	J	O-Ring	Weight kg
3/4"	G 3/4"	19	47.6	65	22.2	50	36	18	19	M10	14.5	25.0 x3.53	0.39
1"	G 1"	25	52.4	70	26.2	55	38	18	22	M10	14.5	32.92x3.53	0.46
1 1/2"	G 1 1/2"	38	69.9	94	35.7	77	44	25	24	M12	18	47.22x3.53	1.05
2"	G 2"	51	77.8	102	42.9	90	45	25	30	M12	17.5	56.74x3.53	1.19
2 1/2"	G 2 1/2"	63	88.9	114	50.8	105	50	25	30	M12	17.5	69.45x3.53	1.40
3"	G 3"	73	106.4	134	61.9	124	50	27	34	M16	20	85.32x3.53	2.15
3 1/2"	G 3 1/2"	89	120.7	152	69.9	136	48	27	34	M16	20	98.02x3.53	2.40

SAE-Welding Flange Dimensions

SAE	A	B	C	D	E	F	G	H	M	J	O-Ring	Weight kg
3/4"	28	19	47.6	65	22.2	50	36	18	M10	14.5	25.0 x3.53	0.39
1"	34	25	52.4	70	26.2	55	38	18	M10	14.5	32.92x3.53	0.46
1 1/2"	48.6	38	69.9	94	35.7	77	44	25	M12	18	47.22x3.53	1.05
2"	61	51	77.8	102	42.9	90	45	25	M12	17.5	56.74x3.53	1.19
2 1/2"	77	63	88.9	114	50.8	105	50	25	M12	17.5	69.45x3.53	1.40
3"	92	73	106.4	134	61.9	124	50	27	M16	20	85.32x3.53	2.15
3 1/2"	103	89	120.7	152	69.9	136	48	27	M16	20	98.02x3.53	2.40

Accessory Quench Chamber



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.



KF 2.5...200/GB/07.12

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