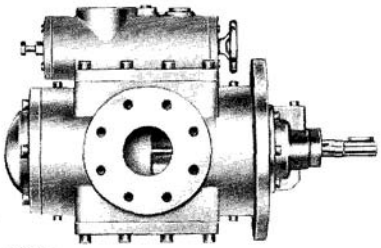
Screw Pumps

Series SN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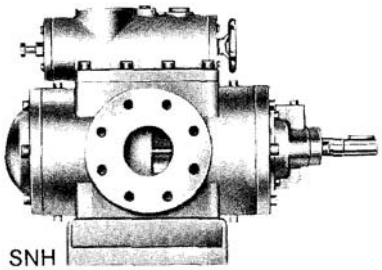
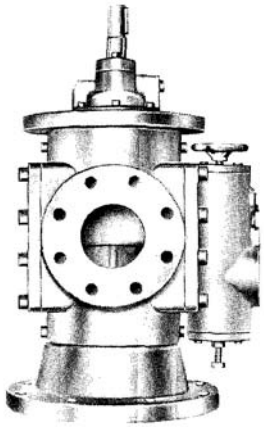

SNH


SNS

Application
For handling lubricating fluids. The fluids to be pumped must not contain any abrasive substances nor chemically attack the pump materials.

Main fields of application
Fuel oil firing/energy engineering:
For handling light and heavy fuel oils as well as residual and waste oils, e.g. as fuel oil, transfer, fuelling, ring-conduit and burner-operation pumps.

Hydraulics:
For booster and/or pumping hydraulic oils on mineral-oil basis or hydraulic lubricating liquids; e.g. as hydraulic pumps for lifts, elevating platforms, pusher centrifuges, hydraulic presses, forging hammers, bale presses, chip-board presses, winches, hoists, variable-pitch propeller and rudder adjusting units, hatch hydraulics, rolling mill and machine tool hydraulics.

General industrial engineering/machine/heavy machine industry:
For handling lubricating, cooling, coolant, sealing, regulating and hydraulic oils, light and heavy fuel oils, Diesel oils, fuels and thermal oils (cold), e.g. for steam, gas and water turbines as lubricating, sealing, regulating oil and jacking oil pumps, for compressors as lubricating, sealing and coolant oil pumps, for gear drives as lube-oil pumps, for Diesel engines as lubricating and cooling oil as well as fuel pumps, for rolling milis as lube-oil and hydraulic pumps etc.

Marine/Offshore engineering:
For handling lubricating, cooling and hydraulic oils, light and heavy fuel oils, crude oils as well as fuels.

Machine-tool industry:
For handling cutting, grinding, deep-hole drilling oils and oil-in-water emulsions as well as hydraulic oils.

Tank farms:
For handling all lubricating fluids such as greases, oils, paints, fuels, polyols, isocyanates; e.g. as loading or unloading pumps.

Printing industry:
For handling gravure inks.

Chemical and petro-chemical as well as processing industry:
For handling all lubricating fluids such as oils (including crude oils), greases, paint, lacquers, ointments, pastes, polyols, isocyanates, tar, bitumen, glycerin, glues, adhesive substances, resins, paraffins, waxes, water glass and also as pipeline pumps.

Paint/lacquer industry:
For handling paints, lacquers, resins, oil varnish and linseed oils.

Washing/cleansing agent industry:
For handling oils, greases, soaps and additives.

Paper/pulp industry:
For handling viscose and pulp.

Food industry:
For handling molasses, glucose, sirup and vegetable oils.

Design
Self-priming three-screw pump.

The hardened and ground spindles run in a replaceable casing insert.

The axial thrust acting on the flanks of the screw threads is compensated by balance pistons which - with all three spindles - are arranged in the delivery chamber.

The idler spindles are turned hydraulically. The thread flanks merely transmit the torque resulting from the liquid friction and are consequently practically free of stress and nót subject to any wear.

A groove ball bearing lubricated by the fluid to be pumped (with internal bearing design) respectively an external, grease lubricated groove ball bearing serves for fixing the driving spindle.

A stuffing box or two shaft sealing rings or a maintenance-free unbalanced mechanical seal as required is used as shaft sealing. By means of a return pipe, the sealing chamber is connected with the suction chamber. Therefore, irrespectively of the delivery pressure, only the suction/inlet pressure always becomes effective at the shaft sealing.

Function
Owing to a special profiling of the flanks of the screw threads, the three spindles form sealed chambers, the contents of which are axially and completely continuously shifted from the suction to the delivery side of the pump. There is no turbulence despite the rotational movement, and squeezing stresses are avoided by the constant volume in the chambers.

Noise/pulsation
The structural design and mode of operation of the screw pump ensure a very low noise level and a nearly pulsation-free delivery.

Performance data
A preliminary pump selection can be effected by means of the performance tables (pages 6 to 13). For the exact performance data as a function of the viscosity of the fluid to be pumped and the pump speed, please refer to the individual characteristics.

Speed of rotation
Based on the small dimensions of the rotating screw spindles and according to pump size and design rotational speeds up to 11000 1/min are possible. With very high speeds respectively for determining the speed limit the suction/inlet pressure conditions, the design of the shaft sealing and of the bearing as well as the running speed of the thread flanks have to be considered.

Temperature and pressure limits

admissible temperature of fluid to be pumped

with stuffing box, design U2 and KA2	200°C
with shaft sealing rings, design U3 and U4	80°C
with mechanical seal, design U....	150°C ①
design D....	80°C
design E....	80-150°C ①

admissible suction lift see NPSH values, page 5

admissible pump outlet pressure

with pump casing in c.i. (GJL-25(0)	40 bar ②
in s.g.c.i. (GJS;-400-15)	64 bar ②

admissible supply pressure

with stuffing box, design U2 and KA2	3,0 bar ③
with shaft sealing rings, design U3 and U4	1,5 bar ③
with unbalanced mechanical seal design U..., D... and E...	5,0 ...7,0 bar ③

① with higher temperatures inquiry of our works necessary
② for the attainable delivery pressure as a function of viscosity and speed, please refer to the individual characteristiics.
For delivery pressures up to 120 bar, please refer to series SM (pamphlet VM 618 GB/...)
③ depending on fluid to be pumped, viscositty, speed of rotation, pump size. With higher supply pressures inquiry at our works necessary.

Shaft sealing

Pump size	Stuffing box ④ with ... bearing		Shaft seal rings ⑤		Mechanical seal ⑥ with ... bearing		
	internal	external	2 pcs.	3 pcs.	inter.	external	
SN...	U2	KA2	U3	U4	U...	D...	E...
40...2200	X	X	X	X	X	X	X
2900...3600 ②	-	-	-	-	X	-	X

④with graphite-incorporated PTFE packing
⑤ made of NBR (buna N) resp. FPM (Viton) (Viton at surplus price)
⑥uncooled, maintenance-free mechanical seal of the unbalanced type
⑦ see separate technical literature

Materials...12.1 (AQ1VGG) ⑧

Rotary seal ring:	Carbon, anttimony-impregnated
Stationary seal ring:	Silicon cartbide (SiC)
Auxiliary sealings:	FPM (Viton)
Spring:	CrNiMo steel
Metal parts:	CrNiMo steel

An incorporated control valve serves for a slight excess pressure within the area of the shaft sealing. As a result hereof, during suction operation, air intalke through the shaft sealing is avoided an dry operation of the shaft sealing prevented. The design KA2 has no control valve and therefore should not be used for suction operation.

⑧ Special mechanical seals and/or other material designs upon inquiry.

Bearing

In an internal groove ball bearing.

Design U...: the groove ball bearing is lubricated by the fluid to be pumped.

In an external, grease lubricated groove ball bearing.

Design D, KA: no grease nipple, groove ball bearing in closed design with lifetime grease filling.

Design E: with grease nipple. A grease volume control (labyrinth ring) prevents overgreasing of the bearing and thus excessive heating up to the bearing.

Branch position/flanges

SNH, SNF, SNS: suction and delivery branch arranged symmetrically on centerline of pump and opposed in one line.
The sense of flow may be changed without alteration of sense of rotation by turning the pump casing by 180°.

SNGH, SNGF: suction and delivery branch arranged one after the other (U-turn) on centerline of the pump.

SNGS: suction and delivery branch arranged superimposed (U-turn) on centerline of pump.

Flanges with all designs

Suction side: PN16 acc. to DIN EN 1092-2 (up to DN 150)
PN10 acc. to DIN EN 1092-2 (from DN 200)

Delivery side: PN40 acc. to DIN EN 1092-2
PN64 acc. to DIN 2546 ⑨

⑨ only possible with pump casing in s.g.c.i. (GJS-400-15) against surplus price

Heating

For heating of pump, for instance when pumping heavy fuel oil or other pumping liquids which solidify when getting cool, the following heating devices are available:

Series	electrical	Heating with steam or heat conveyor		
	heating elements	heating cover	heating cartridges	jacketed casing ⑩
SNH	X	X		X
SNF	X	X		X
SNS	X		X	X
SNGH	X	X		X
SNGF	X	X		X
SNGS	X		X	X

⑩ Pumps with jacketed casing can only be supplied in fabricated steel design (special technical documentation).

For further details of pump heating please refer to page 35.

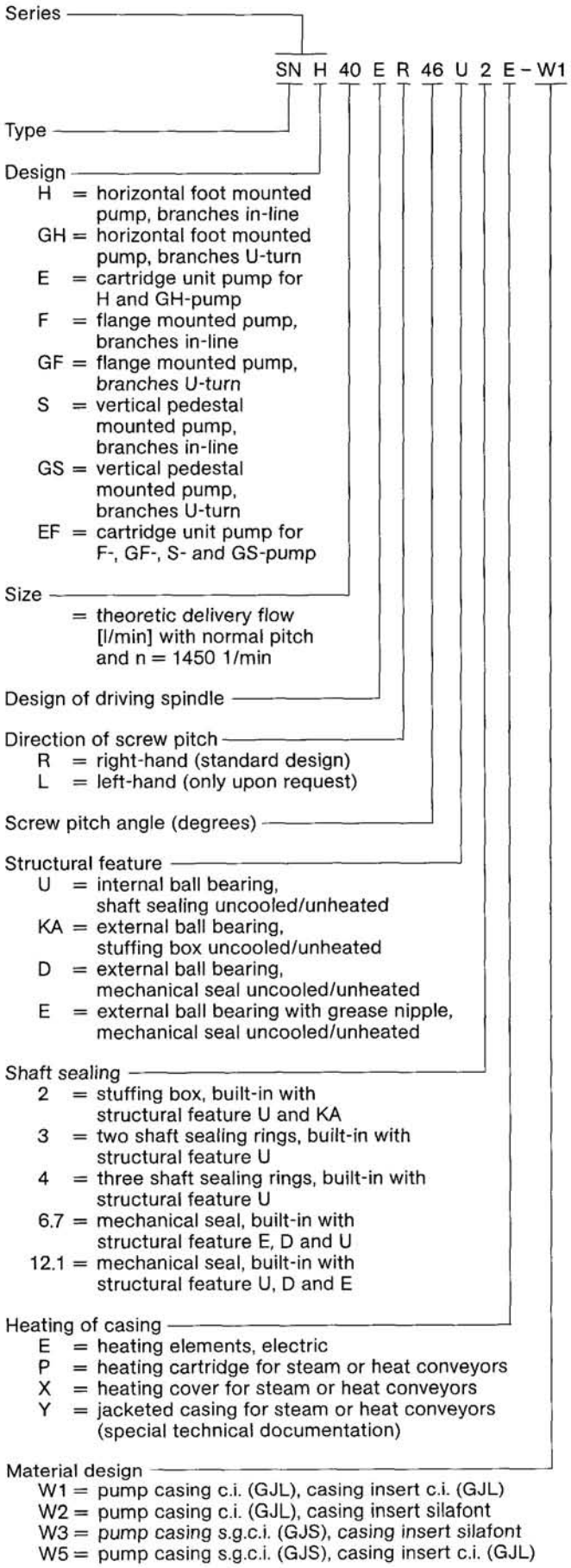
Material

Part-No.	Denomination	Material design W1	W2	W3	W5
1	Pump casing	c.i. (GJL-250)	c.i. (GJL-250)	s.g.c.i. (GJS-400-15)	s.g.c.i. (GJS-400-15)
2 ⑪	Pump casing insert with size 40 to 120	c.i. (GJL-200) (11)	silafont (11)	silafont (11)	c.i. (GJL-200) (11)
	with size 210 to 3600	c.i. (GJL-250) (11)	silafont (11)	silafont (11)	c.i. (GJL-250) (11)
3	Pump cover, drive side	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
4	Pump cover, non-drive side	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
4	Round pump foot (only with series SNS and SNGS)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
5	Bearing housing (only with external bearing)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
5	Shaft sealing housing (only with internal bearing)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
6	Pump foot	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
7	Pump casing cover	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
8	Balance bush	silafont	silafont	silafont	silafont
9	Seal cover	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
9	Gland (only with design U2 and KA2)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)	c.i. (GJL-250)
12	Driving spindle	nitride steel	nitride steel	nitride steel	nitride steel
13	Idler spindle	nitride steel	nitride steel	nitride steel	nitride steel

⑪ When determining the material for the pump casing insert note the pressure limiting characteristics.

For pumps in fabricated steel design (because of customers' specific demands) separate technical documention is available upon request.

Abbreviations



Pressure relief valves

All pumps can be supplied with built-on pressure relief valve. For allocation, dimensions and connections please refer to page 36.

Valve characteristics and sectional drawings are not included within this pamphlet and mustt be demanded separately.

In case pumps without built-on pressure relief valve are re-quired, an overload protection must be provided in the control system or as a pipeline pressure relief valve.

For allocation, dimensions and connections of pressure relief valves for pipeline installation please refer to page 37.

Shaft coupling and protectiom against accidental contact

Shaft coupling according to DIN 740.

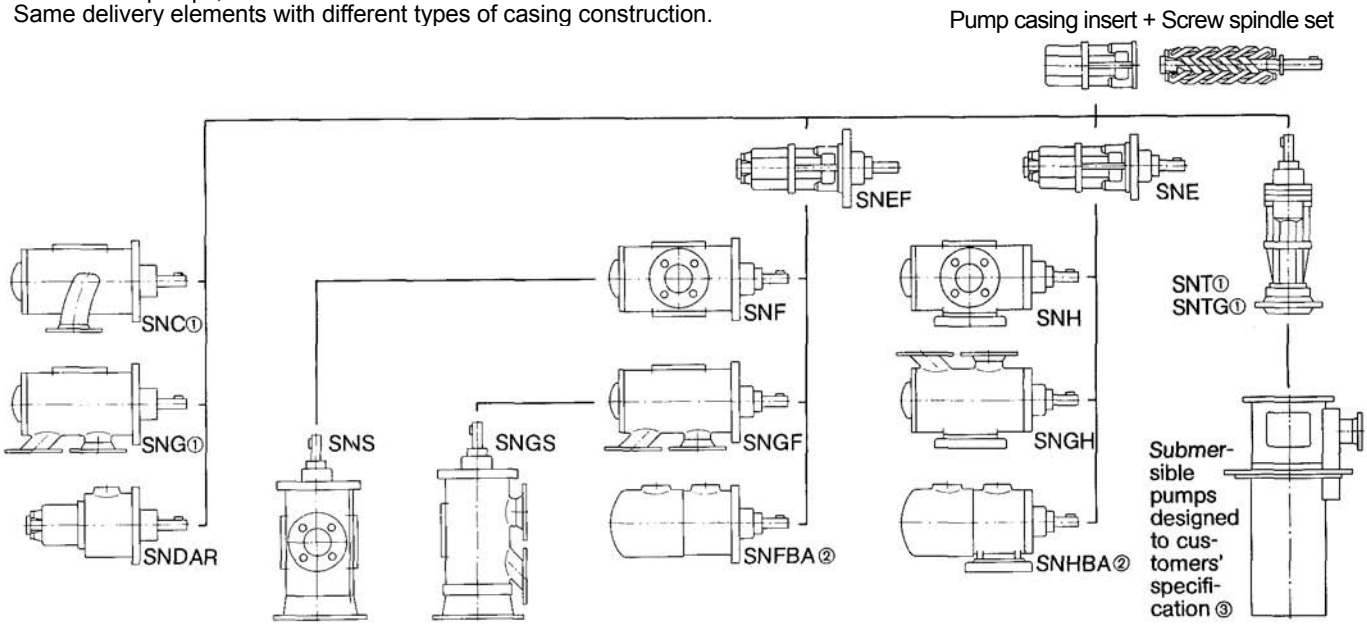
A protection according to DUN 24295 against accidental con-tact also is supplied as soon as the scope of supply includes pump, base plate and shaft coupling or when an intermediate bracket, respectively brackett with feet is included in the de-livery volume.

Drive

The pumps will be coupled either directly (Series SNH, SNGH) or by means of an intermediate bracket (Series SNS, SNGS), respectively of a bracket with feet for floor or wall mounting (Series SNF, SNGF) with electric motors of the most varied kinds or with other driving engines.

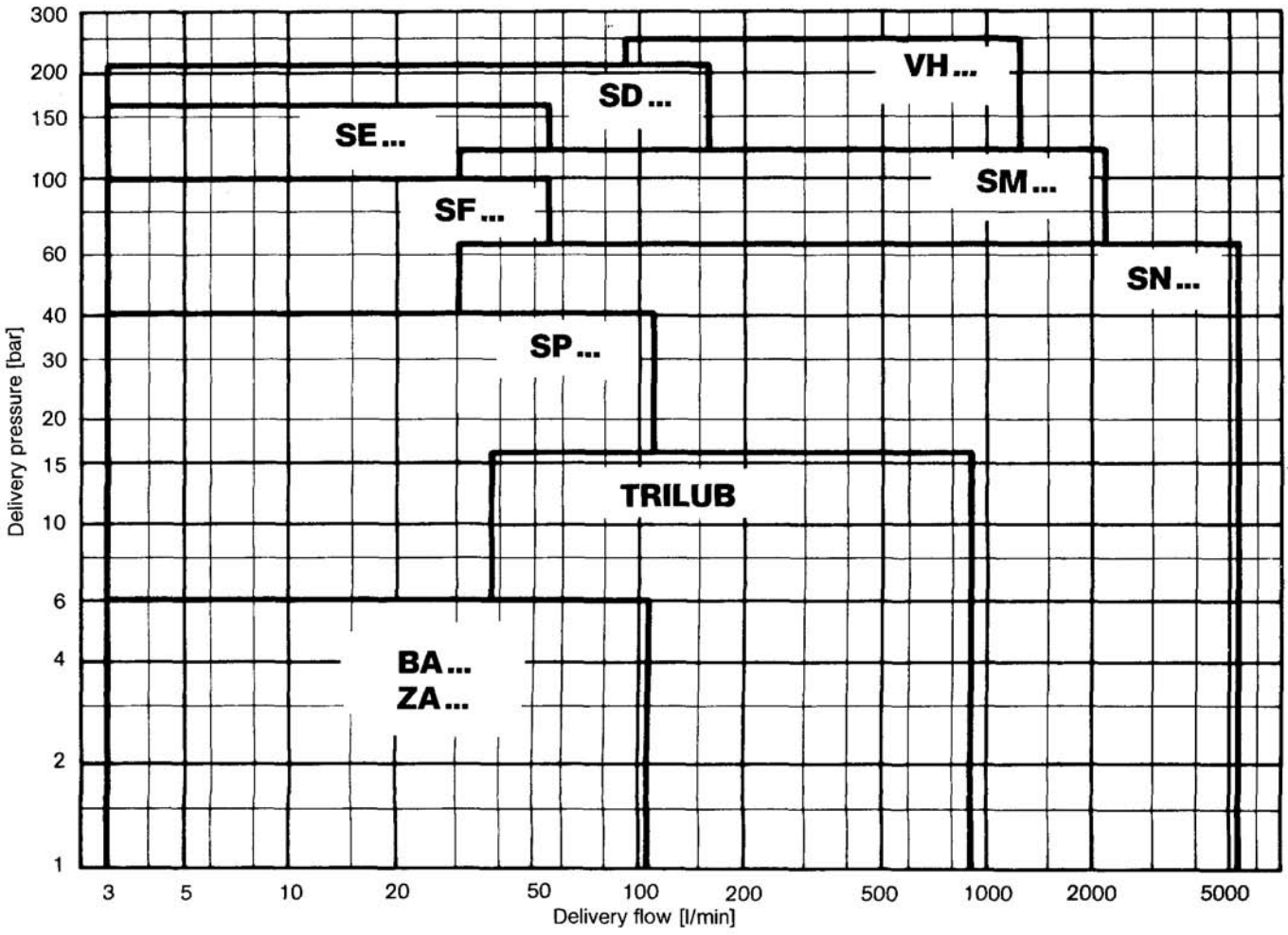
In most cases, surface cooled, three phase A.C. short circuit motors, construction B3 or V1 are provided; enclosure IP54 according to IEC Standard, class B insulation, motor windings for 400 VΔ, 50 or 60 Hz.

Unit-assembly principle
Three-screw pumps, SN series.
Same delivery elements with different types of casing construction.



① For series SNC, SNG, SNT and SNTG pump dimensions and sectional drawings are available upon request
② For series SNHBA and SNFBA see pamphlet VM 639 GB/...
③ For submersible pumps designed to customers' specification dimensions drawings will be prepared per order

Performance survey
For nominal pump outputs not covered by the type SN further pump series of single entry three-screw pumps are available according to the following survey (stated performances refer to 50 Hz speeds).



NPSH req. (m)

The values as indicated apply to airless fluids to be pumped (a safety allowances of 0.5 m is already included). In case of fluids to be pumped with air pockets (unsolved air), either the pump must be adapted or allowances on the stated NPSH values are necessary. For these purposes, by all means inquire at our works.

For exact NPSH values in dependence of the viscosity (also for other viscosities than those mentioned below) and of the pump rotational speed (also for other speeds of rotation than those mentioned below), please refer to the individual NPSH graphs.

Pump size SN...	Kinematic viscosity *v*											
	6 mm²/s				40 mm²/s				380 mm²/s			
	Speed n [1/min]				Speed n [1/min]				Speed n [1/min]			
	1450 m	1750 m	2900 m	3500 m	1450 m	1750 m	2900 m	3500 m	1450 m	1750 m	2900 m	3500 m
40-38	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,3
40-46	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,5	4,5
40-54	4,9	5,0	5,4	5,7	5,4	5,5	5,9	6,4	6,9	7,0	8,0	8,8
80-36	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,1	3,7
80-42	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,1	3,0	3,0	3,8	4,8
80-46	3,0	3,0	3,0	3,3	3,0	3,0	3,0	3,8	3,0	3,0	4,6	6,3
80-54	5,0	5,1	5,7	6,4	5,5	5,6	6,5	7,2	7,2	7,3	①	①
120-42	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,6	3,0	3,0	4,4	5,8
120-46	3,0	3,0	3,0	3,8	3,0	3,0	3,4	4,5	3,0	3,0	5,4	7,6
120-54	5,0	5,2	6,1	6,4	5,5	5,7	6,9	8,2	7,2	7,5	①	①
210-40	3,0	3,0	3,0	3,6	3,0	3,0	3,2	4,2	3,0	3,0	5,2	7,0
210-46	3,0	3,0	3,8	5,0	3,0	3,0	4,5	6,0	3,0	3,5	7,5	①
210-54	5,2	5,4	7,1	-	5,7	6,0	8,1	-	7,5	8,0	①	-
280-43	3,0	3,0	3,7	4,8	3,0	3,0	4,3	5,8	3,0	3,6	7,3	①
280-46	3,0	3,0	4,5	6,1	3,0	3,0	5,3	7,5	3,3	4,1	①	①
280-54	5,3	5,5	8,0	-	5,8	6,2	-	-	7,8	8,4	①	-
440-40	3,0	3,0	3,8	5,2	3,0	3,0	4,6	6,4	3,1	3,8	7,8	①
440-46	3,0	3,0	5,7	8,1	3,0	3,2	6,9	①	3,8	5,0	①	①
440-52	4,5	4,9	①	-	5,9	6,4	①	-	7,9	8,7	①	-
440-54	5,4	5,9	-	-	6,1	6,6	-	-	8,2	①	-	-
660-40	3,0	3,0	5,1	7,2	3,0	3,0	6,1	8,7	3,6	4,7	①	①
660-44	3,0	3,0	6,4	8,9	3,0	3,6	7,7	①	4,3	5,6	①	①
660-46	3,0	3,4	7,5	-	3,1	3,9	①	-	4,6	6,5	①	-
660-51	5,5	6,0	-	-	6,2	6,8	-	-	8,4	①	-	-
660-54	5,8	6,5	-	-	6,5	7,3	-	-	8,9	①	-	-
940-42	3,0	3,1	6,8	-	3,0	3,6	8,0	-	4,4	5,8	①	-
940-46	3,0	3,4	①	-	3,5	4,6	①	-	5,6	7,9	①	-
940-50	5,6	6,3	-	-	6,4	7,2	-	-	8,8	①	-	-
940-54	6,1	7,1	-	-	6,9	8,1	-	-	①	①	-	-
1300-38	3,0	3,0	6,0	-	3,0	3,4	7,4	-	4,1	5,4	①	-
1300-42	3,0	3,6	8,3	-	3,3	4,2	①	-	5,2	7,2	①	-
1300-44	3,0	4,0	-	-	3,6	4,8	-	-	5,8	8,2	-	-
1300-46	3,4	4,6	-	-	4,0	5,4	-	-	7,6	①	-	-
1300-54	6,6	8,0	-	-	7,5	①	-	-	①	①	-	-
1700-42	3,2	4,3	-	-	3,8	5,0	-	-	6,1	8,5	-	-
1700-46	3,4	5,4	-	-	4,6	6,6	-	-	7,9	①	-	-
2200-42	3,7	4,9	-	-	4,4	6,0	-	-	7,3	①	-	-
2200-46	4,2	6,3	-	-	5,3	7,6	-	-	①	①	-	-
2900-40	4,0	5,5	-	-	4,8	6,7	-	-	7,9	①	-	-
3600-46	5,7	8,1	-	-	6,9	①	-	-	①	①	-	-

① Inlet pressure necessary

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n = 2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
40-38	5	29,20	0,42	30,70	0,42	31,50	0,42	61,10	1,13	62,60	1,13	63,40	1,13
	10	26,90	0,168	29,70	0,68	31,10	0,68	58,90	1,66	61,70	1,66	63,10	1,66
	20	22,90	1,21	28,00	1,21	30,50	1,21	54,80	2,73	59,90	2,73	62,40	2,73
	30	19,20	1,75	26,30	1,75	29,90	1,75	51,10	3,79	58,30	3,79	61,80	3,79
	40	15,70	2,28	24,80	2,28	29,30	2,28	47,60	4,86	56,70	4,86	61,30	4,86
	50	-	-	23,30	2,81	28,80	2,81	44,20	5,92	55,20	5,92	60,70	5,92
	64	-	-	21,30	3,56	28,10	3,56	39,60	7,41	53,20	7,41	60,00	7,41
40-46	5	38,70	0,50	40,90	0,50	42,00	0,50	81,30	1,31	83,50	1,31	84,50	1,31
	10	35,70	0,86	39,60	0,86	41,50	0,86	78,20	2,02	82,10	2,02	84,00	2,02
	20	30,10	1,57	37,20	1,57	40,60	1,57	72,70	3,44	79,70	3,44	83,20	3,44
	30	25,00	2,28	34,90	2,28	39,80	2,28	67,60	4,86	77,50	4,86	82,30	4,86
	40	-	-	32,80	2,99	39,00	2,99	62,70	6,28	75,40	6,28	81,60	6,28
	50	-	-	30,80	3,70	38,20	3,70	58,00	7,70	73,40	7,70	80,80	7,70
	64	-	-	28,00	4,69	37,20	4,69	-	-	70,60	9,68	79,80	9,68
40-54	5	51,10	0,63	54,50	0,63	56,20	0,63	108,00	1,55	112,00	1,55	113,00	1,55
	10	46,20	1,10	52,40	1,10	55,40	1,10	103,00	2,51	110,00	2,51	113,00	2,51
	20	37,40	2,06	48,60	2,06	54,00	2,06	94,60	4,41	106,00	4,41	111,00	4,41
	30	-	-	45,00	3,01	52,60	3,01	86,40	6,32	102,00	6,32	110,00	6,32
	40	-	-	41.60	3.96	51.40	3.96	-	-	98.80	8.23	109.00	8.23
	50	-	-	-	-	50,10	4,92	-	-	95,60	10,10	107,00	10,10
	64	-	-	-	-	48,50	6,25	-	-	91,20	12,80	106,00	12,80
80-36	5	53,70	0,70	56,20	0,70	57,50	0,70	112,00	1,81	114,00	1,81	116,00	1,81
	10	50,00	1,18	54,60	1,18	56,90	1,18	108,00	2,78	113,00	2,78	115,00	2,78
	20	43,40	2,15	51,70	2,15	55,90	2,15	102,00	4,72	110,00	4,72	114,00	4,72
	30	37,30	3,12	49,00	3,12	54,90	3,12	95,50	6,66	107,00	6,66	113,00	6,66
	40	31,60	4,09	46,50	4,09	54,00	4,09	89,80	8,60	105,00	8,60	112,00	8,60
	50	26,00	5,06	44,10	5,06	53,10	5,06	84,20	10,50	102,00	10,50	111,00	10,50
	64	-	-	40,80	6,42	51,90	6,42	76,70	13,30	99,00	13,30	110,00	13,30
80-42	5	64,50	0,80	68,00	0,80	69,70	0,80	135,00	2,02	139,00	2,02	140,00	2,02
	10	59,50	1,39	65,80	1,39	68,90	1,39	130,00	3,20	136,00	3,20	140,00	3,20
	20	50,50	2,57	61,80	2,57	67,40	2,57	121,00	5,55	133,00	5,55	138,00	5,55
	30	42,20	3,74	58,20	3,74	66,10	3,74	113,00	7,91	129,00	7,91	137,00	7,91
	40	34,30	4,92	54,80	4,92	64,80	4,92	105,00	10,30	125,00	10,30	136,00	10,30
	50	-	-	51,40	6,10	63,60	6,10	97,40	12,60	122,00	12,60	134,00	12,60
	64	-	-	46,90	7,75	62,00	7,75	-	-	118,00	15,90	133,00	15,90
80-46	5	76,90	0,90	80,40	0,90	82,20	0,90	160,00	2,23	164,00	2,23	165,00	2,23
	10	72,00	1,60	78,30	1,60	81,40	1,60	155,00	3,61	161,00	3,61	165,00	3,61
	20	63,00	2,98	74,30	2,98	79,90	2,98	146,00	6,38	157,00	6,38	163,00	6,38
	30	54,70	4,37	70,70	4,37	78,60	4,37	138,00	9,16	154,00	9,16	162,00	9,16
	40	-	-	67,20	5,75	77,30	5,75	130,00	11,90	150,00	11,90	160,00	11,90
	50	-	-	63,90	7,14	76,10	7,14	122,00	14,70	147,00	14,70	159,00	14,70
	64	-	-	59,40	9,08	74,40	9,08	-	-	143,00	18,60	158,00	18,60
80-54	5	100,00	1,13	106,00	1,13	109,00	1,13	210,00	2,68	216,00	2,68	219,00	2,68
	10	92,30	2,05	102,00	2,05	107,00	2,05	202,00	4,51	213,00	4,51	217,00	4,51
	20	77,90	3,88	96,10	3,88	105,00	3,88	188,00	8,18	206,00	8,18	215,00	8,18
	30	-	-	90,30	5,72	103,00	5,72	175,00	11,90	200,00	11,90	213,00	11,90
	40	-	-	84,80	7,55	101,00	7,55	-	-	195,00	15,50	211,00	15,50
	50	-	-	-	-	98,80	9,39	-	-	190,00	19,20	209,00	19,20
	64	-	-	-	-	96,10	12,00	-	-	183,00	24,30	206,00	24,30
120-42	5	91,90	1,19	96,50	1,19	98,70	1,19	192,00	3,11	196,00	3,11	199,00	3,11
	10	85,50	2,03	93,70	2,03	97,70	2,03	185,00	4,77	194,00	4,77	198,00	4,77
	20	73,80	3,69	88,60	3,69	95,80	3,69	174,00	8,10	189,00	8,10	196,00	8,10
	30	63,10	5,36	83,90	5,36	94,10	5,36	163,00	11,40	184,00	11,40	194,00	11,40
	40	52,90	7,02	79,50	7,02	92,50	7,02	153,00	14,80	179,00	14,80	192,00	14,80
	50	-	-	75,20	8,69	90,90	8,69	143,00	18,10	175,00	18,10	191,00	18,10
	64	-	-	69,40	11,00	88,80	11,00	-	-	169,00	22,80	189,00	22,80
120-46	5	110,00	1,35	115,00	1,35	117,00	1,35	229,00	3,41	233,00	3,41	236,00	3,41
	10	104,00	2,33	112,00	2,33	116,00	2,33	222,00	5,39	230,00	5,39	234,00	5,39
	20	92,30	4,31	107,00	4,31	114,00	4,31	211,00	9,33	225,00	9,33	233,00	9,33
	30	81,50	6,28	102,00	6,28	113,00	6,28	200,00	13,30	221,00	13,30	231,00	13,30
	40	-	-	97.90	8.25	111.00	8.25	190.00	17.20	216.00	17.20	229.00	17.20
	50	-	-	93,60	10,20	109,00	10,20	180,00	21,20	212,00	21,20	228,00	21,20
	64	-	-	87,90	13,00	107,00	13,00	-	-	206,00	26,70	226,00	26,70
120-54	5	145,00	1,68	152,00	1,68	156,00	1,68	303,00	4,07	310,00	4,07	314,00	4,07
	10	135,00	2,99	148,00	2,99	154,00	2,99	293,00	6,70	306,00	6,70	312,00	6,70
	20	116,00	5,62	140,00	5,62	151,00	5,62	274,00	12,00	297,00	12,00	309,00	12,00
	30	-	-	132,00	8,25	148,00	8,25	257,00	17,20	290,00	17,20	306,00	17,20
	40	-	-	125,00	10,90	146,00	10,90	-	-	283,00	22,50	304,00	22,50
	50	-	-	-	-	143,00	13,50	-	-	276,00	27,70	301,00	27,70
	64	-	-	-	-	140,00	17,20	-	-	267,00	35,10	298,00	35,10

The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
210-40	5	160,00	1,97	165,00	1,97	168,00	1,97	329,00	5,06	334,00	5,06	337,00	5,06
	10	153,00	3,38	162,00	3,38	166,00	3,38	322,00	7,87	331,00	7,87	335,00	7,87
	20	139,00	6,19	156,00	6,19	164,00	6,19	308,00	13,50	325,00	13,50	333,00	13,50
	30	127,00	9,01	151,00	9,01	162,00	9,01	296,00	19,10	320,00	19,10	331,00	19,10
	40	116,00	11,80	146,00	11,80	161,00	11,80	285,00	24,80	315,00	24,80	330,00	24,80
	50	-	-	141,00	14,60	159,00	14,60	274,00	30,40	310,00	30,40	328,00	30,40
	64	-	-	134,00	18,60	156,00	18,60	-	-	303,00	38,30	325,00	38,30
210-46	5	200,00	2,33	207,00	2,33	210,00	2,33	412,00	5,78	419,00	5,78	422,00	5,78
	10	190,00	4,10	202,00	4,10	209,00	4,10	402,00	9,31	415,00	9,31	421,00	9,31
	20	172,00	7,63	195,00	7,63	206,00	7,63	384,00	16,40	407,00	16,40	418,00	16,40
	30	155,00	11,20	187,00	11,20	203,00	11,20	367,00	23,50	400,00	23,50	415,00	23,50
	40	-	-	180,00	14,70	201,00	14,70	352,00	30,50	393,00	30,50	413,00	30,50
	50	-	-	174,00	18,20	198,00	18,20	336,00	37,60	386,00	37,60	410,00	37,60
	64	-	-	165,00	23,20	195,00	23,20	-	-	377,00	47,50	407,00	47,50
210-54	5	263,00	2,92	274,00	2,92	280,00	2,92	546,00	6,96	557,00	6,96	563,00	6,96
	10	247,00	5,28	267,00	5,28	277,00	5,28	530,00	11,70	550,00	11,70	560,00	11,70
	20	218,00	9,99	255,00	9,99	273,00	9,99	501,00	21,10	538,00	21,10	555,00	21,10
	30	-	-	243,00	14,70	268,00	14,70	475,00	30,50	526,00	30,50	551,00	30,50
	40	-	-	232,00	19,40	264,00	19,40	-	-	515,00	40,00	547,00	40,00
	50	-	-	-	-	260,00	24,10	-	-	504,00	49,40	543,00	49,40
	64	-	-	-	-	255,00	30,70	-	-	490,00	62,60	538,00	62,60
280-43	5	233,00	2,92	241,00	2,92	245,00	2,92	481,00	7,53	489,00	7,53	493,00	7,53
	10	221,00	4,98	236,00	4,98	243,00	4,98	469,00	11,70	484,00	11,70	491,00	11,70
	20	199,00	9,11	227,00	9,11	240,00	9,11	447,00	19,90	475,00	19,90	488,00	19,90
	30	179,00	13,20	218,00	13,20	237,00	13,20	427,00	28,20	466,00	28,20	485,00	28,20
	40	-	-	210,00	17,40	234,00	17,40	408,00	36,50	457,00	36,50	481,00	36,50
	50	-	-	202,00	21,50	231,00	21,50	389,00	44,70	449,00	44,70	478,00	44,70
	64	-	-	191,00	27,30	227,00	27,30	-	-	439,00	56,30	474,00	56,30
280-46	5	266,00	3,19	274,00	3,19	278,00	3,19	546,00	8,08	555,00	8,08	559,00	8,08
	10	254,00	5,53	269,00	5,53	276,00	5,53	534,00	12,80	549,00	12,80	557,00	12,80
	20	232,00	10,20	259,00	10,20	273,00	10,20	512,00	22,10	540,00	22,10	553,00	22,10
	30	212,00	14,90	251,00	14,90	269,00	14,90	492,00	31,50	531,00	31,50	550,00	31,50
	40	-	-	242,00	19,60	266,00	19,60	473,00	40,80	523,00	40,80	547,00	40,80
	50	-	-	234,00	24,20	263,00	24,20	455,00	50,20	515,00	50,20	544,00	50,20
	64	-	-	223,00	30,80	259,00	30,80	-	-	504,00	63,30	540,00	63,30
280-54	5	350,00	3,97	364,00	3,97	370,00	3,97	724,00	9,64	738,00	9,64	744,00	9,64
	10	331,00	7,09	355,00	7,09	367,00	7,09	705,00	15,90	729,00	15,90	741,00	15,90
	20	296,00	13,30	340,00	13,30	362,00	13,30	670,00	28,30	714,00	28,30	736,00	28,30
	30	-	-	326,00	19,60	356,00	19,60	638,00	40,80	700,00	40,80	731,00	40,80
	40	-	-	313,00	25,80	351,00	25,80	-	-	687,00	53,30	726,00	53,30
	50	-	-	-	-	347,00	32,00	-	-	674,00	65,80	721,00	65,80
	64	-	-	-	-	340,00	40,80	-	-	657,00	83,20	714,00	83,20
440-40	5	335,00	4,17	343,00	4,17	348,00	4,17	685,00	10,80	694,00	10,80	698,00	10,80
	10	322,00	7,09	338,00	7,09	346,00	7,09	673,00	16,70	688,00	16,70	696,00	16,70
	20	300,00	12,90	328,00	12,90	342,00	12,90	650,00	28,30	678.00	28,30	692,00	28,30
	30	280,00	18,80	319,00	18,80	339,00	18,80	630,00	40,00	669.00	40,00	689,00	40,00
	40	260,00	24,60	311,00	24,60	336,00	24,60	610,00	51,70	661,00	51,70	686,00	51,70
	50	-	-	303,00	30,40	332,00	30,40	591,00	63,40	653,00	63,40	683,00	63,40
	64	-	-	292,00	38,60	328,00	38,60	-	-	642,00	79,70	678,00	79,70
440-46	5	425,00	4,96	436,00	4,96	442,00	4,96	870,00	12,40	882,00	12,40	888,00	12,40
	10	408,00	8,68	429,00	8,68	440,00	8,68	853,00	19,90	875,00	19,90	885,00	19,90
	20	377,00	16,10	416,00	16,10	435,00	16,10	823,00	34,70	861,00	34,70	880,00	34,70
	30	349,00	23,50	403,00	23,50	430,00	23,50	795,00	49,60	849,00	49,60	876,00	49,60
	40	-	-	392,00	31,00	426,00	31,00	768,00	64,40	837,00	64,40	871,00	64,40
	50	-	-	380,00	38,40	422,00	38,40	742,00	79,30	826,00	79,30	867,00	79,30
	64	-	-	365,00	48,80	416,00	48,80	-	-	811,00	100,00	862,00	100,00
440-52	5	492,00	5,63	510,00	5,63	520,00	5,63	1017,00	13,80	1036,00	13,80	1045,00	13,80
	10	465,00	10,00	499,00	10,00	515,00	10,00	990,00	22,50	1024,00	22,50	1041,00	22,50
	20	416,00	18,80	477,00	18,80	508,00	18,80	941,00	40,00	1003,00	40,00	1033,00	40,00
	30	-	-	458,00	27,50	500,00	27,50	896,00	57,50	983,00	57,50	1025,00	57,50
	40	-	-	439,00	36,30	493,00	36,30	853,00	75,00	964,00	75,00	1019,00	75,00
	50	-	-	421,00	45,00	487,00	45,00	-	-	946,00	92,50	1012,00	92,50
	64	-	-	-	-	478,00	57,30	-	-	922,00	117,00	1003,00	117,00
440-54	5	552,00	6,13	571,00	6,13	580,00	6,13	1138,00	14,80				
	10	525,00	11,00	559,00	11,00	576,00	11,00	1111,00	24,50				
	20	476,00	20,80	538,00	20,80	568,00	20,80	1062,00	44,00				
	30	-	-	518,00	30,50	561,00	30,50	1017,00	63,60				
	40	-	-	500,00	40,30	554,00	40,30	-	-				
	50	-	-	-	-	547,00	50,10	-	-				
	64	-	-	-	-	538,00	63,70	-	-				

The performance datas are valid for all designs. For exact deliveries as a f unction of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
660-40	5	520,00	6,30	531,00	6,30	537,00	6,30	1060,00	16,20	1072,00	16,20	1078,00	16,20
	10	503,00	10,30	524,00	10,80	534,00	10,80	1044,00	25,20	1065,00	25,20	1075,00	25,20
	20	474,00	19,80	511,00	19,80	530,00	19,80	1014,00	43,20	1052,00	43,20	1070,00	43,20
	30	446,00	28,80	499,00	28,80	525,00	28,80	987,00	61,20	1040,00	61,20	1066,00	61,20
	40	-	-	488,00	37,80	521,00	37,80	960,00	79,30	1028,00	79,30	1061,00	79,30
	50	-	-	477,00	46,80	517,00	46,80	935,00	97,30	1017,00	97,30	1057,00	97,30
	64	-	-	462,00	59,50	511,00	59,50	-	-	1002,00	123,00	1052,00	123,00
660-44	5	587,00	6,93	603,00	6,93	611,00	6,93	1202,00	17,50	1218,00	17,50	1226,00	17,50
	10	565,00	12,10	593,00	12,10	607,00	12,10	1180,00	27,70	1209,00	27,70	1222,00	27,70
	20	524,00	22,30	575,00	22,30	601,00	22,30	1139,00	48,20	1191,00	48,20	1316,00	48,20
	30	486,00	32,60	559,00	32,60	594,00	32,60	1102,00	68,70	1174,00	68,70	1210,00	68,70
	40	-	-	543,00	42,80	589,00	42,80	1066,00	89,20	1159,00	89,20	1204,00	89,20
	50	-	-	529,00	53,10	583,00	53,10	-	-	1144,00	110,00	1198,00	110,00
	64	-	-	-	-	576,00	67,40	-	-	1124,00	138,00	1191,00	138,00
660-46	5	637,00	7,34	653,00	7,34	661,00	7,34	1302,00	18,30	1318,00	18,30	1326,00	18,30
	10	614,00	12,90	643,00	12,90	657,00	12,90	1280,00	29,40	1308,00	29,40	1322,00	29,40
	20	574,00	24,00	625,00	24,00	650,00	24,00	1239,00	51,50	1291,00	51,50	1316,00	51,50
	30	-	-	609,00	35,10	644,00	35,10	1201,00	73,70	1274,00	73,70	1310,00	73,70
	40	-	-	593,00	46,10	639,00	46,10	1166,00	95,90	1259,00	95,90	1304,00	95,90
	50	-	-	578,00	57,20	633,00	57,20	-	-	1244,00	118,00	1298,00	118,00
	64	-	-	-	-	625,00	72,80	-	-	1223,00	149,00	1291,00	149,00
660-51	5	745,00	8,38	770,00	8,38	783,00	8,38	1535,00	20,40	1560,00	20,40	1573,00	20,40
	10	709,00	15,00	755,00	15,00	777,00	15,00	1499,00	33,50	1544,00	33,50	1567,00	33,50
	20	644,00	28,10	726,00	28,10	766,00	28,10	1433,00	59,90	1516,00	59,90	1556,00	59,90
	30	-	-	700,00	41,30	757,00	41,30	1373,00	86,20	1490,00	86,20	1546,00	86,20
	40	-	-	675,00	54,50	747,00	54,50	-	-	1465,00	113,00	1537,00	113,00
	50	-	-	-	-	738,00	67,60	-	-	1441,00	139,00	1528,00	139,00
	64	-	-	-	-	726,00	86,10	-	-	-	-	1516,00	176,00
660-54	5	853,00	9,28	878,00	9,28	891,00	9,28	1751,00	22,20	1776,00	22,20	1789,00	22,20
	10	817,00	16,80	863,00	16,80	885,00	16,80	1715,00	37,10	1761,00	37,10	1783,00	37,10
	20	752,00	31,70	834,00	31,70	874,00	31,70	1650,00	67,10	1732,00	67,10	1772,00	67,10
	30	-	-	808,00	46,70	865,00	46,70	1589,00	97,00	1706,00	97,00	1763,00	97,00
	40	-	-	-	-	855,00	61,70	-	-	1681,00	127,00	1753,00	127,00
	50	-	-	-	-	847,00	76,60	-	-	1657,00	157,00	1745,00	157,00
	64	-	-	-	-	835,00	97,60	-	-	-	-	1733,00	199,00
940-42	5	753,00	9,16	773,00	9,16	783,00	9,16	1542,00	23,50	1563,00	23,50	1573,00	23,50
	10	724,00	15,70	761,00	15,70	779,00	15,70	1513,00	36,60	1550,00	36,60	1568,00	36,60
	20	671,00	28,90	738,00	28,90	770,00	28,90	1460,00	62,90	1527,00	62,90	1559,00	62,90
	30	622,00	42,00	716,00	42,00	762,00	42,00	1412,00	89,20	1506,00	89,20	1552,00	89,20
	40	-	-	696,00	55,20	755,00	55,20	1365,00	116,00	1486,00	116,00	1544,00	116,00
	50	-	-	677,00	68,40	748,00	68,40	-	-	1466,00	142,00	1537,00	142,00
	64	-	-	-	-	738,00	86,80	-	-	1440,00	179,00	1527,00	179,00
940-46	5	911,00	10,50	931,00	10,50	941,00	10,50	1858,00	26,10	1878,00	26,10	1888,00	26,10
	10	882,00	18,40	919,00	18,40	937,00	18,40	1829,00	41,90	1866,00	41,90	1884,00	41,90
	20	829,00	34,20	896,00	34,20	928,00	34,20	1776,00	73,50	1843,00	73,50	1875,00	73,50
	30	-	-	874,00	49,90	920,00	49,90	1727,00	105,00	1821,00	105,00	1867,00	105,00
	40	-	-	854,00	65,70	913,00	65,70	1681,00	137,00	1801,00	137,00	1860,00	137,00
	50	-	-	835,00	81,50	905,00	81,50	-	-	1782,00	168,00	1853,00	168,00
	64	-	-	-	-	896,00	104,00	-	-	1756,00	212,00	1843,00	212,00
940-50	5	1020,00	11,60	1053,00	11,60	1069,00	11,60	2099,00	28,30	2132,00	28,30	2148,00	28,30
	10	974,00	20,60	1033,00	20,60	1062,00	20,60	2052,00	46,30	2112,00	46,30	2140,00	46,30
	20	889,00	38,50	996,00	38,50	1048,00	38,50	1968,00	86,20	2075,00	82,20	2127,00	82,20
	30	-	-	962,00	56,50	1036,00	56,50	1890,00	118,00	2041,00	118,00	2114,00	118,00
	40	-	-	930,00	74,50	1024,00	74,50	-	-	2009,00	154,00	2102,00	154,00
	50	-	-	-	-	1012,00	92,50	-	-	1977,00	190,00	2091,00	190,00
	64	-	-	-	-	997,00	118,00	-	-	1935,00	240,00	2075,00	240,00
940-54	5	1205,00	13,10	1237,00	13,10	1253,00	13,10	2467,00	31,40	2500,00	31,40	2516,00	31,40
	10	1158,00	23,60	1217,00	23,60	1246,00	23,60	2421,00	52,40	2480,00	52,40	2509,00	52,40
	20	1074,00	44,70	1180,00	44,70	1232,00	44,70	2336,00	94,50	2443,00	94,50	2495,00	94,50
	30	-	-	1146,00	65,70	1220,00	65,70	2258,00	137,00	2409,00	137,00	2483,00	137,00
	40	-	-	-	-	1208,00	86,80	-	-	2377,00	179,00	2471,00	179,00
	50	-	-	-	-	1196,00	108,00	-	-	2346,00	221,00	2459,00	221,00
	64	-	-	-	-	1181,00	137,00	-	-	-	-	2444,00	280,00

The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
	5	902,00	11,30	921,00	11,30	930,00	11,30	1837,00	29,70	1856,00	29,70	1865,00	29,70
	10	875,00	19,10	909,00	19,10	926,00	19,10	1811,00	45,30	1845,00	45,30	1861,00	45,30
	20	827,00	34,70	888,00	34,70	918,00	34,70	1762,00	76,50	1823,00	76,50	1853,00	76,50
1300-38	30	782,00	50,30	869,00	50,30	911,00	50,30	1717,00	108,00	1804,00	108,00	1846,00	108,00
	40	-	-	850,00	65,90	904,00	65,90	1675,00	139,00	1785,00	139,00	1839,00	139,00
	50	-	-	832,00	81,50	897,00	81,50	1634,00	170,00	1768,00	170,00	1833,00	170,00
	64	-	-	808,00	103,00	888,00	103,00	-	-	1 743,00	214,00	1824,00	214,00
	5	1072,00	12,80	1097,00	12,80	1110,00	12,80	2189,00	32,70	2215,00	32,70	2227,00	32,70
	10	1035,00	22,20	1081,00	22,20	1104,00	22,20	2152,00	51,40	2199,00	51,40	2221,00	51,40
	20	969,00	40,80	1052,00	40,80	1093,00	40,80	2086,00	88,60	2170,00	88,60	2211,00	88,60
1300-42	30	907,00	59,40	1026,00	59,40	1083,00	59,40	2025,00	126,00	2143,00	126,00	2201,00	126,00
	40	-	-	1000,00	78,00	1074,00	78,00	1967,00	163,00	2118,00	1 63,00	2191,00	163,00
	50	-	-	976,00	96,60	1065,00	96,60	-	-	2093,00	200,00	2182,00	200,00
	64	-	-	-	-	1053,00	123,00	-	-	2060,00	252,00	2170,00	252,00
	5	1149,00	13,50	1175,00	13,50	1188,00	13,50						
	10	1113,00	23,50	1159,00	23,50	1182,00	23,50						
	20	1047,00	43,40	1130,00	43,40	1171,00	43,40						
1300-44	30	985,00	63,30	1104,00	63,30	1161,00	63,30						
	40	-	-	1078,00	83,20	1152,00	83,20						
	50	-	-	1054,00	103,00	1143,00	103,00						
	64	-	-	-	-	1131,00	131,00						
	5	1253,00	14,40	1279,00	14,40	1292,00	14,40						
	10	1217,00	25,20	1263,00	25,20	1286,00	25,20						
	20	1150,00	46,80	1234,00	46,80	1275,00	46,80						
1300-46	30	-	-	1208,00	68,50	1265,00	68,50						
	40	-	-	1182,00	90,10	1256,00	90,10						
	50	-	-	1158,00	112,00	1247,00	112,00						
	64	-	-	-	-	1235,00	142,00						
	5	1655,00	17,90	1696,00	17,90	1716,00	17,90						
	10	1596,00	32,30	1670,00	32,30	1707,00	32,30						
	20	1490,00	61,10	1624,00	61,10	1690,00	61,10						
1300-54	30	-	-	1581,00	89,90	1674,00	89,90						
	40	-	-	-	-	1659,00	119,00						
	50	-	-	-	-	1644,00	148,00						
	64	-	-	-	-	1625,00	188,00						
	5	1437,00	17,20	1469,00	17,20	1484,00	17,20						
	10	1391,00	29,70	1449,00	29,70	1477,00	29,70						
	20	1310,00	54,60	1414,00	54,60	1464,00	54,60						
1700-42	30	1234,00	79,50	1381,00	79,50	1452,00	79,50						
	40	-	-	1349,00	104,00	1440,00	104,00						
	50	-	-	1319,00	129,00	1429,00	129,00						
	64	-	-	-	-	1414,00	164,00						
	5	1673,00	19,20	1705,00	19,20	1720,00	19,20						
	10	1627,00	33,60	1685,00	33,60	1713,00	33,60						
	20	1545,00	62,40	1649,00	62,40	1700,00	62,40						
1700-46	30	-	-	1617,00	91,20	1688,00	91,20						
	40	-	-	1585,00	120,00	1676,00	120,00						
	50	-	-	1555,00	149,00	1665,00	149,00						
	64	-	-	-	-	1650,00	189,00						
	5	1877,00	22,50	1916,00	22,50	1935,00	22,50						
	10	1823,00	38,80	1892,00	38,80	1926,00	38,80						
	20	1724,00	71,20	1849,00	71,20	1910,00	71,20						
2200-42	30	1633,00	104,00	1809,00	104,00	1895,00	104,00						
	40	-	-	1772,00	136,00	1881,00	136,00						
	50	-	-	1735,00	168,00	1868,00	1 68,00						
	64	-	-	-	-	1850,00	214,00						
	5	2177,00	25,00	2215,00	25,00	2234,00	25,00						
	10	2122,00	43,70	2191,00	43,70	2225,00	43,70						
	20	2023,00	81,20	2148,00	81,20	2209,00	81,20						
2200-46	30	-	-	2109,00	119,00	2195,00	119,00						
	40	-	-	2071,00	156,00	2181,00	156,00						
	50	-	-	2035,00	193,00	2167,00	193,00						
	64	-	-	-	-	2149,00	246,00						
	5	2769,00	33,40	2823,00	33,40	2849,00	33,40						
	10	2693,00	57,30	2790,00	57,30	2837,00	57,30						
	20	2555,00	105,00	2730,00	105,00	2815,00	105,00						
2900-40	30	-	-	2674,00	153,00	2794,00	153,00						
	40	-	-	2621,00	201,00	2775,00	201,00						
	50	-	-	2570,00	248,00	2756,00	248,00						
	64	-	-	-	-	2731,00	315,00						
	5	3470,00	39,30	3523,00	39,30	3550,00	39,30						
	10	3393,00	69,00	3490,00	69,00	3537,00	69,00						
	20	3255,00	128,00	3430,00	128,00	3515,00	128,00						
3600-46	30	-	-	3374,00	188,00	3495,00	188,00						
	40	-	-	3321,00	247,00	3475,00	247,00						
	50	-		-	-	3456,00	307,00						
	64	-	-	-	-	3431,00	390,00						

The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
40-38	5	35,80	0,54	37,30	0,54	38,10	0,54	74,30	1,52	75,90	1,52	76,60	1,52
	10	33,50	0,86	36,30	0,86	37,70	0,86	72,10	2,16	74,90	2,16	76,30	2,16
	20	29,50	1,50	34,60	1,50	37,10	1,50	68,10	3,44	73,10	3,44	75,60	3,44
	30	25,80	2,15	32,90	2,15	36,50	2,15	64,40	4,73	71,50	4,73	75,00	4,73
	40	22,30	2,79	31,40	2,79	35,90	2,79	60,80	6,01	69,90	6,01	74,50	6,01
	50	18,90	3,43	29,90	3,43	35,40	3,43	57,40	7,30	68,40	7,30	73,90	7,30
	64	-	-	27,90	4,33	34,70	4,33	52,80	9,10	66,40	9,10	73,20	9,10
40-46	5	47,50	0,65	49,70	0,65	50,80	0,65	98,90	1,73	101,00	1,73	102,00	1,73
	10	44,50	1,07	48,40	1,07	50,30	1,07	95,90	2,59	99,80	2,59	102,00	2,59
	20	38,90	1,93	46,00	1,93	49,40	1,93	90,30	4,30	97,30	4,30	101,00	4,30
	30	33,80	2,79	43,70	2,79	48,60	2,79	85,20	6,01	95,10	6,01	100,00	6,01
	40	-	-	41,60	3,64	47,80	3,64	80,30	7,72	93,00	7,72	99,20	7,72
	50	-	-	39,60	4,50	47,10	4,50	75,70	9,44	91,00	9,44	98,40	9,44
	64	-	-	36,80	5,70	46,00	5,70	-	-	88,20	11,80	97,40	11,80
40-54	5	62,90	0,79	66,40	0,79	68,00	0,79	132,00	2,02	135,00	2,02	137,00	2,02
	10	58,00	1,37	64,20	1,37	67,20	1,37	127,00	3,18	133,00	3,18	136,00	3,18
	20	49,20	2,52	60,40	2,52	65,80	2,52	118,00	5,48	129,00	5,48	135,00	5,48
	30	-	-	56,80	3,67	64,50	3,67	110,00	7,78	126,00	7,78	134,00	7,78
	40	-	-	53,50	4,82	63,20	4,82	102,00	10,10	122,00	10,10	132,00	10,10
	50	-	-	50,20	5,97	62,00	5,97	-	-	119,00	12,40	131,00	12,40
	64	-	-	-	-	60,30	7,58	-	-	115,00	15,60	129,00	15,60
80-36	5	65,70	0,89	68,20	0,89	69,50	0,89	136,00	2,39	138,00	2,39	140,00	2,39
	10	62,00	1,48	66,60	1,48	68,90	1,48	132,00	3,56	137,00	3,56	139,00	3,56
	20	55,50	2,65	63,80	2,65	67,90	2,65	126,00	5,91	134,00	5,91	138,00	5,91
	30	49,40	3,82	61,10	3,82	66,90	3,82	120,00	8,25	131,00	8,25	137,00	8,25
	40	43,60	4,99	58,50	4,99	66,00	4,99	114,00	10,60	129,00	10,60	136,00	10,60
	50	38,00	6,16	56,10	6,16	65,10	6,16	108,00	12,90	126,00	12,90	135,00	12,90
	64	-	-	52,80	7,80	63,90	7,80	101,00	16,20	123,00	16,20	134,00	16,20
80-42	5	79,10	1,02	82,60	1,02	84,30	1,02	164,00	2,65	168,00	2,65	170,00	2,65
	10	74,10	1,73	80,40	1,73	83,50	1,73	159,00	4,07	166,00	4,07	169,00	4,07
	20	65,10	3,15	76,50	3,15	82,10	3,15	150,00	6,91	162,00	6,91	167,00	6,91
	30	56,80	4,57	72,80	4,57	80,70	4,57	142,00	9,75	158,00	9,75	166,00	9,75
	40	48,90	5,99	69,40	5,99	79,50	5,99	134,00	12,60	155,00	12,60	165,00	12,60
	50	-	-	66,10	7,41	78,20	7,41	127,00	15,40	151,00	15,40	164,00	15,40
	64	-	-	61,60	9,40	76,60	9,40	116,00	19,40	147,00	19,40	162,00	19,40
80-46	5	94,10	1,14	97,60	1,14	99,40	1,14	194,00	2,90	198,00	2,90	200,00	2,90
	10	89,20	1,98	95,50	1,98	98,60	1,98	190,00	4,57	196,00	4,57	199,00	4,57
	20	80,20	3,65	91,50	3,65	97,10	3,65	181,00	7,91	192,00	7,91	197,00	7,91
	30	71,90	5,32	87,90	5,32	95,80	5,32	172,00	11,30	188,00	11,30	196,00	11,30
	40	-	-	84,40	7,00	94,50	7,00	164,00	14,60	185,00	14,60	195,00	14,60
	50	-	-	81,10	8,67	93,30	8,67	157,00	17,90	181,00	17,90	194,00	17,90
	64	-	-	76,60	11,00	91,60	11,00	-	-	177,00	22,60	192,00	22,60
80-54	5	123,00	1,41	129,00	1,41	131,00	1,41	256,00	3,44	262,00	3,44	264,00	3,44
	10	115,00	2,52	125,00	2,52	130,00	2,52	248,00	5,66	258,00	5,66	263,00	5,66
	20	101,00	4,74	119,00	4,74	128,00	4,74	234,00	10,10	252,00	10,10	261,00	10,10
	30	-	-	113,00	6,95	126,00	6,95	220,00	14,50	246,00	14,50	259,00	14,50
	40	-	-	108,00	9,17	124,00	9,17	208,00	19,00	241,00	19,00	257,00	19,00
	50	-	-	102,00	11,40	122,00	11,40	-	-	235,00	23,40	255,00	23,40
	64	-	-	-	-	119,00	14,50	-	-	228,00	29,60	252,00	29,60
120-42	5	113,00	1,53	117,00	1,53	119,00	1,53	233,00	4,11	238,00	4,11	240,00	4,11
	10	106,00	2,54	114,00	2,54	118,00	2,54	227,00	6,12	235,00	6,12	239,00	6,12
	20	94,50	4,55	109,00	4,55	117,00	4,55	215,00	10,10	230,00	10,10	237,00	10,10
	30	83,80	6,56	105,00	6,56	115,00	6,56	204,00	14,20	225,00	14,20	235,00	14,20
	40	73,50	8,57	100,00	8,57	113,00	8,57	194,00	18,20	221,00	18,20	234,00	18,20
	50	-	-	95,90	10,60	112,00	10,60	184,00	22,20	217,00	22,20	232,00	22,20
	64	-	-	90,10	13,40	110,00	13,40	171,00	27,80	211,00	27,80	230,00	27,80
120-46	5	135,00	1,72	139,00	1,72	142,00	1,72	278,00	4,48	282,00	4,48	284,00	4,48
	10	128,00	2,91	137,00	2,91	141,00	2,91	217,00	6,86	279,00	6,86	283,00	6,86
	20	117,00	5,29	132,00	5,29	139,00	5,29	260,00	11,60	274,00	11,60	282,00	11,60
	30	106,00	7,67	127,00	7,67	137,00	7,67	249,00	16,40	270,00	16,40	280,00	16,40
	40	-	-	122,00	10.10	135,00	10.10	239,00	21.10	265,00	21.10	278,00	21.10
	50	-	-	118,00	12,40	134,00	12,40	229,00	25,90	261,00	25,90	277,00	25,90
	64	-	-	112,00	15,80	132,00	15,80	-	-	255,00	32,60	275,00	32,60
120-54	5	178,00	2,11	185,00	2,11	188,00	2,11	368,00	5,27	375,00	5,27	379,00	5,27
	10	167,00	3,70	180,00	3,70	187,00	3,70	358,00	8,45	371,00	8,45	377,00	8,45
	20	149,00	6,87	172,00	6,87	184,00	6,87	339,00	14,80	363,00	14,80	374,00	14,80
	30	-	-	165,00	10,00	181,00	10,00	322,00	21,10	355,00	21,10	372,00	21,10
	40	-	-	158,00	13,20	178,00	13,20	306,00	27,50	348,00	27,50	369,00	27,50
	50	-	-	151,00	16,40	176,00	16,40	-	-	341,00	33,80	366,00	33,80
	64	-	-	-	-	173,00	20,80	-	-	332,00	42,70	363,00	42,70

The performance datas are valid for all designs. For exact deliveries as a f unction of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
210-40	5	195,00	2,52	200,00	2,52	203,00	2,52	399,00	6,66	404,00	6,66	406,00	6,66
	10	188,00	4,21	197,00	4,21	201,00	4,21	392,00	10,10	401,00	10,10	405,00	10,10
	20	174,00	7,61	191,00	7,61	199,00	7,61	378,00	16,90	395,00	16,90	403,00	16,90
	30	162,00	11,00	186,00	11,00	197,00	11,00	366,00	23,70	390,00	23,70	401,00	23,70
	40	151.00	14.40	181,00	14,40	196,00	14,40	355,00	30,50	385,00	30,50	399,00	30.50
	50	-	-	176,00	17,80	194,00	17,80	343,00	37,30	380,00	37,30	398,00	37,30
	64	-	-	169,00	22,60	191,00	22,60	328,00	46,80	373,00	46,80	395,00	46,80
210-46	5	244,00	2,95	251,00	2,95	254,00	2,95	500,00	7,53	507,00	7,53	510,00	7,53
	10	234,00	5,08	246,00	5,08	253,00	5,08	490,00	11,80	502,00	11,80	509,00	11,80
	20	216,00	9,35	238,00	9,35	250,00	9,35	472,00	20,30	495,00	20,30	506,00	20,30
	30	199,00	13,60	231,00	13,60	247,00	13,60	455,00	28,90	487,00	28,90	503,00	28,90
	40	-	-	224,00	17,90	244,00	17,90	439,00	37,40	480,00	37,40	501,00	37,40
	50	-	-	218,00	22,20	242,00	22,20	424,00	46,00	474,00	46,00	498,00	46,00
	64	-	-	209,00	28,10	239,00	28,10	-	-	465,00	57,90	495,00	57,90
210-54	5	322,00	3,66	333,00	3,66	338,00	3,66	663,00	8,95	674,00	8,95	680,00	8,95
	10	306,00	6,51	326,00	6,51	336,00	6,51	647,00	14,60	667,00	14,60	677,00	14,60
	20	277,00	12,20	313,00	12,20	331,00	12,20	618,00	26,00	655,00	26,00	673,00	26,00
	30	-	-	302,00	17,90	327,00	17,90	592,00	37,40	643,00	37,40	668,00	37,40
	40	-	-	291,00	23,60	323,00	23,60	566,00	48,80	632,00	48,80	664,00	48,80
	50	-	-	280,00	29,30	319,00	29,30	-	-	621,00	60,20	660,00	60,20
	64	-	-	-	-	313,00	37,20	-	-	607,00	76,10	655,00	76,10
280-43	5	284,00	3,73	293,00	3,73	297,00	3,73	583,00	9,94	592,00	9,94	596,00	9,94
	10	272,00	6,22	287,00	6,22	295,00	6,22	571,00	14,90	587,00	14,90	594,00	14,90
	20	250,00	11,20	278,00	11,20	291,00	11,20	550,00	24,90	577,00	24,90	590,00	24,90
	30	230,00	16,20	269,00	16,20	288,00	16,20	529,00	34,90	568,00	34,90	587,00	34,90
	40	211,00	21,20	261,00	21,20	285,00	21,20	510,00	44,80	560,00	44,80	584,00	44,80
	50	-	-	253,00	26,20	282,00	26,20	492,00	54,80	552,00	54,80	581,00	54,80
	64	-	-	242,00	33,20	278,00	33,20	-	-	541,00	68,80	577,00	68,80
280-46	5	324,00	4,06	332,00	4,06	336,00	4,06	662,00	10,60	671,00	10,60	675,00	10,60
	10	312,00	6,88	327,00	6,88	334,00	6,88	650,00	16,20	666,00	16,20	673,00	16,20
	20	290,00	12,50	317,00	12,50	331,00	12,50	629,00	27,50	656,00	27,50	669,00	27,50
	30	270,00	18,20	309,00	18,20	327,00	18,20	608,00	38,80	647,00	38,80	666,00	38,80
	40	-	-	300,00	23,80	324,00	23,80	589,00	50,10	639,00	50,10	663,00	50,10
	50	-	-	292,00	29,50	321,00	29,50	571,00	61,40	631,00	61,40	660,00	61,40
	64	-	-	282,00	37,40	317,00	37,40	-	-	620,00	77,20	656,00	77,20
280-54	5	428,00	5,00	441,00	5,00	448,00	5,00	879,00	12,50	893,00	12,50	899,00	12,50
	10	408,00	8,76	433,00	8,76	445,00	8,76	860,00	20,00	884,00	20,00	896,00	20,00
	20	373,00	16,30	418,00	16,30	439,00	16,30	825,00	35,10	869,00	35,10	891,00	35,10
	30	-	-	403,00	23,80	434,00	23,80	793,00	50,10	855,00	50,10	885,00	50,10
	40	-	-	390,00	31,30	429,00	31,30	762,00	65,20	842,00	65,20	880,00	65,20
	50	-	-	377,00	38,90	424,00	38,90	-	-	829,00	80,20	876,00	80,20
	64	-	-	-	-	418,00	49,40	-	-	812,00	101,00	869,00	101,00
440-40	5	407,00	5,34	416,00	5,34	420,00	5,34	830,00	14,30	838,00	14,30	843,00	14,30
	10	395,00	8,86	410,00	8,86	418,00	8,86	817,00	21,40	833,00	21,40	841,00	21,40
	20	373,00	15,90	401,00	15,90	414,00	15,90	795,00	35,50	823,00	35,50	837,00	35,50
	30	352,00	22,90	392,00	22,90	411,00	22,90	775,00	49,50	814,00	49,50	834,00	49,50
	40	333,00	30,00	383,00	30,00	408,00	30,00	755,00	63,60	806,00	63,60	831,00	63,60
	50	-	-	375,00	37,00	405,00	37,00	736,00	77,70	798,00	77,70	827,00	77,70
	64	-	-	364,00	46,90	401,00	46,90	711,00	97,40	787,00	97,40	823,00	97,40
440-46	5	517,00	6,30	529,00	6,30	534,00	6,30	1055,00	16,20	1066,00	16,20	1072,00	16,20
	10	500,00	10,80	521,00	10,80	532,00	10,80	1038,00	25,20	1059,00	25,20	1070,00	25,20
	20	470,00	19,70	508,00	19,70	527,00	19,70	1007,00	43,10	1046,00	43,10	1065,00	43,10
	30	441,00	28,70	496,00	28,70	522,00	28,70	979,00	61,10	1033,00	61,10	1060,00	61,10
	40	-	-	484,00	37,70	518,00	37,70	953,00	79,00	1022,00	79,00	1056,00	79,00
	50	-	-	473,00	46,60	514,00	46,60	927,00	96,90	1010,00	96,90	1052,00	96,90
	64	-	-	457,00	59,20	508,00	59,20	-	-	995,00	122,00	1046,00	122,00
440-52	5	600,00	7,10	619,00	7,10	628,00	7,10						
	10	573,00	12,40	607,00	12,40	624,00	12,40						
	20	524,00	22,90	586,00	22,90	616,00	22,90						
	30	479,00	33,50	566,00	33,50	609,00	33,50						
	40	-	-	548.00	44.10	602.00	44.10						
	50	-	-	530,00	54,60	595,00	54,60						
	64	-	-	-	-	586,00	69,40						
440-54	5	673,00	7,71	692,00	7,71	701,00	7,71						
	10	646,00	13,60	680,00	13,60	697,00	13,60						
	20	597,00	25,40	659,00	25,40	689,00	25,40						
	30	-	-	639,00	37,20	682,00	37,20						
	40	-	-	621,00	48,90	675,00	48,90						
	50	-	-	603,00	60,70	668,00	60,70						
	64	-	-	-	-	659,00	77,20						

The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1450 1/min						n =2900 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
660-40	5	632,00	8,06	643,00	8,06	649,00	8,06	1284,00	21,40	1296,00	21,40	1301,00	21,40
	10	615,00	13,50	636,00	13,50	646,00	13,50	1267,00	32,20	1288,00	32,20	1299,00	32,20
	20	585,00	24,40	623,00	24,40	641,00	24,40	1238,00	54,00	1275,00	54,00	1294,00	54,00
	30	558,00	35,20	611,00	35,20	637,00	35,20	1210,00	75,70	1263,00	75,70	1289,00	75,70
	40	-	-	600,00	46,10	633,00	46,10	1184,00	97,50	1252,00	97,50	1285,00	97,50
	50	-	-	589,00	57,00	629,00	57,00	1159,00	119,00	1241,00	119,00	1281,00	119,00
	64	-	-	574,00	72,20	623,00	72,20	-	-	1226,00	150,00	1276,00	150,00
660-44	5	714,00	8,81	730,00	8,81	738,00	8,81	1457,00	22,90	1473,00	22,90	1481,00	22,90
	10	692,00	15,00	721,00	15,00	734,00	15,00	1435,00	35,20	1463,00	35,20	1477,00	35,20
	20	651,00	27,40	703,00	27,40	728,00	27,40	1394,00	60,00	1445,00	60,00	1470,00	60,00
	30	614,00	39,80	686,00	39,80	722,00	39,80	1356,00	84,70	1429,00	84,70	1464,00	84,70
	40	-	-	671,00	52,10	716,00	52,10	1320,00	110,00	1413,00	110,00	1459,00	110,00
	50	-	-	656,00	64,50	710,00	64,50	-	-	1398,00	134,00	1453,00	134,00
	64	-	-	-	-	703,00	81,80	-	-	1378,00	169,00	1445,00	169,00
660-46	5	775,00	9,31	791,00	9,31	798,00	9,31						
	10	752,00	16,00	781,00	16,00	795,00	16,00						
	20	711,00	29,40	763,00	29,40	788,00	29,40						
	30	674,00	42,80	747,00	42,80	782,00	42,80						
	40	-	-	731,00	56,10	776,00	56,10						
	50	-	-	716,00	69,50	771,00	69,50						
	64	-	-	-	-	763,00	88,30						
660-51	5	908,00	10,60	934,00	10,60	946,00	10,60						
	10	872,00	18,50	918,00	18,50	940,00	18,50						
	20	807,00	34,40	890,00	34,40	930,00	34,40						
	30	-	-	863,00	50,30	920,00	50,30						
	40	-	-	838,00	66,20	911,00	66,20						
	50	-	-	-	-	902,00	82,10						
	64	-	-	-	-	890,00	104,00						
660-54	5	1039,00	11,70	1064,00	11,70	1077,00	11,70						
	10	1003,00	20,70	1048,00	20,70	1071,00	20,70						
	20	937,00	38,70	1020,00	38,70	1060,00	38,70						
	30	-	-	994,00	56,80	1050,00	56,80						
	40	-	-	969,00	74,90	1041,00	74,90						
	50	-	-	-	-	1032,00	92,90						
	64	-	-	-	-	1020,00	118,00						
940-42	5	916,00	11,70	937,00	11,70	947,00	11,70						
	10	887,00	19,60	924,00	19,60	942,00	19,60						
	20	834,00	35,50	901,00	35,50	933,00	35,50						
	30	786,00	51,40	880,00	51,40	926,00	51,40						
	40	-	-	860,00	67,30	918,00	67,30						
	50	-	-	840,00	83,10	911,00	83,10						
	64	-	-	814,00	105,00	901,00	105,00						
940-46	5	1107,00	13,30	1127,00	13,30	1137,00	13,30						
	10	1077,00	22,80	1114,00	22,80	1132,00	22,80						
	20	1025,00	41,90	1092,00	41,90	1124,00	41,90						
	30	976,00	60,90	1070,00	60,90	1116,00	60,90						
	40	-	-	1050,00	80,00	1109,00	80,00						
	50	-	-	1031,00	99,00	1101,00	99,00						
	64	-	-	-	-	1092,00	126,00						
940-50	5	1244,00	14,60	1276,00	14,60	1292,00	14,60						
	10	1197,00	25,50	1256,00	25,50	1285,00	25,50						
	20	1113,00	47,20	1219,00	47,20	1271,00	47,20						
	30	-	-	1185,00	68,80	1259,00	68,80						
	40	-	-	1153,00	90,50	1247,00	90,50						
	50	-	-	1122,00	112,00	1235,00	112,00						
	64	-	-	-	-	1220,00	143,00						
940-54	5	1466,00	16,50	1499,00	16,50	1515,00	16,50						
	10	1419,00	29,20	1478,00	29,20	1507,00	29,20						
	20	1335,00	54,60	1442,00	54,60	1494,00	54,60						
	30	-	-	1408,00	80,00	1481,00	80,00						
	40	-	-	1375,00	105,00	1469,00	105,00						
	50	-	-	-	-	1458,00	131,00						
	64	-	-	-	-	1442,00	166,00						

The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Performance table Delivery flow Q [1/min] and power absorbed P [kW]

Pump size	Delivery pressure	n = 1750 1/min					
		v = 6 mm²/s		v = 40 mm²/s		v = 380 mm²/s	
SN...	Δp bar	Q l/min	P kW	Q l/min	P kW	Q l/min	P kW
1300-38	5	1096,00	14,50	1114,00	14,50	1124,00	14,50
	10	1069,00	24,00	1103,00	24,00	1119,00	24,00
	20	1020,00	42,80	1082,00	42,80	1111,00	42,80
	30	976,00	61,60	1062,00	61,60	1104,00	61,60
	40	933,00	80,40	1044,00	80,40	1097,00	80,40
	50	-	-	1026,00	99,20	1091,00	99,20
	64	-	-	1002,00	1 26,00	1082,00	126,00
1300-42	5	1303,00	16,40	1329,00	16,40	1341,00	16,40
	10	1266,00	27,60	1312,00	27,60	1335,00	27,60
	20	1200,00	50,10	1284,00	50,10	1325,00	50,10
	30	1139,00	72,60	1257,00	72,60	1315,00	72,60
	40	-	-	1232,00	95,00	1305,00	95,00
	50	-	-	1207,00	118,00	1296,00	118,00
	64	-	-	1174,00	149,00	1284,00	149,00
1300-44	5	1397,00	17,20	1423,00	17,20	1435,00	17,20
	10	1360,00	29,20	1407,00	29,20	1429,00	29,20
	20	1294,00	53,20	1378,00	53,20	1419,00	53,20
	30	1233,00	77,30	1351,00	77,30	1409,00	77,30
	40	-	-	1326,00	101,00	1399,00	101,00
	50	-	-	1301,00	125,00	1390,00	125,00
	64	-	-	-	-	1378,00	159,00
1300-46	5	1522,00	18,20	1548,00	18,20	1561,00	18,20
	10	1486,00	31,30	1532,00	31,30	1555,00	31,30
	20	1419,00	57,40	1503,00	57,40	1544,00	57,40
	30	1358,00	83,50	1476,00	83,50	1534,00	83,50
	40	-	-	1451,00	110,00	1525,00	110,00
	50	-	-	1427,00	136,00	1516,00	136,00
	64	-	-	-	-	1504,00	172,00
1300-54	5	2012,00	22,50	2053,00	22,50	2074,00	22,50
	10	1953,00	39,90	2028,00	39,90	2064,00	39,90
	20	1848,00	74,70	1982,00	74,70	2047,00	74,70
	30	-	-	1939,00	109,00	2031,00	109,00
	40	-	-	1898,00	144,00	2016,00	144,00
	50	-	-	-	-	2002,00	179,00
	64	-	-	-	-	1982,00	228,00
1700-42	5	1746,00	22,00	1778,00	22,00	1793,00	22,00
	10	1700,00	37,00	1758,00	37,00	1786,00	37,00
	20	1619,00	67,00	1723,00	67,00	1773,00	67,00
	30	1543,00	97,10	1690,00	97,10	1761,00	97,10
	40	-	-	1658,00	127,00	1749,00	127,00
	50	-	-	1628,00	157,00	1738,00	157,00
	64	-	-	1588,00	199,00	1723,00	199,00
1700-46	5	2030,00	24,40	2062,00	24,40	2078,00	24,40
	10	1985,00	41,70	2043,00	41,70	2071,00	41,70
	20	1903,00	76,50	2007,00	76,50	2057,00	76,50
	30	1828,00	111,00	1974,00	111,00	2045,00	111,00
	40	-	-	1943,00	146,00	2034,00	146,00
	50	-	-	1913,00	181,00	2023,00	181,00
	64	-	-	-	-	2008,00	230,00
2200-42	5	2280,00	28,80	2318,00	28,80	2337,00	28,80
	10	2225,00	48,40	2295,00	48,40	2328,00	48,40
	20	2127,00	87,50	2252,00	87,50	2313,00	87,50
	30	2035,00	127,00	2212,00	127,00	2298,00	127,00
	40	-	-	2174,00	166,00	2284,00	166,00
	50	-	-	2138,00	205,00	2270,00	205,00
	64	-	-	2089,00	260,00	2252,00	260,00
2200-46	5	2641,00	31,80	2680,00	31,80	2699,00	31,80
	10	2587,00	54,40	2656,00	54,40	2690,00	54,40
	20	2488,00	99,50	2613,00	99,50	2674,00	99,50
	30	2397,00	145,00	2573,00	145,00	2659,00	145,00
	40	-	-	2535,00	190,00	2645,00	190,00
	50	-	-	2499,00	235,00	2632,00	235,00
	64	-	-	-	-	2614,00	298,00
2900-40	5	3362,00	42,80	3416,00	42,80	3442,00	42,80
	10	3285,00	71,60	3382,00	71,60	3430,00	71,60
	20	3147,00	129,00	3322,00	129,00	3408,00	129,00
	30	3020,00	187,00	3267,00	187,00	3387,00	187,00
	40	-	-	3214,00	244,00	3367,00	244,00
	50	-	-	3163,00	302,00	3349,00	302,00
	64	-	-	-	-	3323,00	383,00
3600-46	5	4207,00	49,80	4261,00	49,80	4287,00	49,80
	10	4131,00	85,60	4228,00	85,60	4275,00	85,60
	20	3993,00	157,00	4167,00	157,00	4253,00	157,00
	30	-	-	4112,00	229,00	4232,00	229,00
	40	-	-	4059,00	301,00	4213,00	301,00
	50	-	-	-	-	4194,00	372,00
	64	-	-	-	-	4168,00	473,00

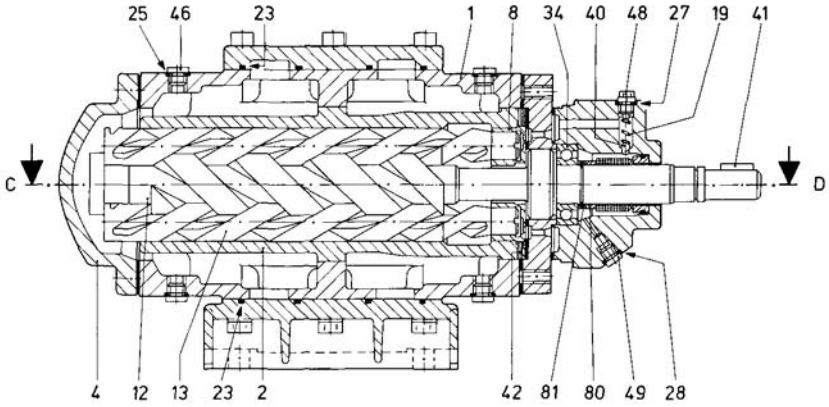
The performance datas are valid for all designs. For exact deliveries as a function of the viscosity of the fluid to be pumped (also for other viscosities than those mentioned above) and the pump speed, please refer to the individual characteristics.

Sectional drawing

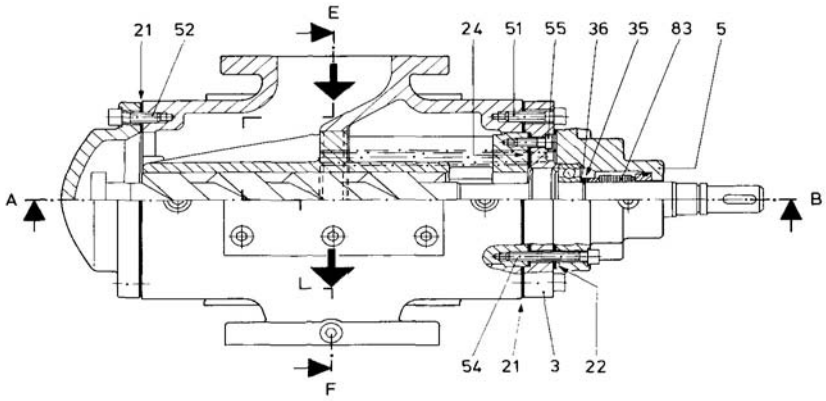
SNH... - horizontal foot mounted pump, internal ball bearing, with mechanical seal, design U...*)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **)

Design U... with mechanical seal

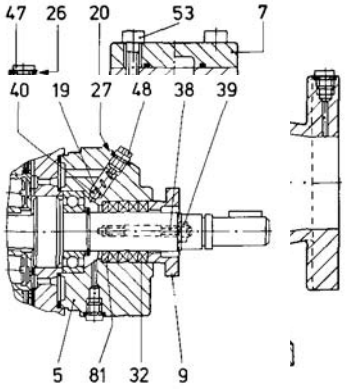
Section A-B



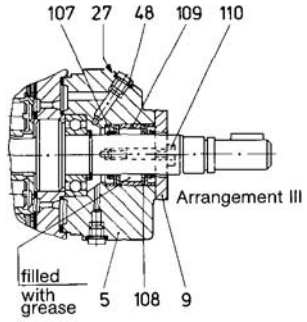
Section C-D



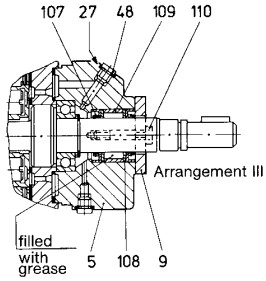
Section E-F



Design U2



Design U3



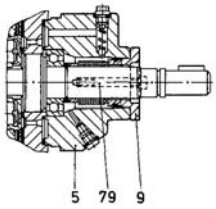
*) shown to pump size 2200 **) available to pump size 2200

Part No.	Denomination	Part-No.	Denomination
1	pump casing	41	key
2 ①	pump casing insert	42	spring dowel
3	pump cover, drive side	44	lock washer
4	pump cover, non-drive side	46	screw plug
5	shaft sealing housing	47	screw plug
6	pump foot	48	stop screw
7	pump casing cover		screw plug (only with design U3)
8 ①	balance bush	49	screw plug
9	seal cover	51	socket head cap screw
	gland (only with design U2)	52	socket head cap screw
12 ①	driving spindle	53	socket head cap screw
13 ①	idler spindle	54	socket head cap screw
19	valve spring	55	socket head cap screw
20	balance pipe	57	hexagon screw
21 ①	gasket	79	socket head cap screw
22 ①	gasket	80	spacer ring
23 ①	O-ring	81	supporting washer
24 ①	gasket		support ring (only with design U2)
25 ①	joint washer	83 ①	mechanical seal
26 ①	joint washer	107 ①	shaft seal ring
27 ①	joint washer	108	supporting ring
28 ①	joint washer	109	spacer bush
32 ①	gland packing ring	110	hexagon screw
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
38	stud bolt		
39	hexagon nut		
40	ball valve	① spare parts	

Arrangement of shaft seal rings

arrangement I	↵ ↵	against suction head
arrangement II	↳ ↳	against suction lift
arrangement III	↵ ↳	against suction head and suction lift

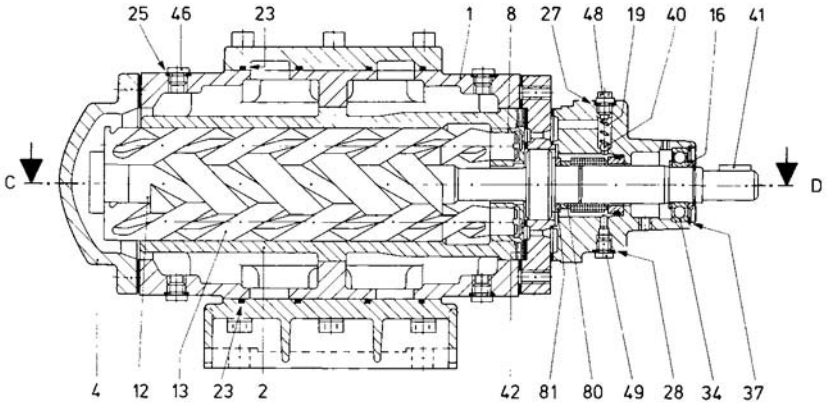
Design U... with mechanical seal at pump size 940 to 2200



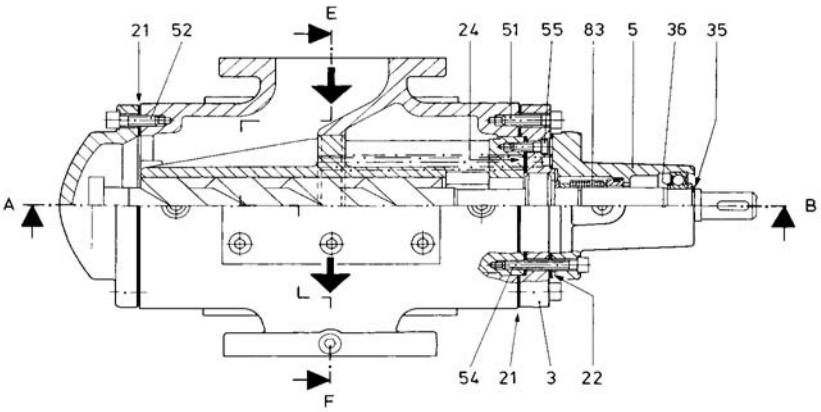
Sectional drawing
SNH... - horizontal foot mounted pump, external ball bearing, with mechanical seal, design D...*) **) and E...*)
external ball bearing, with stuffing box, design KA2 *) **)

Design D...

Section A-B



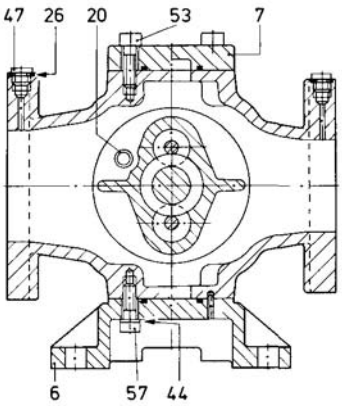
Section C-D



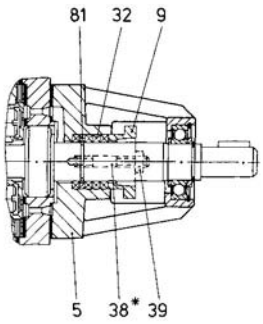
*) shown to pump size 2200 **) available to pump size 2200

Part-No.	Denomination	Part-No.	Denomination
1	pump casing	38	stud bolt (with pump size 40 to 210)
2 ①	pump casing insert		eyelet bolt (with pump size 280 to 2200)
3	pump cover, drive side	39	hexagon nut
4	pump cover, non-drive side	40	ball valve
5	bearing housing	41	key
6	pump foot	42	spring dowel
7	pump casing cover	44	lock washer
8 ①	balance bush	46	screw plug
9	gland	47	screw plug
10	greasing chamber disc	48	stop screw
12 ①	driving spindle	49	screw plug
13 ①	idler spindle	50	lubricating nipple
16	spacer bush	51	socket head cap screw
	labyrinth ring (only with design E)	52	socket head cap screw
19	valve spring	53	socket head cap screw
20	balance pipe	54	socket head cap screw
21 ①	gasket	55	socket head cap screw
22 ①	gasket	57	hexagon screw
23 ①	O-ring	80	spacer ring
24 ①	gasket	81	support ring
25 ①	joint washer	82	spring dowel
26 ①	joint washer	83 ①	mechanical seal
27 ①	joint washer		
28 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circhp		
36	supporting washer		
37	circlip	① spare parts	

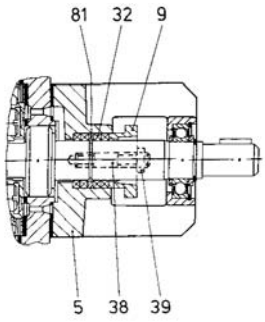
Section E-F



Design E...
bearing with grease nipple

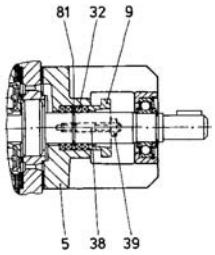


Design KA2 (pump size 80 to 2200)



* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 2200 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Design KA2
at pump size 40

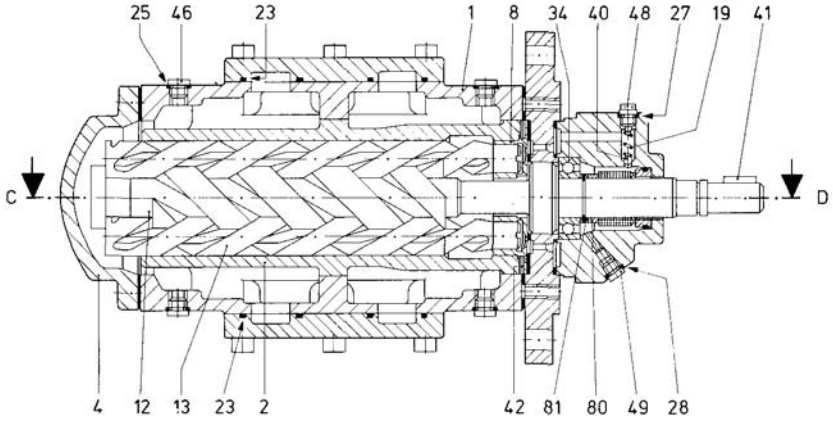


Sectional drawing

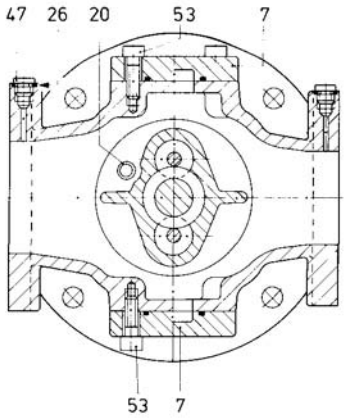
SNF... - flange mounted pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **)

Design U... with mechanical seal

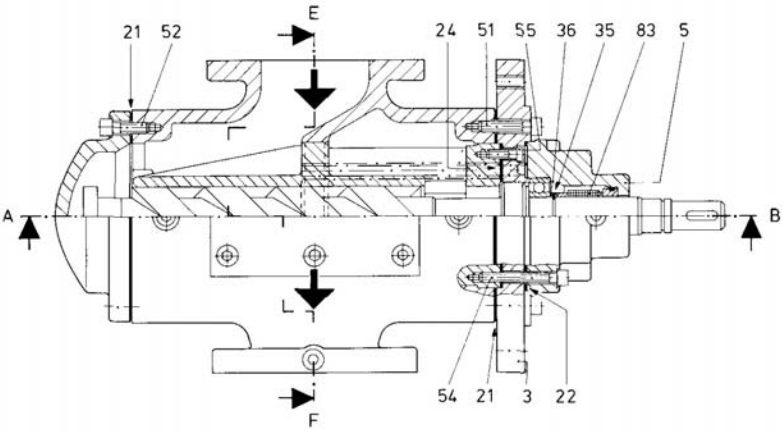
Section A-B



Section E-F



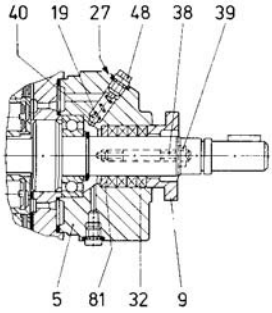
Section C-D



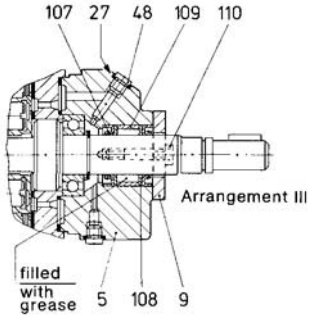
*) shown to pump size 2200 **) available to pump size 2200

Part No.	Denomination	Part No.	Denomination
1	pump casing	42	spring dowel
2 ①	pump casing insert	46	screw plug
3	pump cover, drive side	47	screw plug
4	pump cover, non-drive side	48	stop screw
5	shaft sealing housing		Screw plug (only with design U3)
7	pump casing cover	49	screw plug
8 ①	balance bush	51	socket head cap screw
9	seal cover	52	socket head cap screw
	gland (only with design U2)	53	socket head cap screw
12 ①	driving spindle	54	socket head cap screw
13 ①	idler spindle	55	socket head cap screw
19	valve spring	79	socket head cap screw
20	balance pipe	80	spacer ring
21 ①	gasket	81	supporting washer
22 ①	gasket		Support ring (only with design U2)
23 ①	O-ring	83 ①	mechanical seal
24 ①	gasket	107 ①	shaft seal ring
25 ①	joint washer	108	supporting ring
26 ①	joint washer	109	spacer bush
27 ①	joint washer	110	hexagon screw
28 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
38	stud bolt		
39	hexagon nut		
40	ball valve		
41	key	① spare parts	

Design U2



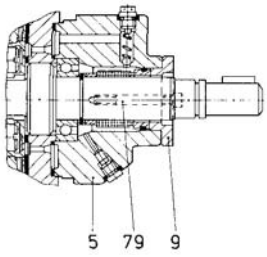
Design U3



Arrangement of shaft seal rings

arrangement I against suction head
arrangement II against suction lift
arrangement III against suction head and suction lift

Design U... with mechanical seal at pump size 940 to 2200

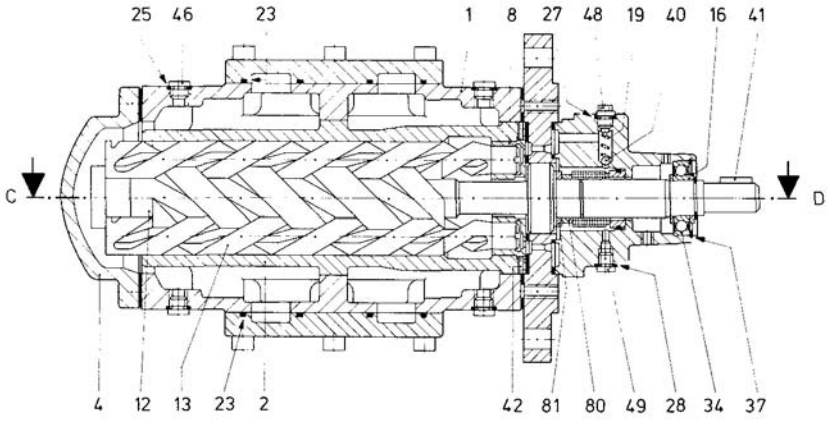


Sectional drawing

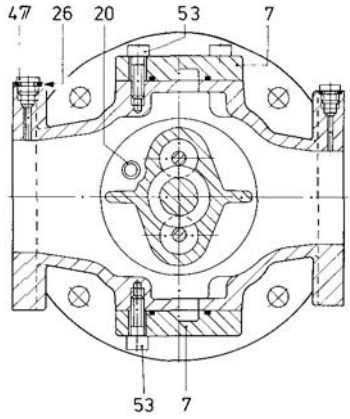
SNF... - flange mounted pump, external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)

Design D...

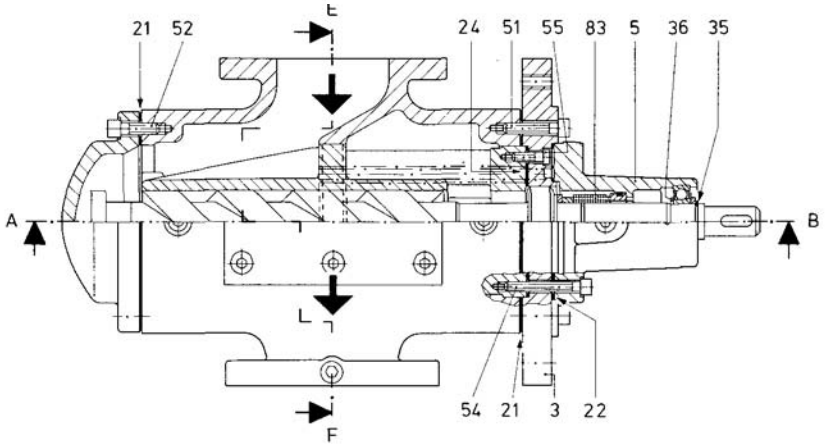
Section A-B



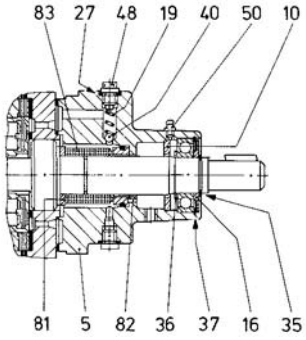
Section E-F



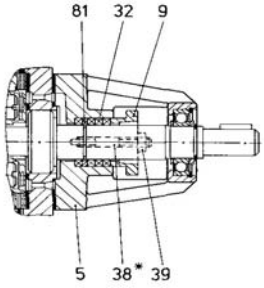
Section C-D



Design E...
bearing with grease nipple

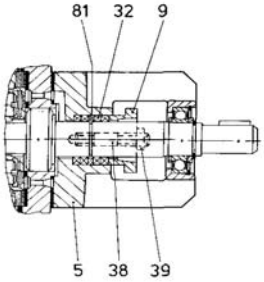


Design KA2 (pump size 80 to 2200)



* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 2200 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Design KA2 at pump size 40



*) shown to pump size 2200 **) available to pump size 2200

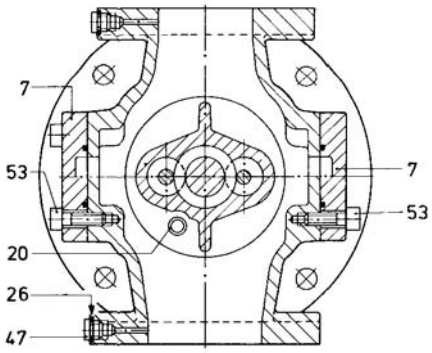
Part No.	Denomination	Part No.	Denomination
1	pump casing	38	stud bolt (with pump size 40 to 210)
2 ①	pump casing insert		eyelet bolt (with pump size 280 to 2200)
3	pump cover, drive side	39	hexagon nut
4	pump cover, non-drive side	40	ball valve
5	bearing housing	41	key
7	pump casing cover	42	spring dowel
8 ①	balance bush	46	screw plug
9	gland	47	screw plug
10	greasing chamber disc	48	stop screw
12 ①	driving spindle	49	screw plug
13 ①	idler spindle	50	lubricating nipple
16	spacer bush	51	socket head cap screw
	labyrinth ring (only with design E)	52	socket head cap screw
19	valve spring	53	socket head cap screw
20	balance pipe	54	socket head cap screw
21 ①	gasket	55	socket head cap screw
22 ①	gasket	80	spacer ring
23 ①	O-ring	81	support ring
24 ①	gasket	82	spring dowel
25 ①	joint washer	83 ①	mechanical seal
26 ①	joint washer		
27 ①	joint washer		
28 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
37	circlip		

① spare parts

Sectional drawing
SNS... - vertical pedestal mounted pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **)

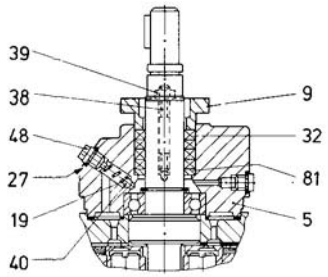
Design U... with mechanical seal

Section E-F

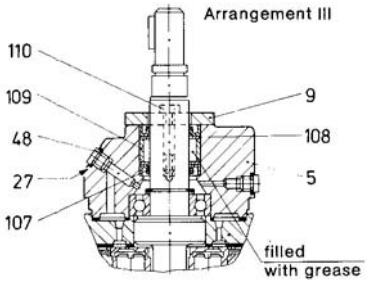


*) shown to pump size 2200
**) available to pump size 2200

Design U2



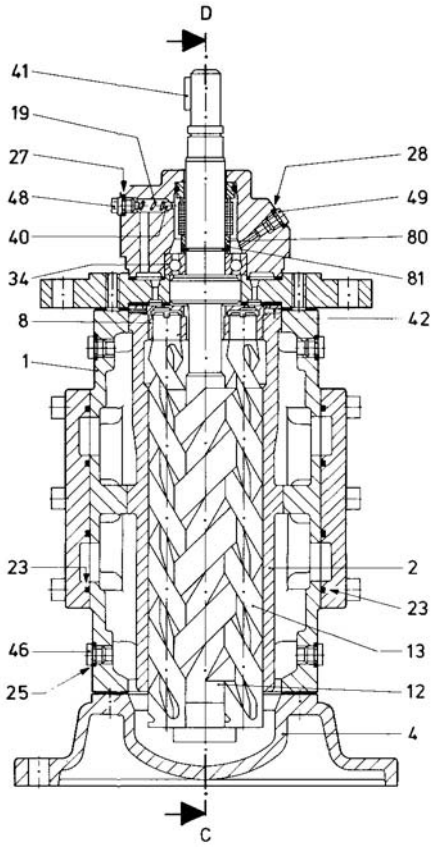
Design U3



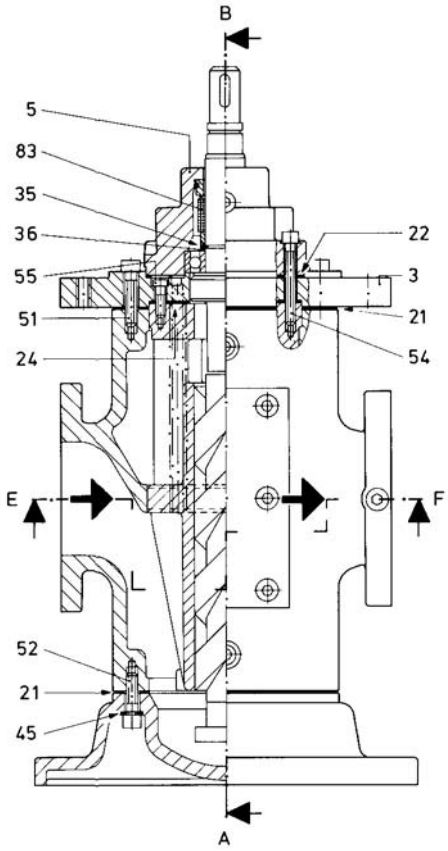
Arrangement of shaft seal rings

arrangement I against suction head
arrangement II against suction lift
arrangement III against suction head and suction lift

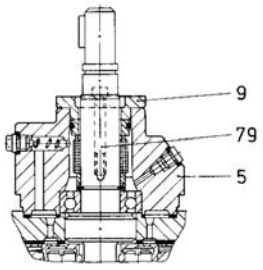
Section A-B



Section C-D



Design U... with mechanical seal at pump size 940 to 2200

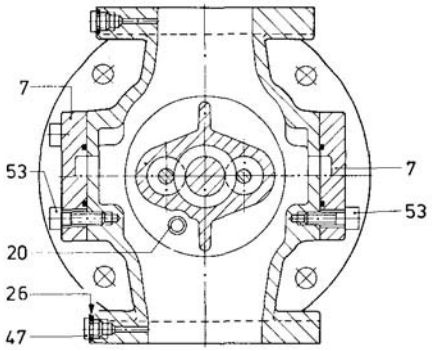


Part No.	Denomination	Part No.	Denomination	Part No.	Denomination
1	pump casing	26 ①	joint washer	51	socket head cap screw
2 ①	pump casing insert	27 ①	joint washer	52	socket head cap screw
3	pump cover, drive side	28 ①	joint washer	53	socket head cap screw
4	round pump foot	32 ①	gland packing ring	54	socket head cap screw
5	shaft sealing housing	34 ①	groove ball bearing	55	socket head cap screw
7	pump casing cover	35	circlip	79	socket head cap screw
8 ①	balance bush	36	supporting washer	80	spacer ring
9	seal cover	38	stud bolt	81	supporting washer
	gland (only with design U2)	39	hexagon nut		support ring (only with design U2)
12 ①	driving spindle	40	ball valve	83 ①	mechanical seal
13 ①	idler spindle	41	key	107 ①	shaft seal ring
19	valve spring	42	spring dowel	108	supporting ring
20	balance pipe	45	lock washer	109	spacer bush
21 ①	gasket	46	screw plug	110	hexagon screw
22 ①	gasket	47	screw plug		
23 ①	O-ring	48	stop screw		
24 ①	gasket		screw plug (only with design U3)		
25 ①	joint washer	49	screw plug	① spare parts	

Sectional drawing
SNS... - vertical pedestal mounted pump, external ball bearing, with mechanical seal, design ID... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)

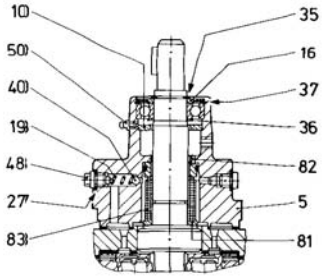
Design D...

Section E-F

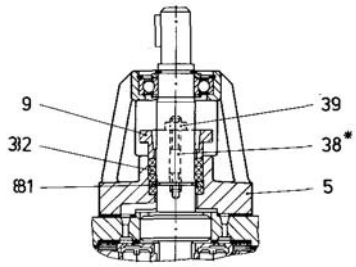


*) shown to pump size 2200
**) available to pump size 2200

Design E..
bearing with grease nipple

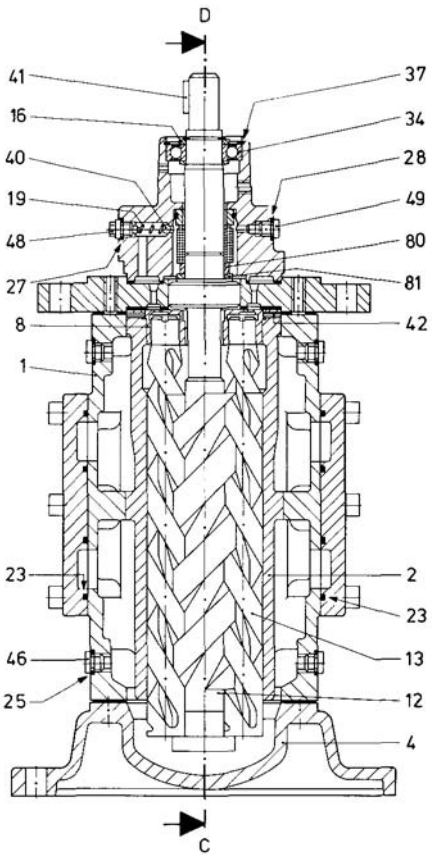


Design KA2 (pump size 80 to 2200)

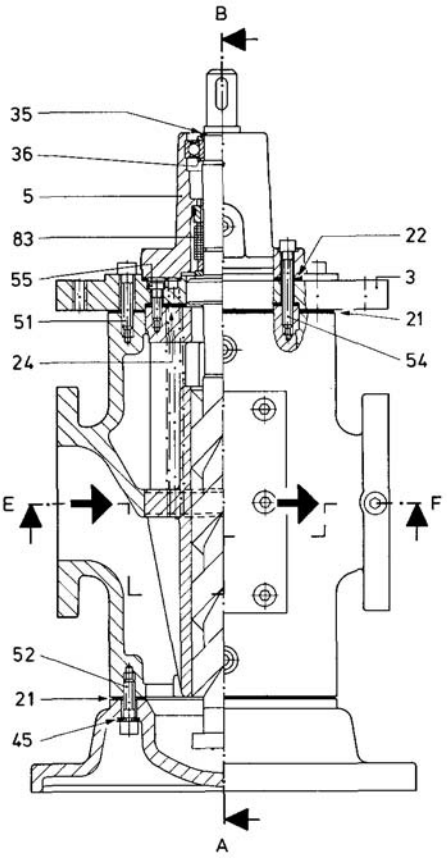


* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 2200 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

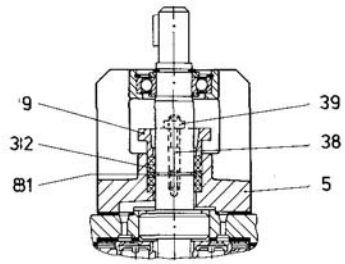
Section A-B



Section C-D



Design KA2
at pump size 40

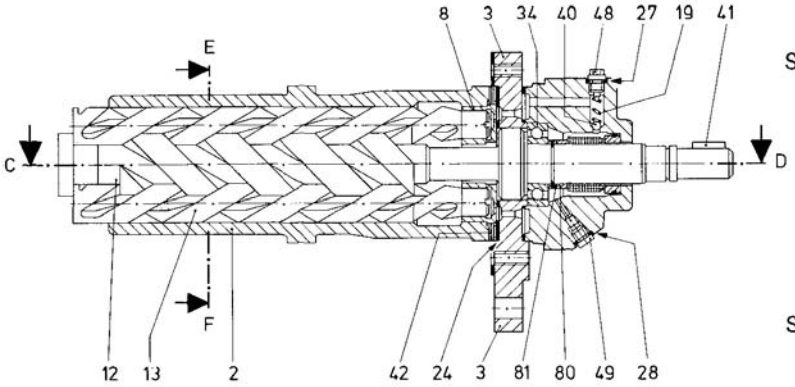


Part No.	Denomination	Part No.	Denomination	Part No.	Denomination
1	pump casing	24 ①	gasket	47	screw plug
2 ①	pump casing insert	25 ①	joint washer	48	stop screw
3	pump cover, drive side	26 ①	joint washer	49	screw plug
4	round pump foot	27 ①	joint washer	50	lubricating nipple
5	bearing housing	28 ①	joint washer	51	socket head cap screw
7	pump casing cover	32 ①	gland packing ring	52	socket head cap screw
8 ①	balance bush	34 ①	groove ball bearing	53	socket head cap screw
9	gland	35	circlip	54	socket head cap screw
10	greasing chamber disc	36	supporting washer	55	socket head cap screw
12 ①	driving spindle	37	circlip	80	spacer ring
13 ①	idler spindle	38	stud bolt (with pump size 40 to 210)	81	support ring
16	spacer bush		eyelet bolt (with pump size 280 to 2200)	82	spring dowel
	labyrinth ring (only with design E)	39	hexagon nut	83 ①	mechanical seal
19	valve spring	40	ball valve		
20	balance pipe	41	key		
21 ①	gasket	42	spring dowel		
22 ①	gasket	45	lock washer		
23 ①	O-ring	46	screw plug	① spare parts	

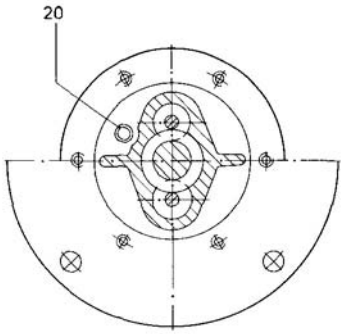
Sectional drawing
SNE..., SNEF... - cartridge unit pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **)

Design U... with mechanical seal

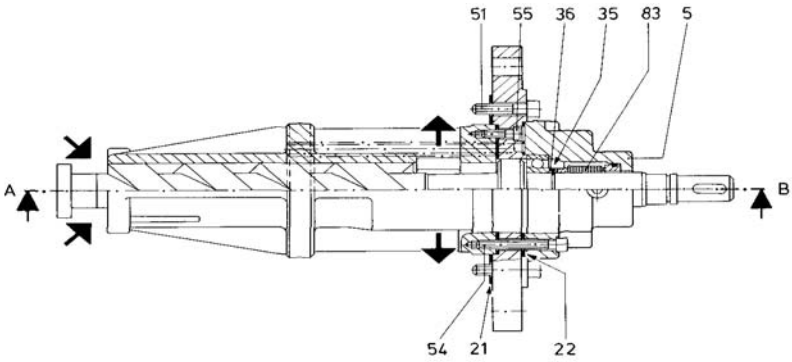
Section A-B



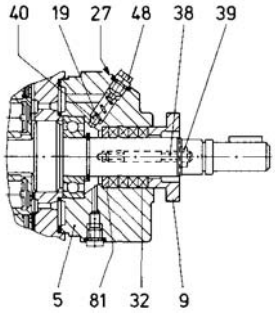
Section E-F



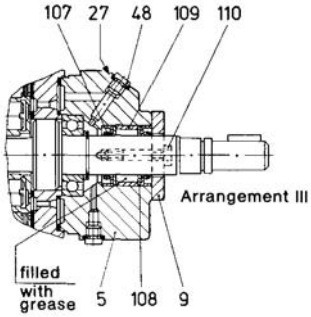
Section C-D



Design U2



Design U3



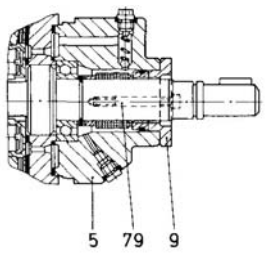
Arrangement of shaft seal rings

arrangement I against suction head
arrangement II against suction lift
arrangement III against suction head and suction lift

*) shown to pump size 2200 **) available to pump size 2200

Part No.	Denomination	Part No.	Denomination
2 ①	pump casing insert	55	socket head cap screw
3	pump cover, drive side	79	socket head cap screw
5	shaft sealing housing	80	spacer ring
8 ①	balance bush	81	supporting washer
9	seal cover		support ring (only with design U2)
	gland (only with design U2)	83 ①	mechanical seal
12 ①	driving spindle	107 ①	shaft seal ring
13 ①	idler spindle	108	supporting ring
19	valve spring	109	spacer bush
20	balance pipe	110	hexagon screw
21 ①	gasket		
22 ①	gasket		Design U3
24 ①	gasket		
27 ①	joint washer		
28 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
38	stud bolt		
39	hexagon nut		
40	ball valve		
41	key		
42	spring dowel		
48	stop screw		
	screw plug (only with design U3)		
49	screw plug		
51	socket head cap screw		
54	socket head cap screw	① spare sparts	

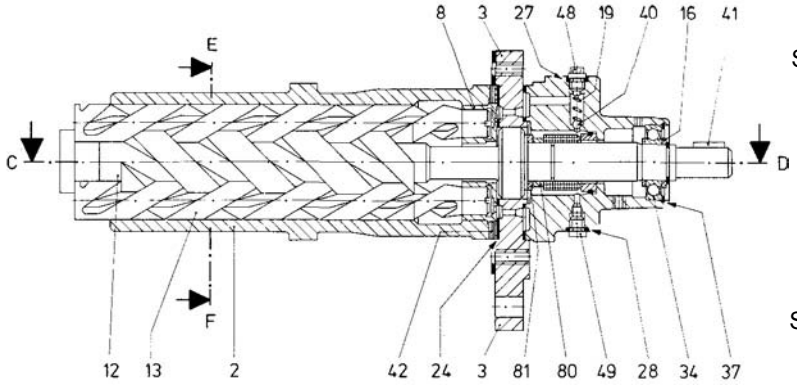
Design U... with mechanical seal at pump size 940 to 2200



Sectional drawing
SNE..., SNEF... - cartridge unit pump, external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)

Design D..

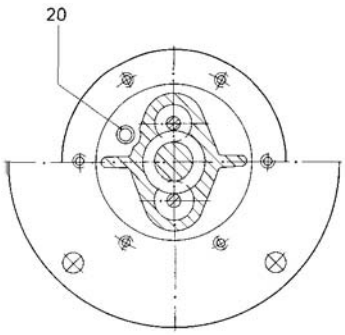
Section A-B



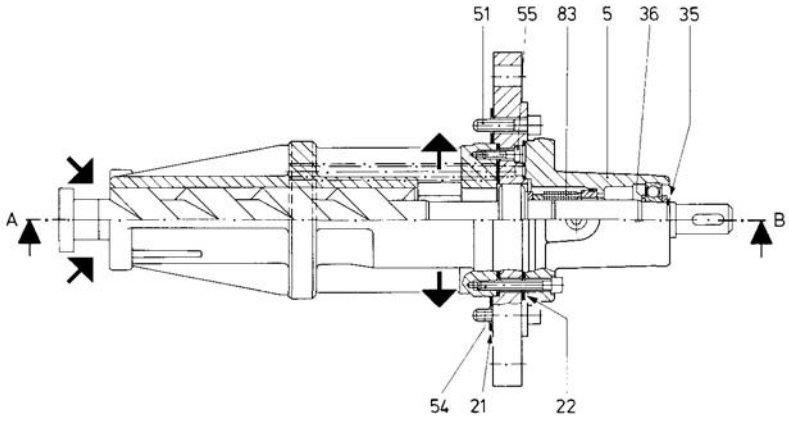
Series SNE

Series SNEF

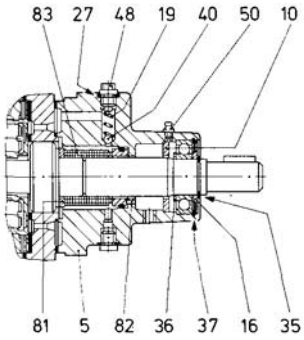
Section E-F



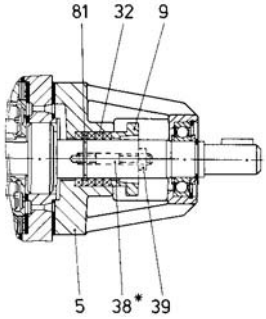
Section C-D



Design E...
bearing with grease nipple

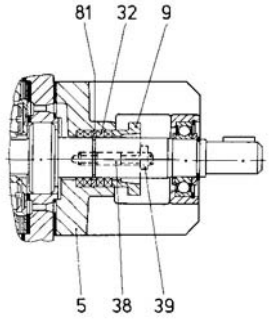


Design KA2 (pump size 80 to 2200)



* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 2200 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Design KA2 at pump size 40



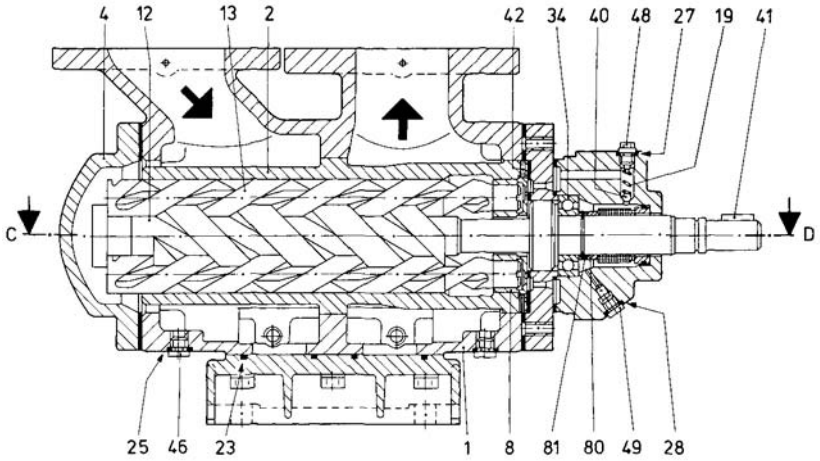
*) shown to pump size 2200 **) available to pump size 2200

Part No.	Denomination	Part No.	Denomination
2 ①	pump casing insert	49	screw plug
3	pump cover, drive side	50	lubricating nipple
5	bearing housing	51	socket head cap screw
8 ①	balance bush	54	socket head cap screw
9	gland	55	socket head cap screw
10	greasing chamber disc	80	spacer ring
12 ①	driving spindle	81	support ring
13 ①	idler spindle	82	spring dowel
16	spacer bush	83 ①	mechanical seal
	labyrinth ring (only with design e)		
19	valve spring		
20	balance pipe		
21 ①	gasket		
22 ①	gasket		
24 ①	gasket		
27 ①	joint washer		
28 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
37	circlip		
38	stud bolt (with pump size 40 to 210)		
	eyelet bolt (with pump size 280 to 2200)		
39	hexagon nut		
40	ball valve		
41	key		
42	spring dowel		
48	stop screw	① spare parts	

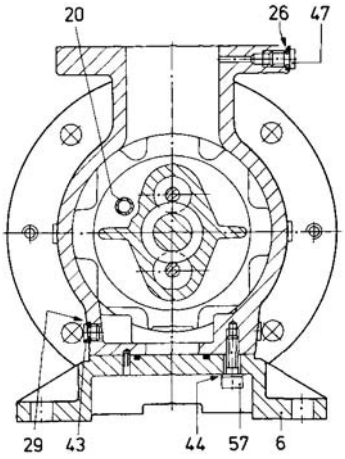
Sectional drawing
SNGH... - horizontal foot mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2
internal ball bearing, with shaft sealing rings, design U3

Design U... with mechanical seal

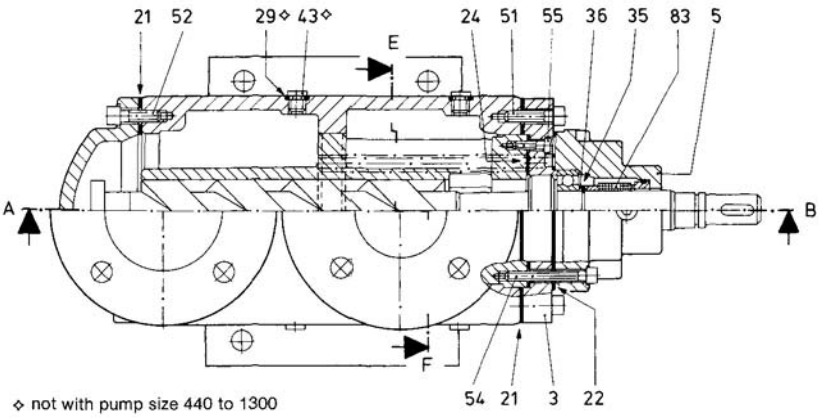
Section A-B



Section E-F



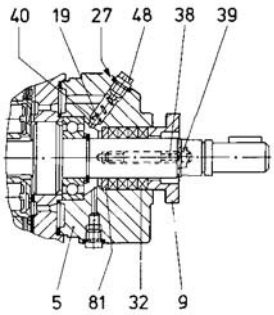
Section C-D



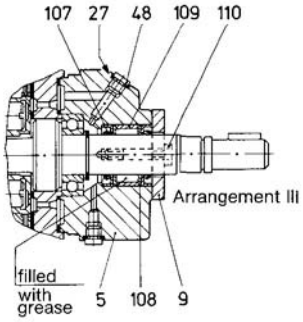
◇ not with pump size 440 to 1300

Part-No.	Denomination	Part-No.	Denomination
1	pump casing	41	key
2 ①	pump casing insert	42	spring dowel
3	pump cover, drive side	43	screw plug
4	pump cover, non-drive side	44	lock washer
5	shaft sealing housing	46	screw plug (with pump size 440 to 1300)
6	pump foot	47	screw plug
8 ①	balance bush	48	stop screw
9	seal cover		screw plug (only with design U3)
	gland (only with design U2)	49	screw plug
12 ①	driving spindle	51	socket head cap screw
13 ①	idler spindle	52	socket head cap screw
19	valve spring	54	socket head cap screw
20	balance pipe	55	socket head cap screw
21 ①	gasket	57	hexagon screw
22 ①	gasket	79	socket head cap screw
23 ①	O-ring	80	spacer ring
24 ①	gasket	81	supporting washer
25 ①	joint washer (with pump size 440 to 1300)		support ring (only with design U2)
26 ①	joint washer	83 ①	mechanical seal
27 ①	joint washer	107 ①	shaft seal ring
28 ①	joint washer	108	supporting ring
29 ①	joint washer	109	spacer bush
32 ①	gland packing ring	110	hexagon screw
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
38	stud bolt		
39	hexagon nut		
40	ball valve	① spare parts	

Design U2



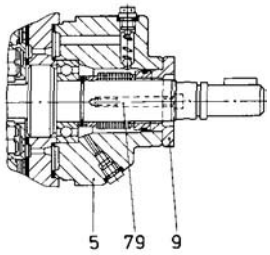
Design U3



Arrangement of shaft seal rings

arrangement I	⌐ ⌐	against suction head
arrangement II	⌐ ⌐	against suction lift
arrangement III	⌐ ⌐	against suction head and suction lift

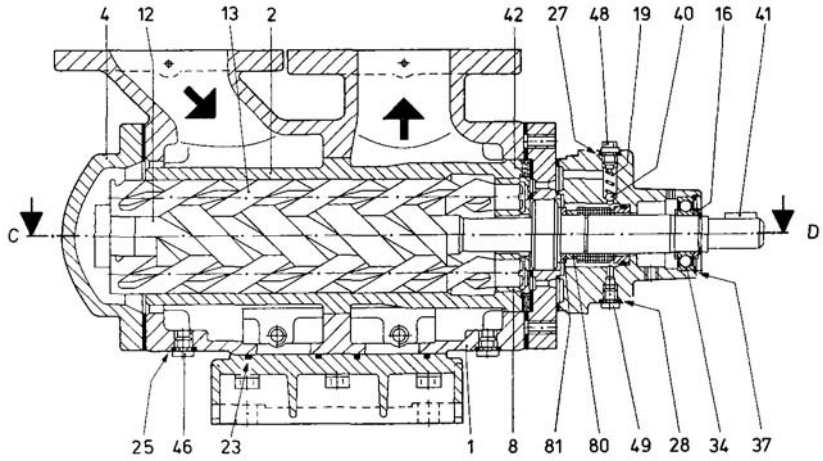
Design U... with mechanical seal at pump size 940 to 1300



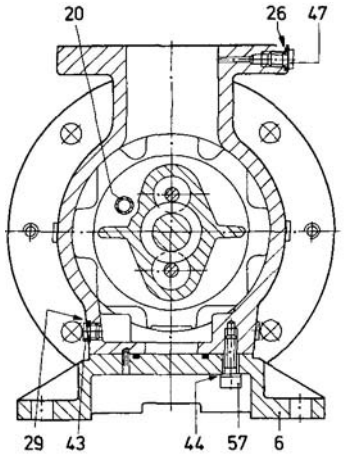
Sectional drawing
SNGH... - horizontal foot mounted pump, external ball bearing, with mechanical seal, design D... and E...
external ball bearing, with stuffing box, design KA2

Design D...

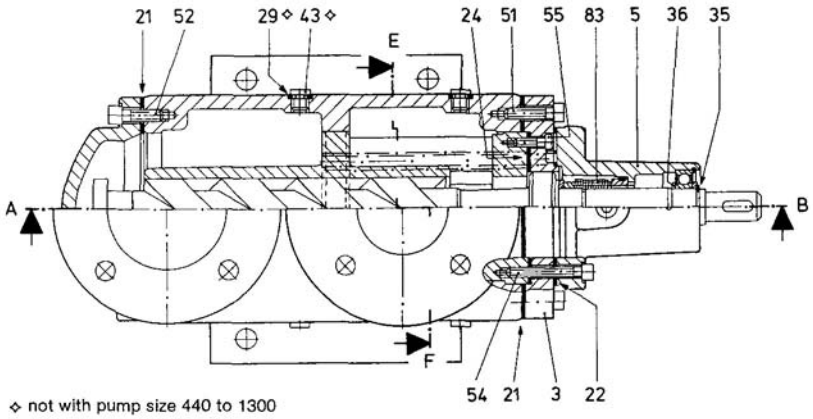
Section A-B



Section E-F

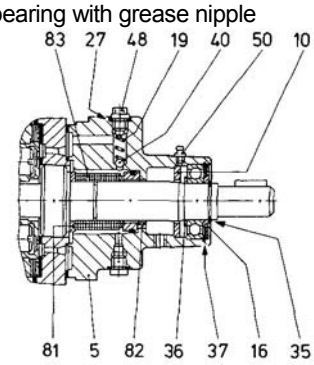


Section C-D

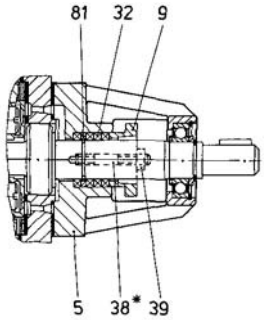


◇ not with pump size 440 to 1300

Design E...
bearing with grease nipple

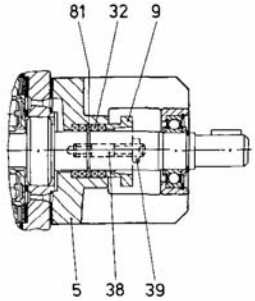


Design KA2



* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 1300 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Design KA2 at pump size 40



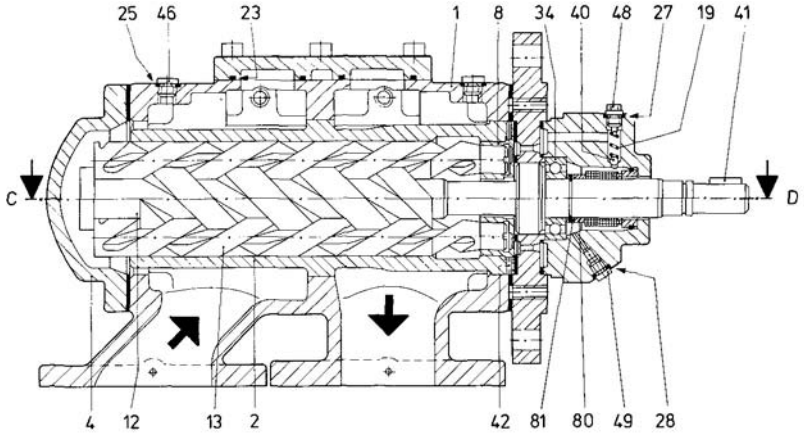
Part-No.	Denomination	Part-No.	Denomination
1	pump casing	38	stud bolt (with pump size 40 to 210)
2 ①	pump casing insert		eyelet bolt (with pump size 280 to 2200)
3	pump cover, drive side	39	hexagon nut
4	pump cover, non-drive side	40	ball valve
5	bearing housing	41	key
6	pump foot	42	spring dowel
8 ①	balance bush	43	screw plug
9	gland	44	lock washer
10	greasing chamber disc	46	screw plug (with pump size 440 to 1300)
12 ①	driving spindle	47	screw plug
13 ①	idler spindle	48	stop screw
16	spacer bush	49	screw plug
	labyrinth ring (only with design. E)	50	lubricating nipple
19	valve spring	51	socket head cap screw
20	balance pipe	52	socket head cap screw
21 ①	gasket	54	socket head cap screw
22 ①	gasket	55	socket head cap screw
23 ①	O-ring	57	hexagon screw
24 ①	gasket	80	spacer ring
25 ①	joint washer (with pump size 280 to1300)	81	support ring
26 ①	joint washer	82	spring dowel
27 ①	joint washer	83 ①	mechanical seal
28 ①	joint washer		
29 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
37	circlip		

① spare parts

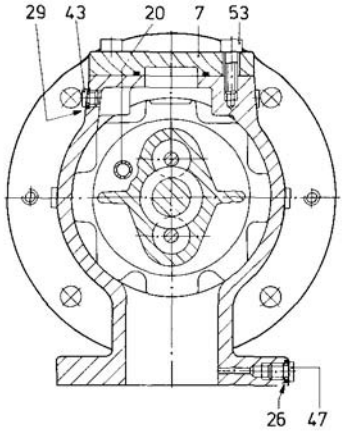
Sectional drawing
SNGF... - flange mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2
internal ball bearing, with shaft sealing rings, design U3

Design U... with mechanical seal

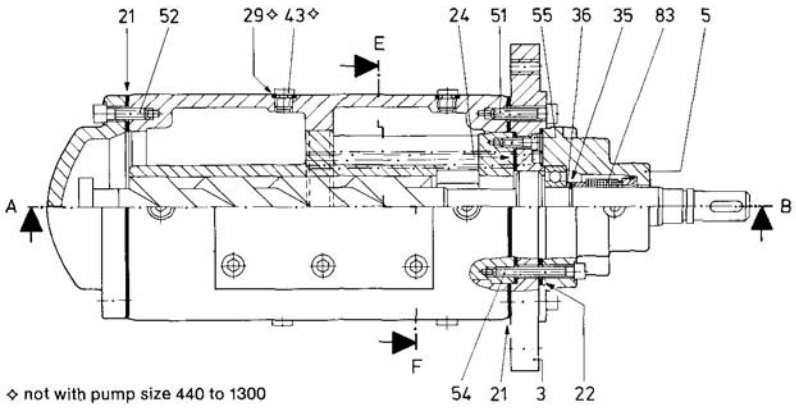
Section A-B



Section E-F

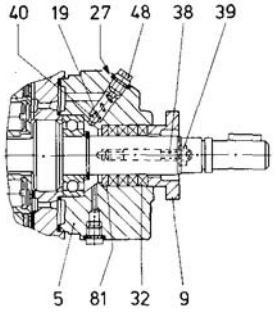


Section C-D

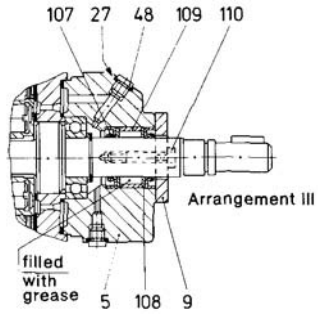


◇ not with pump size 440 to 1300

Design U2



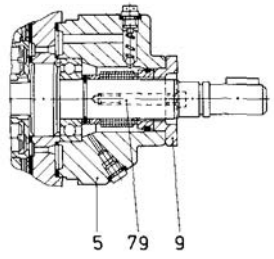
Design U3



Arrangement of shaft seal rings

arrangement I against suction head
arrangement II against suction lift
arrangement III against suction head and suction lift

Design U... with mechanical seal at pump size 940 to 1300

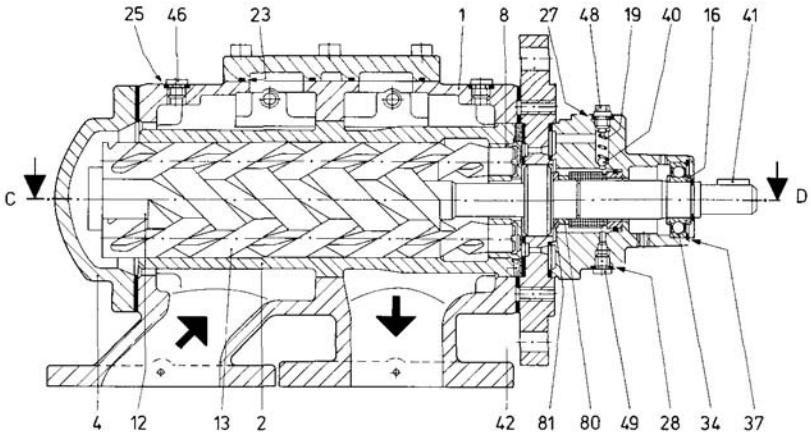


Part No.	Denomination	Part No.	Denomination
1	pump casing	41	key
2 ①	pump casing insert	42	spring dowel
3	pump cover, drive side	43	screw plug
4	pump cover, non-drive side	46	screw plug (with pump size 440 to 1300)
5	shaft sealing housing	47	screw plug
7	pump casing cover	48	stop screw
8 ①	balance bush		screw plug (only with design U3)
9	seal cover	49	screw plug
	gland (only with design U2)	51	socket head cap screw
12 ①	driving spindle	52	socket head cap screw
13 ①	idler spindle	53	socket head cap screw
19	valve spring	54	socket head cap screw
20	balance pipe	55	socket head cap screw
21 ①	gasket	79	socket head cap screw
22 ①	gasket	80	spacer ring
23 ①	O-ring	81	supporting washer
24 ①	gasket		support ring (only with design U2)
25 ①	joint washer (with pump size 440 to 300)	83 ①	mechanical seal
26 ①	joint washer	107 ①	shaft seal ring
27 ①	joint washer	108	supporting ring
28 ①	joint washer	109	spacer bush
29 ①	joint washer	110	hexagon screw
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
38	stud bolt		
39	hexagon nut		
40	ball valve	① spare parts	

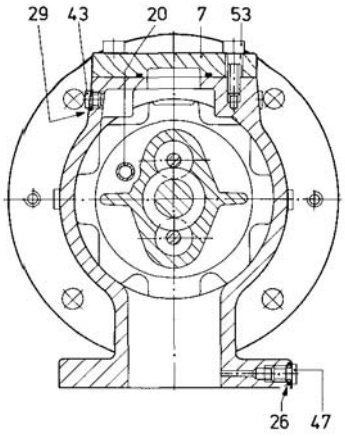
Sectional drawing
SNGF... -flange mounted pump, external ball bearing, with mechanical seal, design D... and E....
external ball bearing, with stuffing box, design KA2

Design D...

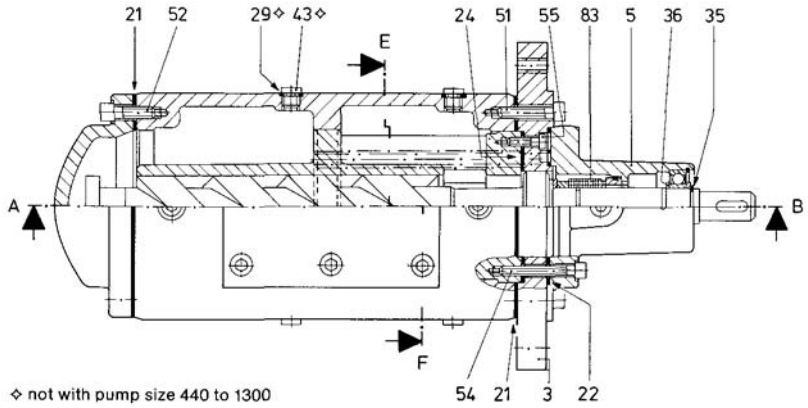
Section A-B



Section E-F

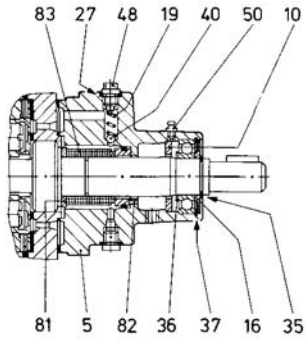


Section C-D

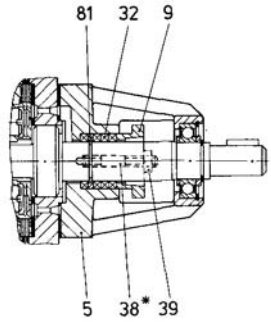


◇ not with pump size 440 to 1300

Design E...
bearing with grease nipple

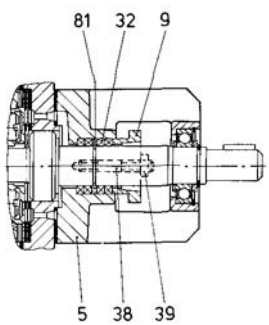


Design KA2



* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 1300 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Design KA2 at
pump size 40

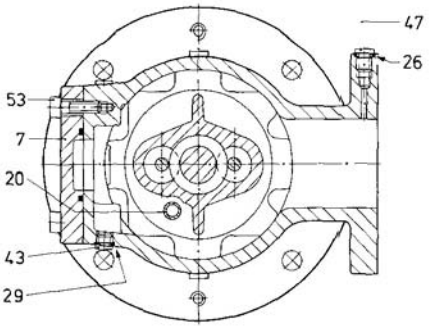


Part No.	Denomination	Part No.	Denomination
1	pump casing	38	stud bolt (with pump size 40 to 210)
2 ①	pump casing insert		eyelet bolt (with pump size 280 to
3	pump cover, drive side	39	hexagon nut
4	pump cover, non-drive side	40	ball valve
5	bearing housing	41	key
7	pump casing cover	42	spring dowel
8 ①	balance bush	43	screw plug
9	gland	46	screw plug (with pump size 440 to
10	greasing chamber disc	47	screw plug
12 ①	driving spindle	48	stop screw
13 ①	idler spindle	49	screw plug
16	spacer bush	50	lubricating nipple
	labyrinth ring (only with design E)	51	socket head cap screw
19	valve spring	52	socket head cap screw
20	balance pipe	53	socket head cap screw
21 ①	gasket	54	socket head cap screw
22 ①	gasket	55	socket head cap screw
23 ①	O-ring	80	spacer ring
24 ①	gasket	81	support ring
25 ①	joint washer (with pump size 440 to 1300)	82	spring dowel
26 ①	joint washer	83 ①	mechanical seal
27 ①	joint washer		
28 ①	joint washer		
29 ①	joint washer		
32 ①	gland packing ring		
34 ①	groove ball bearing		
35	circlip		
36	supporting washer		
37	circlip	① spare parts	

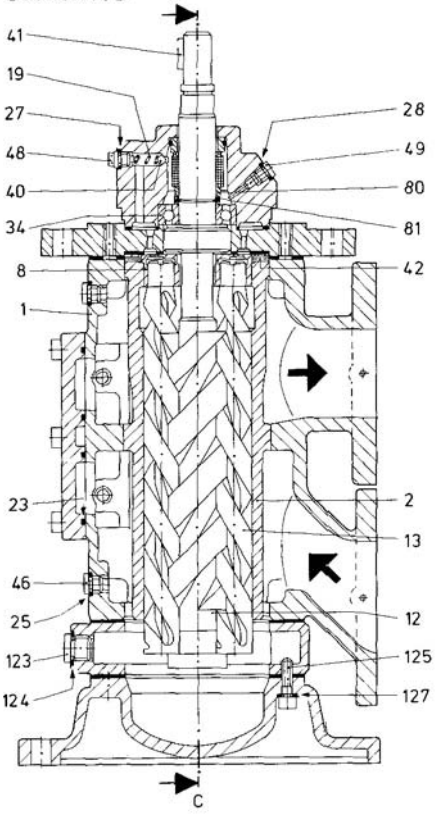
Sectional drawing
SNGS... - vertical pedestal mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2
internal ball bearing, with shaft sealing rings, design U3

Design U... with mechanical seal

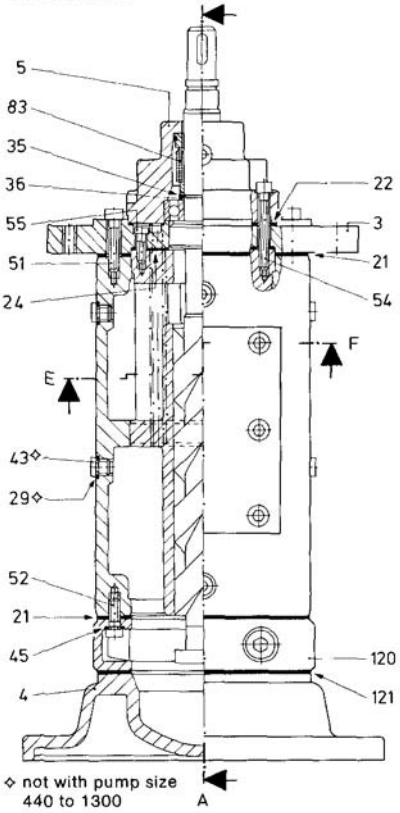
Section E-F



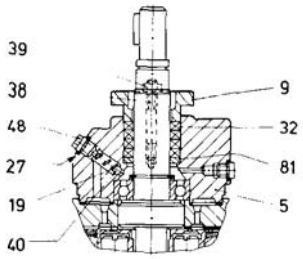
Section A-B



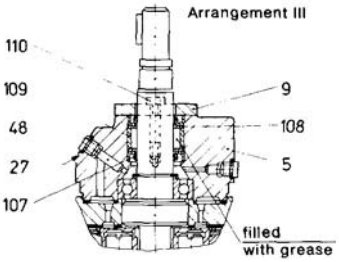
Section C-D



Design U2



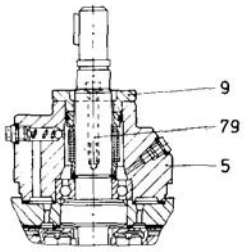
Design U3



Arrangement of shaft seal rings

arrangement I against suction head
arrangement II against suction lift
arrangement III against suction head and suction lift

Design U... with mechanical seal at pump size 940 to 1300

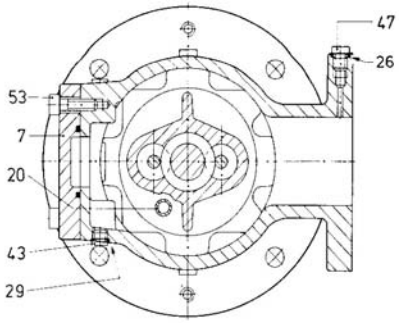


Part No.	Denomination	Part No.	Denomination	Part No.	Denomination
1	pump casing	28 ①	joint washer	53	socket head cap screw
2 ①	pump casing insert	29 ①	joint washer	54	socket head cap screw
3	pump cover, drive side	32 ①	gland packing ring	55	socket head cap screw
4	round pump foot	34 ①	groove ball bearing	79	socket head cap screw
5	shaft sealing housing	35	circlip	80	spacer ring
7	pump casing cover	36	supporting washer	81	supporting washer
8 ①	balance bush	38	stud bolt		Support ring (only with design U2)
9	seal cover	39	hexagon nut	83 ①	mechanical seal
	gland (only with design U2)	40	ball valve	107 ①	shaft seal ring
12 ①	driving spindle	41	key	108	supporting ring
13 ①	idler spindle	42	spring dowel	109	spacer bush
19	valve spring	43	screw plug	110	hexagon screw
20	balance pipe	45	lock washer	120	heating chamber (intermediary)
21 ①	gasket	46	screw plug (with pump size 440 to 1300)	121 ①	gasket
22 ①	gasket	47	screw plug	123	screw plug
23 ①	O-ring	48	stop screw	124 ①	joint washer
24 ①	gasket		screw plug (only with design U3)	125	socket head cap screw
25 ①	joint washer (with pump size 440 to 1300)	49	screw plug	127 ①	joint washer
26 ①	joint washer	51	socket head cap screw		
27 ①	joint washer	52	socket head cap screw	① spare parts	

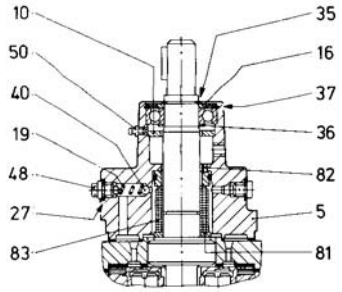
Sectional drawing

SNGS... - vertical pedestal mounted pump, external ball bearing, with mechanical seal, design D... and E...
external ball bearing, with stuffing box, design KA2

Design D... Section E-F

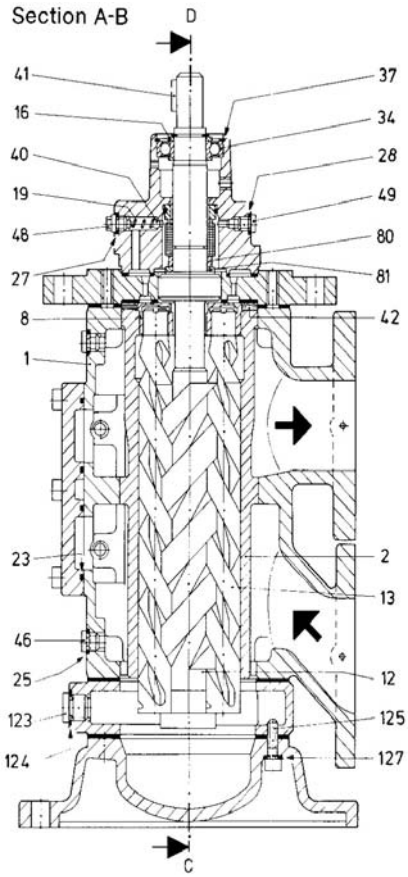


Design E..
bearing with grease nipple

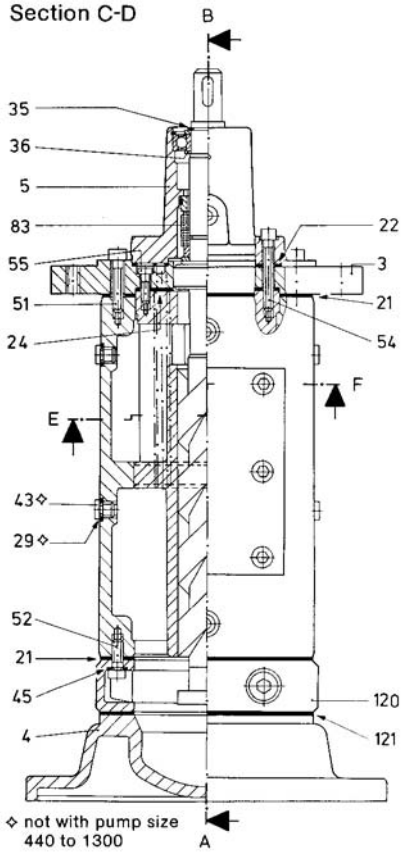


* Up to pump size 210 with stud bolt, part No. 38. Pump size 280 to 1300 with eyelet bolt, part No. 38, and spring dowel, part No. 82 (not shown in the drawing)

Section A-B

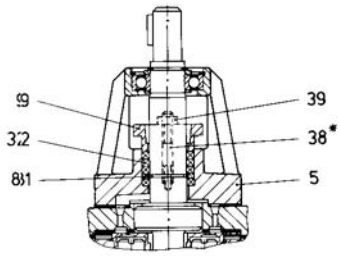


Section C-D

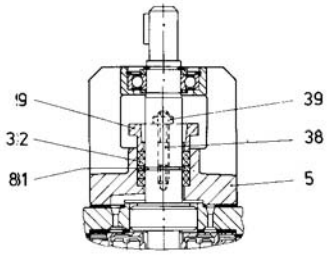


◇ not with pump size 440 to 1300

Design KA2



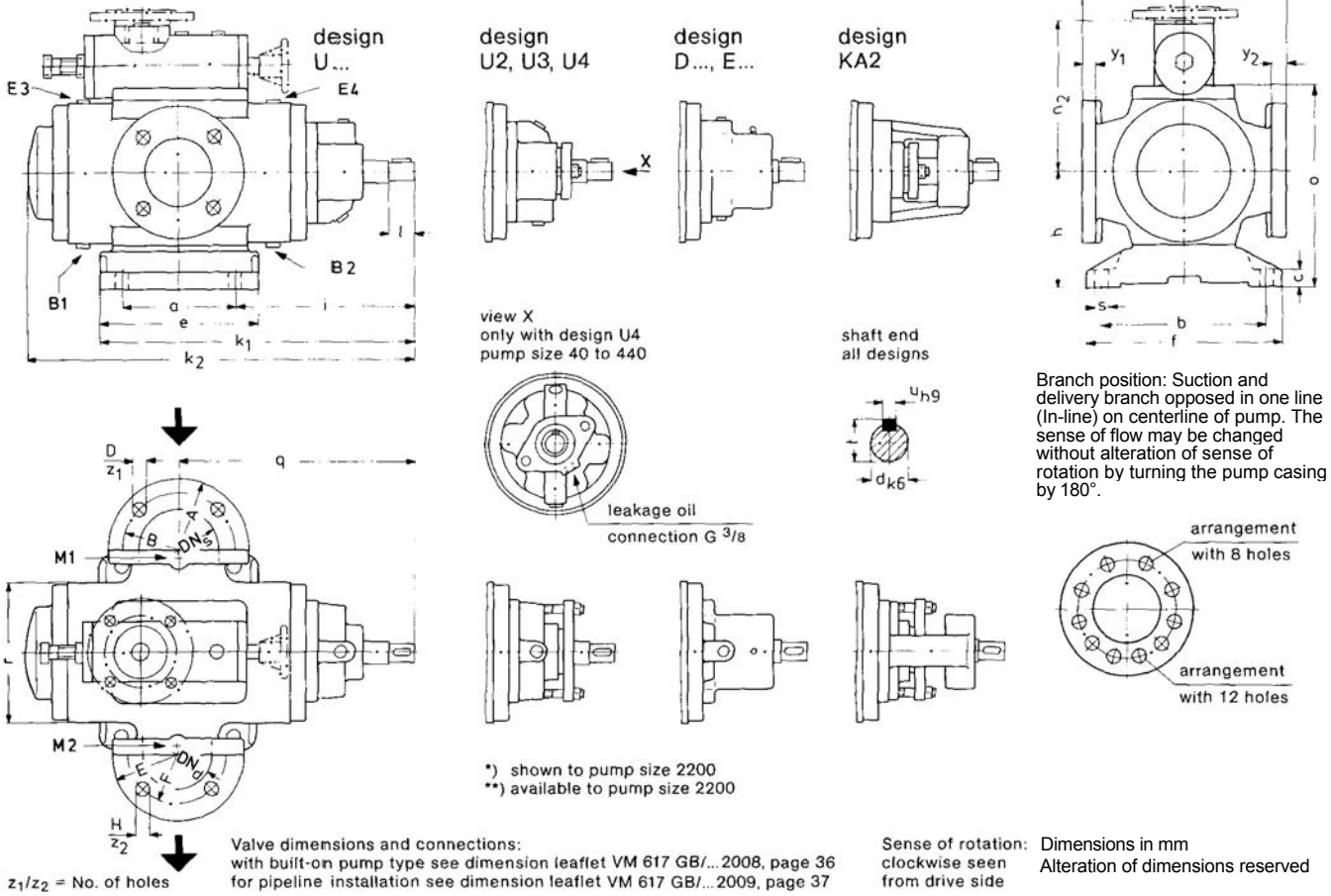
Design KA2
at pump size 40



Part No.	Denomination	Part No.	Denomination	Part No.	Denomination
1	pump casing	26 ①	joint washer	49	screw plug
2 ①	pump casing insert	27 ①	joint washer	50	lubricating nipple
3	pump cover, drive side	28 ①	joint washer	51	socket head cap screw
4	round pump foot	29 ①	joint washer	52	socket head cap screw
5	bearing housing	32 ①	gland packing ring	53	socket head cap screw
7	pump casing cover	34 ①	groove ball bearing	54	socket head cap screw
8 ①	balance bush	35	circlip	55	socket head cap screw
9	gland	36	supporting washer	80	spacer ring
10	greasing chamber disc	37	circlip	81	support ring
12 ①	driving spindle	38	stud bolt (with pump size 40 to 210)	82	spring dowel
13 ①	idler spindle		eyelet bolt (with pump size 280 to 1300)	83 ①	mechanical seal
16	spacer bush	39	hexagon nut	120	heating chamber (intermediary)
	labyrinth ring (only with design E)	40	ball valve	121 ①	gasket
19	valve spring	41	key	123	screw plug
20	balance pipe	42	spring dowel	124 ①	joint washer
21 ①	gasket	43	screw plug	125	socket head cap screw
22 ①	gasket	45	lock washer	127 ①	joint washer
23 ①	O-ring	46	screw plug (with pump size 440 to 1300)		
24 ①	gasket	47	screw plug		
25 ①	joint washer (with pump size 440 to 1300)	48	stop screw	① spare parts	

Pump dimensions - not valid for fabricated (welded) design

SNH... - horizontal foot mounted pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **) and U4 *) **)
external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)



Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37

Sense of rotation: clockwise seen from drive side

Dimensions in mm
Alteration of dimensions reserved

pump size	pump dimensions							foot dimensions							shaft end			
	h	k_1	k_2	② n_2	o	q	r	a	b	c	e	f	i	s	d	l	t	u
40	106	285	393	162	189	230	130	70	144	10	114	170	193	12,0	19	29	21,5	6
80	118	327	435	174	213	275	155	70	144	10	114	170	235	12,0	19	31	21,5	6
120	150	411	503	207	265	317	185	140	180	15	190	210	246	14,5	24	45	27,0	8
210	160	446	580	217	285	352	205	140	180	15	190	210	281	14,5	28	53	31,0	8
280	190	531	630	247	330	390	220	200	300	30	280	350	291	24,0	32	48	35,0	10
440	200	580	716	257	350	440	245	200	300	30	280	350	340	24,0	38	50	41,0	10
660	215	630	800	307	380	490	270	200	300	30	280	350	390	24,0	42	65	45,0	12
940	225	690	886	317	400	555	290	200	300	30	280	350	450	24,0	48	75	51,5	14
1300	240	760	965	382	430	570	310	300	370	35	380	430	420	24,0	48	85	51,5	14
1700	260	809	1060	402	470	630	350	300	370	35	380	430	469	24,0	55	95	59,0	16
2200	265	885	1136	407	480	715	360	300	370	35	380	430	545	24,0	60	95	64,0	18
2900/3600	315	1030	1322	467	560	820	414	340	420	28	400	470	660	26,0	70	130	74,5	20

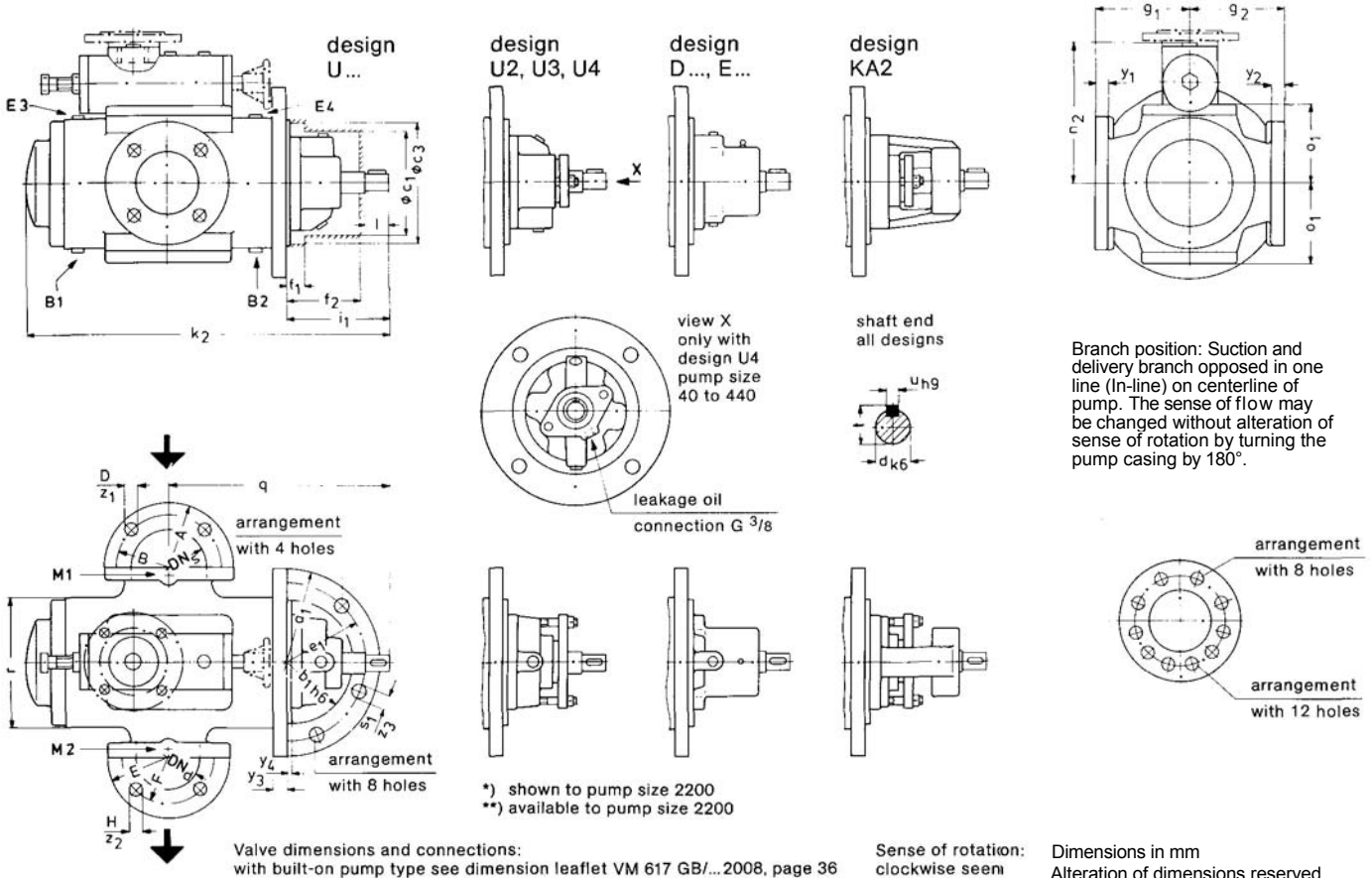
① max. dimension with by-pass valve, may be smaller each acc. to valve type. For return valves see dimension leaflet VM 617 GB/...2008, page 36

pump size	suction flange							delivery flange													connections		
	nom. diam.	up to DN 150 - PN16 DIN EN 1092-2, form B from DN200 - PN10 DIIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN64 DIN 2546, form B ②						drain-age	vent-ing	pres-sure gauge
	DN_S	A	B	D	g_1	y_1	z_1	DN_d	E	F	H	g_2	y_2	z_2	E	F	H	g_2	y_2	z_2	B1/B2	E3/E4	M1/M2
40	32	140	100	19	100	18	4	25	115	85	14	100	18	4	140	100	18	106	24	4	G ¼	G ¼	G ¼
80	65	185	145	19	120	20	4	50	165	125	19	120	22	4	180	135	22	124	26	4	6 ¼	G ¼	G ¼
120	65	185	145	19	130	20	4	50	165	125	19	130	22	4	180	135	22	134	26	4	G ¼	G ¼	G ¼
210	80	200	160	19	150	22	8	65	185	145	19	150	24	8	205	160	22	152	26	8	G ⅜	G ⅜	G ¼
280	100	220	180	19	165	24	8	80	200	160	19	165	26	8	215	170	22	167	28	8	G ⅜	G ⅜	G ⅜
440	125	250	210	19	180	26	8	100	235	190	23	180	28	8	250	200	26	182	30	8	G ½	G ½	G ½
660	125	250	210	19	195	26	8	100	235	190	23	195	28	8	250	200	26	197	30	8	G ½	G ½	G ½
940	150	285	240	23	205	26	8	125	270	220	28	205	30	8	295	240	30	209	34	8	G ½	G ½	G ½
1300	150	285	240	23	220	26	8	125	270	220	28	220	30	8	295	240	30	224	34	8	G ¾	G ¾	G ½
1700	200	340	295	23	240	26	8	150	300	250	28	240	34	8	345	280	33	242	36	8	G ¾	G ¾	G ½
2200	200	340	295	23	250	26	8	150	300	250	28	250	34	8	345	280	33	252	36	8	G ¾	G ¾	G ½
2900/3600	250	395	350	23	300	28	12	200	375	320	31	300	40	12	-	-	-	-	-	-	G ¾	G ¾	G ½

② only possible with pump casing in GGG-40 (surplus price).

Pump dimensions - not valid for fabricated (welded) design

SNF... - flange mounted pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **) and U4 *) **)
external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)



$z_1/z_2/z_3$ = No. of holes

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37

Sense of rotation: clockwise seen from drive side

Dimensions in mm
Alteration of dimensions reserved

pump size	pump dimensions					flange cover												shaft end			
	k_2	n_2 ①	o_1	q	r	a_1	b_1	c_1 ②	c_3 ②	e_1	f_1 ②	f_2 ②	i_1	s_1	y_3	y_4	z_3	d	l	t	u
40	393	162	83	230	130	190	130	130	130	160	20	100	130	13,5	14,5	5,0	4	19	29	21,5	6
80	435	174	95	275	155	230	155	153	153	190	21	106	138	17,5	16,5	6,0	4	19	31	21,5	6
120	503	207	115	317	185	260	185	163	175	220	23	122	168	17,5	18,0	6,0	4	24	45	27,0	8
210	580	217	125	352	205	290	205	172	198	250	23	127	181	17,5	20,5	5,5	4	28	53	31,0	8
280	630	247	140	390	220	310	220	175	209	260	27	146	195	22,0	21,5	6,0	4	32	48	35,0	10
440	716	257	150	440	245	360	250	208	234	310	27	158	209	26,0	25,0	6,0	4	38	50	41,0	10
660	800	307	165	490	270	380	270	227	259	320	27	173	239	26,0	25,0	6,0	4	42	65	45,0	12
940	886	317	175	555	290	400	290	241	287	350	31	175	251	22,0	28,0	6,0	8	48	75	51,5	14
1300	965	382	190	570	310	410	310	259	307	360	31	181	267	22,0	28,0	6,0	8	48	85	51,5	14
1700	1060	402	210	630	350	480	350	265	335	420	35	192	288	22,0	28,0	6,0	8	55	95	59,0	16
2200	1136	407	215	715	360	480	360	267	355	420	35	198	294	22,0	30,0	10	8	60	95	64,0	18
2900/3600	1322	467	245	820	414	560	450	287	400	500	33	263	394	26,0	30,0	6,0	8	70	130	74,5	20

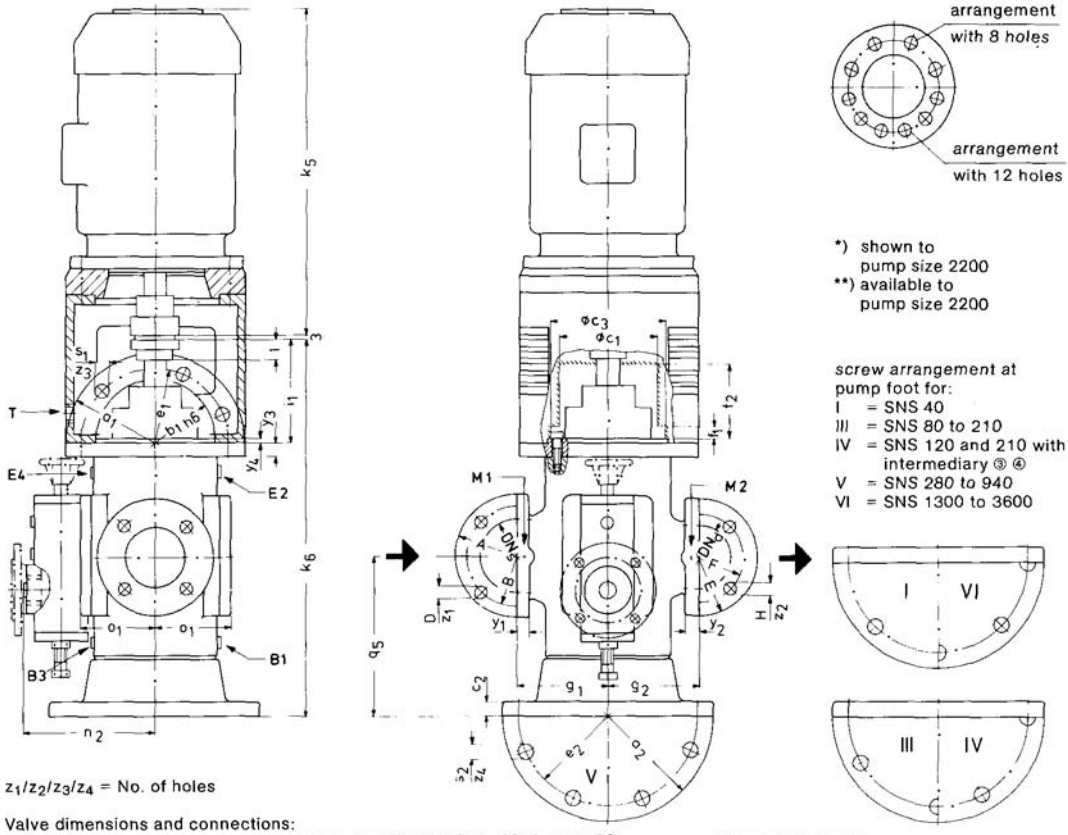
① max. dimension with by-pass valve, may be smaller each acc. to valve type. For return valves see dimension leaflet VM 1617 GB/...2008, page 36
② Space to be kept free for assembling.

pump size	suction flange							delivery flange													connections		
	nom. diam.	up to DN 150 - PN16 DIN EN 1092-2, form B from DN 200 - PN10 DIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN64 DIN 2546, form B ③						drain-age	vent-ing	pres-sure gauge
	DN_S	A	B	D	g_1	y_1	z_1	DN_d	E	F	H	g_2	y_2	z_2	E	F	H	g_2	y_2	z_2	B1/B2	E3/E4	M1/M2
40	32	140	100	19	100	18	4	25	115	85	14	100	18	4	140	100	18	106	24	4	G ¼	G ¼	G ¼
80	65	185	145	19	120	20	4	50	165	125	19	120	22	4	180	135	22	124	26	4	G ¼	G ¼	G ¼
120	65	185	145	19	130	20	4	50	165	125	19	130	22	4	180	135	22	134	26	4	G ¼	G ¼	G ¼
210	80	200	160	19	150	22	8	65	185	145	19	150	24	8	205	160	22	152	26	8	G ⅜	G ⅜	G ¼
280	100	220	180	19	165	24	8	80	200	160	19	165	26	8	215	170	22	167	28	8	G ⅜	G ⅜	G ⅜
440	125	250	210	19	180	26	8	100	235	190	23	180	28	8	250	200	26	182	30	8	G ½	G ⅜	G ½
660	125	250	210	19	195	26	8	100	235	190	23	195	28	8	250	200	26	197	30	8	G ½	G ⅜	G ½
940	150	285	240	23	205	26	8	125	270	220	28	205	30	8	295	240	30	209	34	8	G ½	G ½	G ½
1300	150	285	240	23	220	26	8	125	270	220	28	220	30	8	295	240	30	224	34	8	G ¾	G ¾	G ½
1700	200	340	295	23	240	26	8	150	300	250	28	240	34	8	345	280	33	242	36	8	G ¾	G ¾	G ½
2200	200	340	295	23	250	26	8	150	300	250	28	250	34	8	345	280	33	252	36	8	G¾	G ¾	G ½
2900/3600	250	395	350	23	300	28	12	200	375	320	31	300	40	12	-	-	-	-	-	-	G ¾	G ¾	G ½

③ only possible with pump casing in GGG-40 (surplus price).

Pump dimensions - not valid for fabricated (welded) design

SNS... - vertical pedestal mounted pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **) and U4 *) **)
external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)



Branch position: Suction and delivery branch opposed in one line (In-line) on centerline of pump. The sense of flow may be changed without alteration of sense of rotation by turning the pump casing by 180°.

Standard motors			
IEC size	k_5 appr.	IEC size	k_5 appr.
71	240	180 M	650
80	275	180 L	690
90 S	305	200 L	735
90 L	330	225 S	810
100 L	365	225 M	835
112 M	380	250 M	940
132 S	445	280 S	1000
132 M	485	280 M	1050
160 M	585	315 S	1140
160 L	630	315 M	1200

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37

Dimensions in mm
Alteration of dimensions reserved

pump size	pump dimensions ①				flange cover ② ② ② ②												foot dimensions					shaft end			
	k_6	n_2	o_1	q_5	a_1	b_1	c_1	c_3	e_1	f_1	f_2	i_1	s_1	y_3	y_4	z_3	a_2	c_2	e_2	s_2	z_4	d	l	t	u
40	390,5	162	83	160	190	130	130	130	160	20	100	130	13,5	14,5	5,0	4	250	22	220	14	4	19	29	21,5	6
80	464,0	174	95	189	230	155	153	153	190	21	106	138	17,5	16,5	6,0	4	280	23	240	18	6	19	31	21,5	6
120	521,5 ③	207	115	205③	260	185	163	175	220	23	122	168	17,5	18,0	6,0	4	320	25	280	18	6	24	45	27,0	8
210	582,5 ④	217	125	230④	290	205	172	198	250	23	127	181	17,5	20,5	5,5	4	340	25	300	18	6	28	53	31,0	8
280	741,0	247	140	350	310	220	175	209	260	27	146	195	22,0	21,5	6,0	4	400	30	360	18	8	32	48	35,0	10
440	790,0	257	150	350	360	250	208	234	310	27	158	209	26,0	25,0	6,0	4	420	35	380	18	8	38	50	41,0	10
660	840,0	307	165	350	380	270	227	259	320	27	173	239	26,0	25,0	6,0	4	480	35	440	18	8	42	65	45,0	12
940	925,0	317	175	370	400	290	241	287	350	31	175	251	22,0	28,0	6,0	8	510	40	460	18	8	48	75	51,5	14
1300	1020	382	190	450	410	310	259	307	360	31	181	267	22,0	28,0	6,0	8	560	35	500	23	8	48	85	51,5	14
1700	1096	402	210	466	480	350	265	335	420	35	192	288	22,0	28,0	6,0	8	600	35	540	23	8	55	95	59,0	16
2200	1165	407	215	450	480	360	267	355	420	35	198	294	22,0	30,0	10	8	620	40	560	23	8	60	95	64,0	18
2900/3600	1400	467	263	580	560	450	287	400	500	33	263	394	26,0	40,0	7,0	8	800	60	700	30	8	70	130	74,5	20

① max. dimension with by-pass valve, may be 'smaller each acc. to valve type.
For return valves see dimension leafiet VM 617 GB/...2008, page 36
② Space to be kept free for assembling.
③ at SNS 120 with valve DS 38 + DVI38: dimension k_6 = 608,0 and q_5 = 291,5; screw arrangement at foot = IV
④ at SNS 210 with valve DS 38: dimension k_6 = 651,0 and q_5 - 298,5; screw arrangement at foot = IV
The deviating dimensions as well as the screws of the foot are caused by the necessary intermediary.

pump size	suction flange							delivery flange													connections			
	nom. diam.	up to DN 150-PN16 DIN EN 1092-2, form B from DN 200-PN10 DIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN64 DIN 2546, form B ⑤						drain-age	vent-ing	pres-sure gauge	leak-age oil
	DN_S	A	B	D	g_1	y_1	z_1	DN_d	E	F	H	g_2	y_2	z_2	E	F	H	g_2	y_2	z_2	B1/B3	E2/E4	M1/M2	T
40	32	140	100	19	100	18	4	25	115	85	14	100	18	4	140	100	18	106	24	4	G ¼	G ¼	G ¼	G ¼
80	65	185	145	19	120	20	4	50	165	125	19	120	22	4	180	135	22	124	26	4	G ¼	G ¼	G ¼	G ¼
120	65	185	145	19	130	20	4	50	165	125	19	130	22	4	180	135	22	134	26	4	G ¼	G ¼	G ¼	G ⅜
210	80	200	160	19	150	22	8	65	185	145	19	150	24	8	205	160	22	152	26	8	G ⅜	G ⅜	G ¼	G ⅜
280	100	220	180	19	165	24	8	80	200	160	19	165	26	8	215	170	22	167	28	8	G ⅜	G ⅜	G ⅜	G ⅜
440	125	250	210	19	180	26	8	100	235	190	23	180	28	8	250	200	26	182	30	8	G ½	G ½	G ½	G ½
660	125	250	210	19	195	26	8	100	235	190	23	195	28	8	250	200	26	197	30	8	G ½	G ½	G ½	G ½
940	150	285	240	23	205	26	8	125	270	220	28	205	30	8	295	240	30	209	34	8	G ½	G ½	G ½	G ½
1300	150	285	240	23	220	26	8	125	270	220	28	220	30	8	295	240	30	224	34	8	G ¾	G ¾	G ½	G ½
1700	200	340	295	23	240	26	8	150	300	250	28	240	34	8	345	280	33	242	36	8	G ¾	G ¾	G ½	G ½
2200	200	340	295	23	250	26	8	150	300	250	28	250	34	8	345	280	33	252	36	8	G ¾	G ¾	G ½	G ½
2900/3600	250	395	350	23	300	28	12	200	375	320	31	300	40	12	-	-	-	-	-	-	G ¾	G ¾	G ½	G ½

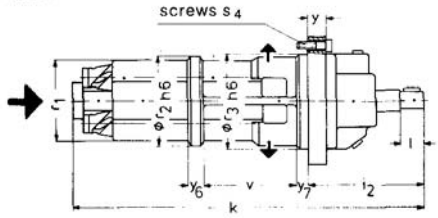
⑤ only possible with pump casing in GGG-40 (surplus price).

Pump dimensions - not valid for fabricated (welded) design

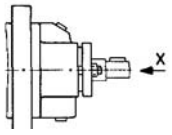
SNE..., SNEF... - cartridge unit pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 '*) **) and U4 *) **)
external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)

SNE

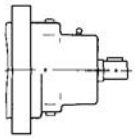
design U...



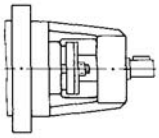
design U2, U3, U4

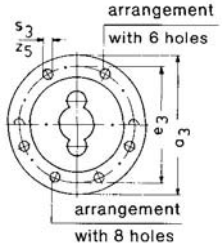


design D..., E...



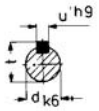
design KA2

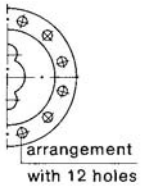




view X
only with design U4
pump size 40 to 440

shaft end
all desigins



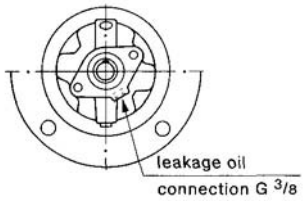


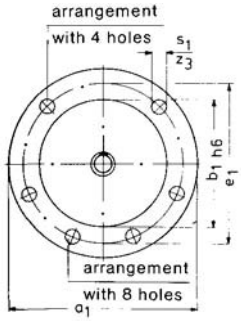
*) shown to pump size 2200 **)
available to pump size 2200

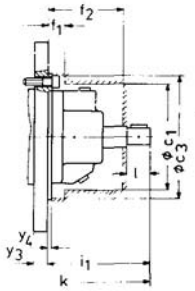
SNEF

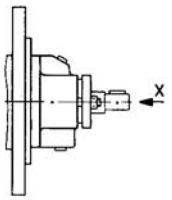
SNE

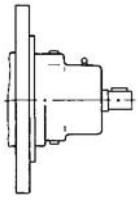
SNEF

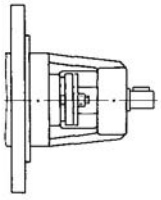












z_3/z_5 = No. of holes

Sense of rotation:
clockwise seen
from drive side

Dimensions in mm
Alteration of dimensions reserved

pump size	pump dimensions								mounting flange					
	i_2	k	r_1	r_2	r_3	v	y_6	y_7	a_3	e_3	s_3	s_4	y①	z_5
40	145,0	375	81	85	86	66	12	12	128	105	12,0	M 10	14,0	6
80	155,0	414	100	105	106	95	17	13	152	130	12,0	M 10	16,5	6
120	186,5	480	108	120	121	105	17	16	182	152	14,5	M 12	19,0	6
210	207,0	555	126	140	141	113	18	16	203	175	14,5	M 12	21,0	6
280	217,0	600	132	147	148	145	20	21	217	180	18,5	M 16	22,5	6
440	235,0	673	150	171	172	173	25	20	243	205	18,5	M 16	25,0	8
660	265,0	770	168	191	192	193	28	20	266	230	18,5	M 16	28,0	8
940	280,0	854	188	214	215	240	30	20	290	250	24,0	M 20	31,0	8
1300	296,0	932	210	235	236	225	30	31	310	272	24,0	M 20	34,0	8
1700	317,0	1022	232	261	262	267	30	30	348	300	24,0	M 20	34,0	8
2200	325,0	1095	252	280	281	343	36	30	360	320	24,0	M 20	40,0	12
2900/3600	435,0	1255	292	319	320	335	40	30	410	365	24,0	M 20	47,0	12

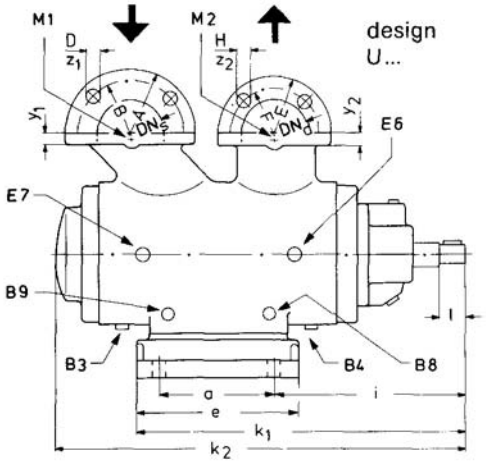
① stated dimensions without gasket

pump size	flange cover (only with series SNEF...)												shaft end			
	a_1	b_1	② c_1	② c_3	e_1	② f_1	② f_2	i_1	s_1	y_3	y_4	z_3	d	l	t	u
40	190	130	130	130	160	20	100	130	13,5	14,5	5,0	4	19	29	21,5	6
80	230	155	153	153	190	21	106	138	17,5	16,5	6,0	4	19	31	21,5	6
120	260	185	163	175	220	23	122	168	17,5	18,0	6,0	4	24	45	27,0	8
210	290	205	172	198	250	23	127	181	17,5	20,5	5,5	4	28	53	31,0	8
280	310	220	175	209	260	27	146	195	22,0	21,5	6,0	4	32	48	35,0	10
440	360	250	208	234	310	27	158	209	26,0	25,0	6,0	4	38	50	41,0	10
660	380	270	227	259	320	27	173	239	26,0	25,0	6,0	4	42	65	45,0	12
940	400	290	241	287	350	31	175	251	22,0	28,0	6,0	8	48	75	51,5	14
1300	410	310	259	307	360	31	181	267	22,0	28,0	6,0	8	48	85	51,5	14
1700	480	350	265	335	420	35	192	288	22,0	28,0	6,0	8	55	95	59,0	16
2200	480	360	267	355	420	35	198	294	22,0	30,0	10	8	60	95	64,0	18
2900/3600	560	450	287	400	500	33	263	394	26,0	40,0	7,0	8	70	130	74,5	20

② space to be kept free for assembling

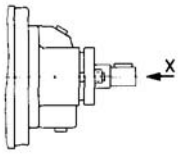
Pump dimensions - not valid for fabricated (welded) design

SNGH... - horizontal foot mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2...
internal ball bearing, with shaft sealing rings, design U3 and U4
external ball bearing, with mechanical seal, design D... and E...
external ball bearing, with stuffing box, design KA2



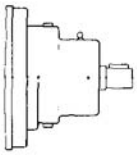
design U...

design U2, U3, U4

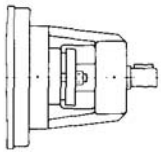


view X
only with design U4
pump size 40 to 440

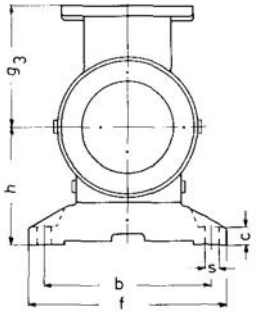
design D..., E...



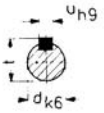
design KA2

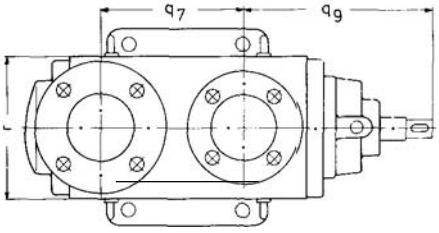


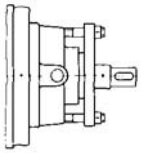
shaft end
all designs

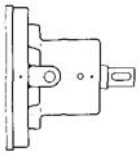


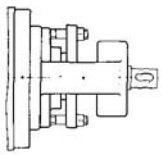
Branch position: Suction and delivery branch arranged one after the other (U-turn) on centerline of pump.

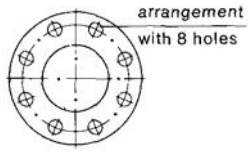












Dimensions in mm
Alteration of dimensions reserved

z_1/z_2 = No. of holes

Valve dimensions and connections:
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37

Sense of rotation:
clockwise seen from drive side

pump size	pump dimensions						foot dimensions							shaft end			
	h	k_1	k_2	q_7	q_9	r	a	b	c	e	f	i	s	d	l	t	u
40	106	285	393	130	205,5	130	70	144	10	114	170	193	12,0	19	29	21,5	6
80	118	327	435	160	233,5	155	70	144	10	114	170	235	12,0	19	31	21,5	6
120	150	411	503	180	273,0	185	140	180	15	190	210	246	14,5	24	45	27,0	8
210	160	446	580	195	301,5	205	140	180	15	190	210	281	14,5	28	53	31,0	8
280	190	531	630	220	322,0	220	200	300	30	280	350	291	24,0	32	48	35,0	10
440	200	580	716	255	357,0	245	200	300	30	280	350	340	24,0	38	50	41,0	10
660	215	630	800	285	407,0	270	200	300	30	280	350	390	24,0	42	65	45,0	12
940	225	690	886	290	419,0	290	200	300	30	280	350	450	24,0	48	75	51,5	14
1300	240	760	965	290	439,0	310	300	370	35	380	430	420	24,0	48	85	51,5	14

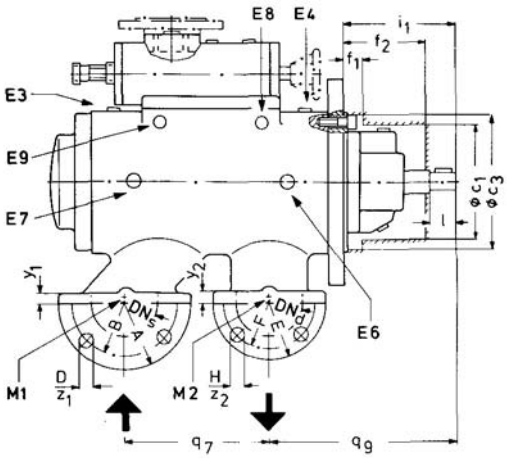
pump size	suction flange							delivery flange													connections			
	nom. diam.	PN16 DIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN 64 DIN 2546, form B ①						drainage		vent-ing	pres-sure gauge
	DN_S	A	B	D	g_3	y_1	z_1	DN_d	E	F	H	g_3	y_2	z_2	E	F	H	g_3	y_2	z_2	B3/B4	B8/B9	E6/E7	M1/M2
40	32	140	100	19	140	18	4	25	115	85	14	140	18	4							-	G ⅛	G ⅛	G ¼
80	50	165	125	19	150	20	4	40	150	110	19	150	20	4							-	G ⅛	G ⅛	G ¼
120	65	185	145	19	170	20	4	50	165	125	19	170	22	4							-	G ⅛	G ⅛	G ¼
210	80	200	160	19	185	22	8	65	185	145	19	185	24	8							-	G ⅛	G ⅛	G ¼
280	100	220	180	19	190	24	8	80	200	160	19	190	26	8	upon request						-	G ⅜	G ⅜	G ⅜
440	125	250	210	19	200	26	8	100	235	190	23	200	28	8							G ½	G ½	-	G ⅜
660	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ½	G ½	-	G ½
940	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ⅜	G ⅜	-	G ⅜
1300	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ¾	G ½	-	G ½

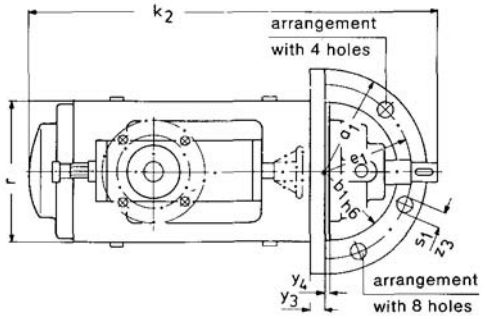
① only possible with pump casing in GGG-40 (surplus price).

Pump dimensions - not valid for fabricated (welded) design

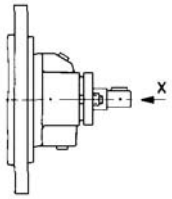
SNGF... -flange mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2...
internal ball bearing, with shaft sealing rings, design U3 and UJ4
external ball bearing, with mechanical seal, design D... and E....
external ball bearing, with stuffing box, design KA2

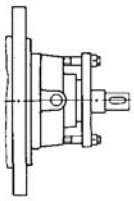
design U...



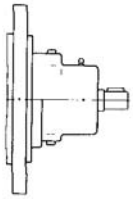


design U2, U3, U4

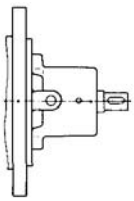




design D..., E...

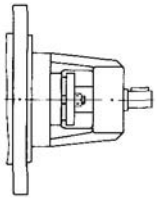


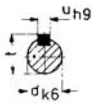
view X only with design U4 pump size 40 to 440

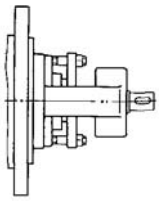


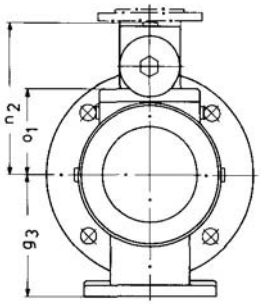
design KA2

shaft end all designs

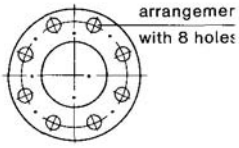








Branch position: Suction and delivery branch arranged one after the other (U-turn) on centerline of pump.



Dimensions in mm
Alteration of dimensions reserved $z_1/z_2/z_3$ = No. of holes

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GiB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GiB/...2009, page 37

Sense of rotation: clockwise seen from drive side

pump size	pump dimensions ①						flange cover ② ② ② ②												shaft end			
	k_2	n_2	o_1	q_7	q_9	r	a_1	b_1	c_1	c_3	e_1	f_1	f_2	i_1	s_1	y_3	y_4	z_3	d	l	t	u
40	393	162	83	130	205,5	130	190	130	130	130	160	20	100	130	13,5	14,5	5,0	4	19	29	21,5	6
80	435	174	95	160	233,5	155	230	155	153	153	190	21	106	138	17,5	16,5	6,0	4	19	31	21,5	6
120	503	207	115	180	273,0	185	260	185	163	175	220	23	122	168	17,5	18,0	6,0	4	24	45	27,0	8
210	580	217	125	195	301,5	205	290	205	172	198	250	23	127	181	17,5	20,5	5,5	4	28	53	31,0	8
280	630	247	140	220	322,0	220	310	220	175	209	260	27	146	195	22,0	21,5	6,0	4	32	48	35,0	10
440	716	257	150	255	357,0	245	360	250	208	234	310	27	158	209	26,0	25,0	6,0	4	38	50	41,0	10
660	800	307	165	285	407,0	270	380	270	227	259	320	27	173	239	26,0	25,0	6,0	4	42	65	45,0	12
940	886	317	175	290	419,0	290	400	290	241	287	350	31	175	251	22,0	28,0	6,0	8	48	75	51,5	14
1300	965	382	190	290	439,0	310	410	310	259	307	360	31	181	267	22,0	28,0	6,0	8	48	85	51,5	14

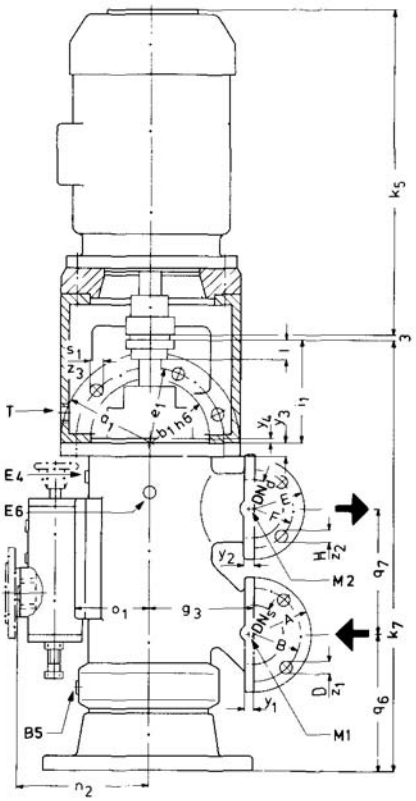
① max. dimension with by-pass valve, may be smaller each ace. to valve type. For return valves see dimension leaflet VM (617 GB/...2008, page 36
② Space to be kept free for assembling.

pump size	suction flange							delivery flange													connections			
	nom. diam.	PN16 DIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN 64 DIN 2546, form B ③						drainage			pressure-gauge
	DN_s	A	B	D	g_3	y_1	z_1	DN_d	E	F	H	g_3	y_2	z_2	E	F	H	g_3	y_2	z_2	E3/E4	E6/E7	E8/E9	M1/M2
40	32	140	100	19	140	18	4	25	115	85	14	140	18	4							-	G ⅛	G ⅛	G ¼
80	50	165	125	19	150	20	4	40	150	110	19	150	20	4							-	G ⅛	G ⅛	G ¼
120	65	185	145	19	170	20	4	50	165	125	19	170	22	4							-	G ⅛	G ⅛	G ¼
210	80	200	160	19	185	22	8	65	185	145	19	185	24	8							-	G ⅛	G ⅛	G ¼
280	100	220	180	19	190	24	8	80	200	160	19	190	26	8	upon request						-	G ⅜	G ⅜	G ⅜
440	125	250	210	19	200	26	8	100	235	190	23	200	28	8							G ½	-	G ½	G ⅜
660	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ½	-	G ½	G ½
940	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ⅜	-	G ⅜	G ⅜
1300	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G ¾	-	G ½	G ½

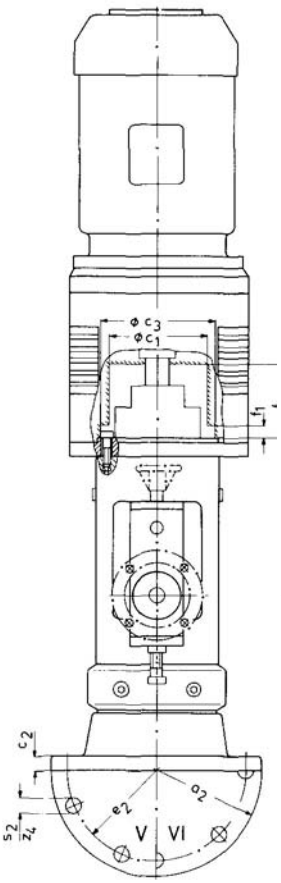
③ only possible with pump casing in GGG-40 (surplus price).

Pump dimensions - not valid for fabricated (welded) design

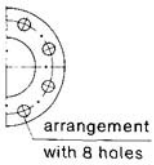
SNGS... - Vertical pedestal mounted pump, internal ball bearing, with mechanical seal, design U...
internal ball bearing, with stuffing box, design U2...
internal ball bearing, with shaft sealing rings, design U3 and U4
external ball bearing, with mechanical seal, design D... and E...
external ball bearing, with stuffing box, design KA2



z_1 /z_2 /z_3/z_4 = No. of holes

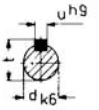


screw arrangement at pump foot for:
II = SNGS 40
IV = SNGS 80 to 210
V = SNGS 280 to 940
VI = SNGS 1300



Branch position: Suction and delivery branch arranged superimposed (U-turn) on centerline of pump.

shaft end all designs



Sense of rotation: clockwise seen from drive side

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37

Dimensions in mm
Alteration of dimensions reserved

Standard motors			
IEC size	k_5 appr.	IEC size	k_5 appr.
71	240	180 M	650
80	275	180 L	690
90 S	305	200 L	735
90 L	330	225 S	810
100 L	365	225 M	835
112 M	380	250 M	940
132 S	445	280 S	1000
132 M	485	280 M	1050
160 M	585	315 S	1140
160 L	630	315 M	1200

pump size	pump dimensions ①					flange cover ② ② ② ②												foot dimensions					shaft end			
	k_7	n_2	o_1	q_6	q_7	a_1	b_1	c_1	c_3	e_1	f_1	f_2	i_1	s_1	y_3	y_4	z_3	a_2	c_2	e_2	s_2	z_4	d	l	t	u
40	451,0	162	83	115,5	130	190	130	130	130	160	20	100	130	13,5	14,5	5,0	4	250	22	220	14	4	19	29	21,5	6
80	519,5	174	95	126,0	160	230	155	153	153	190	21	106	138	17,5	16,5	6,0	4	280	23	240	18	6	19	31	21,5	6
120	608,0	207	115	155,0	180	260	185	163	175	220	23	122	168	17,5	18,0	6,0	4	320	25	280	18	6	24	45	27,0	8
210	651,0	217	125	154,0	195	290	205	172	198	250	23	127	181	17,5	20,5	5,5	4	340	25	300	18	6	28	53	31,0	8
280	832,0	247	140	290,0	220	310	220	175	209	260	27	146	195	22,0	21,5	6,0	4	400	30	360	18	8	32	48	35,0	10
440	851,0	257	150	239,0	255	360	250	208	234	310	27	158	209	26,0	25,0	6,0	4	420	35	380	18	8	38	50	41,0	10
660	916,0	307	165	224,0	285	380	270	227	259	320	27	173	239	26,0	25,0	6,0	4	480	35	440	18	8	42	65	45,0	12
940	1011	317	175	302,0	290	400	290	241	287	350	31	175	251	22,0	28,0	6,0	8	510	40	460	18	8	48	75	51,5	14
1300	1116	382	190	387,0	290	410	310	259	307	360	31	181	267	22,0	28,0	6,0	8	560	35	500	23	8	48	85	51,5	14

① max. dimension with by-pass valve, may be smaller each acc. to valve type. For return valves see dimension leaflet VM 617 GB/...2008, page 36
② Space to be kept free for assemblinig.

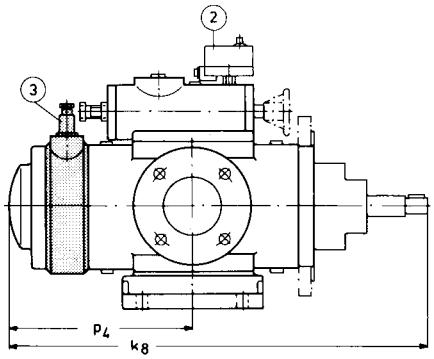
pump size	suction flange							delivery flange													connections				
	nom. diam.	PN 16 DIN EN 1092-2, form B						nom. diam.	PN40 DIN EN 1092-2, form B						PN 64 DIN 2546, form B ②						drain-age	vent-ing		pres-sure gauge	leak-age oil
	DN_S	A	B	D	g_3	y_1	z_1	DN_d	E	F	H	g_3	y_2	z_2	E	F	H	g_3	y_2	z_2	B5	E4	E6	M1/M2	T
40	32	140	100	19	140	18	4	25	115	85	14	140	18	4							G¾	-	G⅛	G¼	G¼
80	50	165	125	19	150	20	4	40	150	110	19	150	20	4							G¾	-	G⅛	G¼	G¼
120	65	185	145	19	170	20	4	50	165	125	19	170	22	4							G¾	-	G⅛	G¼	G⅜
210	80	200	160	19	185	22	8	65	185	145	19	185	24	8							G 1	-	G⅛	G ¼	G⅜
280	100	220	180	19	190	24	8	80	200	160	19	190	26	8	upon request						G 1	-	G⅜	G⅜	G⅜
440	125	250	210	19	200	26	8	100	235	190	23	200	28	8							G 1	G½	-	G⅜	G½
660	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G 1¼	G½	-	G½	G½
940	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G 1½	G⅜	-	G⅜	G ½
1300	150	285	240	23	250	26	8	125	270	220	28	250	30	8							G 1½	G¾	-	G½	G½

② only possible with pump casing in GGG-40 (surplus price).

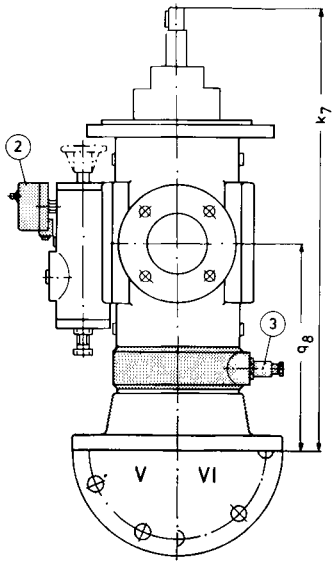
Heating - not valid for fabricated (welded) design

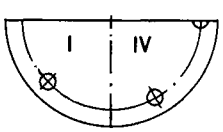
Series SNH, SNF, SNS, SNGS, design ...E = with heating elements for electrical heating
design ...P = with heating cartridges for steam or heat conveyors
design ...X = with heating cover for steam or heat conveyors

Design ... E (with 2 heating elements, electric)
SNH/SNF 40 to 3600



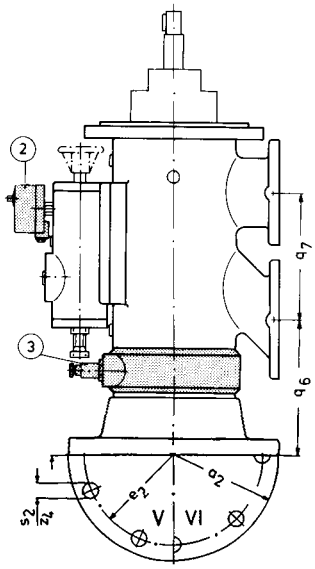
SNS 40 to 3600

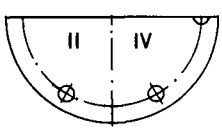




screw arrangement at pump foot for:
I = SNS 40
IV = SNS 80 to 210
V = SNS 280 to 940
VI = SNS 1300 to 3600

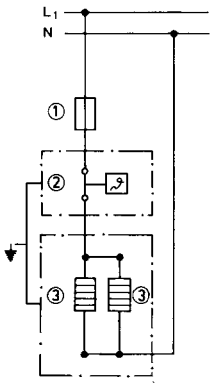
SNGS 40 to 1300





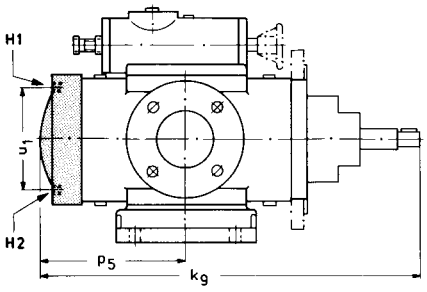
screw arrangement at pump foot for:
II = SNGS 40
IV = SNGS 80 to 210
V = SNGS 280 to 940
VI = SNGS 1300

switch diagram



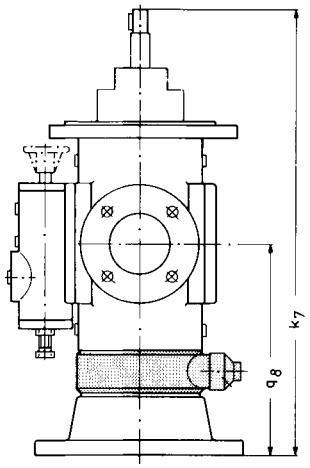
① fuse
② thermostat (control range 0 up to 150°C)
③ heating elements 230 V, 50 Hz

Design ... X (with heating cover)
SNH/SNF 40 to 3600

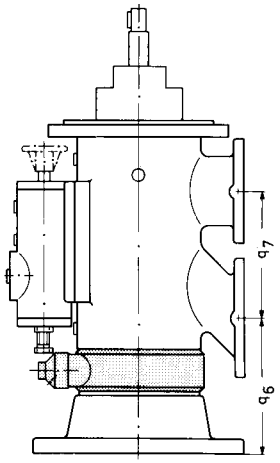


Dimensions in mm
Alteration of dimensions reserved

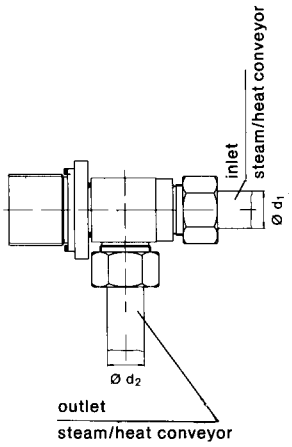
Design ... P (with 2 heating cartridges, steam/heat conveyor)
SNS 40 to 3600



SNGS 40 to 1300



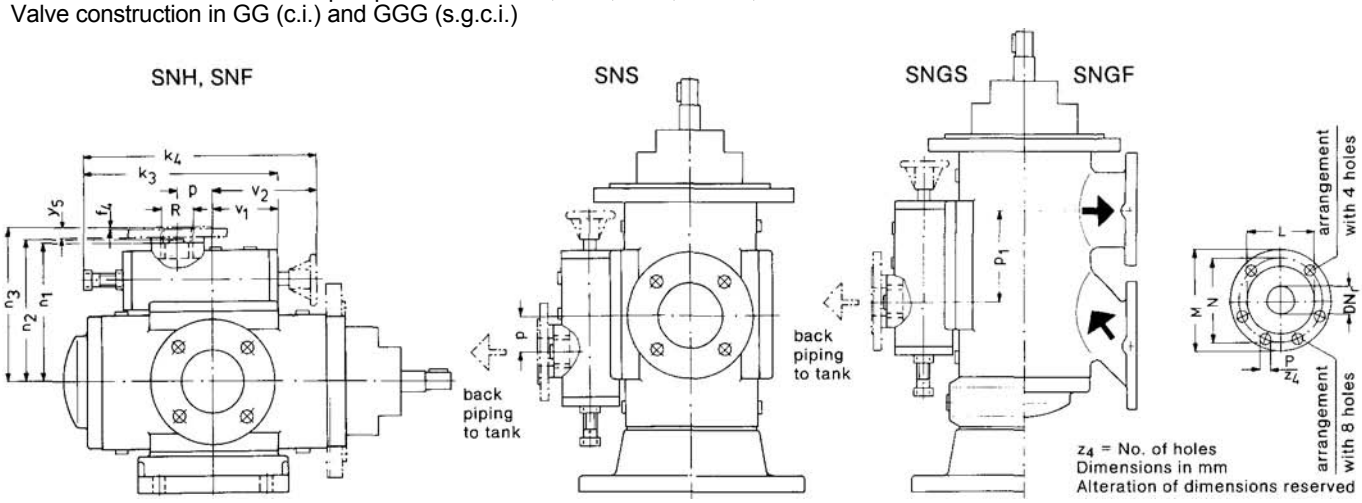
Connection cartridge



pump size	pump dimensions ④									heating steam/heat conveyor		total heat capacity (2 elements)	heating (electrical) heating elements 2310 V, 50 Hz				heating up time of pump in minutes at Δt =			
	k_7	k_8	k_9	p_4	p_5	q_6	q_7	q_8	u_1	H1/H2	pipe d_1/d_2	W	length	ø	connection	key width	25°C	50°C	75°C	100°C
40	451,0	453,5	413	223,5	183	115,5	130	220,5	100	G ¼	18	240	130	20	G ¾	32				
80	519,5	490,5	454	215,5	179	126,0	160	244,5	120	G ¼	18	260	150	20	G ¾	32				
120	608,0	589,5	521	272,5	204	155,0	180	291,5	145	G ¼	18	300	170	20	G ¾	32				
210	651,0	648,5	604	296,5	252	154,0	195	298,5	170	G ¼	18	420	190	25	G 1	41				
280	832,0	721,0	653	331,0	263	290,0	220	441,0	175	G ⅜	18	460	210	25	G 1	41				
440	851,0	777,0	744	337,0	304	239,0	255	411,0	200	G ⅜	18	460	210	25	G 1	41	60	120	240	320
660	916,0	876,0	825	386,0	335	224,0	285	426,0	225	G ⅜	22	680	240	32	G 1¼	60				
940	1011	972,0	908	417,0	353	302,0	290	456,0	244	G ⅜	22	880	250	40	G 1½	60				
1300	1116	1061	995	491,0	425	387,0	290	546,0	265	G ½	22	1000	280	40	G 1½	60				
1700	1202	1166	1090	536,0	460	-	-	572,0	295	G ½	-	1340	300	50	G 2	75				
2200	1276	1247	1168	532,0	453	-	-	561,0	310	G ½	-	1340	300	50	G 2	75				
2900/3600	1521	1444	1367	624,0	547	-	-	701,0	352	G ½	-	1600	360	50	G 2	75				

④ Further dimensions see dimension leaflet VM 617/...2000 for SNH, VM 617/...2001 for SNF, VM 617/...2002 for SNS, VM 611 7/...2006 for SNGS.

Valve dimensions and connections - not valid for fabricated (welded) design
Pressure relief valves built-on lpumps of series SNH, SNF, SNS, SNGS, SNGF
Valve construction in GG (c.i.) and GGG (s.g.c.i.)



pump size	max. permissible flow-through	max. permissible working pressure ③	valve type	valve design	valve dimensions k_3	k_4	p	p_1	v_1	v_2	additional dimensions by-pass n_2	back piping connections pipe thread n_1	R	PN16 DIN EN 1092-2 n_3	DN_r
SN..	l/min	bar	①	②											
40	200	0-38 38-58	DS 35 ④ DT 35 ④	AB④CD ④	175	210	24,5	49,0	48,5	⑦	182	155	G1	-	-
80	200	0-38 38-58	DS 35 ④ DT 35 ④	AB④CD ④	175	210	22,0	62,5	51,0	⑦	174	167	G1	-	-
120	210	0-38	DS 41	A B C D	198	245	20,0	63,5	80,0	111	185	178	G1	-	-
	550	0-44 0-98	DS 38 ⑤ DVI 38 ⑤	A B C D	261 300	292 340	44,0	87,5	80,0	121	207	200	G1V2	-	-
210	210	0-38	DS 41	A B C D	198	245	19,0	69,5	81,0	111	195	188	G1	-	-
	550	0-44 0-98	DS 38 DVI 38 ⑥	A B C D	261 300	292 340	43,0	93,5	81,0	122	217	210	G1V2	-	-
280	900	0-13,5 13,5-38	DS 44 DT 44	A B C D	362 402	410 450	66,0	148	119	167	247	-	-	270	65
		0-98	DV 44 DVI 44 DVS44	- B - D	384 384 -	⑧ ⑧ 360	66,0	148	119 119 -	⑧ ⑧ 124	247	-	-	270	65
440	900	0-13,5 13,5-38	DS 44 DT 44	A B C D	362 402	410 450	65,0	148	120	168	257	-	-	280	65
		0-98	DV 44 DVI 44 DVS44	- B - D	384 384 -	⑧ ⑧ 360	65,0	148	120 120 -	⑧ ⑧ 125	257	-	-	280	65
660	900	0-13,5 13,5-38	DS 44 DT 44	A B C D	362 402	410 450	65,0	148	120	168	272	-	-	295	65
		0-98	DV 44 DVI 44 DVS44	- B - D	384 384 -	⑧ ⑧ 360	65,0	148	120 120 -	⑧ ⑧ 125	272	-	-	295	65
	1800	0-18	DS 47	A B C D	400	468	65,0	148	125	193	307	-	-	350	80
		0-98	DV 47 DVI 47	- B - D	400	468	65,0	148	125	193	307	-	-	350	80
940	900	0-13,5 13,5-38	DS 44 DT 44	A B C D	362 402	410 450	60,0	195	125	173	282	-	-	305	65
		0-98	DV 44 DVI 44 DVS44	- B - D	384 384 -	⑧ ⑧ 360	80,0	195	125 125 -	⑧ ⑧ 130	282	-	-	305	65
	1800	0-18	DS 47	A B C D	400	468	60,0	195	130	198	317	-	-	360	80
		0-98	DV 47 DVI 47	- B - D	400	468	60,0	195	130	198	317	-	-	360	80
1300	2500	0-16	DS 50	A B C D	550	620	100	230	180	250	382	-	-	385	100
		0-98	DV 50 DVI 50 DVS50	- B - D	470 470 -	⑧ ⑧ 530	100	230	180 180 -	⑧ ⑧ 270	382	-	-	385	100
1700	2500	0-16	DS 50	A B C D	550	620	89,0	-	191	261	402	-	-	405	100
		0-98	DV 50 DVI 50 DVS50	- B - D	470 470 -	⑧ ⑧ 530	89,0	-	191 191 -	⑧ ⑧ 281	402	-	-	405	100
2200	2500	0-16	DS 50	A B C D	550	620	80,0	-	200	270	407	-	-	410	100
		0-98	DV 50 DVI 50 DVS50	- B - D	470 470 -	⑧ ⑧ 530	80,0	-	200 200 -	⑧ ⑧ 290	407	-	-	410	100
2900 3600	3600	0-9,0	DS 56	A B C D	620	700	100	-	213	295	467	-	-	467	125
		0-98	DV 56 DVS56	- B - D	620 -	700 545	100	-	213 -	295 300	467	-	-	467	125

flange dimensions (back piping connection) PN16 DIN EN 1092-2, form C							
DN_r	M	N	L	P	f_4	y_5	z_4
65	185	145	122	19	3	18	4
80	200	160	138	19	3	22	8
100	220	180	158	19	3	22	8
125	250	210	188	19	3	25	8

① DS = Pressure relief valve with coil spring, directly operated
DT = Pressure relief valve with disc springs, directly operated
DV = Pressure relief valve directly pilot-operated
DVI = Pressure relief valve indirectly pilot-operated
DVS = Pressure relief valve directly pilot-operated, marine design for vertical pumps

② A = by-pass relief valve
B = by-pass relief valve with manual control
C = return relief valve
D = return relief valve with manual control

③ In the case of differential pressure over 40 bars return valves (type...C and D...) should generally be employed.

④ With pump type SNS 40 and SNS 80 the valve types DS 35 and DT 35 in design B and D (i.e. with manual control) are not possible.

⑤ With pump type SNS 120 the valve type DS 38 and DVI 38 only with intermediary (between pump casing and round pump foot) possible.

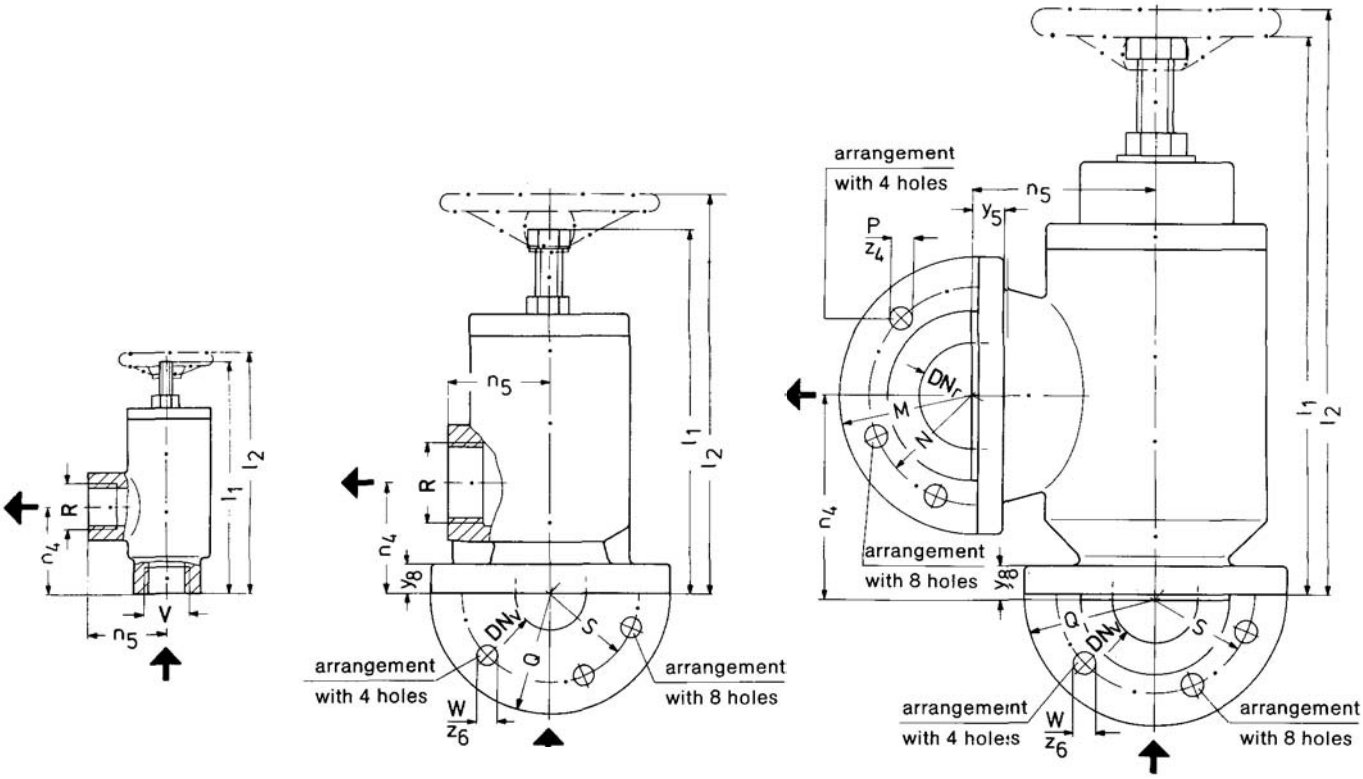
⑥ With pump type SNS 210 the valve type DVI 38 only with intermediary (between pump casing and round pump foot) possible.

⑦ No dimension because manual control on opposite adjusting screw (control acts on pressure spring).

⑧ No dimension because of lateral adjusting screw.

Valve dimensions and connections
Pressure relief valves for pipe line installation

valve size 23 to 38 valve size 44 valve size 44 to 56



z_4/z_6 = No. of holes

Dimensions iin mm. Alteration of dimensions reserved

discharge flow through		max. permissible working pressure	valve			valve dimensions				connections																
										inlet (feeding)									outlet (return)							
from	to		type	de-sign	material of casing					pipe thread	nominal diam.	press.							pipe thread	nominal diam.	press.					
l/min	l/min	bar	①	②		l_1	l_2	n_4	n_5	V	DN$_V$	PN	Q	S	W	y_8	z_6	R	DN$_r$	PN	M	N	P	y_5	z_4
5	35	0-38	DS23	E F	GG, GGG, St	110	115	40	35	G ⅜	-	-	-	-	-	-	-	G ⅜	-	-	-	-	-	-	-
20	160	0-38	DS29	E F	GG, GGG, St	160	190	62	50	G 1	-	-	-	-	-	-	-	G 1	-	-	-	-	-	-	-
		38-58	DT29	E F	GG, GGG, St	160	190	62	50	G 1	-	-	-	-	-	-	-	G 1	-	-	-	-	-	-	-
50	300	0-44	DS38	E F	GG, GGG, St	230	260	88	57	G 1½	-	-	-	-	-	-	-	G 1½	-	-	-	-	-	-	-
		0-58	DVI38	E	GG, GGG, St	292	-	88	57	G 1½	-	-	-	-	-	-	-	G 1½	-	-	-	-	-	-	-
		0-98	DVI38	E	GGG, St	292	-	88	57	G 1½	-	-	-	-	-	-	-	G 1½	-	-	-	-	-	-	-
100	660	0-13,5	DS44	E F	GG, GGG, GS	255	280	78	70	-	50	40	165	125	18	22	4	G 2	-	-	-	-	-	-	-
		13,5-38	DT44	E F	GG, GGG, GS	300	325	78	70	-	50	40	165	125	18	22	4	G 2	-	-	-	-	-	-	-
		0-38	DV44, DVI44	F	GG, GGG, GS	275	③	78	70	-	50	40	165	125	18	22	4	G 2	-	-	-	-	-	-	-
		0-98	DV44, DVI44	F	St	325	③	132	112	-	50	100	195	145	27	28	4	-	50	16	165	125	18	18	4
200	1300	0-18	DS47	E F	GG, GGG	355	380	140	130	-	65	40	185	145	18	24	8	-	80	16	200	160	18	24	8
					St	380	410	160	160	-	65	40	185	145	18	22	8	-	80	16	200	160	18	20	8
		0-38	DV47, DVI47	F	GG, GGG	335	③	140	130	-	65	40	185	145	18	24	8	-	80	16	200	160	18	24	8
					St	360	③	160	160	-	65	40	185	145	18	22	8	-	80	16	200	160	18	20	8
		0-98	DV47, DVI47	F	St	360	③	160	160	-	65	100	220	170	27	30	8	-	80	16	200	160	18	20	8
400	2200	0-16	DS50	E F	GG	406	440	150	140	-	80	40	200	160	18	26	8	-	100	16	220	180	18	24	8
					St	468	500	200	180	-	80	40	200	160	18	24	8	-	100	16	220	180	18	20	8
		0-38	DV50, DVI50	F	GG	320	③	150	140	-	80	40	200	160	18	26	8	-	100	16	220	180	18	24	8
					St	380	③	200	180	-	80	40	200	160	18	24	8	-	100	16	220	180	18	20	8
		0-98	DV50, DVI50	F	St	380	③	220	180	-	80	100	230	180	27	32	8	-	100	16	220	180	18	20	8
600	3600	0-9	DS56	E F	St	500	520	220	200	-	100	40	235	190	23	24	8	-	125	16	250	210	18	22	8
		0-38	DV56	F	St	400	③	220	200	-	100	40	235	190	23	24	8	-	125	16	250	210	18	22	8
		0-98	0V56	F	St	395	③	240	200	-	100	100	265	210	30	36	8	-	125	16	250	210	18	22	8

① DS = Pressure relief valve with coil spring, directly operated
DT = Pressure relief valve with disc springs, directly operated
DV = Pressure relief valve directly pilot-operated
DVI = Pressure relief valve indirectly pilot-operated

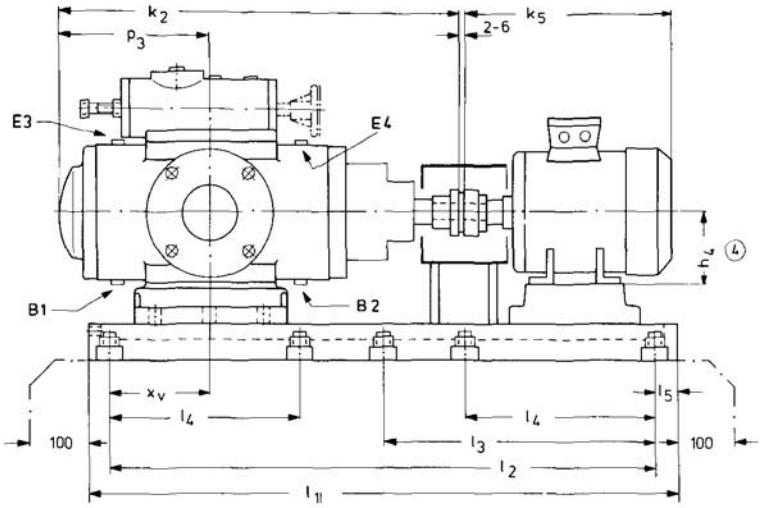
② E = pipe line relief valve without manual control
F = pipe line relief valve with manual control

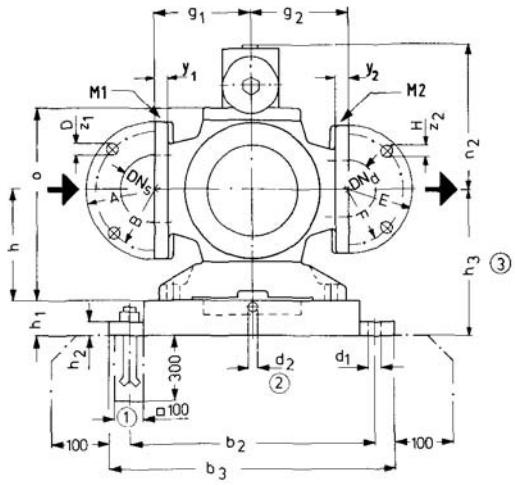
③ No dimensiom because of lateral adjusting screw.

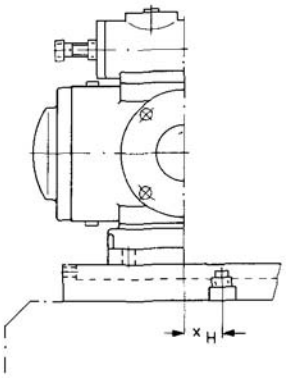
Installation plan - not valid for fabricated (welded) design

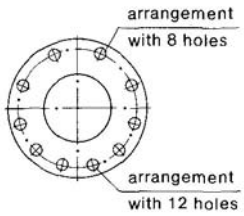
SNH... - horizontal foot mounited pump, internal ball bearing, with mechanical seal, design U... *)
internal ball bearing, with stuffing box, design U2 *) **)
internal ball bearing, with shaft sealing rings, design U3 *) **) and U4 *) **)
external ball bearing, with mechanical seal, design D... *) **) and E... *)
external ball bearing, with stuffing box, design KA2 *) **)

*) shown to pump size 2200
**) available to pump size 2200









① Allocation of foundation screws to the base plate sizes see dimension table of the base plates.
② Leakage drain on base plate upon request only.
③ h_3 = h or h_4 (use max. dimension) + h1
④ h_4 = size of motor, e.g. 180 M = 180 mm.

Branch position:
Suction and delivery branch opposed in one line (In-line) on centerline of pump. The sense of flow may be changed without alteration of sense of rotation by turning the pump casing by 180°.

pump size	connections		
	drain-age	vent-ing	pres-sure gauge
SNH	B1/B2	E3/E4	M1/M2
40	G ¼	G ¼	G ¼
80	G ¼	G ¼	G ¼
120	G ¼	G ¼	G ¼
210	G ⅜	G ⅜	G ¼
280	G ⅜	G ⅜	G ⅜
440	G ½	G ½	G ½
660	G ½	G ½	G ½
940	G ½	G ½	G ½
1300	G ¾	G ¾	G ½
1700	G ¾	G ¾	G ½
2200	G ¾	G ¾	G ½
2900/3600	G ¾	G ¾	G ½

Sense of rotation:
clockwise seen from drive side

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37
Additional dimensions in case of heating see dimension leaflet VM 617 GB/...2007, page 35

Dimensions in mm
Alteration of dimensions reserved

z_1/z_2 = No. of holes

pump size	pump dimensions ⑤					suction flange							delivery flange											
						nom. diam.	up to DN 150-PN16 DIN EN 1092-2, form B from DN 200 - PN 10 DIN EN 1092-2, form B						nom. diam.	PN 40 DIN EN 1092-2, form B						PN 64 DIN 2546, form B ⑥					
	h	k_2	n_2	o	p_3	DN_s	A	B	D	g_1	y_1	z_1	DN_d	E	F	H	g_2	y_2	z_2	E	F	H	g_2	y_2	z_2
40	106	393	162	189	163	32	140	100	19	100	18	4	25	115	85	14	100	18	4	140	100	18	106	24	4
80	118	435	174	213	160	65	185	145	19	120	20	4	50	165	125	19	120	22	4	180	135	22	124	26	4
120	150	503	207	265	186	65	185	145	19	130	20	4	50	165	125	19	130	22	4	180	135	22	134	26	4
210	160	580	217	285	228	80	200	160	19	150	22	8	65	185	145	19	150	24	8	205	160	22	152	26	8
280	190	630	247	330	240	100	220	180	19	165	24	8	80	200	160	19	165	26	8	215	170	22	167	28	8
440	200	716	257	350	276	125	250	210	19	180	26	8	100	235	190	23	180	28	8	250	200	26	182	30	8
660	215	800	307	380	310	125	250	210	19	195	26	8	100	235	190	23	195	28	8	250	200	26	197	30	8
940	225	886	317	400	331	150	285	240	23	205	26	8	125	270	220	28	205	30	8	295	240	30	209	34	8
1300	240	965	382	430	395	150	285	240	23	220	26	8	125	270	220	28	220	30	8	295	240	30	224	34	8
1700	260	1060	402	470	430	200	340	295	23	240	26	8	150	300	250	28	240	34	8	345	280	33	242	36	8
2200	265	1136	407	480	421	200	340	295	23	250	26	8	150	300	250	28	250	34	8	345	280	33	252	36	8
2900/3600	315	1322	467	560	502	250	395	350	23	300	28	12	200	375	320	31	300	40	12	-	-	-	-	-	-

⑤ max. dimension with by-pass valve, may be smaller each acc. to valve type. For return valves see dimension leaflet VM 617 GB/...2008, page 36
⑥ only possible with pump casing in GGG-40 (surplus price).

base plate size	base plate dimensions									foundation screws allocation		base plate size	base plate dimensions										foundation screws allocation	
Gr.	b_2	b_3	d_1	② d_2	h_1	h_2	l_1	l_2	l_5	ea.	dimension	Gr.	b_2	b_3	d_1	② d_2	h_1	h_2	l_1	l_2	l_3	l_4	l_5	ea.	dimension
2	265	305	14,5	G ¼	40	25	515	315	100	4	M 12 x 160	10.1	470	510	18,5	G ½	87	7	1120	900	450	-	110	6	M 16 x 250
3	300	340	14,5	G ⅜	45	30	575	355	110	4	M 12 x 160	11.1	520	560	18,5	G ½	90	7	1250	1190	595	-	30	6	M 16 x 250
4	300	340	14,5	G ⅜	45	30	645	400	122	4	M 12 x 160	11.4	595	635	18,5	G ½	90	7	1250	1190	595	-	30	6	M 16 x 250
5	335	379	18,5	G ⅜	50	30	725	500	112	4	M 16 x 160	12.1	575	615	18,5	G ¾	115	8	1400	1340	-	440	30	8	M 16 x 250
6	375	419	18,5	G ⅜	50	30	815	560	127	4	M 16 x 160	12.3	645	685	18,5	G ¾	115	8	1400	1340	-	440	30	8	M 16 x 250
7.1	320	350	14,5	G ½	70	6	900	630	135	4	M 12 x 160	13.1	575	615	18,5	G ¾	115	8	1600	1540	-	500	30	8	M 16 x 250
8.1	400	430	14,5	G ½	72	6	900	630	135	4	M 12 x 160	14.1	675	715	18,5	G ¾	115	8	1600	1540	-	500	30	8	M 16 x 250
9.1	445	485	18,5	G ½	87	7	1000	710	145	4	M 16 x 250	16.3	675	715	18,5	G ¾	115	8	1800	1740	-	580	30	8	M 16 x 250
												17.1	675	715	18,5	G ¾	120	8	2000	1940	-	650	30	8	M 16 x 250

② leakage drain on base plate upon request only.

motor size ⑦	71	80	90 S	90 L	100 L	112 M	132 S	132 M	160 M
k_5 approx.	265	290	310	335	385	415	475	515	625
750 1/min	-	-	-	-	0,75 / 1,1	1,5	2,2	3,0	4,0 / 5,5
kW 1000 1/min	-	0,37 / 0,55	0,75	1,1	1,5	2,2	3,0	4,0 / 5,5	7,5
at = 1500 1/min	0,25 / 0,37	0,55 / 0,75	1,1	1,5	2,2 / 3,0	4,0	5,5	7,5	11,0
3000 1/min	0,37 / 0,55	0,75 / 1,1	1,5	2,2	3,0	4,0	5,5 / 7,5	-	11,0/15,0

pump size	required base plate and coupling/dimension x_H or x_v																											
	x_H	Gr	Ku	x_H	Gr	Ku	x_H	Gr	Ku	x_H	Gr	Ku	x_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku
SNH 40	35 H	2	28	45 H	3	28	45 H	3	28	45 H	3	28	60 H	4	28	60 H	4	28	50 H	5	38	50 H	5	38	55 H	6	42
SNH 80	-	-	-	60 H	4	28	60 H	4	28	60 H	4	28	50 H	5	28	50 H	5	28	60 H	6	38	60 H	6	38	80 H	8.1	42
SNH 120	-	-	-	10 H	5	28	10 H	5	28	10 H	5	28	25 H	6	28	25 H	6	28	25 H	6	38	25 H	6	38	50 H	9.1	42
SNH 210	-	-	-	-	-	-	25 H	6	28	25 H	6	28	40 H	7.1	28	40 H	7.1	28	40 H	8.1	38	40 H	8.1	38	50 H	9.1	42
SNH 280	-	-	-	-	-	-	-	-	-	-	-	-	10 V	8.1	38	10 V	8.1	38	0	9.1	38	0	9.1	38	35 V	10.1	42
SNH 440	-	-	-	-	-	-	-	-	-	-	-	-	10 V	9.1	38	10 V	9.1	38	0	9.1	38	0	9.1	38	35 V	10.1	42
SNH 660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35 V	10.1	42	35 V	10.1	42	165 V	11.1	42
SNH 940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35 V	10.1	48	130 V	11.1	48
SNH 1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230 V	12.1	48
SNH 1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200 V	12.1	55

motor size ⑦	160 L	180 M	180 L	200 L	225 S	225 M		250 M	
k_5 approx.	670	700	730	790	830	875		960	
750 1/min	7,5	-	11,0	15,0	18,5	22,0	-	30,0	-
kW 1000 1/min	11,0	-	15,0	18,5 / 22,0	-	30,0	-	37,0	-
at = 1500 1/min	15,0	18,5	22,0	30,0	37,0	45,0	-	55,0	-
3000 1/min	18,5	22,0	-	30,0 / 37,0	-	-	45,0	-	55,0

pump size	required base plate and coupling/dimension x_H or x_v																											
	x_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku	X_H/x_V	Gr	Ku	x_H/x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku
SNH 80	80 H	8.1	42	90 H	9.1	48	-	-	-	90 H	9.1	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SNH 120	50 H	9.1	42	50 H	9.1	48	50 H	9.1	48	15 H	10.1	55	-	-	-	-	-	-	80 V	11.1	55	-	-	-	-	-	-
SNH 210	50 H	9.1	42	15 H	10.1	48	15 H	10.1	48	15 H	10.1	55	150 V	11.1	60	150 V	11.1	60	90 V	11.1	55	-	-	-	90 V	11.4	60
SNH 280	35 V	10.1	42	35 V	10.1	48	35 V	10.1	48	215 V	11.1	55	175 V	11.1	60	175 V	11.1	60	175 V	11.1	55	160 V	12.1	65	160 V	12.1	60
SNH 440	35 V	10.1	42	170 V	11.1	48	170 V	11.1	48	170 V	11.1	55	120 V	11.1	60	120 V	11.1	60	120 V	11.1	55	210 V	12.1	65	210 V	12.1	60
SNH 660	165 V	11.1	42	165 V	11.1	48	165 V	11.1	48	125 V	11.1	55	190 V	12.1	60	190 V	12.1	60	190 V	12.1	55	160 V	12.1	65	160 V	12.1	60
SNH 940	130 V	11.1	48	130 V	11.1	48	130 V	11.1	48	170 V	12.1	55	140 V	12.1	60	140 V	12.1	60	140 V	12.1	55	105 V	12.1	65	105 V	12.1	60
SNH 1300	230 V	12.1	48	230 V	12.1	48	230 V	12.1	48	190 V	12.1	55	160 V	12.1	60	160 V	12.1	60	160 V	12.1	55	230 V	13.1	65	230 V	13.1	60
SNH 1700	200 V	12.1	55	160 V	12.1	55	160 V	12.1	55	260 V	13.1	55	250 V	13.1	60	250 V	13.1	60	250 V	13.1	55	200 V	13.1	65	200 V	13.1	60
SNH 2200	-	-	-	200 V	13.1	60	200 V	13.1	60	200 V	13.1	60	180 V	13.1	60	180 V	13.1	60	-	-	-	140 V	13.1	65	-	-	-
SNH 2900/3600	-	-	-	290 V	16.3	75	290 V	16.3	75	290 V	16.3	75	290 V	16.3	75	290 V	16.3	75	-	-	-	360 V	17.1	75	-	-	-

.

motor size ⑦	280 S		280 M		315 S		315 M		über 315 M
k_5 approx.	1020		1064		1130		1200		-
750 1/min	37,0		45,0	-	55,0	-	75,0	-	-
kW 1000 1/min	45,0	-	55,0	-	75,0	-	90,0	-	-
at = 1500 1/min	75,0	-	90,0	-	110,0	-	132,0	-	-
3000 1/min	-	75,0	-	90,0	-	110,0	-	132,0	-

pump size	required base plate and coupling/dimension x_v																											
	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku	x_V	Gr	Ku
SNH 280	-	-	-	140 V	12.3	65	-	-	-	140 V	12.3	65	-	-	-	-	-	-	-	-	-	-	-	-	⑧	⑧	⑧
SNH 440	135 V	12.3	75	135 V	12.3	65	135 V	12.3	75	135 V	12.3	65	-	-	-	150 V	14.1	65	-	-	-	150 V	14.1	75	⑧	⑧	⑧
SNH 660	150 V	14.1	75	150 V	14.1	65	150 V	14.1	75	150 V	14.1	65	150 V	14.1	85	150 V	14.1	65	-	-	-	150 V	14.1	75	⑧	⑧	⑧
SNH 940	170 V	14.1	75	170 V	14.1	65	170 V	14.1	75	170 V	14.1	65	110 V	14.1	85	110 V	14.1	65	110 V	14.1	85	110 V	14.1	75	⑧	⑧	⑧
SNH 1300	180 V	14.1	75	180 V	14.1	65	180 V	14.1	75	180 V	14.1	65	190 V	16.3	85	190 V	16.3	65	190 V	16.3	85	190 V	16.3	75	⑧	⑧	⑧
SNH 1700	160 V	14.1	75	160 V	14.1	65	160 V	14.1	75	160 V	14.1	65	235 V	16.3	85	235 V	16.3	65	235 V	16.3	85	235 V	16.3	65	⑧	⑧	⑧
SNH 2200	190 V	16.3	75	-	-	-	190 V	16.3	75	-	-	-	250 V	17.1	85	-	-	-	250 V	17.1	85	-	-	-	⑧	⑧	⑧
SNH 2900/3600	300 V	17.1	75	-	-	-	300 V	17.1	75	-	-	-	285 V	17.1	85	-	-	-	285 V	17.1	85	-	-	-	⑧	⑧	⑧

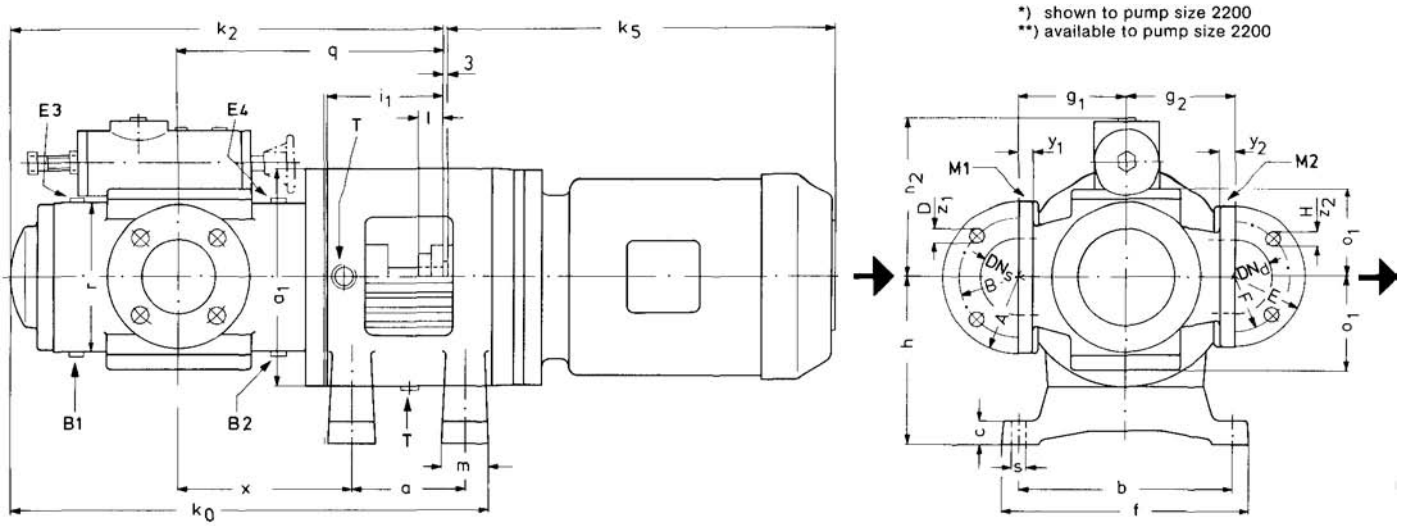
Gr = base plate size up to 6 of cast iron, from 7.1 onwards of fabricated steel
Ku = coupling size Polynorm A

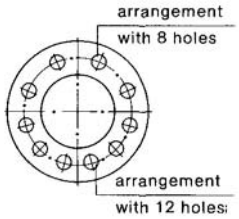
⑦ Three-phase A.C. Standard motors construction IM B3 and enclosure higher than IP 23. In case of three-phase A.C. Standard motors with enclcosure IP 23 as well as motor sizes above 315 M and D.C. motors dimensions of base plate and ctoupling upon request.
⑧ upon request.

Unit dimensions - not valid for fabricated (welded) design

SNF... - flange mounted pumip, internal ball bearing, with mechanical seal, design U... *) internal ball bearing, with stuffing box, design U2 *) **) internal ball bearing, with shaft sealing rings, design U3 *) **) and U4 *) **) external ball bearing, with mechanical seal, design D... *) **) and E... *) external ball bearing, with stuffing box, design KA2 *) **)

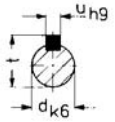
*) shown to pump size 2200
**) available to pump size 2200





Branch position: Suction and delivery branch opposed in one line (In-line) on centerline of pump.

The sense of flow may be changed without alteration of sense of rotation by turning the pump casing by 180°.



Sense of rotation: clockwise seen from drive side

Valve dimensions and connections:
with built-on pump type see dimension leaflet VM 617 GB/...2008, page 36
for pipeline installation see dimension leaflet VM 617 GB/...2009, page 37
Additional dimensions in case of heating see dimension leaflet VM 617 GB/...2007, page 35

Dimensions in mm
Alteration of dimensions reserved

z_1 / z_2 = No. of holes

standard motors ①			
IEC size	k5 appr	IEC size	k_5 appr.
71	240	180 M	650
80	275	180 L	690
90 S	305	200 L	735
90 L	330	225 S	810
100 L	365	225 M	835
112 M	380	250 M	940
132 S	445	280 S	1000
132 M	485	280 M	1050
160 M	585	315 S	1140
160 L	630	315 M	1200

pump size	pump-/unit dimensions ① ②										foot dimensions						shaft end			
	a_1	h	i_1	k_0	k_2	n_2	o_1	q	r	x	a	b	c	f	m	s	d	l	t	u
40	190	180	130	459,5	393	162	83	230	130	128,0	140	170	33	207	57	11	19	29	21,5	6
80	230	180	138	498,0	435	174	95	275	155	168,0	140	250	40	315	60	18	19	31	21,5	6
120	260	195	168	558,0	503	207	115	317	185	182,0	160	250	40	315	60	18	24	45	27,0	8
210	290	210	181	633,0	580	217	125	352	205	195,0	180	250	40	315	60	18	28	53	31,0	8
280	310	220	195	680,5	630	247	140	390	220	225,5	185	250	40	315	60	18	32	48	35,0	10
440	360	280	209	778,5	716	257	150	440	245	272,5	190	355	40	410	80	23	38	50	41,0	10
660	380	290	239	865,0	800	307	165	490	270	295,0	220	355	40	410	80	23	42	65	45,0	12
940	400	310	251	950,0	886	317	175	555	290	344,0	235	355	40	410	80	23	48	75	51,5	14
1300	410	310	267	1015,5	965	382	190	570	310	345,5	235	355	40	410	80	23	48	85	51,5	14
1700	480	340	288	1121,0	1060	402	210	630	350	381,0	270	355	40	410	80	23	55	95	59,0	16
2200	480	340	294	1197,0	1136	407	215	715	360	466,0	270	355	40	410	80	23	60	95	64,0	18
2900/3600	560	③	394	③	1325	467	263	820	414	③	③	③	③	③	③	③	70	130	74,5	20

① Only valid for three-phase A.C. stanidard motors with enclosure higher than IP 23. In case of three-phase A.C. standard motors with enclosure IP 23 and for D.C. motors dimensions upon request.

② max. dimension with by-pass valve, may be smaller each acc. to valve type. For return valves see dimension leaflet VM 617 GB/...2008, page 36

③ upon request only.

pump size	suction flange							delivery flange													connections			
	nom. diam.	up to DN 150- PN 16 DIN EN 1092-2, form B from DN 200-PN 10 DIN EN 1092-2, form B						nom. diam.	PN 40 DIN EN 1092-2, form B						PN 64 DIN 2546, form B ④						drain-age	vent-ing	pres-sure gauge	leak-age oil
	DN_S	A	B	D	g_1	y_1	z_1	DN_d	E	F	H	g_2	y_2	z_2	E	F	H	g_2	y_2	z_2	B1/B2	E3/E4	M1/M2	T
40	32	140	100	19	100	18	4	25	115	85	14	100	18	4	140	100	18	106	24	4	G ¼	G ¼	G ¼	G ¼
80	65	185	145	19	120	20	4	50	165	125	19	120	22	4	180	135	22	124	26	4	G ¼	G ¼	G ¼	G ¼
120	65	185	145	19	130	20	4	50	165	125	19	130	22	4	180	135	22	134	26	4	G ¼	G ¼	G ¼	G ⅜
210	80	200	160	19	150	22	8	65	185	145	19	150	24	8	205	160	22	152	26	8	G ⅜	G ⅜	G ¼	G ⅜
280	100	220	180	19	165	24	8	80	200	160	19	165	26	8	215	170	22	167	28	8	G ⅜	G ⅜	G ⅜	G ⅜
440	125	250	210	19	180	26	8	100	235	190	23	180	28	8	250	200	26	182	30	8	G ½	G ½	G ½	G ½
660	125	250	210	19	195	26	8	100	235	190	23	195	28	8	250	200	26	197	30	8	G ½	G ½	G ½	G ½
940	150	285	240	23	205	26	8	125	270	220	28	205	30	8	295	240	30	209	34	8	G ½	G ½	G ½	G ½
1300	150	285	240	23	220	26	8	125	270	220	28	220	30	8	295	240	30	224	34	8	G ¾	G ¾	G ½	G ½
1700	200	340	295	23	240	26	8	150	300	250	28	240	34	8	345	280	33	242	36	8	G ¾	G ¾	G ½	G ½
2200	200	340	295	23	250	26	8	150	300	250	28	250	34	8	345	280	33	252	36	8	G ¾	G ¾	G ½	G ½
2900/3600	250	395	350	23	300	28	12	200	375	320	31	300	40	12	-	-	-	-			G ¾	G ¾	G ½	G ½

④ only possible with pump casing in GGG-40 (surplus price).

Subject to technical alterations.

The mentioned performance data are to be considered as a product and performance abstract only. The particular operating limits can be taken from the quotation or order acknowledgement.

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