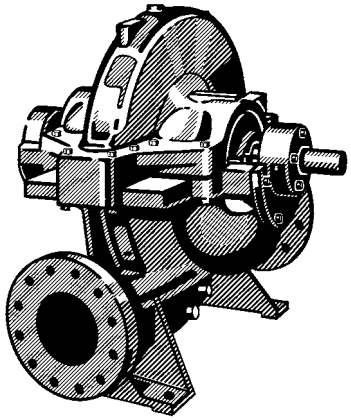
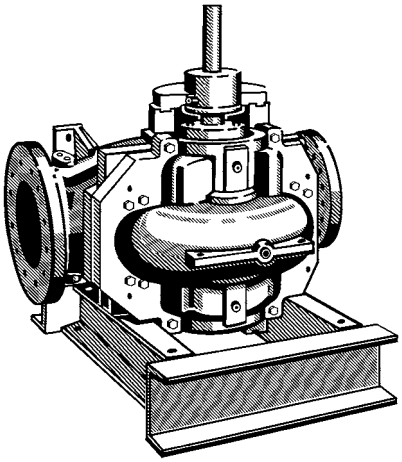
Omega/Omega V®

Axially split volute casing pumps



Omega



Omega V

Automation products available:

- PumpExpert
- Hyamaster
- hyatronic

Applications

Waterworks, irrigation and drainage pumping stations, power stations, industrial water supply systems, fire fighting systems, marine applications as well as general applications in refineries.

Operating data

Pump sizes	DN 80	up to 350	(3...14 in)
Capacities	Q	up to 800 l/s	(12.328 US.gpm)
Total heads	H	up to 170 m	(558 ft)
Operating pressure	p	up to 25 bar	(363 psi)
Operating temperature	t	up to +105 °C	(221 °C)

Design

Single stage, axially split volute casing pump with double-entry radial impeller, for horizontal or vertical installation.
Installation of the horizontal drive either on the left or right side of the pump (optional).
Flanges drilled to ISO, DIN, BS or ANSI.

Designation

Omega V 150 - 460 A

- Series
- Vertical design
- DN discharge nozzle
- Nominal impeller diameter (mm)
- Impeller type

Bearings

Omega: on both sides grease-lubricated, maintenance-free, deep groove ball bearings, sealed for life,

Omega V: top: grease-lubricated, maintenance-free, deep groove ball bearing, sealed for life
bottom: wear-resistant, medium-lubricated plain bearing of silicon carbide (Residur®).

Shaft seal

Uncooled soft-packed stuffing box or uncooled, single-acting, unbalanced bi-directional mechanical seal acc. to DIN 24960.
With an operating pressure > 16 bar: mechanical seal, balanced by hydraulic means.

Materials

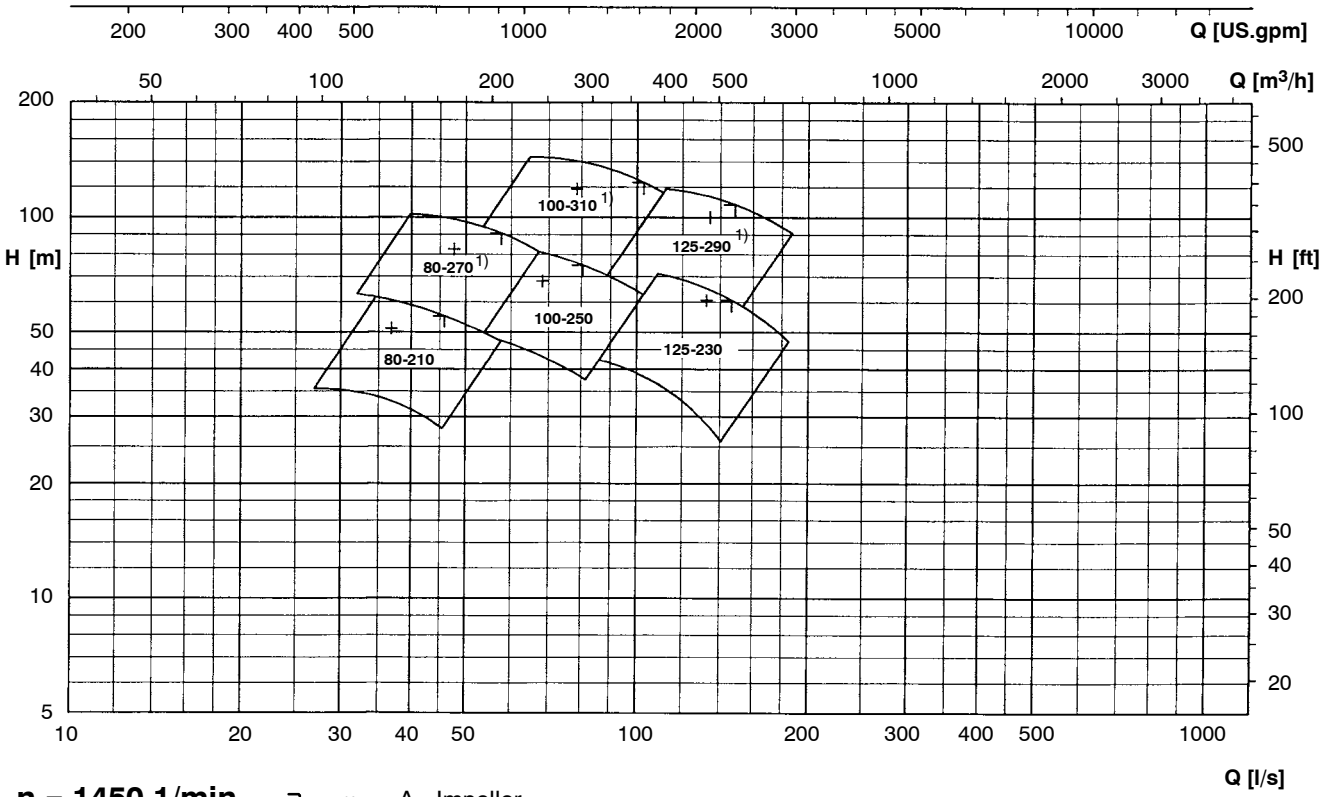
Volute casing:	Cast iron	JL 1040 (GG-25)
	Ductile cast iron	JS 1030 (GGG-40)
	Ni-Resist	GGG-NiCrNb 202
	Duplex steel	1.4517 / 1.4593
Impeller:	Bronze	G-CuSn10
	Duplex steel	1.4517 / 1.4593
Shaft:	Chromium steel	1.4021
	Duplex steel	1.4462
Casing wear rings:	Bronze	GZ-CuSn7ZnPb
	Duplex steel	1.4470

Selection charts

(higher speeds, with the pumps driven by a Diesel unit, available upon request)

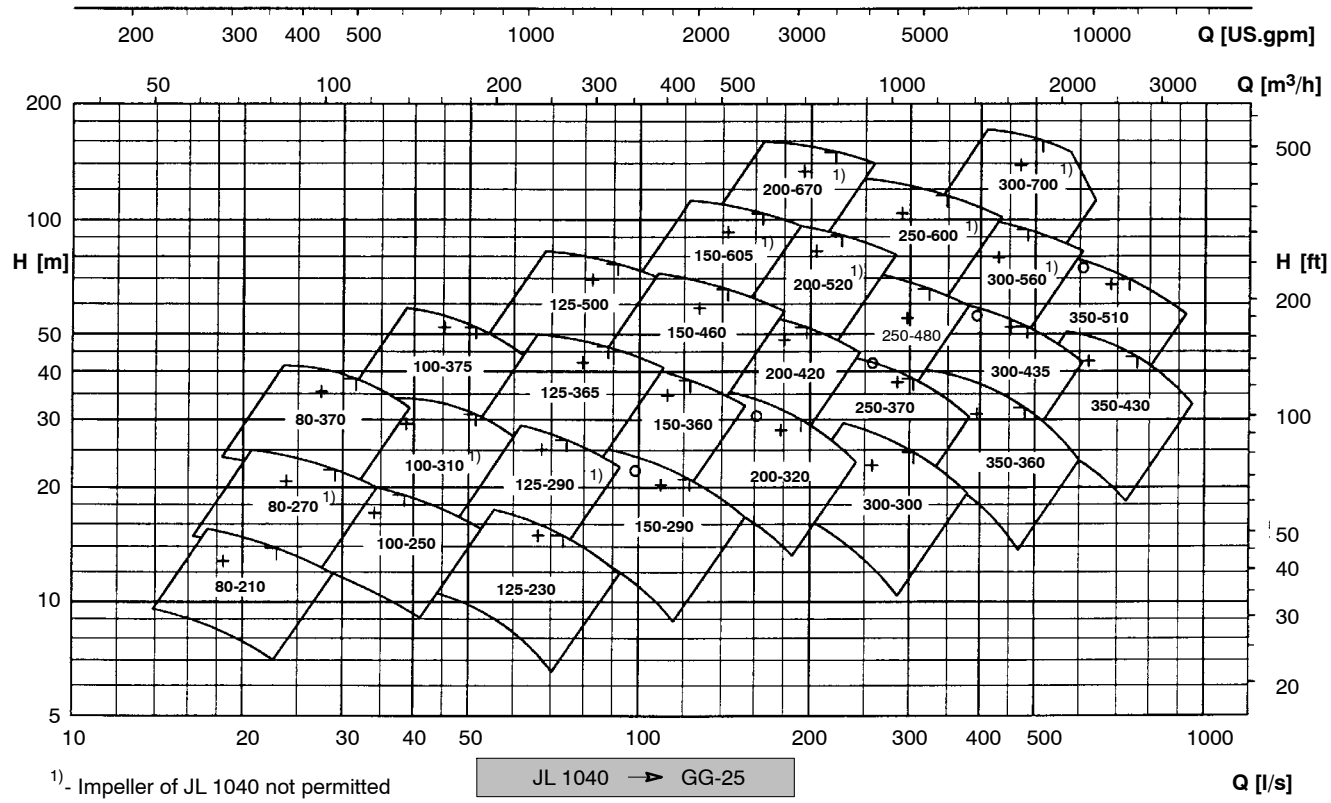
n = 2900 1/min

¬ = η_{opt} A - Impeller
\+ = η_{opt} B - Impeller



n = 1450 1/min

¬ = η_{opt} A - Impeller
\+ = η_{opt} B - Impeller
○ = η_{opt} C - Impeller



1)- Impeller of JL 1040 not permitted

JL 1040 → GG-25

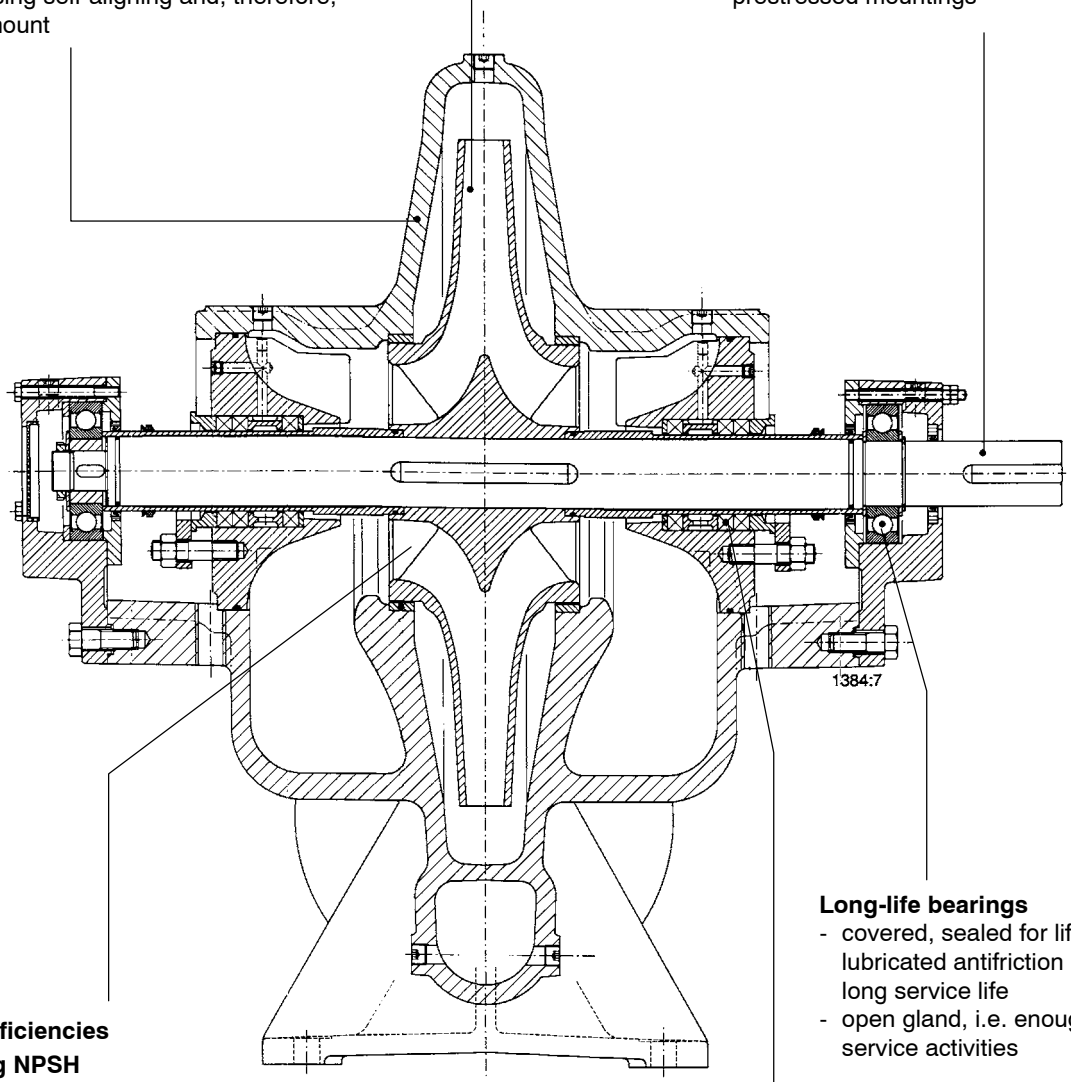
Your technical advantages

Innovative casing
- in-line design
- short distance between bearings and correspondingly short shaft
- leak-tight due to compact joint flange with long, prestressed bolts
- counter-rotation possible with the same parts
- double-volute version for appropiate total heads
- upper casing self-aligning and, therefore, easy to mount

High-performance impeller
- minimal axial thrust due to double-entry impeller
- impeller wear rings optional
- new vane passage with excellent hydraulic characteristics

Your service advantages

Service-friendly shaft
- completely sealed and dry for zero corrosion
- short and rigid with negligible vibrations
- replaceable shaft protecting sleeves
- no threads exposed to pumped medium, i.e. long operating life and no corrosion
- adjustment-free assembly
- quick and easy assembly/dismantling of the rotor components due to elastically prestressed mountings



Long-life bearings
- covered, sealed for life, grease-lubricated antifriction bearings for a long service life
- open gland, i.e. enough space for service activities

Application-orientated seals
- asbestos-free, potable-water quality soft-packed stuffing boxes
- or bi-directional mechanical seals

Excellent efficiencies
Outstanding NPSH
- computer-optimized double-entry impellers
- smooth surfaces inside the casing and on the impeller
- smooth, quiet running also guaranteed by a large impeller eye area
- no drop in efficiency due to cost-effective, replaceable casing wear rings and impeller wear rings
- smooth, low-wear running due to a swirl-free, low-energy loss inlet

Contents

Scope of supply

Pump supplied with bare shaft end, in horizontal or vertical design, painted to KSB standard, sealed by a soft-packed stuffing box or by a mechanical seal.

Add-on components to convert the pump to a complete pump / motor set:
Pump to be supplied with:

- common baseplate / base frame for pump and motor (for horizontal installation)
- motor stool and foot for vertical installation (including support feet in case of the larger motor sizes)
- motor
- coupling and coupling guard

Accessories:

- sealing water and / or flush pipe
- complete set of pressure gauges
- cyclone separator including the necessary piping
- vent valve (for manual or automatic operation)
- temperature sensor for anti-friction bearings (PT 100)
- limit value sensor switch for PT 100

Packing and shipment

Omega horizontal:

Up to a total weight of 1500 kg or a motor size IEC 280, the units (consisting of pump, motor, coupling and coupling guard) are supplied completely assembled and mounted on a common baseplate / common base frame. Units weighing > 1500 kg, or comprising a motor size IEC 315 and larger are completely assembled at the factory to check the components for correct adjustment, subsequently disassembled again and each major component is packed separately for shipment.

Omega V vertical:

Omega V vertical pumps are dispatched with the motor stool mounted. The motors themselves are packed separately.

Guarantee, testing and quality control

Every pump is tested for correct functioning. The operating data are guaranteed **without** acceptance test in accordance with ISO 2548 C, DIN 1944/III or comparable international testing standards. Acceptance tests in accordance with ISO / DIN standards can be provided against an extra charge.
The quality of the Omega products is ensured by a tested and certified quality assurance system according to DIN ISO 9001 / EN 29001.

Order data

- pump:

- description of the pump according to "Designation"
- capacity Q
- total head H (H_{geo} and plant losses)
- material combination
- mating dimensions of flanges
- shaft seal soft packed stuffing box or a mechanical seal
- liquid handled and liquid temperature (see fig. pg. 7)
- accessories required
- number of copies and language of operating manual

- motor:
(choice by KSB)

- type of construction
- type of enclosure
- voltage, frequency, method of starting
- ambient temperature
- insulation class
- accessories required

motor:
(motor to be supplied by the customer)

Each order has to be accompanied by a binding motor dimension table and a data sheet indicating the effective speed and weight of the motor. This information has to be supplied by the client without exception!

Sales program and accessories

	Scope of supply / Characteristics	Omega		Omega V		
		Fig. 0	3E	DB	DK	DJ
Motor	without motor	●	●	●	●	●
	KSB standard motor	–	●[1]	●	●	Δ
	Proprietary product to client's choice (IEC-standard up to 315 M)	–	○	○	○	Δ
	Motor not in accordance with IEC 72 (315 L and above)	–	Δ	Δ	Δ	Δ
Installation set[2]	Baseplate / base frame	–	●	–	–	–
	Foot / rail	–	–	–	–	●
	Motor stool and foot (incl. support foot) [2]	–	–	●	●	–
	Universal joint shaft, motor stool	–	–	–	–	Δ
	Coupling and coupling guard	–	●	●	●	–
Accessories (optional)	Sealing water and flush pipes [3]	○				
	Complete set of pressure gauges (to ZN 16064)	○				
	Cyclone separator with piping	○				
	Vent valve (manual or automatic)	○				
	Temperature sensor for anti-friction bearings (PT 100)	○				
	Limit value sensor switch suitable for PT 100 (one for each PT 100)	○				
	Drain	○				
Shaft seal	Soft-packed stuffing box	●				
	Mechanical seal (standard mech. seal to DIN 24960)	●				
	Mechanical seal, balanced (when working pressure > 16 bar)	○				
Paint	to KSB standard	●				
	with a coat of primer to KSB standard only	○				
	internal coat of paint (approved for drinking water applications)	○				
	complete coating system to customer specification	Δ				
	top coat (on a base coat of standard primer) to customer specification	Δ				
Flange	to DIN EN 1092-2 / BS 4504	●				
	to ANSI B 16.1	○				
Acceptance testing	acc. to KSB standard (i.e. ZN 56535)	●				
	to DIN 1944/III	○				
	to DIN 1944/II	○				
	to ISO 2548 C	○				
	to BS 5316 P1/P2	○				
	other acceptance test (check-back required)	Δ				

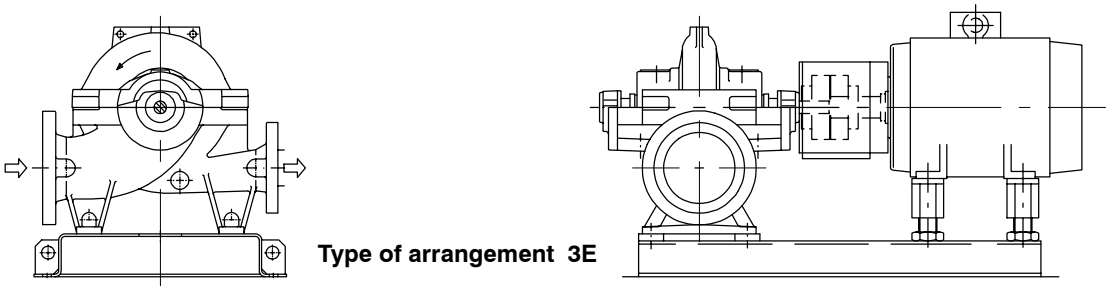
1) motor adjustable for height
2) varies according to motor size
3) not required with an inlet pressure of p > 2 bar
(Arrangement, see p. 12.)

● **standard version**
○ **standard variant**
Δ **special version**

Standard variants and special versions are subject to surcharge and require longer delivery times

Types of arrangement

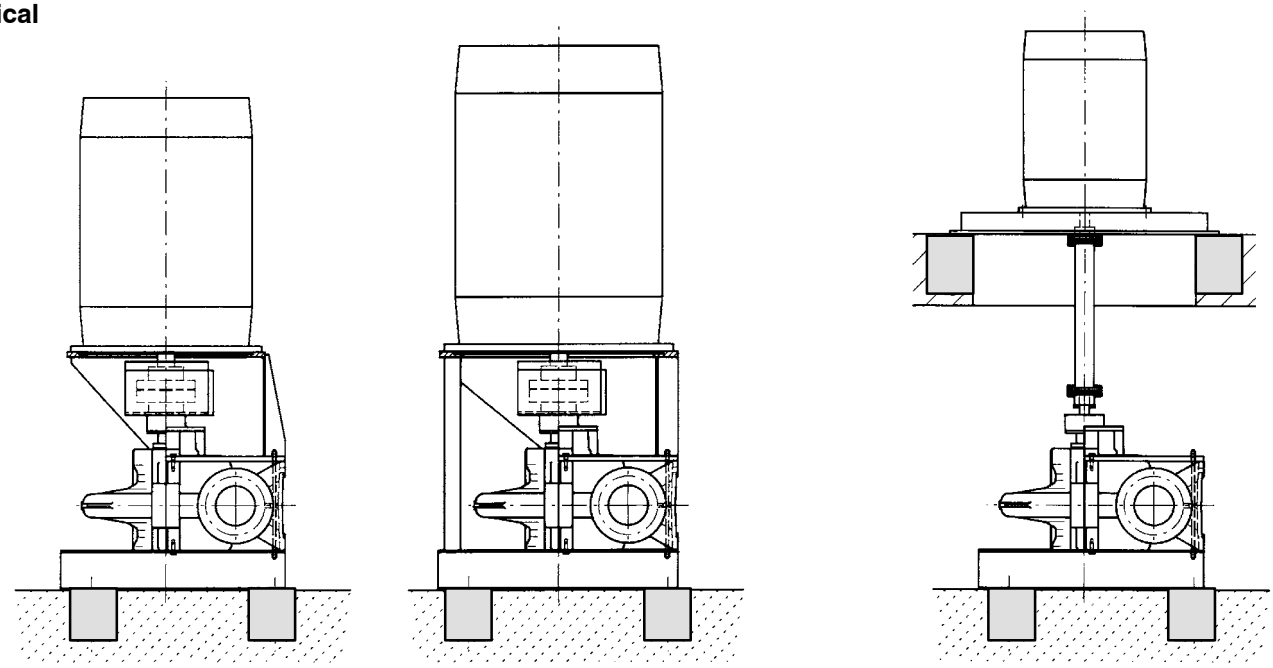
Horizontal



Type of arrangement 3E

Pump set with close-coupled motor (type IM B3)
Baseplate, base frame, coupling guard and motor height adjustment

Vertical



Type of arrangement DB [1)]

Type of arrangement DK [1)]

Type of arrangement DJ

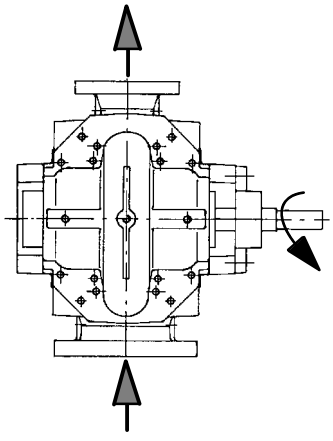
[1)] Depending on motor size, see arrangement drawings, pp. 34-49

Optionally with intermediate bearing

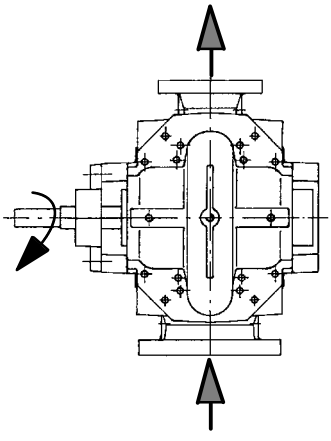
Direction of rotation / flow direction

Horizontal

Direction of rotation **anticlockwise**, viewed from the drive end

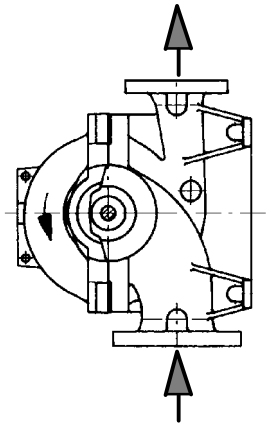


Direction of rotation **clockwise**, viewed from the drive end

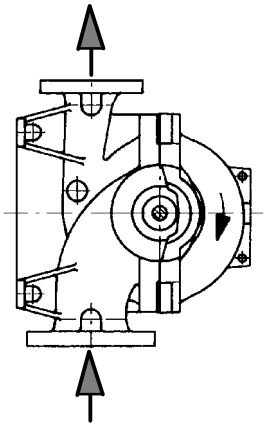


Vertical

Direction of rotation **anticlockwise,** viewed from the drive end



Direction of rotation **clockwise**, viewed from the drive end



Materials / Application limits

Temperatures		Stuffing box / mechanical seal : max. 105 °C				
Liquid handled (Fields of application)		see separate recommendation for material combination (table of pumped media)				
Part no.	Part designation	Material combinations				
		GB	**SB**	**SC**	**NC**	**C**
102	Volute casing	JL 1040	JS 1030	JS 1030	GGG-NiCrNb202	1.4517 / 1.4593
211	Pump shaft	1.4021			1.4462	
234	Impeller	G-CuSn10		1.4517 / 1.4593		
350.1	Bearing housing	JL 1040				
360	Bearing cover	JL 1040				
441	Housing for shaft seal	JL 1040	JS 1030		GGG-NiCrNb202	1.4517
452	Gland (Only on pumps with a soft-packed stuffing box)	RST 37-2			1.4571	
455	Stuffing box insert	GZ-CuSn7ZnPb			1.4571	
457	Neck ring	GZ-CuSn7ZnPb			1.4581	
458	Lantern ring	GZ-CuSn7ZnPb			CrNi-steel	
502	Casing wear ring	GZ-CuSn7ZnPb			1.4470	
503	Impeller wear ring (optional)	GZ-CuSn7ZnPb		1.4470		
524	Shaft protecting sleeve	1.4138				
433	Mechanical seal	Si-SiC / Si-SiC (Q1 Q1 V G G to DIN 24960)				
901.1	Companion bolt	10.9			1.4462	
703	Sealing water or flush pipe	PTFE / steel galv. Zn			PTFE / 1.4571	PTFE / duplexsteel

[1] permitted for sizes, see table " Pressure limits and material combinations", below

JL 1040 → GG-25
JS 1030 → GGG-40

Pressure limits and material combinations

Pump sizes	Max. permissible operating pressures in bar				
	Material combinations				
	GB	**SB**	**SC**	**NC**	**C**
80-210	16	25	25	16	25
80-270					
80-370					
100-250					
100-310					
100-375					
125-230					
125-290					
125-365					
125-500					
150-290					
150-360					
150-460					
150-605	24			24	
200-320	16			16	
200-420					
200-520					
200-670	24			24	
250-370 [2]	10			10	
250-480	16			16	
250-600	24			24	
300-300 [2]	10			10	
300-435 [2]					
300-560	16			16	
300-700	24			24	
350-360 [2]	10			10	
350-430 [2]					
350-510 [2]					

[2] For material combinations GB and NC the maximum permissible operating pressure is dictated by the flange design according to ANSI B 16.1 Class 125 standard.

N. B. :
- With a test pressure of p > 20 bar, use a balanced mechanical seal (pressure test)
- Although the operating pressure and the nominal pressure of the casing flange are not directly related, the nominal pressure of the flange to be used has to be one pressure stage higher than the guaranteed operating pressure.

Recommended material combinations (table of pumped media)

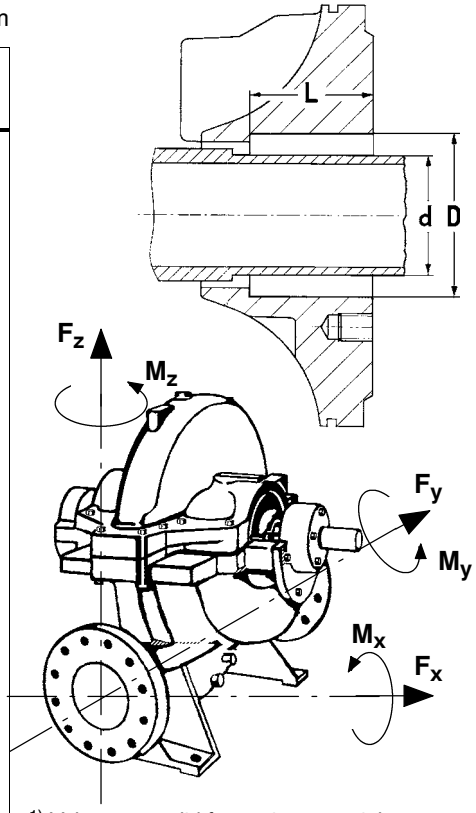
No.	Pumped medium	Description	GB	SB	SC	NC	C	First choice	Gland packing	Mech. seal	Remarks / additional recommendations
1	Petrol (gasoline) / kerosene		-	-	-	-	-	-	-	-	Omega pumps not suitable
2	Diesel fuel		-	-	-	-	-	-	-	-	
3	Liquefied gases		-	-	-	-	-	-	-	-	
4	Brackish water		-	-	-	o	+	C	+	+	
5	Sea water		-	-	-	+	+		+	+	
6	River water	containing up to 0.1 g/l of solids	+	+	+	+	+	GB	+	+	
7	Rainwater	prescreened mechanically	+	+	+	+	+	GB	+	+	
8	Industrial water		+	+	+	+	+		+	+	
9	Raw water	containing up to 0.1g/l of solids	+	+	+	+	+		+	+	
10	Fire-extinguishing water		+	+	+	+	+		+	+	only without NFPA-certification
11	Pure water		+	+	+	+	+		+	+	
12	Potable water		+	o	o	+	+	GB	+	+	including internal coat of paint approved for drinking water applications on GB-design
13	De-mineralised water		o	o	o	+	+	NC	+	+	Observe temperature limit of 105 °C. Balanced mechanical seal > 16 bar
14	Cooling water		+	+	+	+	+	GB	+	+	
15	Condensate		-	o	+	+	+	SC	-	+	
16	Hot water		-	+	+	-	+	SB	-	+	
17	Heating water		-	+	+	-	+	SB	-	+	
18	Boiler feed water		-	-	+	-	+	SC	+	+	
19	Cooling tower water		-	-	+	-	+		+	+	
20	Washing water		+	+	+	+	+	GB	+	+	
21	Industrial water	neutral (pH = 6...8)	+	+	+	+	+		+	+	
22	Industrial water	slightly acidic/basic (pH = 4...9)	-	-	-	+	+	NC/C	-	+	
23	Industrial water	highly acidic/basic (pH = 1...11)	-	-	-	-	+	C	-	+	
24	Oil emulsion	viscosity max. 20 mm^2/s	+	+	+	+	+	GB	-	+	Mechanical seal flushed from an outside source (on request)
25	Water / sand mixture	max. solids content 0.1 g/l for continuous operation max. solids content 0.2 g/l for intermittent operation	o	o	+	o	+	SC	+	+	
26	Water, chemically neutral with regard to corrosion, charged with aromatic hydrocarbons	e.g. benzene, styrene	-	+	+	+	+	SB	-	+	On request (depending on the medium pumped, the concentration and the temperature)
27	Water, chemically neutral with regard to corrosion, charged with chlorinated hydrocarbons	e.g. trichloroethylene, ethylene dichloride	-	+	+	+	+	SB	-	+	
28	Scale-forming water		-	-	o	-	o	SC/C	+	+	On request (solids content and grain size to be indicated)

+ suitable
o suitable with reservations
- not suitable
Maximum working temperature 105 °C
Maximum solids content of the medium pumped 0.1 mg/l with continuous operation; 0.2 g/l with intermittent operation.

Technical data

all dimensions in mm

Pump sizes	Shaft units	Nominal diameter stuffing box / mechanical seal d	Stuffing box data		
			Diameter D	Length L	Number of packing rings per gland
80-210	40	50	70	60	3
80-270					
80-370					
100-250					
100-310					
100-375					
125-230	50	60	85	72	
125-290					
125-365					
125-500					
150-290					
150-360					
150-460	60	70	95	72	
150-605					
200-320					
200-420					
200-520	70	80	112	93	
200-670					
250-370					
250-480	80	90	122	93	
250-600					
300-300	70	80	112	93	
300-435	80	90	122	93	
300-560	90	110	150	120	
300-700					
350-360	80	90	122	93	
350-430	90	110	150	120	
350-510					



[1] Values are valid for casing materials JL 1040 and GGG-NiCrNb 202. For casing material JS 1030 multiply value by 1.4, for 1.4517 multiply value by 1.9.

Pump sizes	Impeller dimensions in mm free passage +/- 10%			max. diameter	Permissible nozzle forces F_x, F_y, F_z [1]	Permissible nozzle moments M_x, M_y, M_z [1]	Mass moments of inertia J (without coupling) kgm^2	
	A-Imp.	B-Imp.	C-Imp.	A-, B-, C-Imp.	N	Nm	without water	with water
80-210	15	11	-	215	800	500	0.023	0.028
80-270	13	9	-	275			0.037	0.044
80-370	11	8	-	345			0.027	0.032
100-250	19	14	-	254	1000	700	0.048	0.058
100-310	15	11	-	325			0.092	0.110
100-375	13	10	-	408			0.229	0.275
125-230	23	17	-	245	1500	1000	0.161	0.193
125-290	19	12	-	301			0.125	0.150
125-365	14	10	-	392	2000	1500	0.261	0.313
125-500	14	10	-	482			0.688	0.825
150-290	27	20	14	289	2500		0.169	0.288
150-360	22	15	-	355		2000	0.199	0.338
150-460	17	12	-	462			0.456	0.775
150-605	16	11	-	569	3000		1.074	1.825
200-320	30	22	17	338	4000	2750	0.442	0.575
200-420	26	18	-	415			0.588	0.725
200-520	20	14	-	540			1.288	1.675
200-670	18	12	-	665			3.654	4.750
250-370	39	27	20	390			0.721	1.225
250-480	30	20	-	478			0.956	1.625
250-600	23	16	-	622			2.206	3.750
300-300	39	27	-	323	5000	3000	0.571	0.800
300-435	45	32	30	450			1.785	2.500
300-560	35	23	-	553			2.411	3.375
300-700	26	18	-	719			6.346	8.250
350-360	39	27	-	373			1.116	1.563
350-430	57	40	-	430			2.232	3.125
350-510	52	36	35	518			3.393	4.750

Speeds

For speeds in excess of the figures indicated in the sales documentation, please contact KSB indicating the required operating range.

Speed control: **Shaft sealing always by means of a mechanical seal.**
For speed control on Omega V, check-back with KSB.

Vibrations

Vibration values of the pump according to DIN ISO 1949, in the operating range from 0.5 up to 1.2 x Q_{Opt}

- Omega :	Group G	$v_{eff} < 4.5$ mm/s
- Omega V:	Group T	$v_{eff} < 7.0$ mm/s

Coating

A) Standard coating

Surface treatment:	SA 2½ to DIN 55928, Part 4
Corrosion control:	to AA 0080-06-01
Primer:	2-pack zinc-rich primer or 2-pack zinc phosphate

Top coat : KSB standard
2-pack epoxy resin, layer thickness approx. 0.10 mm, colour RAL 5002 (ultramarine blue)

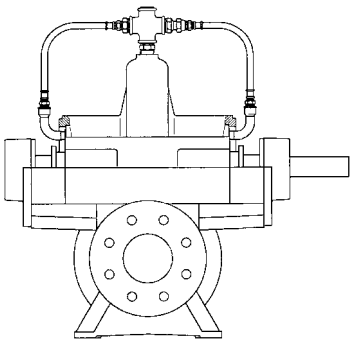
B) Internal coating - approved for potable water (standard variant for GB-design)

Surface treatment:	SA 2½ to DIN 55928, Part 4
Corrosion control:	to AA 0080-06-01
Primer	2-pack zinc-rich primer or 2-pack zinc phosphate

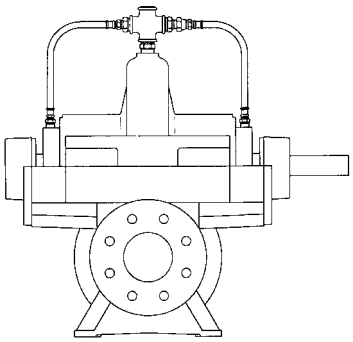
Top coat (inside**):**
2-pack epoxy resin, layer thickness approx. 0.125 mm, colour RAL 9005 (black)

Arrangement of sealing water and flush pipes

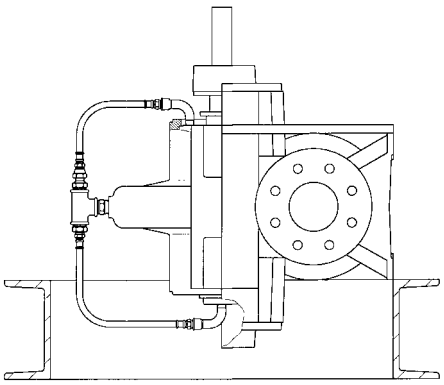
01 Sealing water pipe for gland packing



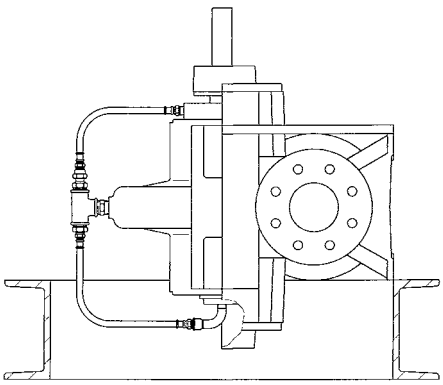
02 Flush pipe for mechanical seal



03 Sealing water pipe for gland packing
Flush pipe for Residur® bearing

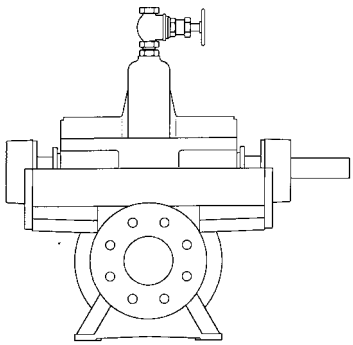


04 Flush pipe for mechanical seal
Flush pipe for Residur® bearing

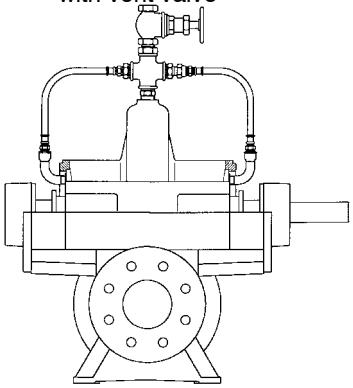


Arrangement of venting connections and bearing temperature sensor (vent valves are available as accessories)

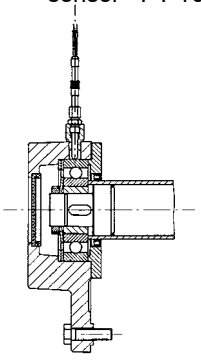
05 Vent valve



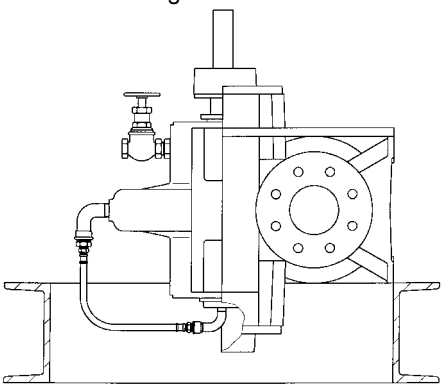
06 Sealing water pipe for gland packing
with vent valve



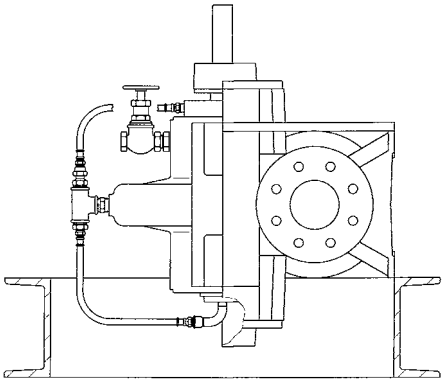
Bearing temperature
sensor PT 100



07 Flush pipe for Residur®
bearing and vent valve

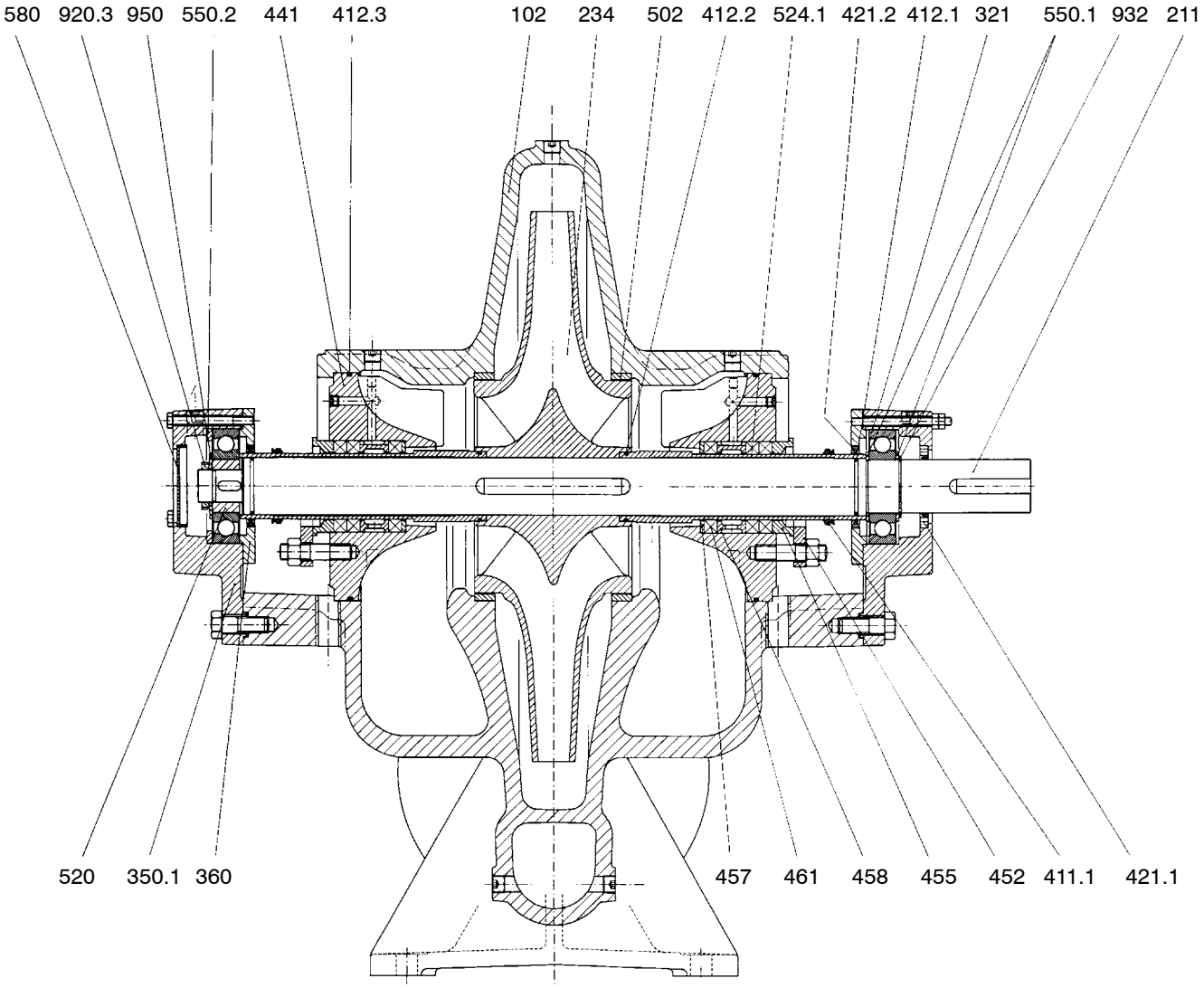


08 Flush pipe for mechanical seal, Residur® bearing
and vent valve



General drawing

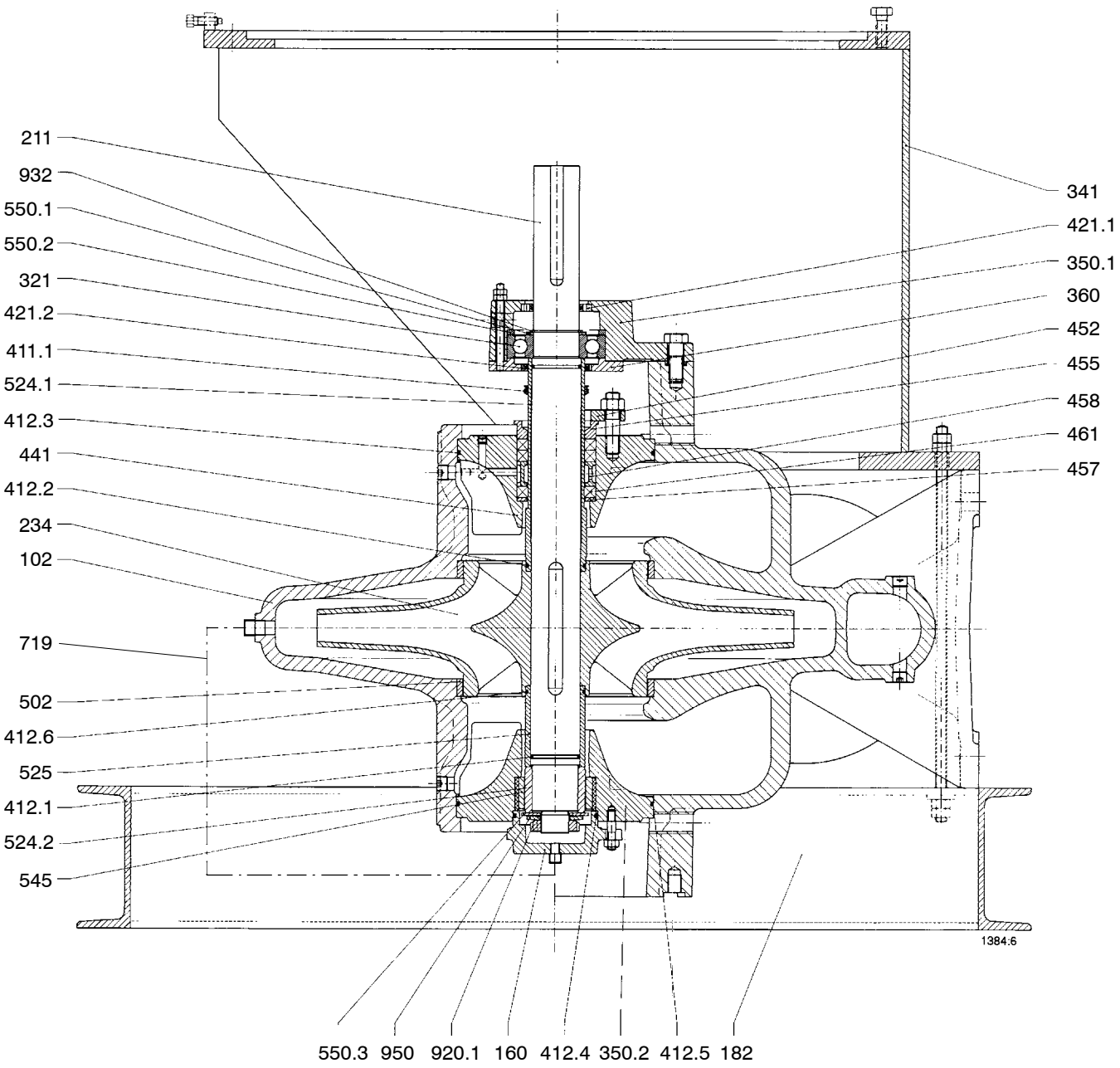
Horizontal installation Omega 80-210 up to 350-51



Part no.	Part designation	Part no	Part designation	Part no	Part designation
102	Volute casing	452	Gland	920	Nut
211	Pump shaft	461	Gland packing	932	Circlip
234	Impeller	455	Stuffing box insert	950	Spring
321	Deep groove ball bearing	457	Neck ring		
350. ...	Bearing housing	458	Lantern ring		
360	Bearing cover	502	Casing wear ring		
411. ...	V-Ring	520	Sleeve		
412. ...	O-Ring	524	Shaft protecting sleeve		
421	Radial shaft seal ring	550. ...	Washer		
441	Housing for shaft seal	580	Cap		

General drawing

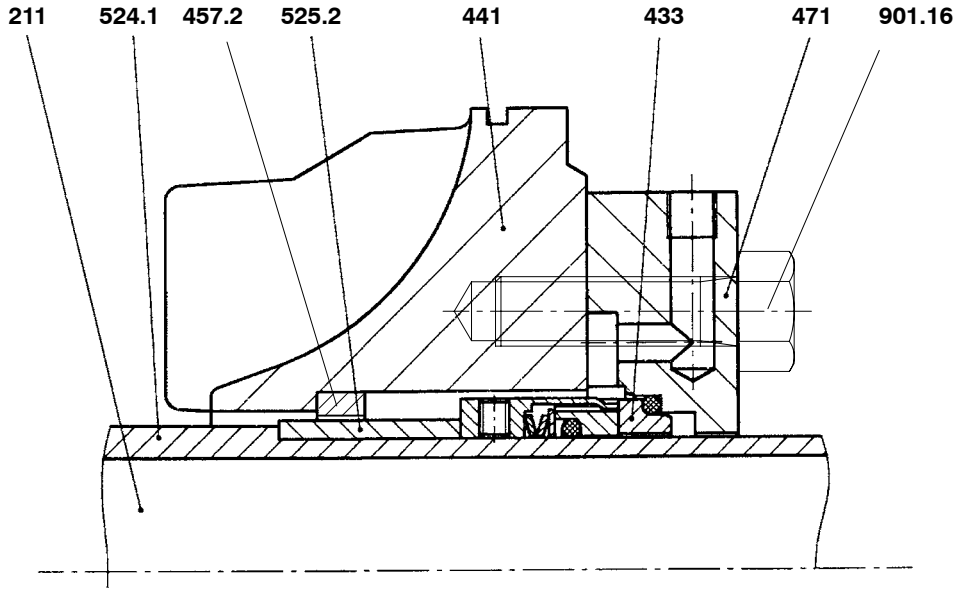
Vertical installation DB , Omega V 80-210 up to 350-510



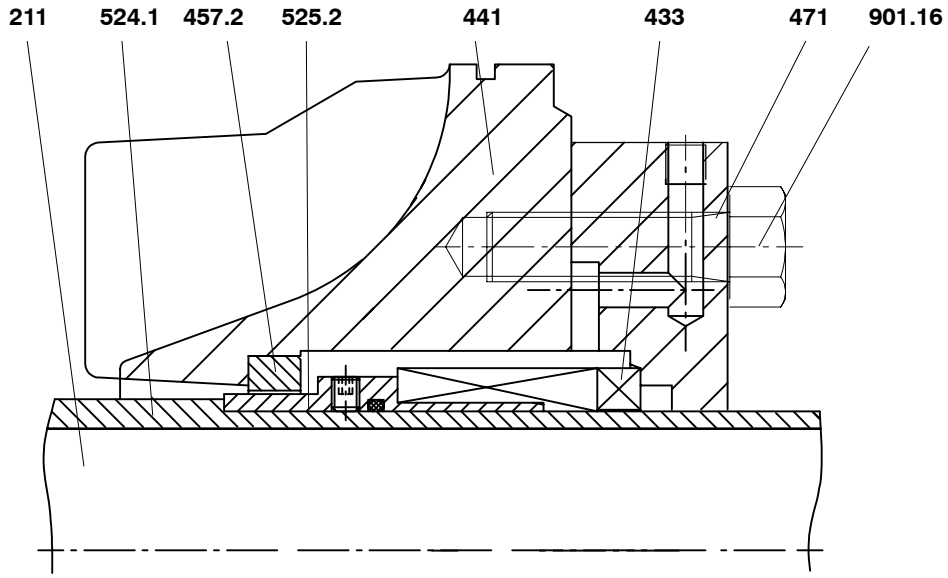
Part no.	Part designation	Part no	Part designation	Part no	Part designation
102	Volute casing	411. ...	V-Ring	502	Casing wear ring
160	Cover	412. ...	O-Ring	524	Shaft protecting sleeve
182	Foot	421. ...	Radial shaft seal ring	525	Spacer sleeve
211	Pump shaft	441	Housing for shaft seal	545	Bearing bush
234	Impeller	452	Gland	550. ...	Washer
321	Deep groove ball bearing	461	Gland packing	719	Flexible tube
341	Motor stool	455	Stuffing box insert	920	Nut
350. ...	Bearing housing	457	Neck ring	932	Circlip
360	Bearing cover	458	Lantern ring	950	Spring

Mechanical seals, standard design

Standard mechanical seal acc. to DIN 24960

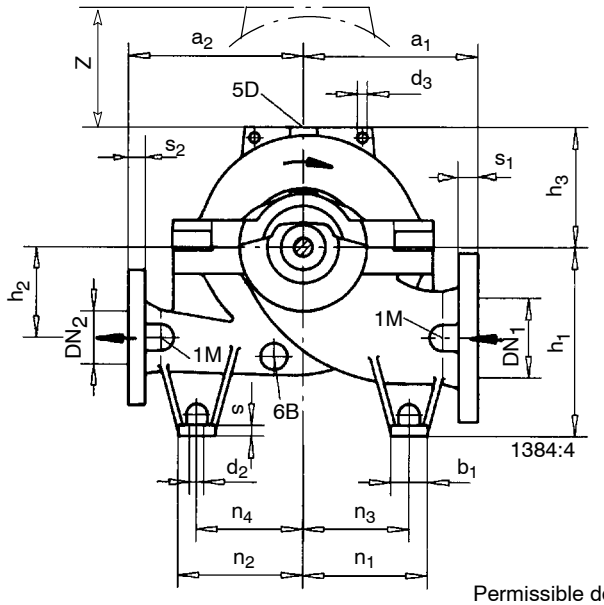


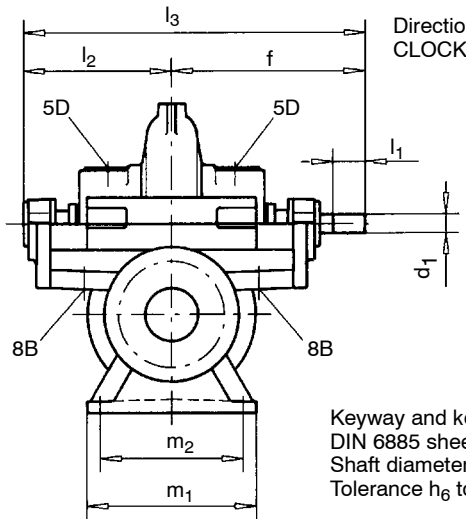
Balanced mechanical seal (when operating pressure p >16 bar)



Part no	Part designation	Part no	Part designation
211	Pump shaft	471	Seal cover
433	Mechanical seal	524.1	Shaft protecting sleeve
441	Housing for shaft seal	525.2	Spacer sleeve
457.2	Neck ring	901.16	Hexagon head bolt

Table of dimensions Omega 80 - 210 up to 150 - 605





Direction of rotation:
CLOCKWISE

Keyway and key to
DIN 6885 sheet 1
Shaft diameter:
Tolerance h_6 to DIN 7155

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Permissible deviations for:

- Centreline heights	DIN 747
- Dimensions without indication of tolerances	DIN 7168, medium
- Cast iron parts	DIN 1686 GTB 18

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions									
	DN_1	DN_2	s_1	s_2	a_1 [2]	a_2 [2]	d_3	f	h_1	h_2	h_3	l_2	l_3	z [1]
80-210	125	80	34	29	300	300	19	415	315	140	168	300	715	340
80-270											190			380
80-370					330	330					225			450
100-250	150	100	37	32	330	330	19	415	355	170	195	300	715	390
100-310											225			450
100-375					370	370					260			520
125-230	200	125	41	35	370	370	19	515	400	200	210	366	881	420
125-290											230			460
125-365											260			520
125-500					450	450					305			610
150-290	200	150	41	37	400	400	19	515	400	200	245	366	881	490
150-360											265			530
150-460					450	450		590	500	300	305	399	989	610
150-605					600	500					370			740

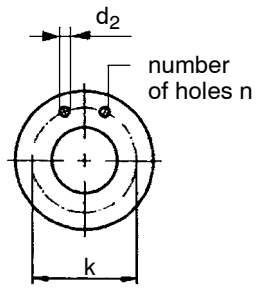
Pump size	Foot dimensions									Shaft		Weights [kg]	
	b_1	d_2	m_1	m_2	n_1	n_2	n_3	n_4	s	d_1	l_1	Pump	Water content
80-210	70	17,5	320	270	205	205	170	170	20	35	80	185	10
80-270												195	15
80-370												205	20
100-250	70	17,5	320	270	235	235	200	200	20	35	80	210	20
100-310												225	25
100-375												245	30
125-230	70	17,5	390	340	260	260	225	225	20	45	100	250	35
125-290												275	40
125-365												300	45
125-500					315	315	280	280				335	55
150-290	70	17,5	390	340	260	260	225	225	20	45	100	350	50
150-360												360	60
150-460			480	430	315	315	280	280		55	125	440	75
150-605					385	385	350	380				650	90

[1] z = the dimensions to be maintained around the casing cover for dismantling of the rotor
[2] material combinations SB and SC: dimensions are 1% larger

Standard flange design [1]:

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
80-210	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
80-270						
80-370						
100-250	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
100-310						
100-375						
125-230	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
125-290						
125-365						
125-500						
150-290	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
150-360						
150-460						
150-605	PN 25	Table 25/11				

[1] Other flange designs are available on request

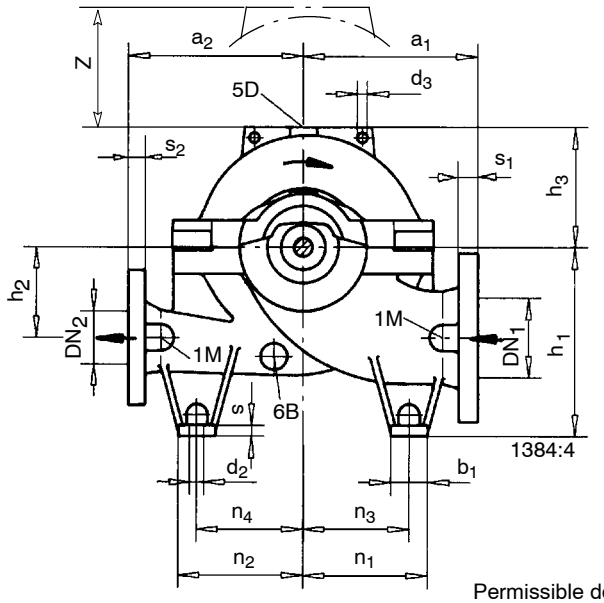


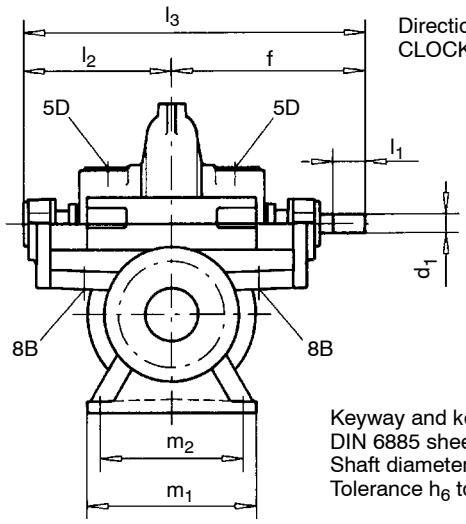
Flange dimensions - Drilling diagram

all dimensions in mm

Standard		DN 80			DN 100			DN 125			DN 150			DN 200		
		d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
ISO 7005/2 DIN 2501	PN 25	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
BS 4504	Table 16/11	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
BS 4504	Table 25/11	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
ANSI B 16.1	Class 250	23	168	8	23	200	8	23	235	8	23	270	12	28	330	12

Table of dimensions Omega 200 - 320 up to 350 - 510





Direction of rotation: CLOCKWISE

Keyway and key to DIN 6885 sheet 1
Shaft diameter:
Tolerance h_6 to DIN 7155

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Permissible deviations for:

- Centreline heights	DIN 747
- Dimensions without indication of tolerances	DIN 7168, medium
- Cast iron parts	DIN 1686 GTB 18

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions								
	DN_1	DN_2	s_1	s_2	a_1 [3]	a_2 [3]	d_3	f	h_1	h_2	h_3	l_2	l_3	z [2]
200-320	250	200	48	41	450	450	24,5	590	500	240	285	399	989	570
200-420					500	500					310			620
200-520					600			655	560	300	370	464	1119	740
200-670					650	550			600	350	430			860
250-370	300	250	33 (51) [1]	32 (48) [1]	500	500	12,5	655	600	300	320	464	1119	640
250-480			51	48	550	550		730			355	515	1245	710
250-600					650				630	350	415			830
300-300	350	300	36 (54) [1]	33 (51) [1]	550	500	24,5	655	630	300	360	464	1119	720
300-435	400		38 (57) [1]		650	550		730	670	350	365	515	1245	730
300-560			57	51	700	650		810	710	350	430	585	1395	860
300-700					750				750	400	480			960
350-360	400	350	38 (57) [1]	36 (54) [1]	650	550	24,5	730	670	350	410	515	1245	820
350-430	450		41 (60) [1]		750	650		810	750	400	465	585	1395	930
350-510	400		38 (57) [1]		700						420			840

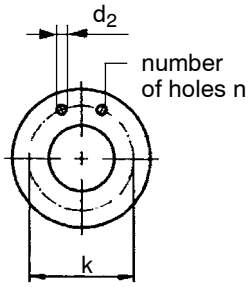
Pump size	Foot dimensions									Shaft		Weights [kg]	
	b_1	d_2	m_1	m_2	n_1	n_2	n_3	n_4	s	d_1	l_1	Pump	Water content
200-320	70	17,5	480	430	315	315	280	280	20	55	125	450	80
200-420												520	95
200-520		22		400	385	385	350	350	26	65	140	840	115
200-670	100			400	400	400						990	140
250-370	100	22	480	400	400	400	350	350	26	65	140	665	125
250-480			600	520						75	160	830	145
250-600												1215	180
300-300	100	22	480	400	400	400	350	350	26	65	140	630	100
300-435			600	520						75	160	905	190
300-560					525	525	475	475		85	180	1425	225
300-700												1690	275
350-360	100	22	600	520	400	400	350	350	26	75	160	865	160
350-430					525	525	475	475		85	180	1285	240
350-510												1395	290

[1] For casing material GGG-NiCrNb 202, JS 1030, 1.4517
[2] z = the dimensions to be maintained around the casing cover for dismantling of the rotor
[3] material combinations SB and SC: dimensions are 1% larger

Standard flange design [1]:

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
200-320	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
200-420						
200-520						
200-670	PN 25	Table 25/11				
250-370	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
250-480	PN 16	Table 16/11	Class 250			
250-600	PN 25	Table 25/11				
300-300	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
300-435						
300-560	PN 16	Table 16/11	Class 250			
300-700	PN 25	Table 25/11				
350-360	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
350-430						
350-510						

[1] Other flange designs are available on request



Flange dimensions - Drilling diagram

all dimensions in mm

Standard		DN 200			DN 250			DN 300			DN 350			DN 400			DN 450		
		d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 10	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
ISO 7005/2 DIN 2501	PN 16	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
ISO 7005/2 DIN 2501	PN 25	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16	37	600	20
BS 4504	Table 10/11	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
BS 4504	Table 16/11	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
BS 4504	Table 25/11	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16	37	600	20
ANSI B 16.1	Class 125	23	299	8	28	362	12	28	432	12	28	476	12	28	540	16	31	578	16
ANSI B 16.1	Class 250	28	330	12	28	387	16	31	451	16	31	514	20	34	572	20	34	629	24

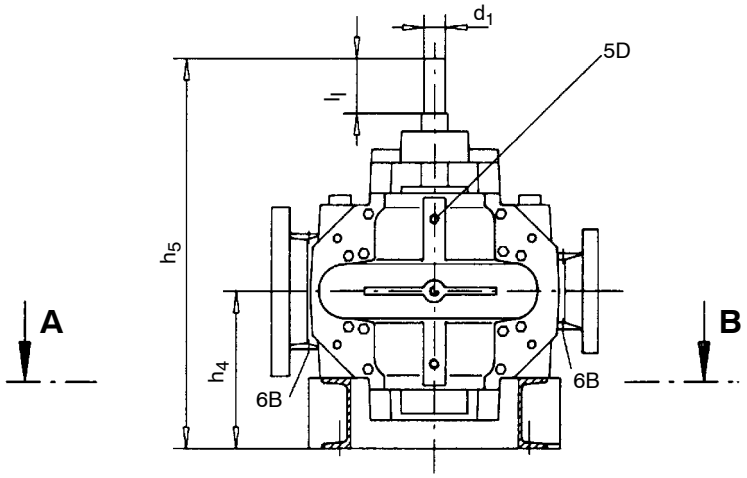
Table of dimensions Omega V 80 – 210 up to 150 - 605

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

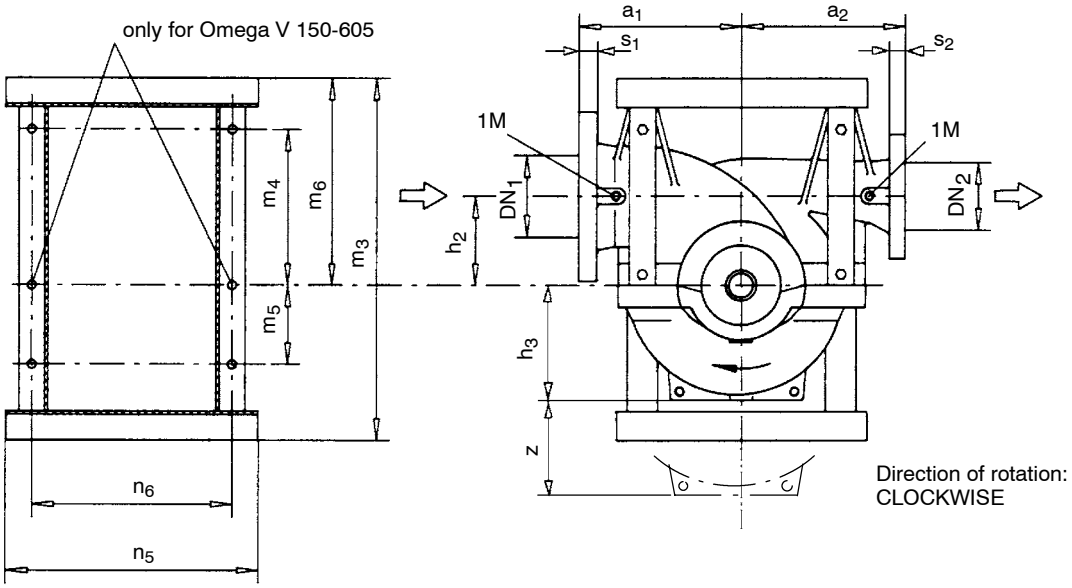
Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Connections:
- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Keyway and key to DIN 6885 sheet 1
Shaft diameter:
Tolerance h_6 to DIN 7155



Section A - B



Major external pump dimensions all dimensions in mm

Pump size	Flange dimensions				Pump dimensions						
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)
80-210	125	80	34	29	300	300	140	168	300	715	340
80-270								190			380
80-370					330	330		225			450
100-250	150	100	37	32	330	330	170	195	300	715	390
100-310								225			450
100-375					370	370		260			520
125-230	200	125	41	35	370	370	200	210	355	870	420
125-290								230			460
125-365								260			520
125-500					450	450		305			610
150-290	200	150	41	37	400	400	200	245	355	870	490
150-360								265			530
150-460					450	450		305	400	990	610
150-605					600	500	300	370			740

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

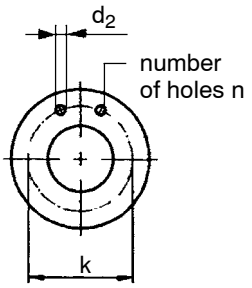
Major external pump dimensions and weights all dimensions in mm

Pump size	Foot dimensions						Shaft		Weights [kg]	
	m_3	m_4	m_5	m_6	n_5	n_6	d_1	l_1	Pump	Water content
80-210	640	275	100	380	450	340	35	80	185	10
80-270									195	15
80-370									205	20
100-250	695	315	115	420	500	400	35	80	210	20
100-310									225	25
100-375									245	30
125-230	855	360	210	475	600	450	45	100	250	35
125-290									275	40
125-365									300	45
125-500					700	560			335	55
150-290	855	360	210	475	600	450	45	100	350	50
150-360									360	60
150-460					700	560	55	125	440	75
150-605	1060	460	315	575	900	700			650	90

Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
80-210	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
80-270						
80-370						
100-250	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
100-310						
100-375						
125-230	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
125-290						
125-365						
125-500						
150-290	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
150-360						
150-460						
150-605	PN 25	Table 25/11				

[1] Other flange designs are available on request



Flange dimensions - Drilling diagram all dimensions in mm

Standard		DN 80			DN 100			DN 125			DN 150			DN 200		
		d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
ISO 7005/2 DIN 2501	PN 25	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
BS 4504	Table 16/11	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
BS 4504	Table 25/11	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
ANSI B 16.1	Class 250	23	168	8	23	200	8	23	235	8	23	270	12	28	330	12

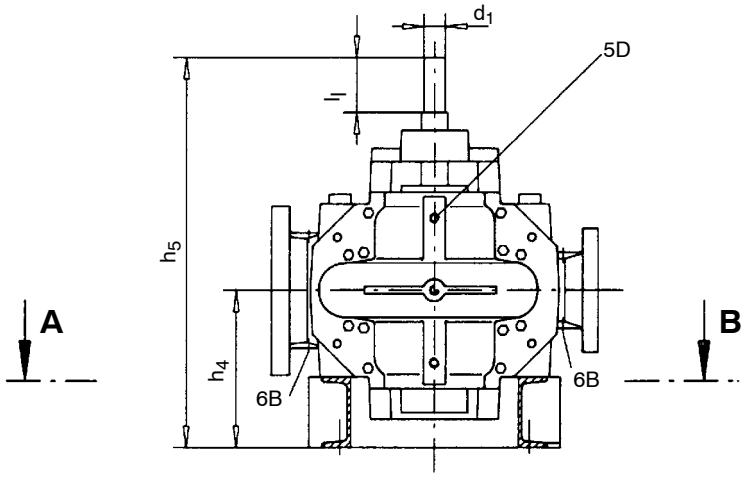
Table of dimensions Omega V 200 – 320 up to 350 - 510

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

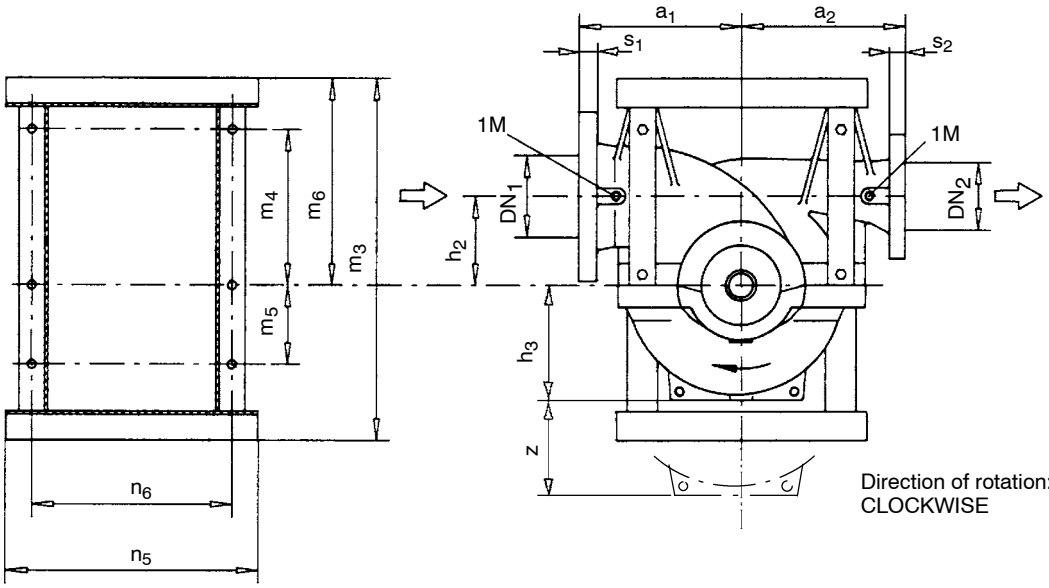
Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Connections:
- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Keyway and key to DIN 6885 sheet 1
Shaft diameter:
Tolerance h_6 to DIN 7155



Section A - B



Major external pump dimensions all dimensions in mm

Pump size	Flange dimensions				Pump dimensions						
	DN_1	DN_2	s_1	s_2	a_1 [3]	a_2 [3]	h_2	h_3	h_4	h_5	z [2]
200-320	250	200	48	41	450	450	240	285	400	990	570
200-420					500	500		310			620
200-520					600		300	370	440	1095	740
200-670					650	550	350	430			860
250-370	300	250	33 (51) [1]	32 (48) [1]	500	500	300	320	440	1095	640
250-480			51	48	550	550		355	500	1230	710
250-600					650		350	415			830
300-300	350	300	36 (54) [1]	33 (51) [1]	550	500	300	360	440	1095	720
300-435	400		38 (57) [1]		650	550	350	365	500	1230	730
300-560			57	51	700	650	350	430	570	1380	860
300-700					750		400	480			960
350-360	400	350	38 (57) [1]	36 (54) [1]	650	550	350	410	500	1230	820
350-430	450		41 (60) [1]		750	650	400	465	570	1380	930
350-510	400		38 (57) [1]		700			420			840

[1] For casing material GGG-NiCrNb 202, JS 1030, 1.4517
[2] z = the dimensions to be maintained around the casing cover for dismantling of the rotor
[3] material combinations SB and SC: dimensions are 1% larger

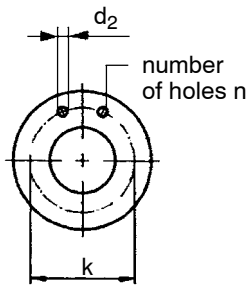
Major external pump dimensions and weights all dimensions in mm

Pump size	Foot dimensions						Shaft		Weights [kg]	
	m_3	m_4	m_5	m_6	n_5	n_6	d_1	l_1	Pump	Water content
200-320	1060	460	315	575	700	560	55	125	450	80
200-420									520	95
200-520	1120	520		635	900	700	65	140	840	115
200-670	1180	560		685					990	140
250-370	1180	560	315	685	900	700	65	140	665	125
250-480							75	160	830	145
250-600	1210	590		715					1215	180
300-300	1210	590	315	715	900	700	65	160	630	100
300-435	1250	630		755			75	160	905	190
300-560	1375	670	400	795	1200	950	85	180	1425	225
300-700	1415	710		835					1690	275
350-360	1250	630	315	755	900	700	75	160	865	160
350-430	1415	710	400	835	1200	950	85	180	1285	240
350-510									1395	290

Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
200-320	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
200-420						
200-520						
200-670	PN 25	Table 25/11				
250-370	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
250-480	PN 16	Table 16/11	Class 250			
250-600	PN 25	Table 25/11				
300-300	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
300-435						
300-560	PN 16	Table 16/11	Class 250			
300-700	PN 25	Table 25/11				
350-360	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
350-430						
350-510						

[1] Other flange designs are available on request



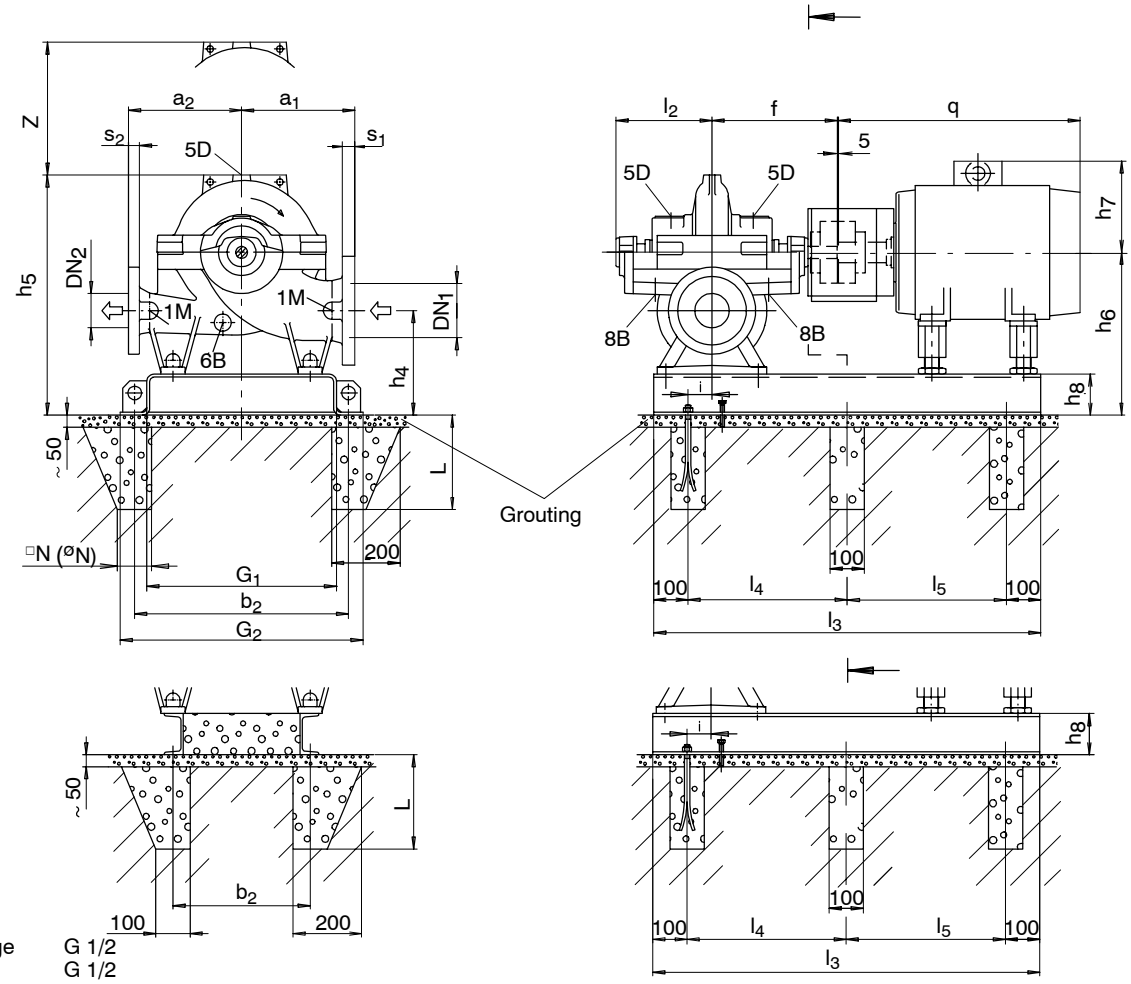
Flange dimensions - Drilling diagram all dimensions in mm

Standard		DN 200			DN 250			DN 300			DN 350			DN 400			DN 450		
		d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 10	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
ISO 7005/2 DIN 2501	PN 16	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
ISO 7005/2 DIN 2501	PN 25	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16			
BS 4504	Table 10/11	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
BS 4504	Table 16/11	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
BS 4504	Table 25/11	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16			
ANSI B 16.1	Class 125	23	299	8	28	362	12	28	432	12	28	476	12	28	540	16	31	578	16
ANSI B 16.1	Class 250	28	330	12	28	387	16	31	451	16	31	514	20	34	572	20	34	629	24

General arrangement drawing Omega 80 – 210 up to 100 – 375

Type of arrangement 3E

Direction of rotation: CLOCKWISE



Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Grout baseplate / base frame with non-shrinking cement.
Position of the terminal box, see "Motor dimension sheet".

The motor-dependent dimensions refer to KSB standard motors (see table "Motor dimensions and weights").

Major external pump dimensions and weights

all dimensions in mm

Pump size	motor-dependent	Flange dimensions DN_1	DN_2	s_1	s_2	Pump dimensions a_1 2)	a_2 2)	f	h_4	h_5 max.	h_6	i	l_2	z 1)	Weight [kg] Pump	Water content
80-210	–	125	80	34	29	300	300	415	295	660	435	70	300	340	185	10
80-270	up to 280 M													380	195	15
	up 315 S								320		460	80				
80-370	–					330	330		295		435	70		450	205	20
100-250	up to 280 M	150	100	37	32	330	330	415	305	760	475	70	300	390	210	20
	up 315 S								330		500	80				
100-310	up to 280 M								305		475	70		450	225	25
	up 315 S								330		500	80				
100-375	–					370	370		305		475	70		520	245	30

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

Baseplate / base frame and foundation dimensions

all dimensions in mm

Baseplate size	Baseplate and foundation dimensions								Foundation bolts			Dowels		
No Drawing no.	b_2	G_1	G_2	l_3	l_4	l_5	h_8	Weight [kg]	Size	□N	L	Size	øN	L
1 0W 384 167-00	530	475	590	1190	495	495	120	74	M 16x250	100	250	M 12/25	18	110
2 0W 384 169-00	640	580	700	1400	600	600	120	97						
3 3) 0W 384 170-00	670	610	720	1630	715	715	145	105						

3) Base frame

Standard flange design [1]:

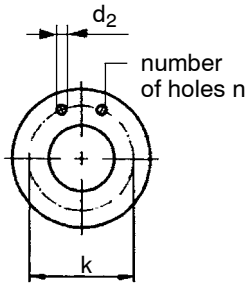
Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
80-210	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
80-270						
80-370						
100-250						
100-310						
100-375						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange				Discharge flange			
		DN	d_2	k	n	DN	d_2	k	n
Pump size 80-210 up to 80-370		125				80			
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		19 (M16)	210	8		19 (M16)	160	8
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		28 (M24)	220					
ANSI B 16.1	Class 250		23 (M20)	235			23 (M20)	168	
Pump size 100-250 up to 100-375		150				100			
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		23 (M20)	240	8		19 (M16)	180	8
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		28 (M24)	250			23 (M20)	190	
ANSI B 16.1	Class 250		23 (M20)	270	12		23 (M20)	200	

Mating flange
All flanges designed as plate flanges



Baseplate / motor combination

Pump size	Motor size																							
	100L	112M	132S	132M	160M		160L		180M		180L	200L		225S	225M		250M		280S	280M	315S	315M	315L	315
Number of poles	4	4	4	4	2	4	2	4	2	4	4	2	4	4	2	4	2	4	2	2	2	2	2	2
80-210	1	1	1	1	1		1		1			1			**2**		**2**							
80-270	1	1	1	1	1	1	1	1	1			1			**2**		**2**		**2**	**2**	**3**			
80-370			1	1		1		1		1	1		1											
100-250	1	1	1	1		1	1	1	1			1			2		2		2	2	**3**	**3**		
100-310			1	1		1		1		1	1	1	1		2		2		2	2	**3**	**3**	**3**	**3**
100-375						1		1		1	1		1	2		2		2						

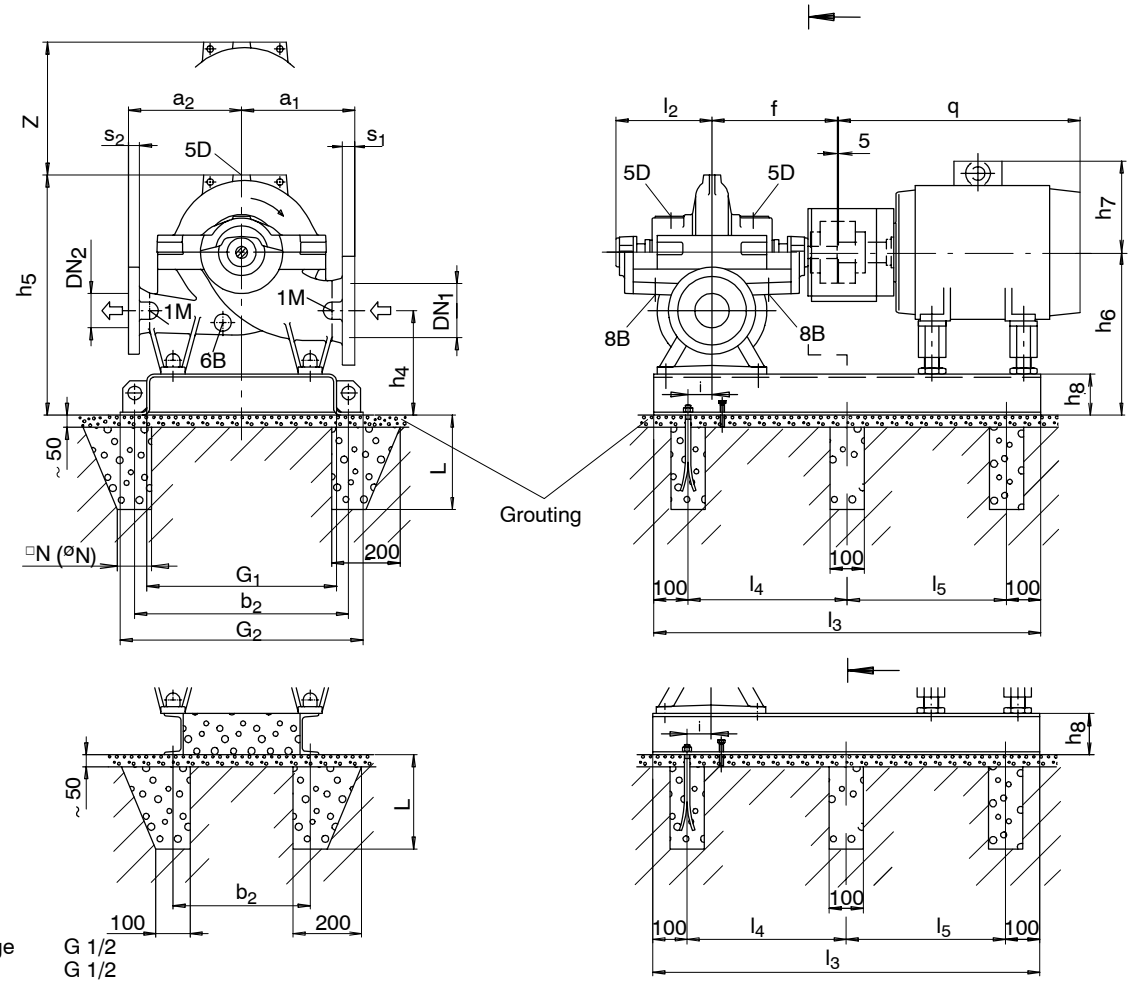
N.B.:
- The numbers listed in the table indicate the relevant baseplate numbers.
- The baseplate numbers shown in the boxes also serve to select the correct motor size for the listed pump size.

- Units comprising a motor size 315 and larger are completely assembled for verification and adjustment of the individual components. Before shipment, the units are dismantled again and the components packed / shipped separately.

General arrangement drawing Omega 125 - 230 up to 150 - 360

Type of arrangement 3E

Direction of rotation: CLOCKWISE



Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Grout baseplate / base frame with non-shrinking cement.
Position of the terminal box, see "Motor dimension sheet".

The motor-dependent dimensions refer to KSB standard motors (see table "Motor dimensions and weights").

Major external pump dimensions and weights

all dimensions in mm

Pump size	motor-dependent	Flange dimensions DN_1	DN_2	s_1	s_2	Pump dimensions a_1 2)	a_2 2)	f	h_4	h_5 max.	h_6	i	l_2	z 1)	Weight [kg] Pump	Water content
125-230	up to 280 M	200	125	41	35	370	370	515	320	825	520	120	366	420	250	35
	up 315 S								345		545					
125-290	up to 280 M								320		520			460	275	40
	up 315 S								345		545					
125-365	-								320		520			520	300	45
125-500	up to 280 M					450	450		320		520			610	335	55
	up 315 S								345		545					
150-290	-	200	150	41	37	400	400		320	1050	520			490	347	50
150-360	-													530	359	60

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

Baseplate / base frame and foundation dimensions

all dimensions in mm

Baseplate size	Baseplate and foundation dimensions								Foundation bolts			Dowels		
No Drawing no.	b_2	G_1	G_2	l_3	l_4	l_5	h_8	Weight [kg]	Size	□N	L	Size	øN	L
4 0W 384 171-00	695	635	750	1330	565	565	120	92	M 16x250	100	250	M 12/25	18	110
5 0W 384 172-00	695	635	750	1540	670	670	120	106						
6 3) 0W 384 173-00	560	500	610	1820	810	810	145	110						

3) Base frame

Standard flange design [1] **:**

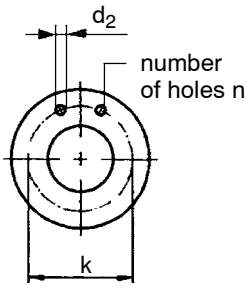
Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
125-230	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
125-290						
125-365						
125-500						
150-290						
150-360						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange				Discharge flange			
		DN	d_2	k	n	DN	d_2	k	n
Pump size 125-230 up to 125-500		200				125			
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		23 (M20)	295	12		19 (M16)	210	8
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		28 (M24)	310			28 (M24)	220	
ANSI B 16.1	Class 250		28 (M24)	330			23 (M20)	235	
Pump size 150-290 up to 150-360		200				150			
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		23 (M20)	295	12		23	240	8
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		28 (M24)	310			28	250	
ANSI B 16.1	Class 250		28 (M24)	330			23	270	12

Mating flange
All flanges designed as plate flanges



Baseplate / motor combination

Pump size	Motor size																							
	132S	132M	160M	160L	180M	180L	200L		225S	225M		250M		280S		280M		315S		315M		315L		315
Number of poles	4	4	4	4	4	4	2	4	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2
125-230	4	4	4	4	4		4			5		5		5		5		6		6				
125-290		4	4	4	4	4		4	5	5		5		5		5		6		6		6		6
125-365				4	4	4		4	5		5		5		5		5							
125-500								4	5		5		5		5		5		6		6			
150-290				4	4	4		4	5		5													
150-360				4	4	4		4	5		5		5		5		5							

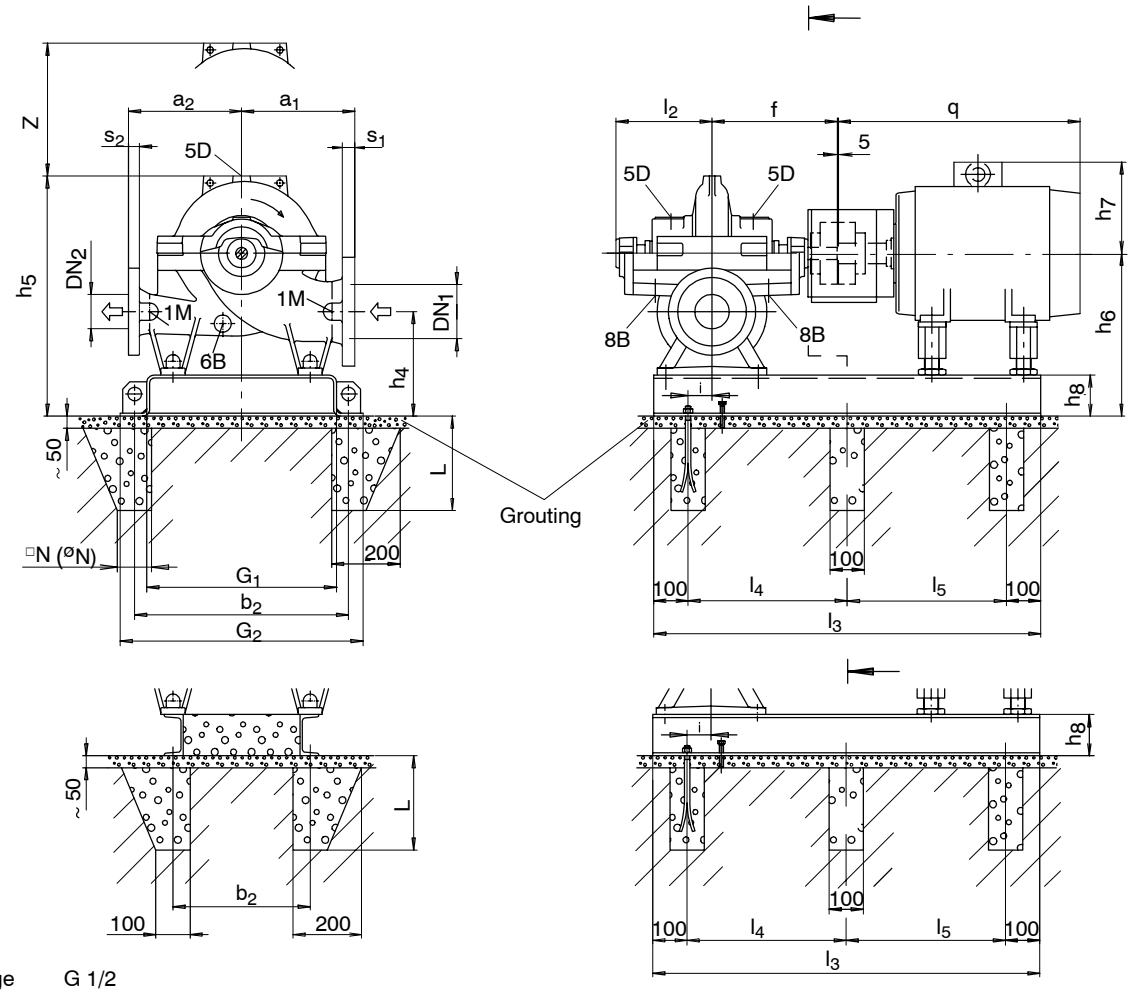
N.B.: - The numbers listed in the table indicate the relevant baseplate numbers.
- The baseplate numbers shown in the boxes also serve to select the correct motor size for the listed pump size.

- Units comprising a motor size 315 and larger are completely assembled for verification and adjustment of the individual components. Before shipment, the units are dismantled again and the components packed / shipped separately.

General arrangement drawing Omega 150 - 460 up to 250 - 370 and Omega 300 - 300

Type of arrangement 3E

Direction of rotation: CLOCKWISE



Connections:

- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Grout baseplate / base frame with non-shrinking cement.
Position of the terminal box, see "Motor dimension sheet".

The motor-dependent dimensions refer to KSB standard motors (see table "Motor dimensions and weights").

Major external pump dimensions and weights

all dimensions in mm

Pump size	motor-dependent	Flange dimensions DN_1	DN_2	s_1	s_2	Pump dimensions a_1 3)	a_2 3)	f	h_4	h_5 max.	h_6	i	l_2	z 2)	Weight [kg] Pump	Water content
150-460	up to 250 M	200	150	41	37	450	450	590	320	1050	520	215	399	610	436	75
	280 S up tp 315 L										580					
150-605	-					600	500		380		680			740	646	90
200-320	up to 250 M	250	200	48	41	450	450			1240	620		399	570	450	80
	280 S, M								440		680					
200-420	up to 250 M					500	500		380		620			620	517	95
	280 S up to 315 L								440		680					
200-520	250 M					600	500	655	380			150	464	740	840	115
	up 280 S								440		740					
200-670	-					650	550		430		780			860	990	140
250-370	250 M	300	250	33 (51)1)	32 (48)1)	500	500		420	1275	720			640	665	125
	up 280 S								480		780					
300-300	up to 250 M	350	300	36 (54)1)	33 (51)1)	550	500		450	1430	750			720	630	100
	up 280 S								510		810					

1) For casing material GGG-NiCrNb 202, JS 1030 1.4517
2) z = The dimensions to be maintained around the casing cover for dismantling of the rotor
3) material combinations SB and SC: dimensions are 1% larger

Baseplate / base frame and foundation dimensions all dimensions in mm

Baseplate size		Baseplate and foundation dimensions								Foundation bolts		
No	Drawing no.	b_2	G_1	G_2	l_3	l_4	l_5	h_8	Weight [kg]	Size	□N	L
7	0W 384 174-00	880	820	960	1660	730	730	120	157	M 20x320	100	320
8 [1])	0W 384 175-00	700	620	750	1870	835	835	180	185			
9 [1])	0W 384 176-00				1970	885	885		204			
10 [1])	0W 384 478-00								208			
14 [1])	0W 384 479-00				2170	985	985		210			
15 [1])	0W 384 480-00				2320	1060	1060		215			

[1]) Base frame

Standard Ffange design [2]):

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
150-460	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
150-605	PN 25	Table 25/11				
200-320	PN 16	Table 16/11				
200-420						
200-520						
200-670	PN 25	Table 25/11				
250-370	PN 10	Table 10/11	Class 125			
300-300						

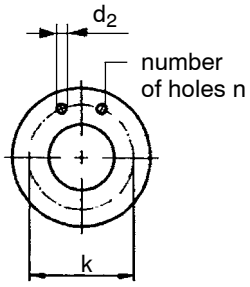
[2]) Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Norm		Suction flange				Discharge flange			
		DN	d_2	k	n	DN	d_2	k	n
Pump size 150-460 and 150-605		200				150			
ISO 7005/2, DIN 2501 BS 4504	PN 16 Table 16/11		23 (M20)	295	12		23 (M20)	240	8
ISO 7005/2, DIN 2501 BS 4504	PN 25 Table 25/11		28 (M24)	310			28 (M24)	250	
ANSI B 16.1	Class 250		28 (M24)	330			23 (M20)	270	12
Pump size 200-320 up to 200-670		250				200			
ISO 7005/2, DIN 2501 BS 4504	PN 16 Table 16/11		28 (M24)	355	12		23 (M20)	295	12
ISO 7005/2, DIN 2501 BS 4504	PN 25 Table 25/11		31 (M27)	370			28 (M24)	310	
ANSI B 16.1	Class 250		28 (M24)	387			28 (M24)	330	
Pump size 250-370		300				250			
ISO 7005/2, DIN 2501 BS 4504	PN 10 Table 10/11		23 (M20)	400	12		23 (M20)	350	12
ISO 7005/2, DIN 2501 BS 4504	PN 16 Table 16/11		28 (M24)	410			28 (M24)	355	
ISO 7005/2, DIN 2501 BS 4504	PN 25 Table 25/11		31 (M27)	430	16		31 (M27)	370	
ANSI B 16.1	Class 125		28 (M24)	432	12		28 (M24)	362	
ANSI B 16.1	Class 250		31 (M27)	451	16		28 (M24)	387	16
Pump size 300-300		350				300			
ISO 7005/2, DIN 2501 BS 4504	PN 10 Table 10/11		23 (M20)	460	16		23 (M20)	400	12
ISO 7005/2, DIN 2501 BS 4504	PN 16 Table 16/11		28 (M24)	470			28 (M24)	410	
ISO 7005/2, DIN 2501 BS 4504	PN 25 Table 25/11		34 (M30)	490			31 (M27)	430	16
ANSI B 16.1	Class 125		28 (M24)	476	12		28 (M24)	432	12
ANSI B 16.1	Class 250		31 (M27)	514	20		31 (M27)	451	16

Mating flange

All flanges designed as plate flanges



Baseplate / motor combination

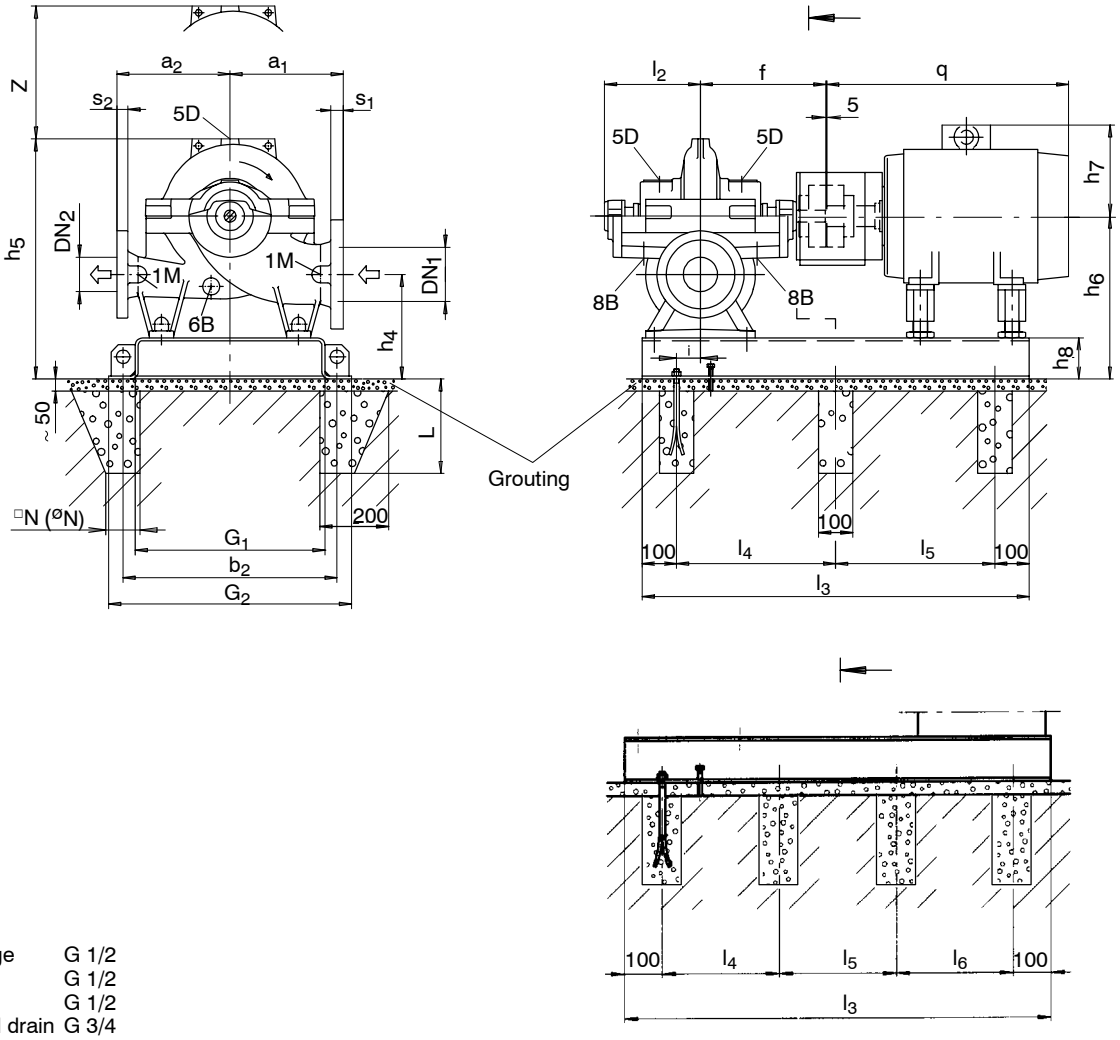
Pump size	Motor size												
	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	315	355	400
Number of poles	4	4	4	4	4	4	4	4	4	4	4	4	4
150-460		7	7	7	7	8	8	8	8	8			
150-605						8	8	8	8	9	9	14	
200-320	7	7	7	7	7	8	8						
200-420		7	7	7	7	8	8	8	8	9			
200-520					7	8	8	8	8	10	10	15	
200-670								8	8	10	10	15	15
250-370					7	8	8	8	8	10			
300-300		7	7	7	7	8	8	8					

N.B.
- The numbers listed in the table indicate the relevant base plate numbers.
- The baseplate numbers shown in the boxes also serve to select the correct motor size for the listed pump size.
- Units comprising a motor size 315 and larger are completely assembled for verification and adjustment of the individual components. Before shipment, the units are dismantled again and the components packed / shipped separately.

General arrangement drawing 250 - 480 up to 250 - 600; 300 - 435 and 350 - 360

Type of arrangement 3E

Direction of rotation: CLOCKWISE



Connections:

- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Grout baseplate / base frame with non-shrinking cement.
Position of the terminal box, see "Motor dimension sheet".

The motor-dependent dimensions refer to KSB standard motors (see table "Motor dimensions and weights").

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions									Weight [kg]	
	DN_1	DN_2	s_1	s_2	a_1 3)	a_2 3)	f	h_4 3)	h_5 max.	h_6 3)	i	l_2	z 2)	Pump	Water content
250-480	300	250	51	48	550	550	730	500	1275	800	210	515	710	830	145
250-600					650			480		830			830	1215	180
300-435	400	300	38 (57) 1)	33 (51) 1)				520	1430	870			730	905	190
350-360		350		36 (54) 1					1415				820	865	160

1) For casing material GGG-NiCrNb 202, JS 1030, 1.4517
2) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
3) material combinations SB and SC: dimensions are 1% larger

Baseplate / base frame and foundation dimensions

all dimensions in mm

Baseplate size	Baseplate and foundation dimensions									Foundation bolts		
No Drawing no.	b_2	G_1	G_2	l_3	l_4	l_5	l_6	h_8	Weight [kg]	Größe	□N	L
11 4) 0W 384 177-00	700	620	760	1950	875		-	200	215	M 20x320	100	320
12 4) 0W 384 178-00				2100	950		-		228			
16 4) 0W 384 481-00				2450	750		750		240			

4) Base frame

Standard flange design [1]**:**

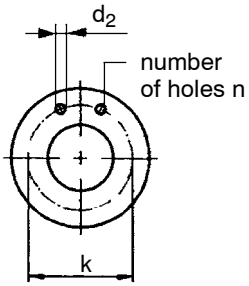
Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
250-480	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
250-600	PN 25	Table 25/11				
300-435	PN 10	Table 10/11	Class 125			
350-360						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange				Discharge flange			
		DN	d_2	k	n	DN	d_2	k	n
Pump size 250-480 and 250-600		300				250			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		23 (M20)	400	12		23 (M20)	350	12
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		28 (M24)	410			28 (M24)	355	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		31 (M27)	430	16		31 (M27)	370	
ANSI B 16.1	Class 125		28 (M24)	432	12		28 (M24)	362	
ANSI B 16.1	Class 250		31 (M27)	451	16		28 (M24)	387	16
Pump size 300-435		400				300			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		28 (M24)	515	16		23 (M20)	400	12
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		31 (M27)	525			28 (M24)	410	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		37 (M33)	550			31 (M27)	430	16
ANSI B 16.1	Class 125		28 (M24)	540			28 (M24)	432	12
ANSI B 16.1	Class 250		34	572	20		31 (M27)	451	16
Pump size 350-360		400				350			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		28 (M24)	515	16		23 (M20)	460	16
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		31 (M27)	525	16		28 (M24)	470	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		37 (M33)	550	16		34 (M30)	490	
ANSI B 16.1	Class 125		28 (M24)	540	16		28 (M24)	476	12
ANSI B 16.1	Class 250		34	572	20		31 (M27)	514	20

Mating flange
All flanges designed as plate flanges



Baseplate / motor combination

Pump size	Motor size								
	250M	280S	280M	315S	315M	315L	315	355	400
Number of poles	4	4	4	4	4	4	4	4	4
250-480	11	11	11	11	11	12	12	16	
250-600					11	12	12	16	16
300-435			11	11	11	12	12		
350-360	11	11	11	11	11	12	12		

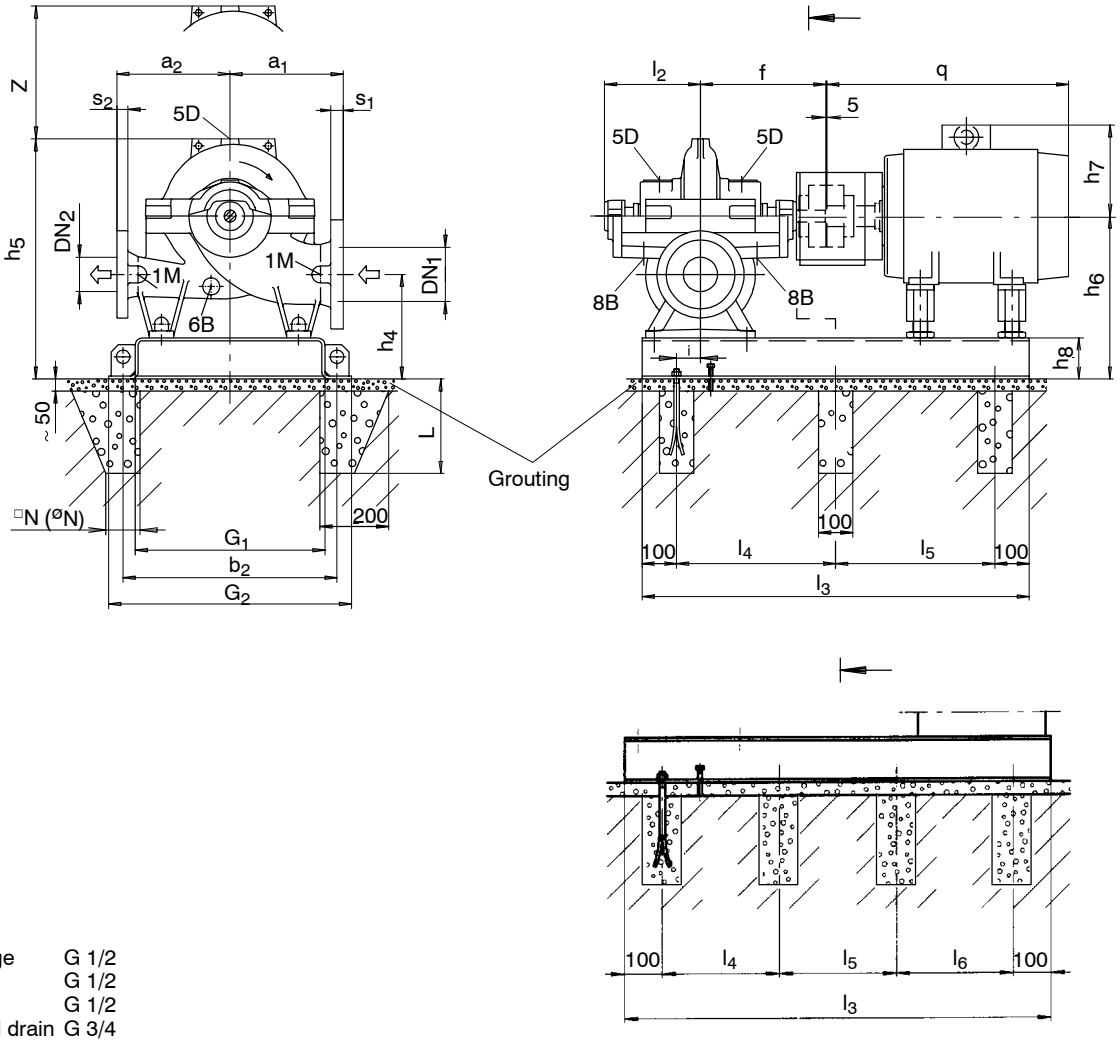
N.B.:
- The numbers listed in the table indicate the relevant baseplate numbers.
- The baseplate numbers shown in the boxes also serve to select the correct motor size for the listed pump size.

- Units comprising a motor size 315 and larger are completely assembled for verification and adjustment of the individual components. Before shipment, the units are dismantled again and the components packed / shipped separately.

General arrangement drawing Omega 300 - 560 up to 300 - 700; 350 - 430 and 350 - 510

Type of arrangement 3E

Direction of rotation: CLOCKWISE



Connections:

- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Grout baseplate / base frame with non-shrinking cement.
Position of the terminal box, see "Motor dimension sheet".

The motor-dependent dimensions refer to KSB standard motors (see table "Motor dimensions and weights").

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions									Weight [kg]	
	DN_1	DN_2	s_1	s_2	a_1 3)	a_2 3)	f	h_4 3)	h_5 max.	h_6 3)	i	l_2	z 2)	Pump	Water content
300-560	400	300	57	51	700	650	810	560	1430	910	210	585	860	1425	225
300-700					750			550		950			960	1690	275
350-430	450	350	41 (60) 1)	36 (54) 1)					1415				930	1285	240
350-510	400		38 (57) 1)		700								840	1395	290

1) For casing material GGG-NiCrNb 202, JS 1030, 1.4517
2) z = The dimensions to be maintained around the casing cover for dismantling of the rotor
3) material combinations SB and SC: dimensions are 1% larger

Baseplate / base frame and foundation dimensions

all dimensions in mm

Baseplate size	Baseplate and foundation dimensions									Foundation bolts		
No Drawing no.	b_2	G_1	G_2	l_3	l_4	l_5	l_6	h_8	Weight [kg]	Größe	□N	L
13 4) 0W 384 179-00	950	870	1010	2195	665			200	290	M 20x320	100	320
17 4) 0W 384 482-00				2540	780				322			
18 4) 0W 384 483-00				2390	730				309			

4) Base frame

Standard flange design [1]:

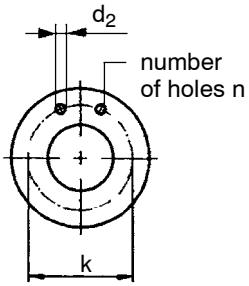
Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
300-560	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
300-700	PN 25	Table 25/11				
350-430	PN 10	Table 10/11	Class 125			
350-510						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange				Discharge flange			
		DN	d_2	k	n	DN	d_2	k	n
Pump size 300-560 and 300-700		400				300			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		28 (M24)	515	16		23 (M20)	400	12
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		31 (M27)	525			28 (M24)	410	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		37 (M33)	550			31 (M27)	430	16
ANSI B 16.1	Class 125		28 (M24)	540			28 (M24)	432	12
ANSI B 16.1	Class 250		34	572	20		31 (M27	451	16
Pump size 350-430		450				350			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		28 (M24)	565	20		23 (M20)	460	16
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		31 (M27)	585			28 (M24)	470	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		37 (M33)	600			34 (M30)	490	
ANSI B 16.1	Class 125		31 (M27)	578	16		28 (M24)	476	12
ANSI B 16.1	Class 250		34	629	24		31 (M27)	514	20
Pump size 350-510		400				350			
ISO 7005/2 DIN 2501 BS 4504	PN 10 Table 10/11		28 (M24)	515	16		23 (M20)	460	16
ISO 7005/2 DIN 2501 BS 4504	PN 16 Table 16/11		31 (M27)	525			28 (M24)	470	
ISO 7005/2 DIN 2501 BS 4504	PN 25 Table 25/11		37 (M33)	550			34 (M30)	490	
ANSI B 16.1	Class 125		28 (M24)	540			28 (M24)	476	12
ANSI B 16.1	Class 250		34	572	20		31 (M27)	514	20

Mating flange
All flanges designed as plate flanges



Baseplate / motor combination

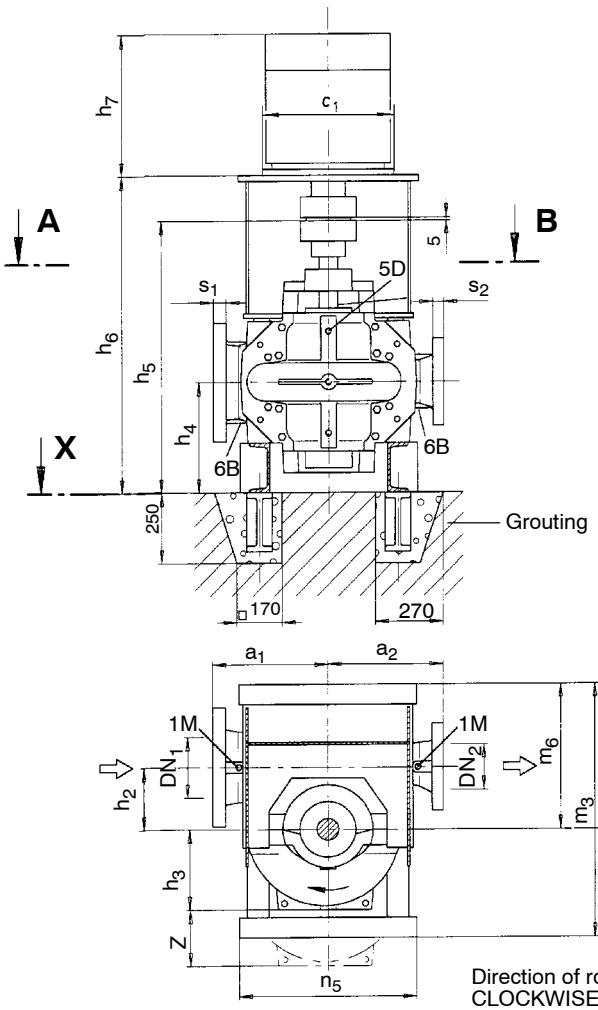
Pump size	Motor size				
	315M	315L	315	355	400
Number of poles	4	4	4	4	4
300-560	13	13	13	17	17
300-700			13	18	17
350-430	13	13	13	18	
350-510		13	13	18	17

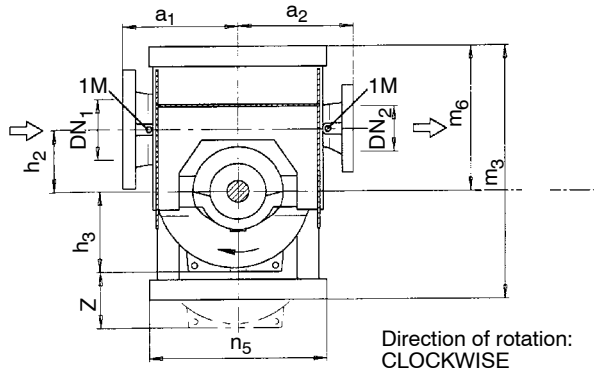
N.B.:
- The numbers listed in the table indicate the relevant baseplate numbers.
- The baseplate numbers shown in the boxes also serve to select the correct motor size for the listed pump size.

- Units comprising a motor size 315 and larger are completely assembled for verification and adjustment of the individual components. Before shipment, the units are dismantled again and the components packed / shipped separately.

General arrangement drawing Omega V 80 – 210 up to 80 – 370

Type of arrangement DB

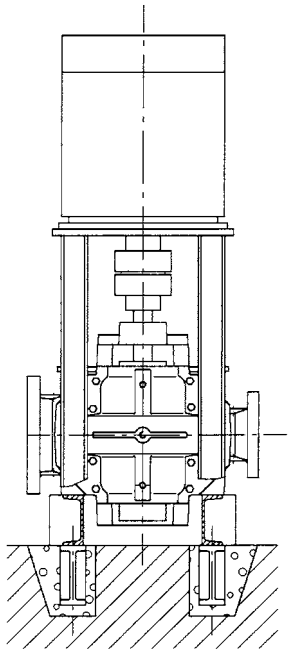


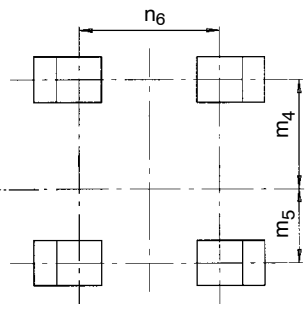


Section A - B

Direction of rotation:
CLOCKWISE

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)	Pump	Water content
80-210	125	80	34	29	300	300	140	168	300	715	340	185	10
80-270								190			380	195	15
80-370					330	330		225			450	205	20

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

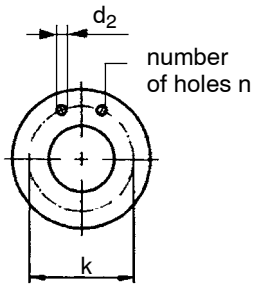
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
80-210	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
80-270						
80-370						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 125			Discharge flange DN 80		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	19	210	8	19	160	8
ISO 7005/2 DIN 2501	PN 25	28	220				
BS 4504	Table 16/11	19	210				
BS 4504	Table 25/11	28	220				
ANSI B 16.1	Class 250	23	235		23	168	



Motor dimensions and weights IEC-Motors, IP 55 [2]

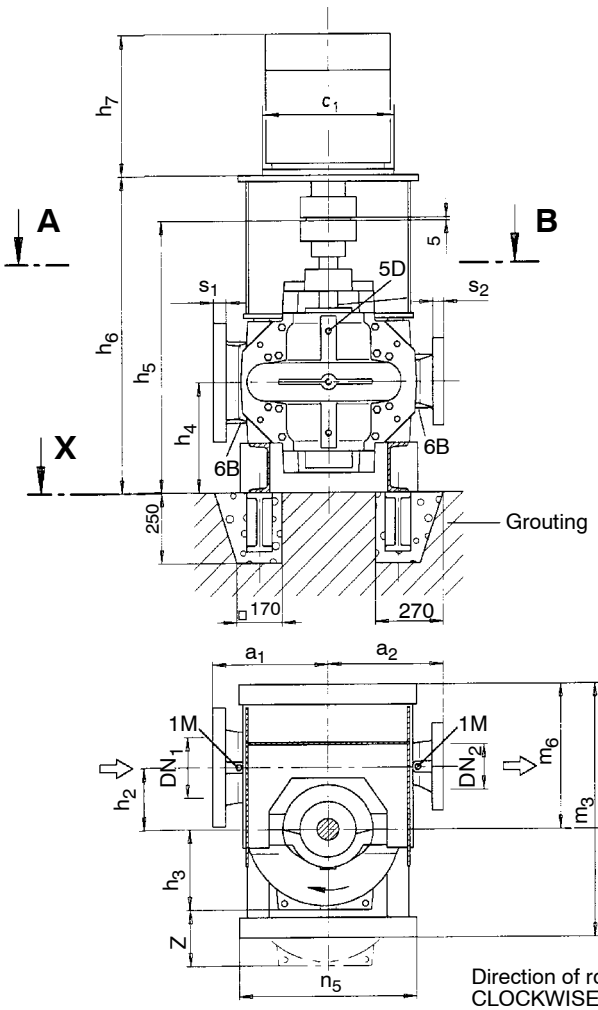
all dimensions in mm

Pump size	Type of arrangement DB	Type of arrangement DK	Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
80-210	●	--	min. 100 L	250	780	315	640	275	100	380	450	340	15
			max. 200 L	400	830	665							250
	--	●	min. 225 M	450		695	720				710		330
			max. 250 M	550	860	790							435
80-270	●	--	min. 100 L	250	780	315	640				450		25
			max. 200 L	400	830	665							250
	--	●	min. 225 M	450		695	720				710		330
			max. 315 S	660	860	970							830
80-370	●	--	min. 132 S	300	800	375	640				450		45
			max. 200 L	400	830	665							250

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 100 – 250 up to 100 - 375

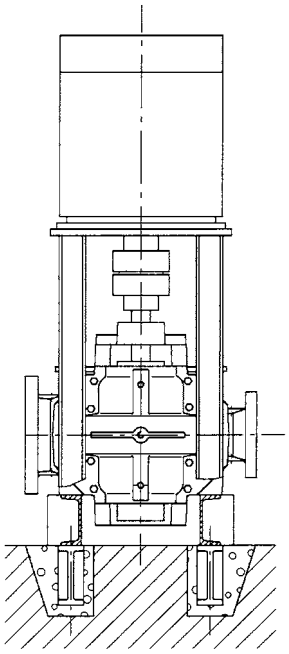
Type of arrangement DB

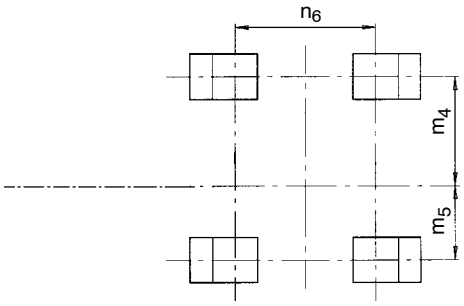


Direction of rotation:
CLOCKWISE

Section A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights ([kg]	
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)	Pump	Water content
100-250	150	100	37	32	330	330	170	195	300	715	390	210	20
100-310								225			450	225	25
100-375					370	370		260			520	245	30

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

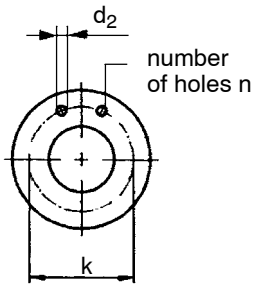
Standard flange design [1]**:**

Pump size	JL 1040/ GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
100-250	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
100-310						
100-375						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flang DN 150			Discharge flange DN 100		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	23	240	8	19	180	8
ISO 7005/2 DIN 2501	PN 25	28	250		23	190	
BS 4504	Table 16/11	23	240		19	180	
BS 4504	Table 25/11	28	250		23	190	
ANSI B 16.1	Class 250	23	270	12		200	



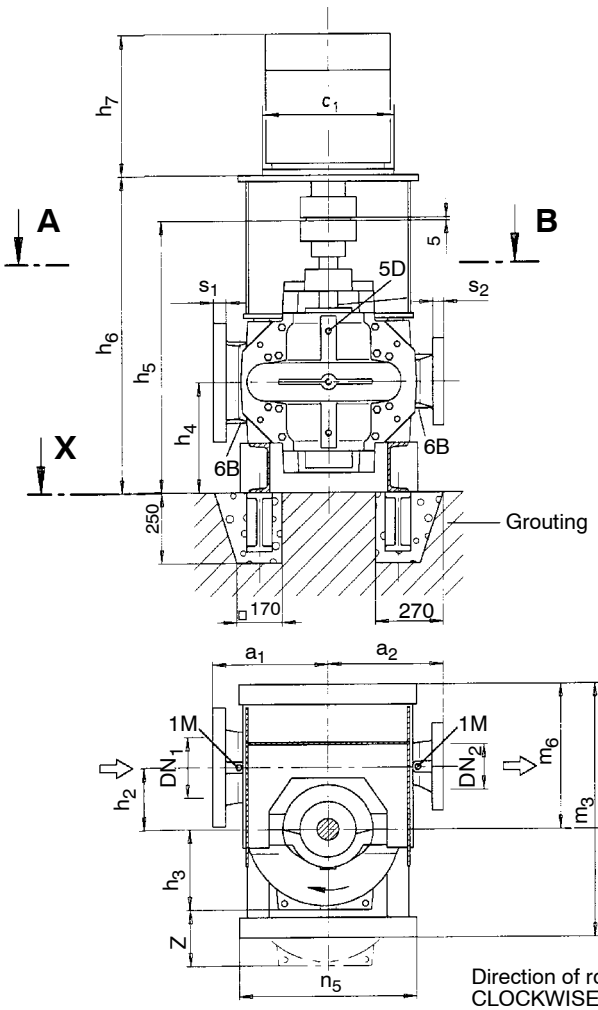
Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

Pump size	Type of arrangement		Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor
	DB	DK											[kg]
100-250	●	--	min. 100 L	250	780	315	695	315	115	420	500	400	25
			max. 225 M	450	830	695							330
	--	●	min. 250 M	550	860	790	760				810		435
			max. 315 M	660		970							850
100-310	●	--	min. 132 M	300	800	375	695				500		55
			max. 225 M	450	830	695							330
	--	●	min. 250 M	550	860	790	760				810		435
			max. 315	800		1230							1500
100-375	●	--	min. 160 M	350	830	481	695				500		75
			max. 225 M	450		695							330
	--	●	min. 250 M	550	860	790	760				810		435
			max. 280 S			865							610

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 125 - 230 up to 125 – 500

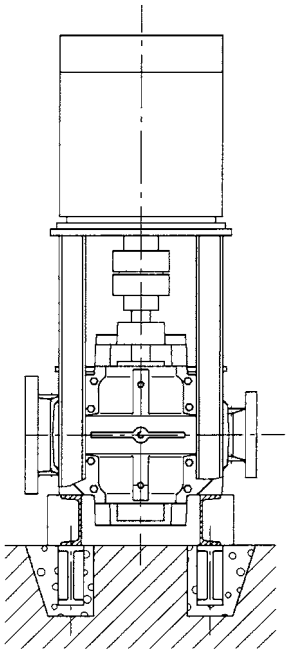
Type of arrangement DB

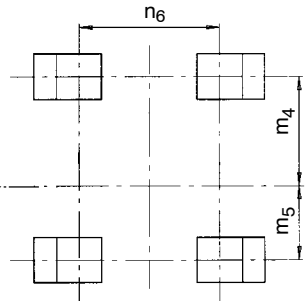


Direction of rotation:
CLOCKWISE

Section A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)	Pump	Water content
125-230	200	125	41	35	370	370	200	210	355	870	420	250	35
125-290								230			460	275	40
125-365								260			520	300	45
125-500					450	450		305			610	335	55

1) z = The dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

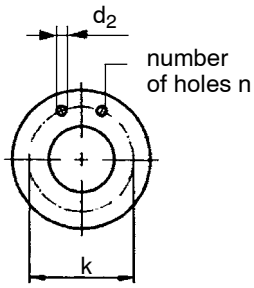
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
125-230	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
125-290						
125-365						
125-500						

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 200			Discharge flange DN 125		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	23	295	12	19	210	8
ISO 7005/2 DIN 2501	PN 25	28	310		28	220	
BS 4504	Table 16/11	23	295		19	210	
BS 4504	Table 25/11	28	310		28	220	
ANSI B 16.1	Class 250	28	330		23	235	



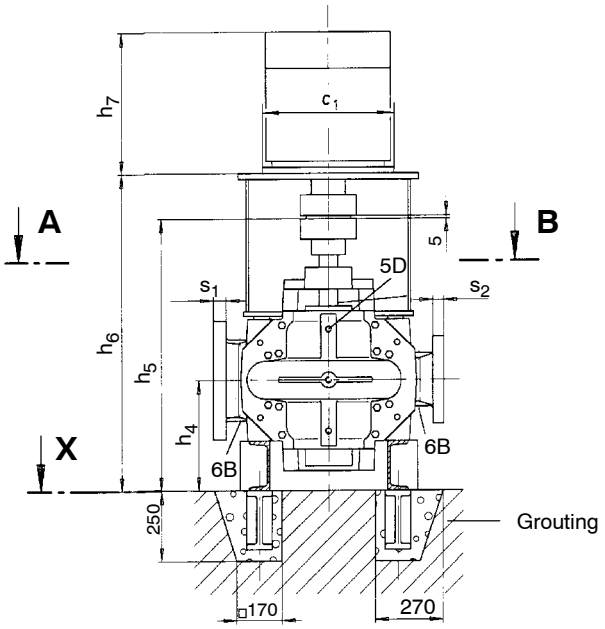
Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

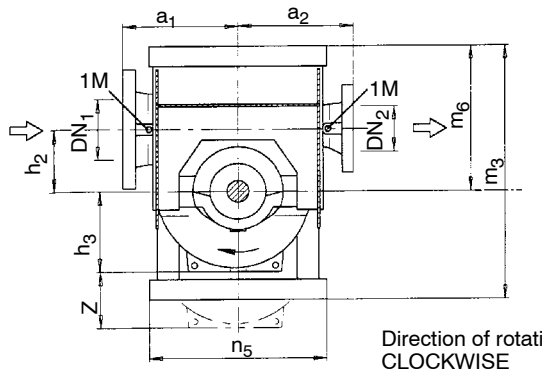
Pump size	Type of arrangement		Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor
	DB	DK											[kg]
125-230	●	--	min. 132 S	300	955	415	855	360	210	475	600	450	45
			max. 280 M	550	1015	865							660
	--	●	min. 315 S	660		970	820				860		830
			max. 315 M										850
125-290	●	--	min. 132 M	300	955	415	855				600		55
			max. 280 M	550	1015	865							660
	--	●	min. 315 S	660		970	905				920		830
			max. 315	800		1230							1500
125-365	●	--	min. 160 L	350	985	525	855				600		90
			max. 280 M	550	1015	865							660
125-500	●	--	min. 200 L	400	985	610					700	560	170
			max. 315 M	660	1045	970							910

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 150 - 290 up to 150 - 605

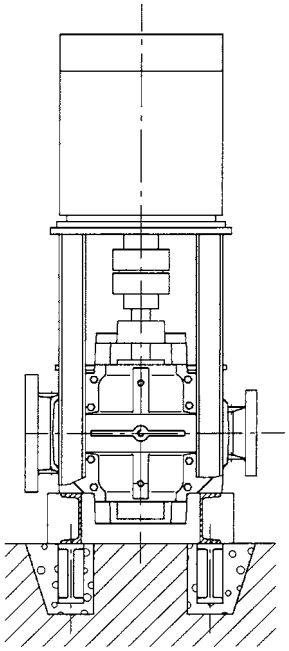
Type of arrangement DB



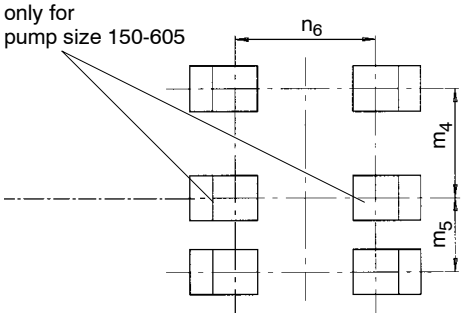


Section A - B

Type of arrangement DK



only for pump size 150-605



View X

Direction of rotation:
CLOCKWISE

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)	Pump	Water content
150-290	200	150	41	37	400	400	200	245	355	870	490	350	50
150-360								265			530	360	60
150-460					450	450		305	400	990	610	440	75
150-605					600	500	300	370			740	650	90

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

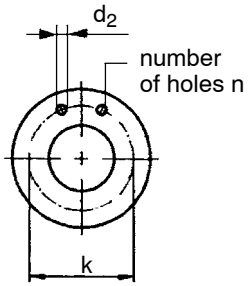
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
150-290	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
150-360						
150-460						
150-605	PN 25	Table 25/11				

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 200			Discharge flange DN 150		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	23	295	12	23	240	8
ISO 7005/2 DIN 2501	PN 25	28	310		28	250	
BS 4504	Table 16/11	23	295		23	240	
BS 4504	Table 25/11	28	310		28	250	
ANSI B 16.1	Class 250	28	330		23	270	12



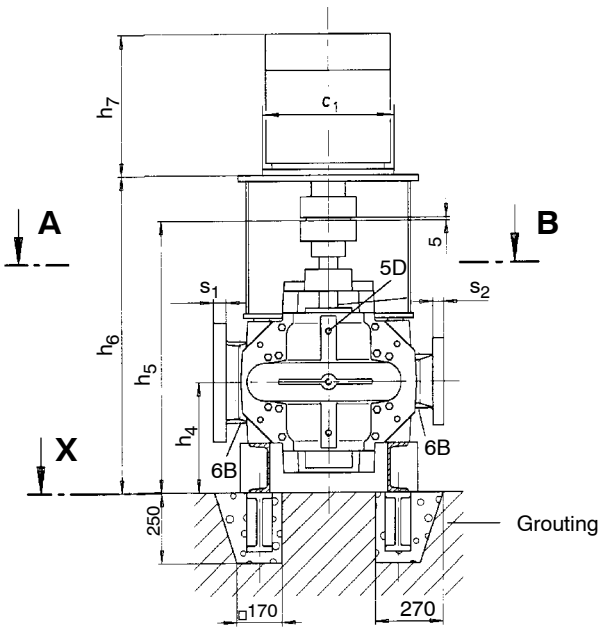
Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

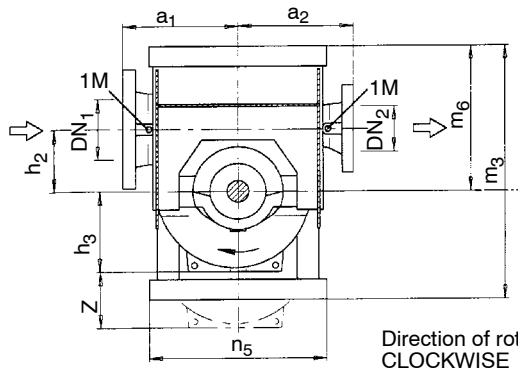
Pump size	Type of arrangement		Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
	DB	DK											
150-290	•	--	min. 160 L	350	985	485	855	360	210	475	600	450	93
			max. 225 M	450	1015	695							330
150-360	•	--	min. 160 L	350	985	485							90
			max. 280 M	550	1015	695							660
150-460	•	--	min. 200 L	400	1105	665					700	560	240
			max. 315 L	660	1165	1110							1200
150-605	•	--	min. 280 S	550	1135	865	1060	460	315	575	900	700	610
			max. 355	900	1165	1455							2200

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 200 - 320 up to 200 - 670

Type of arrangement DB

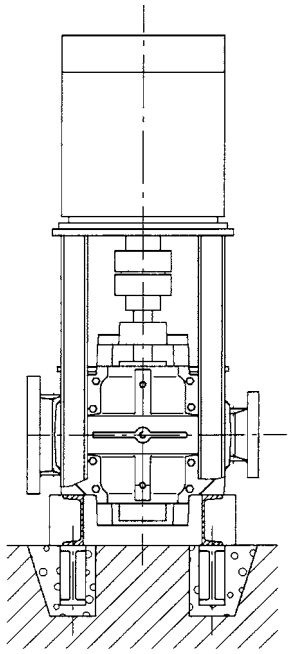


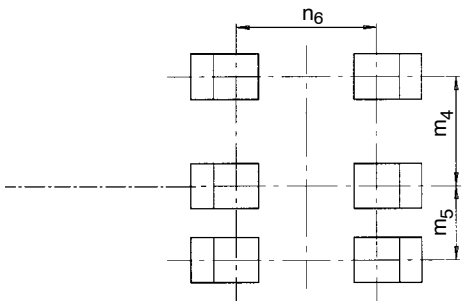


Direction of rotation:
CLOCKWISE

Section A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:
- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights (kg)	
	DN_1	DN_2	s_1	s_2	a_1 2)	a_2 2)	h_2	h_3	h_4	h_5	z 1)	Pump	Water content
200-320	250	200	48	41	450	450	240	285	400	990	570	450	80
200-420					500	500		310			620	520	95
200-520					600		300	370	440	1095	740	840	115
200-670					650	550	350	430			860	990	180

1) z = the dimensions to be maintained around the casing cover for dismantling of the rotor
2) material combinations SB and SC: dimensions are 1% larger

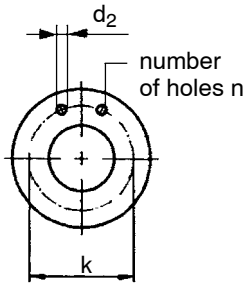
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
200-320	PN 16	Table 16/11	Class 250	PN 25	Table 25/11	Class 250
200-420						
200-520						
200-670	PN 25	Table 25/11				

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 250			Discharge flange DN 200		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 16	28	355	12	23	295	12
ISO 7005/2 DIN 2501	PN 25	31	370		28	310	
BS 4504	Table 16/11	28	355		23	295	
BS 4504	Table 25/11	31	370		28	310	
ANSI B 16.1	Class 250	28	387	16		330	



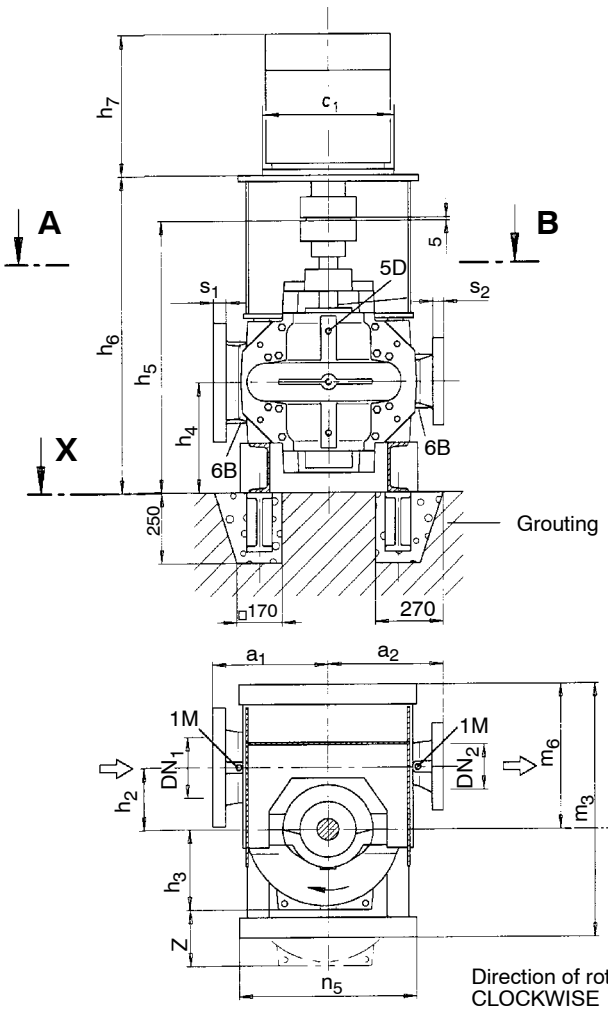
Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

Pump size	Type of arrangement DB	Type of arrangement DK	Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
200-320	●	--	min. 180 L	350	1105	995	1060	460	315	575	700	560	180
			max. 280 M	550	1135	865							660
200-420	●	--	min. 200 L	400	1105	665							240
			max. 315 L	660	1135	1110							1200
200-520	●	--	min. 250 M	550	1200	790	1120	520		635	900	700	435
			max. 355	900	1270	1455							2200
200-670	●	--	min. 315 S	660		1110	1180	560		685			830
			max. 355	900		1455							2200
	--	●	min. 400 max.	1000	1310	1615	1220	560			1160		3200

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 250 - 370 up to 250 - 600

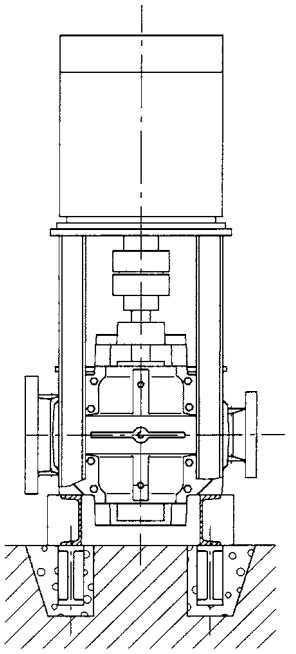
Type of arrangement DB

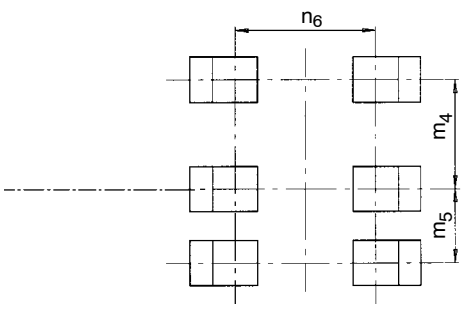


Direction of rotation:
CLOCKWISE

Section A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:
- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 [3]	a_2 [3]	h_2	h_3	h_4	h_5	z [2]	Pump	Water content
250-370	300	250	33 (51) [1]	32 (48) [1]	500	500	300	320	440	1095	640	665	125
250-480			51	48	550	550		355	500	1230	710	830	145
250-600					650		350	415			830	1215	180

[1] For casing material GGG-NiCrNb 202, JS 1030 1.4517
[2] z = The dimensions to be maintained around the casing cover for dismantling of the rotor
[3] material combinations SB and SC: dimensions are 1% larger

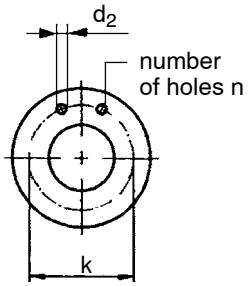
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
250-370	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
250-480	PN 16	Table 16/11	Class 250			
250-600	PN 25	Table 25/11				

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 300			Discharge flange DN 250		
		d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 10	23	400	12	23	350	12
ISO 7005/2 DIN 2501	PN 16	28	410		28	355	
ISO 7005/2 DIN 2501	PN 25	31	430	16	31	370	
BS 4504	Table 10/11	23	400	12	23	350	
BS 4504	Table 16/11	28	410		28	355	
BS 4504	Table 25/11	31	430	16	31	370	
ANSI B 16.1	Class 125	28	432	12	28	362	
ANSI B 16.1	Class 250	31	451	16		387	16



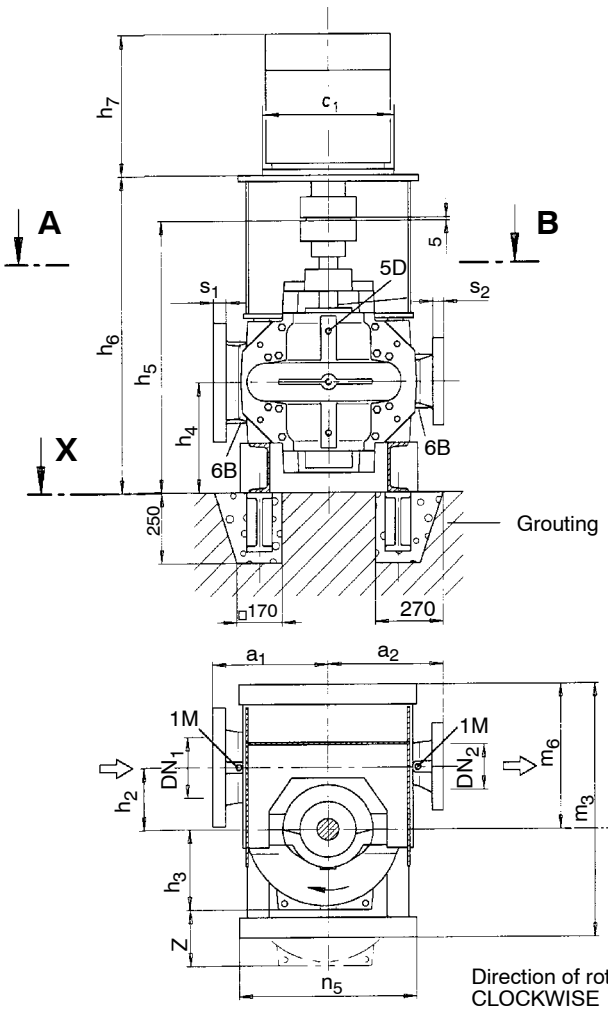
Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

Pump size	Type of arrangement DB	Type of arrangement DK	Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
250-370	●	--	min. 250 M	550	1240	790	1180	560	315	685	900	700	435
			max. 315 L	660	1270	1110							1200
250-480	●	--	min. 250 M	550	1375	790							435
			max. 355	900	1405	1455							2200
250-600	●	--	min. 315 M	660		970	1210	590		715			910
			max. 355	900		1455							2200
	--	●	min. / max. 400	1000	1445	1615	1350				1260		3200

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 300 - 300 up to 300 - 700

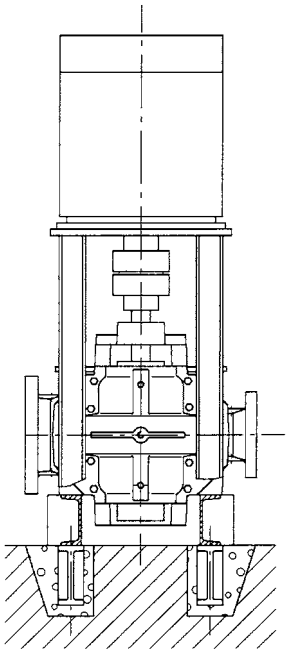
Type of arrangement DB

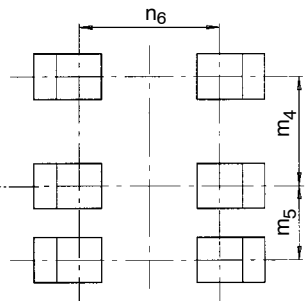


Direction of rotation:
CLOCKWISE

Selection A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centre line heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:

- 1M	Pressure gauge	G 1/2
- 5D	Vent	G 1/2
- 6B	Drainage	G 1/2
- 8B	Leakage liquid drain	G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 [3]	a_2 [3]	h_2	h_3	h_4	h_5	z [2]	Pump	Water content
300-300	350	300	36 (54) [1]	33 (51) [1]	550	500	300	360	440	1095	720	630	100
300-435	400		38 (57) [1]		650	550	350	365	500	1230	730	905	190
300-560			57	51	700	650		430	570	1380	860	1425	225
300-700					750		400	480			960	1690	275

[1] For casing material GGG-NiCrNb 202, JS 1030 1.4517
[2] z = the dimensions to be maintained around the casing cover for dismantling of the rotor
[3] material combinations SB and SC: dimensions are 1% larger

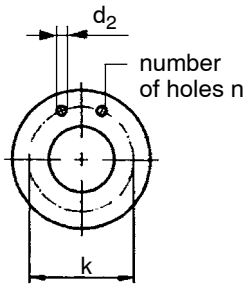
Standard flange design [1]**:**

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
300-300	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
300-435						
300-560	PN 16	Table 16/11	Class 250			
300-700	PN 25	Table 25/11				

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 350			Suction flange DN 400			Discharge flange DN 300		
		d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 10	23	460	16	28	515	16	23	400	12
ISO 7005/2 DIN 2501	PN 16	28	470		31	525		28	410	
ISO 7005/2 DIN 2501	PN 25	34	490		37	550		31	430	16
BS 4504	Table 10/11	23	460		28	515		23	400	12
BS 4504	Table 16/11	28	470		31	525		28	410	
BS 4504	Table 25/11	34	490		37	550		31	430	16
ANSI B 16.1	Class 125	28	476	12	28	540		28	432	12
ANSI B 16.1	Class 250	31	514	20	34	572	20	31	451	16



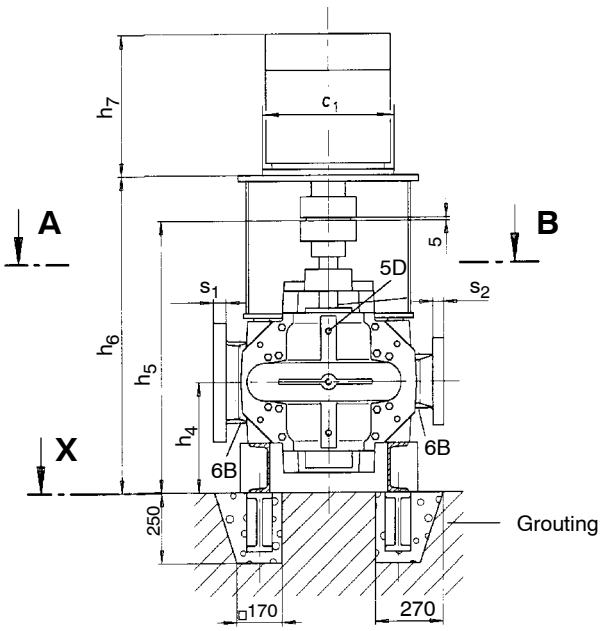
Motor Dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

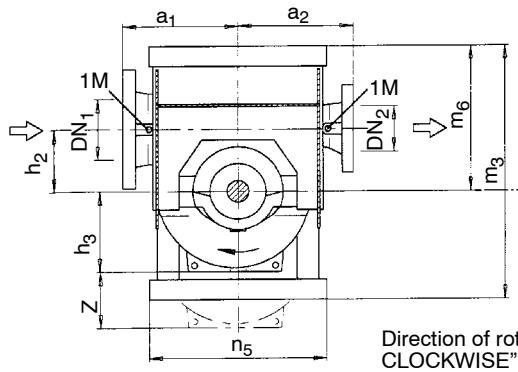
Pump size	Type of arrangement DB	Type of arrangement DK	Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
300-300	•	--	min. 200 L	400	1210	665	1210	590	315	715	900	700	170
			max. 315 S	660	1270	970							830
300-435	•	--	min. 280 M	550	1375	865	1250	630		755			660
			max. 315	800	1405	1230							1500
300-560	•	--	min. 315 M	660	1555	970	1375	670	400	795	1200	950	910
			max. 400	1000	1595	1730							3200
300-700	•	--	min. 315	800	1555	1230	1415	710		835			1500
			max. 400	1000	1615	1615							3200

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

General arrangement drawing Omega V 350 - 360 up to 350 - 510

Type of arrangement DB

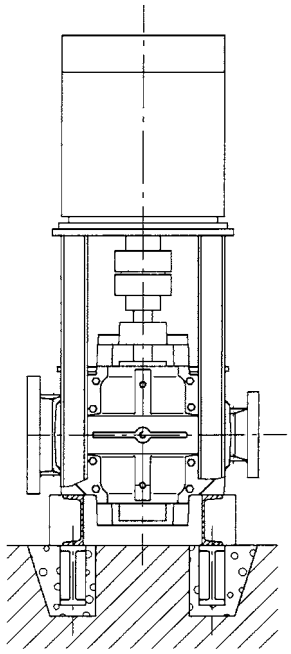


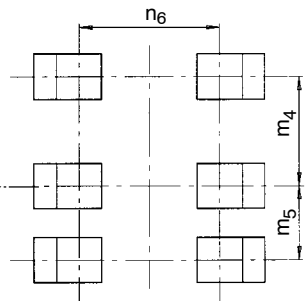


Direction of rotation:
CLOCKWISE"

Selection A - B

Type of arrangement DK





View X

Permissible deviations for:
- Centreline heights DIN 747
- Dimensions without indication of tolerances DIN 7168, medium
- Cast iron parts DIN 1686 GTB 18

Flanges:
- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Connections:
- 1M Pressure gauge G 1/2
- 5D Vent G 1/2
- 6B Drainage G 1/2
- 8B Leakage liquid drain G 3/4

Position of the terminal box to be in accordance with motor dimension sheet

Major external pump dimensions and weights

all dimensions in mm

Pump size	Flange dimensions				Pump dimensions							Weights [kg]	
	DN_1	DN_2	s_1	s_2	a_1 [3]	a_2 [3]	h_2	h_3	h_4	h_5	z [2]	Pump	Water content
350-360	400	350	38 (57) [1]	36 (54) [1]	650	550	350	410	500	1230	820	865	160
350-430	450		41 (60) [1]		750	650	400	465	570	1380	930	1285	240
350-510	400		38 (57) [1]		700			420			840	1395	290

[1] For casing material GGG-NiCrNb 202, JS 1030 1.4517
[2] z = The dimensions to be maintained around the casing cover for dismantling of the rotor
[3] material combinations SB and SC: dimensions are 1% larger

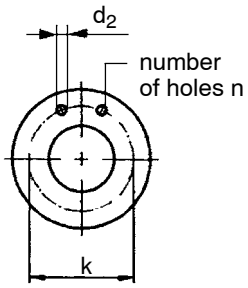
Standard flange design [1]:

Pump size	JL 1040 / GGG-NiCrNb 202 Nominal pressure acc. to:			JS 1030 / 1.4517 Nominal pressure acc. to:		
	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1	DIN 2501 ISO 7005/2	BS 4504	ANSI B 16.1
350-360	PN 10	Table 10/11	Class 125	PN 25	Table 25/11	Class 250
350-430				PN 16		
350-510				PN 25		

[1] Other flange designs are available on request

Flange dimensions - Drilling diagram all dimensions in mm

Standard		Suction flange DN 400			Suction flange DN 450			Discharge flange DN 350		
		d_2	k	n	d_2	k	n	d_2	k	n
ISO 7005/2 DIN 2501	PN 10	28	515	16	28	565	20	23	460	16
ISO 7005/2 DIN 2501	PN 16	31	525		31	585		28	470	
BS 4504	Table 10/11	28	515		28	565		23	460	
BS 4504	Table 16/11	31	525		31	585		28	470	
ANSI B 16.1	Class 125	28	540			578	16		476	12



Motor dimensions and weights IEC-Motors, IP 55 [2] all dimensions in mm

Pump size	Type of arrangement DB	Type of arrangement DK	Motor size	c_1	h_6	h_7	m_3	m_4	m_5	m_6	n_5	n_6	Weight of motor [kg]
350-360	●	--	min. 250 M	550	1375	790	1250	630	315	755	900	700	435
			max. 315	800	1405	1230							1500
350-430	●	--	min. 315 M	660	1555	940	1415	710	400	835	1200	950	910
			max. 355	900	1555	1455							2200
350-510	●	--	min. 315 L	660	1555	1110							1200
			max. 400	1000	1595	1615							3200

[2] **Dimension and weight deviations** subject to selected motor manufacturer **are to be considered**

Spare parts

1. Recommended for pare arts for c o m m i s s i o n i n g
2. Recommended for spare parts for **2 - y e a r s o p e r a t i o n** (8000 hours per year)
3. Recommended for spare parts for **5 - y e a r s o p e r a t i o n** (8000 hours per year)

1. Proposals for spare parts for c o m m i s s i o n i n g

Part no.	Part designation	Number of pumps including stand-by pumps							
		1	2	3	4	5	6	8	10 and more
		Number of spare parts							
321 550.1/2 520	Set Deep groove ball bearings Washers Sleeve	1	1	1	2	2	3	4	5
411.1 412.1-6 421.1/2	Set V-Rings O-Rings Radial shaft seal ring	1	2	3	4	5	6	8	10

for the mechanical seal-fitted pump

Part no.	Part designation	Number of pumps including stand-by pumps							
		1	2	3	4	5	6	8	10 and more
		Number of spare parts							
433	Set Mechanical seals	1	1	1	2	2	3	4	5

for the gland-fitted pump

Part no.	Part designation	Number of pumps including stand-by pumps							
		1	2	3	4	5	6	8	10 and more
		Number of spare parts							
461	Gland packing (Set packing rings)	1	2	3	4	5	6	8	10

Spare parts

2. Recommended for spare parts for **2-years operation** (8000 hours per year)

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part
		1	2	3	4	5	6	8	10 and more	R = replacement part
		Number of spare parts								V = wear part
211 920.3 932 940.1/2/3	Shaft, with Nut Circlip Keys	–	–	–	1	1	1	2	3	E
524.1	Set shaft protec. sleeve	1	1	1	2	2	3	4	5	V
234	Impeller	–	–	–	1	1	1	2	3	E
502	Set of casing wear rings	1	1	1	2	2	3	4	5	V
503	Set of impeller wear rings (if mounted)	1	1	1	2	2	3	4	5	V
321 550.1/2 520	Set consisting of Deep groove ball bearings Washers Sleeve	1	1	1	2	2	3	4	5	R
411.1 412.1-6 421.1/2	Set consisting of V-Rings O-Rings Radial shaft seal rings	1	2	3	4	5	6	8	10	V

for the mechanical seal-fitted pump

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part
		1	2	3	4	5	6	8	10 and more	R = replacement part
		Number of spare parts								V = wear part
433	Set of Mechanical seals	1	1	1	2	2	3	4	5	V

for the gland-fitted pump

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part
		1	2	3	4	5	6	8	10 and more	R = replacement part
		Number of spare parts								V = wear part
452 455 457 458	Set consisting of Gland Stuffing box insert Neck rings Lantern rings	–	–	–	1	1	1	2	3	R V
461	Gland packing (Set packing rings)	4	8	12	16	20	24	32	40	V

for the vertical design

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part
		1	2	3	4	5	6	8	10 and more	R = replacement part
		Number of spare parts								V = wear part
524.2 545 350.2	Residur bearing, compl. Shaft protec. sleeve Bearing bush Bearing housing	1	1	1	2	2	3	4	5	V

Spare parts

3. Recommended for spare parts for **5 - y e a r s o p e r a t i o n** (8000 hours per year)

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part R = replacement part V = wear part
		1	2	3	4	5	6	8	10 and more	
		Number of spare parts								
211 920.3 932 940.1/2/3	Shaft, with Nut Circlip Keys	1	1	1	2	2	2	4	6	E
524.1	Set shaft protec. sleeve	2	2	2	4	4	6	8	10	V
234	Impeller	1	1	1	2	2	2	4	6	E
502	Set of casing wear rings	2	2	2	4	4	6	8	10	V
503	Set of impeller wear rings (if mounted)	2	2	2	4	4	6	8	10	V
321 550.1/2 520	Set consisting of Deep groove ball bearings Washers Sleeve	2	2	2	4	4	6	8	10	R
411.1 412.1-6 421.1/2	Set consisting of V-Rings O-Rings Radial shaft seal rings	2	2	6	8	8	12	16	20	V

for the mechanical seal-fitted pump

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part R = replacement part V = wear part
		1	2	3	4	5	6	8	10 and more	
		Number of spare parts								
433	Set of Mechanical seals	2	2	2	4	4	6	8	10	V

for the gland-fitted pump

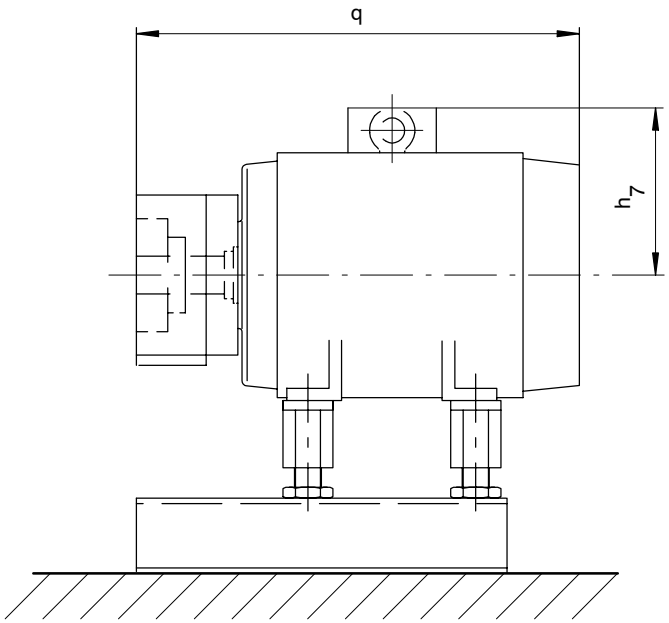
Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part R = replacement part V = wear part
		1	2	3	4	5	6	8	10 and more	
		Number of spare parts								
452 455 457 458	Set consisting of Gland Stuffing box insert Neck rings Lantern rings	1	1	1	2	2	2	4	6	R V
461	Gland packing (Set packing rings)	10	20	30	40	50	60	80	100	V

for the vertical design

Part no.	Part designation	Number of pumps including stand-by pumps								E = spare part R = replacement part V = wear part
		1	2	3	4	5	6	8	10 and more	
		Number of spare parts								
524.2 545 350.2	Residur bearing, compl. Shaft protec. sleeve Bearing bush Bearing housing	2	2	2	4	4	6	8	10	V

Motor dimensions and weights (Type of arrangement 3E)

IEC-Motors; IP 55; IM B 3 configuration



Motor dimensions and weights

all dimensions in mm

Motor size		q		h_7		Motor weight [kg]	
2 pole	4 pole	2 pole	4 pole	2 pole	4 pole	2 pole	4 pole
	100 L		373		135		24
	112 M		394		150		31
	132 S		454		170		45
	132 M						56
160 M	160 M	588	588	200	200	85	76
160 L	160 L					102	93
180 M	180 M	712	712	260	260	115	112
--	180 L						126
200 L	200 L	770	770	310	310	188	170
--	225 S		807		310		215
225 M	225 M	777		310		217	235
250 M	250 M	930	930	430	430	415	435
280 S	280 S	1005	1005	455	455	570	610
280 M	280 M					610	660
315 S	315 S	1110	1140	515	515	790	830
315 M	315 M					850	910
315 L	315 L	1250	1280			1100	1060
315	315	1370	1400	520	520	1500	1500
355	355		1625		550		2200
400	400		1825		625		3200

- Weights to KSB standard
- Dimension and weight deviations subject to selected motor manufacturer are to be considered

01/2005

1384.5/6-10

KSB Aktiengesellschaft
P.O. Box 200743 • 06008 Halle (Saale) • Turmstraße 92 • 06110 Halle (Germany)
Tel. +49 (345) 48 26 0 • Fax +49 (345) 48 26 46 99 • www.ksb.com