

ZTND 032-125 . . . 200-500

TECHNICAL DATA

Output:	max. 1000 m ³ /h
Delivery head:	max. 95 m
Speed:	max. 3600 rpm
Temperature:	max. 350 °C
Casing pressure:	PN 16
Shaft sealing:	radial seal rings or mechanical seal
Flange connection:	DIN EN 1092-2 PN 16 / 25 ¹⁾
Direction of rotation:	clockwise, when looking at the pump from the drive end

APPLICATION

Volute pumps of the series ZTN have been specially developed for handling of mineral and synthetic heat transfer oils. The pumps may be used in installations with positive or negative suction pressure.

Especially to be emphasised is the application in plants of:

The chemical industry:

heating of agitators, reactors, drying plants, polymerisation plants, plants for conveying high-viscous products and producing plastic materials and synthetic fibres.

The rubber and plastic industry:

heating of calendars, melting pots, power presses for plastics, automatic injection moulding machines, production of PVC adhesive tape.

The food industry:

heating of baking and fish-frying ovens, distillation of fatty acids and glycerine, fat softening plants, production of potato chips and milk powder.

The paper industry and laundries:

calendar rolls, production of corrugated cardboard, heating of washing machines, mangles and dryers.

DESIGN

Horizontal, single-stage volute pumps with the dimensions and nominal ratings to 24255/EN 733 in back pull out design* which permits the removal of the complete bearing unit toward the drive end without removing the pump casing from the pipe work. If a spacer coupling is installed it is also unnecessary to disconnect the motor.

The programme comprises 38 pump sizes, but only three shaft assemblies are required owing to the unit construction system. Within each shaft assembly, shafts, shaft sealing, impeller fastenings, bearing bracket and bearing covers are interchangeable.

The DIN 4754 regulations are complied with.

Should heat carrier seepage occur from the shaft seal, it is ensured that the leakage will be drained off and collected completely.

¹⁾ from size 150315 to 200500

* due to additional sizes the performance range is increased to higher output rates.



CONSTRUCTION

Casing pressure:

Maximal 16 bar from 0 °C to 120 °C
Maximal 13 bar from 120 °C to 300 °C
Maximal 10 bar from 300 °C to 350 °C
Intermediate values can be obtained by interpolation.

Please note:

Technical rules and safety regulations.

Max. Casing pressure = inlet pressure + zero head
Admissible inlet pressure (system pressure) = 5 bar when using shaft sealing 002.

Admissible inlet pressure = admissible casing pressure when using shaft sealing GBC.

Flanges location:

Axial suction flange, discharge flange radially upwards.

Flanges:

The flanges comply with DIN EN1092-2/PN 16, resp. PN 25. Flanges drilled to according to ANSI (previous ASA) 150 can be supplied.

Hydraulic:

Designation of this construction type: A, B, D

Bearing:

One grease-lubricated grooved ball bearing resp. 2 inclined ball bearings (the first grease filling is made in the factory) and one internal liquid flushed sleeve bearing.
Designation of this construction type: A

Direction of rotation:

Clockwise, when looking at the pump from the drive end.

Shaft sealing:

Code 002: several radial shaft seal rings arranged in series; uncooled

Code GBC: unbalanced bellows mechanical seal
seal face materials cast chromium steel/carbon elastomer FPM (Viton)

Material design:

ITEM	COMPONENTS	MATERIAL						EXECUTION	
		EN mat.-number	EN mat.- denomination	DIN mat.-number	DIN mat.- denomination	US denomination		1B	2B (1)
						ASTM Standard	AISI		
10.20	Volute casing	EN-JS 1025	EN-GJS-400-18-LT	0.7043	GGG-40.3	A 395		X	
		1.0619	GP 240 GH	1.0619	GS-C 25	A 216 Gr WCB			X
16.10	Casing cover	EN-JS 1025	EN-GJS-400-18-LT	0.7043	GGG-40.3	A 395		X	
		1.0619	GP 240 GH	1.0619	GS-C 25	A 216 Gr WCB			X
21.00	Shaft	1. 1191	C 45 E	1.1191	Ck 45 K + N	A 576 Gr 1045	1045	X	
		1.4021	X 20 Cr 13	1.4021	X 20 Cr 13	A 276 Type 420	420	X (2)	X
23.00	Impeller	EN-JL 1040	EN-GJL 250	0.6025	GG-25	A 278 Class 30		X	X
33.00	Bearing bracket								
36.00	Bearing cover								
42.13	Radial seal rings	FPM (Viton)						X	X
43.30	Mechanical seal	chrome cast / carbon FPM (Viton)						X	X
44.10	Casing for mech. seal	1. 1191	C 45 E	1.1191	Ck 45 K + N	A 576 Gr 1045	1045	X	X
44.11	Seal of the shaft casing								
54.51	Sleeve bearing	carbon						X	X

(1) For sizes 200400 and 200500.

(2) For sizes 150315, 150400, 150500, 200250 and 200315.

Casing gasket:

The casing is sealed by flat gaskets of graphite. Designation of this construction type: 2

Motor power:

Using commercial electric motors, type of construction IM B3.

To determine the drive power we recommend the following safety margin:

Up to 4 kW: 25% 4 to 7,5 kW: 20% above 7,5 kW: 15%

The following maximum speeds are to be observed:

max. speed n = 3600 rpm	size	max. speed n = 3000 rpm	size	max. speed n = 1800 rpm	size	max. speed n = 1500 rpm	size
t = 120 °C	032125 050200	t = 120 °C	032250	t = 120 °C	040315 150315	t = 120 °C	150500
	032160 065125		040250		050315 150400		200315
	032200 065160		050250		065315 200250		200400
	040125 065200		065250		080315		200500
	040160 080160		080250		100315		
	040200 080200		100250		125250		
	050125 100160		125200		150200		
	050160 100200		150250		150250		
t = 350 °C	032125 050200	t = 350 °C	032250	t = 350 °C	040315 150250	t = 350 °C	150315
	032160 065125		040250		050315		150400
	032200 065160		050250		065315		150500
	040125 080200		065200		080315		200250
	040160 100160		065250		100315		200315
	040200		080160		125200		200400
	050125		080250		125250		200500
	050160		100200		150200		
	100250						

The maximum speeds result from the permissible peripheral speeds of the impellers or from the shaft load admissible at higher temperatures, respectively.

Bearing bracket / pump size:

Bracket 25	032125 032160 032200 032250 040125 040160 040200 040250 050125 050160 050200 050250 065125 065160 065200 080160
Bracket 35	040315 050315 065250 065315 080200 080250 080315 100160 100200 100250 100315 125200 125250 150200 150250
Bracket 45	150315 150400 150500 200250 200315 200400 200500

General remarks:

For horizontal volute pumps CLOSE COUPLED construction with STANDARD motor for nominal performances and flange connections as per EN 733 refer to our series **ZTK**.

For INLINE pumps with the same drive unit, consisting of bearing bracket with bearing, stub shaft and mechanical seal, casing cover, impeller and impeller nut, refer to our series **ZTI**.

For equipping hot media systems a complete programme is available for a flow range between 1-600 m³/h consisting of the range:

ZEN volute pumps to EN 22858, t_{max} 230 °C PN 40. Hot water design.

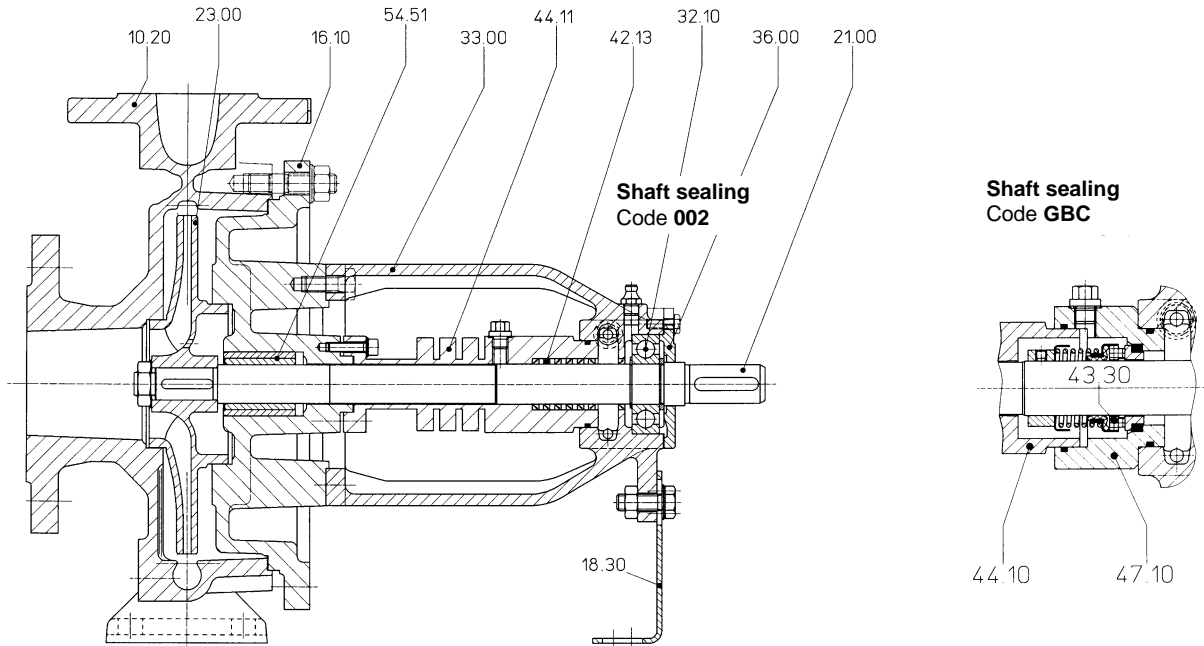
ZDN volute pumps to EN 22858, t_{max} 207 °C PN 25. Hot water design.

ZHN volute pumps to EN 733, t_{max} 180 °C PN 16. Hot water design.

ZLI volute pumps to EN 733 as INLINE construction, t_{max} 150 °C PN 25. Hot water design.

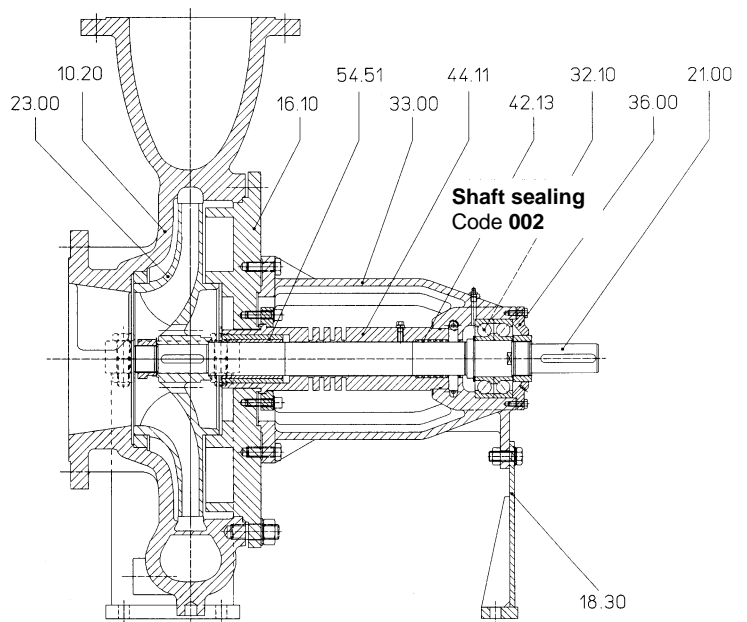
Technical documentation on these programmes will readily be supplied on request.

SECTIONAL DRAWING AND NOMENCLATURE
ZTN 032125 ... 150250

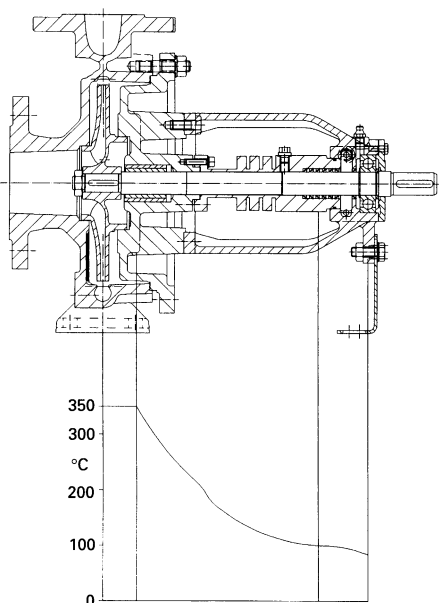


- 10.20 volute casing
- 16.10 casing cover
- 18.30 supporting foot
- 21.00 shaft
- 23.00 impeller
- 32.10 grooved ball bearing
- 33.00 bearing bracket
- 36.00 bearing cover
- 42.13 radial seal ring
- 43.30 mechanical seal
- 44.10 shaft seal casing
- 44.11 shaft seal casing
- 47.10 sealing cover
- 54.51 sleeve bearing

ZTN 150315 ... 200500



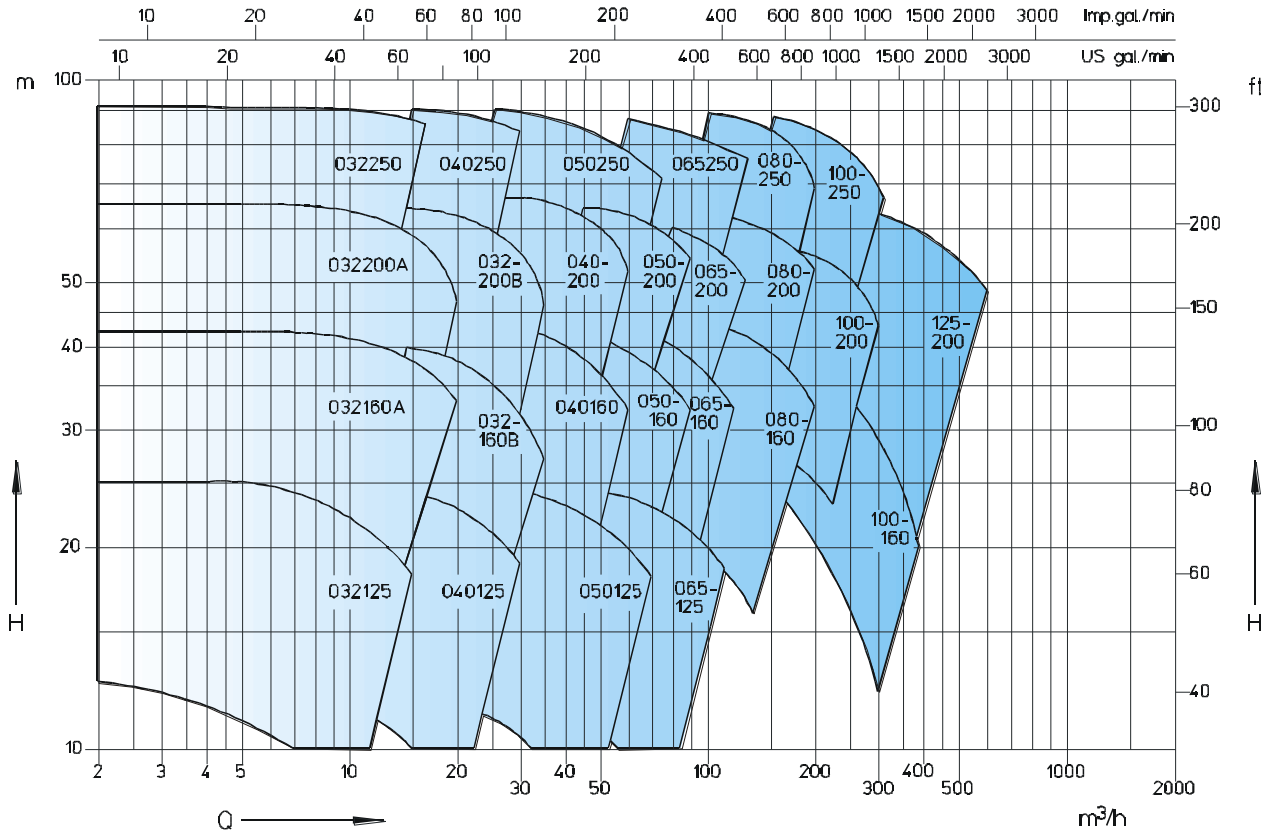
Heat barrier / shaft sealing / bearing



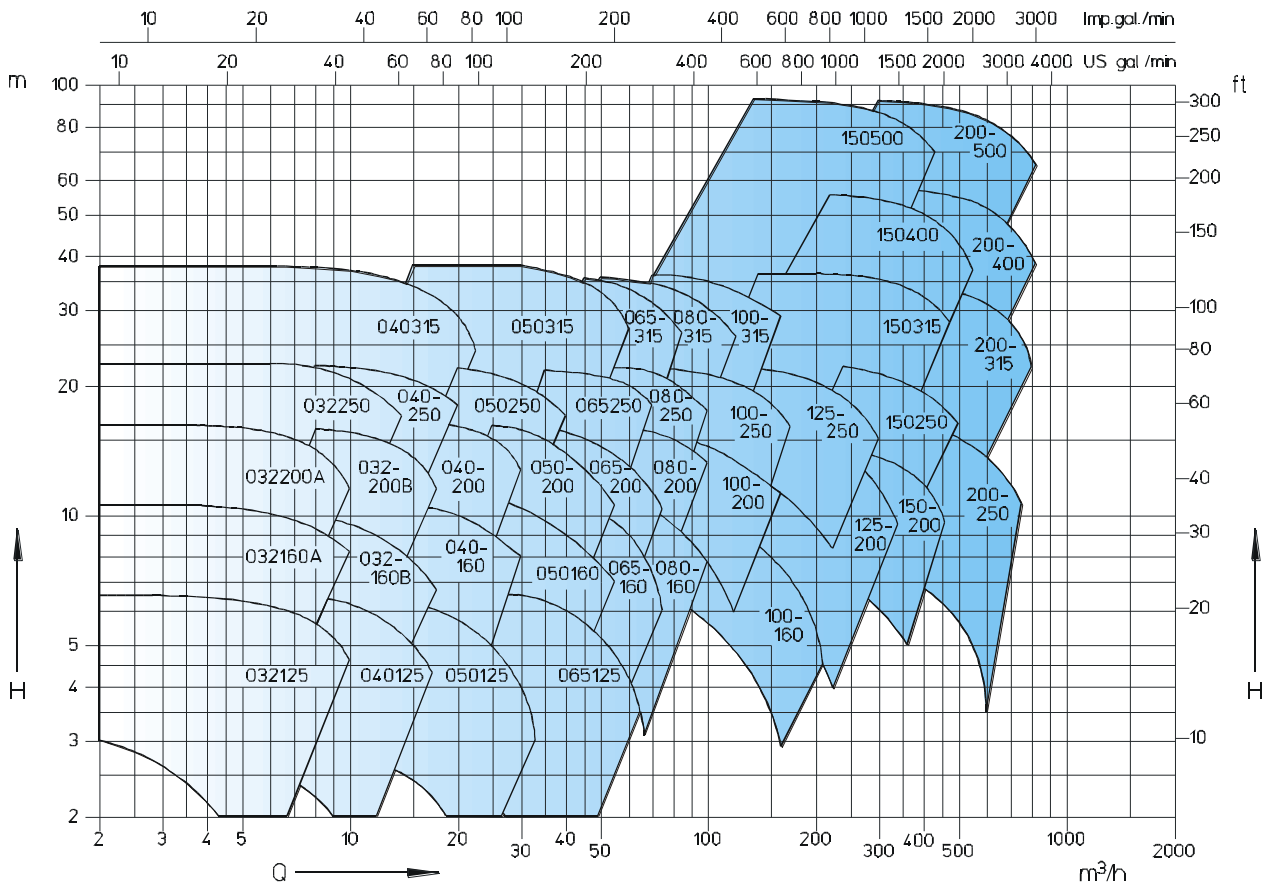
Heat transfer installations have achieved a high level of technical development. Consequently the requirements on pumps handling heat transfer oils have increased regarding operating safety, environmental protection, maintenance and operating costs. The Sterling SIHI ZTN pump, based on many years of experience and on the latest technical know-how, fully complies with these requirements.

By the heat barrier with integrated throttle gab, located behind the cover, a favourable drop in temperature toward the drive side is achieved (see opposite drawing). Heat losses at the product side are effectively prevented (saving of energy). The reduced temperature allows the use of simple, uncooled type of shaft sealing. As the lubricating properties of heat transfer oils for antifriction bearings are not specially good, a liquid flushed sleeve bearing has been fitted at the impeller side and an antifriction bearing, not in contact with the heat carrier, has been fitted behind the shaft sealing. By this arrangement noiseless operation and long working life have been achieved.

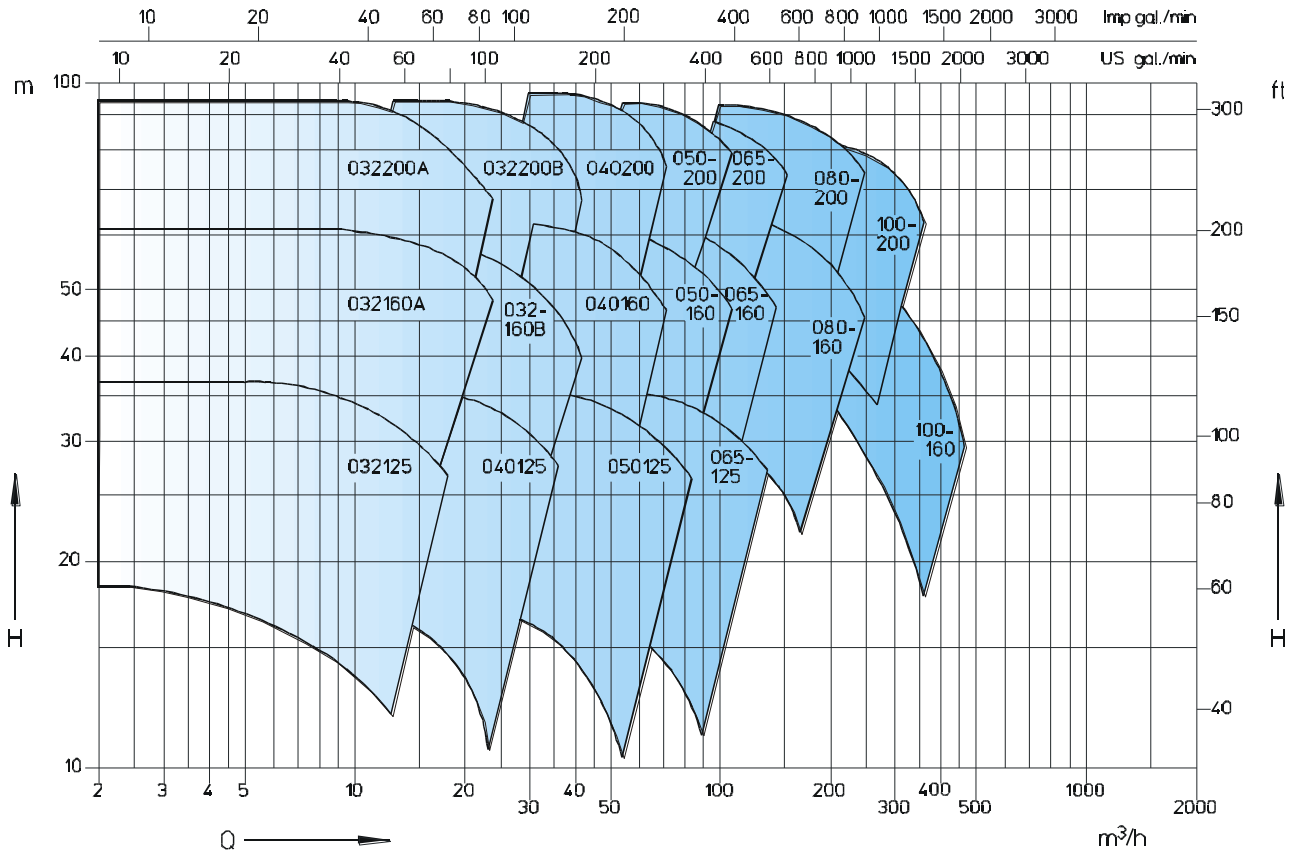
n=2900 1/min



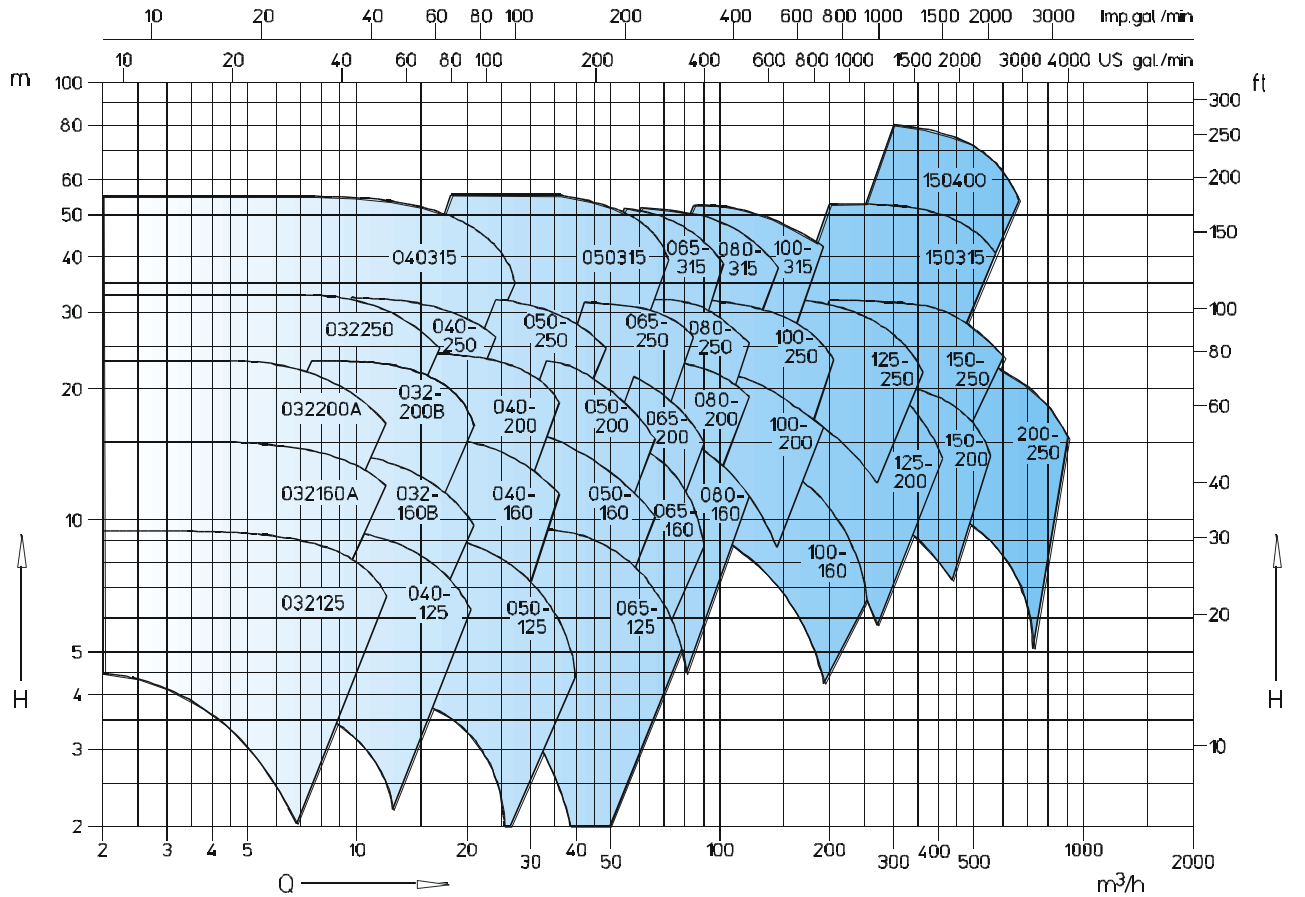
n=1450 1/min



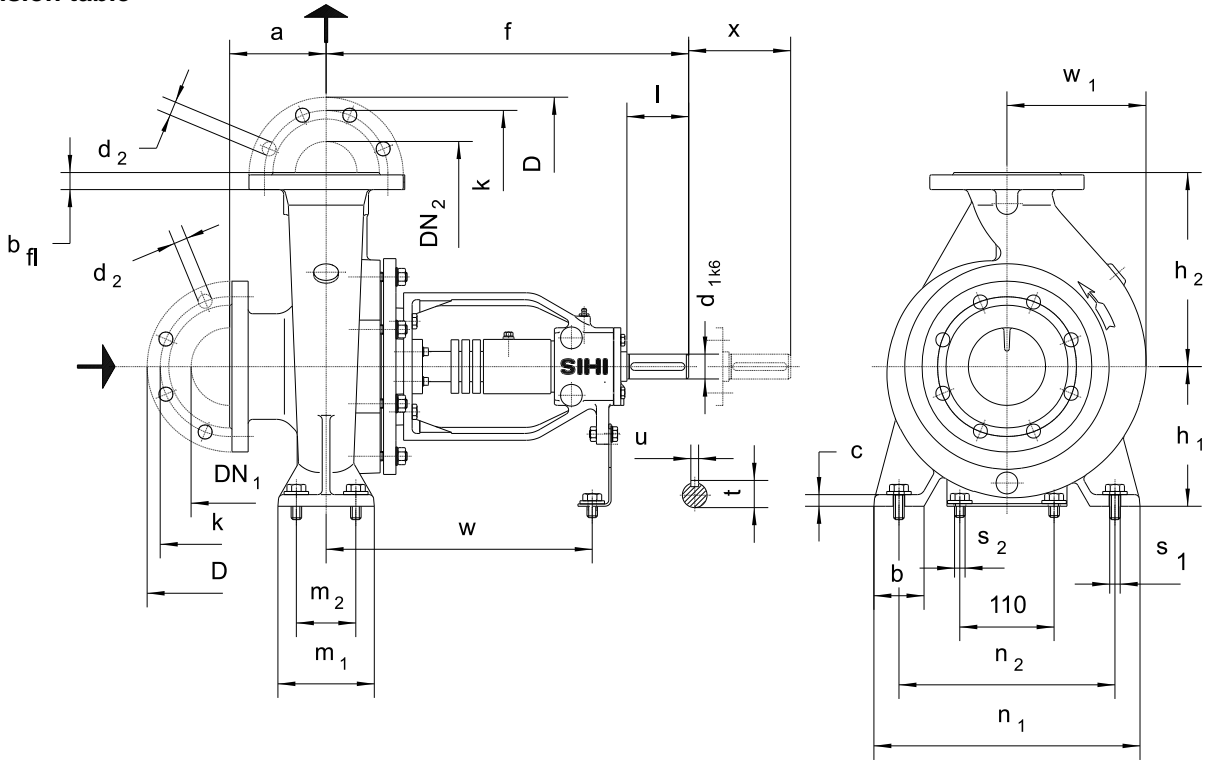
n=3500 1/min



n=1750 1/min



Dimension table



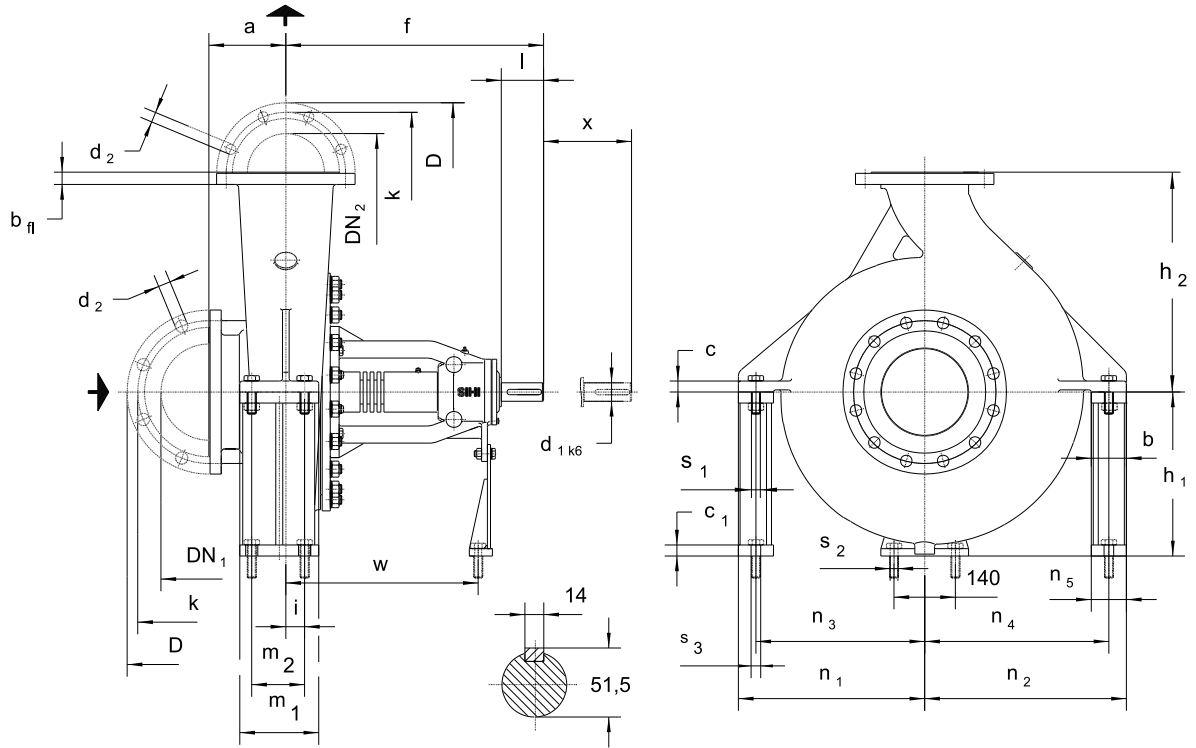
All dimensions in mm.

size	DN ₂	DN ₁	a	b	c	f	h ₁	h ₂	m ₁	m ₂	n ₁	n ₂	s ₁ *	s ₂ *	w	w ₁	x	d ₁	l	t	u	
032125	32	50	80	50	15	360	112	140	100	70	190	140	M12		267	105	100	24	50	27	8	
032160							132	160			240	190										120
032200							160	180			265	212										127
032250 ¹⁾							180	225			320	250										160
040125	40	65	80	50	18	470	112	140	125	95	210	160	M12		340	204	100	32	80	35	10	
040160							132	160			240	190										108
040200							160	180			265	212										128
040250							180	225			320	250										140
040315 ¹⁾							225	250			345	280										164
050125	50	100	50	15	17	470	132	160	125	95	240	190	M12		267	120	100	24	50	27	8	
050160							160	180			265	212										130
050200							180	225			320	250										150
050250							200	250			345	280										169
050315 ¹⁾							225	280			360	315										210
065125	65	80	100	65	15	360	160	180	160	120	280	212	M16		340	140	100	24	50	27	8	
065160							180	225			320	250										147
065200							200	250			360	280										166
065250							225	280			400	315										183
065315							250	315			440	350										220
080160	80	100	125	65	15	360	180	225	125	95	320	250	M12		267	165	100	24	50	27	8	
080200							200	280			345	280										180
080250							225	315			400	315										200
080315							250	315			440	315										235
100160 ¹⁾	100	125	80	18	18	470	200	280	160	120	360	280	M16		340	202	120	32	80	35	10	
100200							225	315			400	315										212
100250							250	355			440	355										242
100315							275	395			480	395										272
125200 ¹⁾							125	150			140	20										20
125250	275	355	440	355	236																	
150200 ¹⁾	150	200	160	100	20	470			280	400			200	150	550	450	M20		274	190	120	
150250 ¹⁾							300	400	440	400	274											

¹⁾ Transnorm pump sizes, not included in DIN 24255/ EN 733. Flanges drilled according to ANSI 150 can be supplied.

* Slots suitable for bolts with dimensions indicated. Bolts are not included in the bare shaft pump standard scope of supply.

Dimension table



All dimensions in mm.

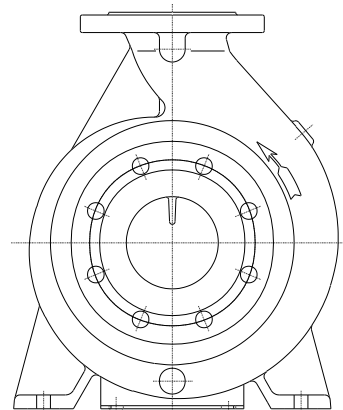
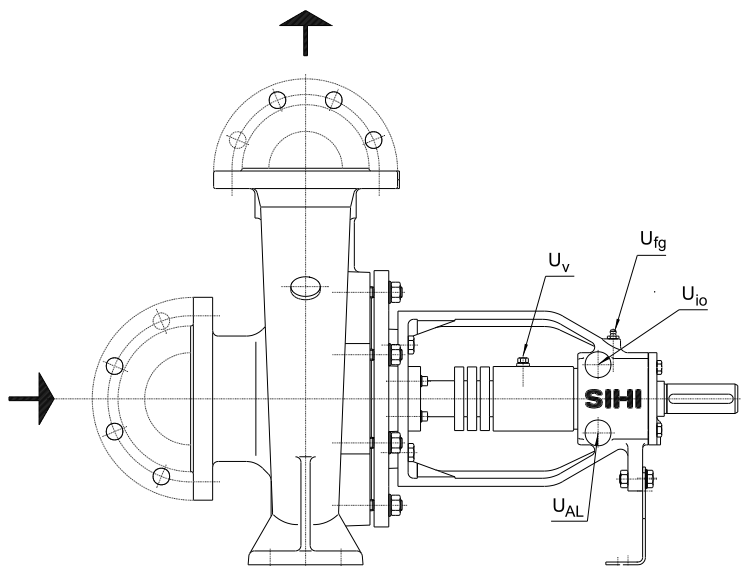
size	DN ₂	DN ₁	a	f	h ₁	h ₂	m ₁	m ₂	i	l	x	d ₁	w	c	c ₁	s ₁	s ₂ *	s ₃ *	n ₁	n ₂	n ₃	n ₄	b, n ₅
150315 ¹⁾	150	200	180	670	315	400	160	100	35	110	180	48	500	25	23	M20	M12	M20	320	360	290	330	60
150400 ¹⁾					355	450													380	420	340	380	
150500 ¹⁾					400	500													425	460	385	420	
200250 ¹⁾	200	250	250	670	335	425	180	120	45	110	180	48	500	25	23	M20	M12	M20	340	410	300	370	80
200315 ¹⁾			355		450	360													420	320	380		
200400 ¹⁾			375		500	400													480	360	440		
200500 ¹⁾			425		560	220													160	50	475	575	

¹⁾ Transnorm pump sizes, not included in DIN 24255/ EN 733. Flanges drilled according to ANSI 150 can be supplied.

* Slots suitable for bolts with dimensions indicated. Bolts are not included in the bare shaft pump standard scope of supply.

Flange connection according to DIN EN 1092-2 PN 16 Execution material 1B	DIN EN 1092-2 PN 25													
	Execution material 1B										Execution material 2B			
DN ₂ /DN ₁	32	40	50	65	80	100	125	150	200	150	200	250	200	250
D	140	150	165	185	200	220	250	285	340	300	360	425	360	425
k	100	110	125	145	160	180	210	240	295	250	310	370	310	370
b _{fl}	18	19	19	19	19	19	19	19	20	20	22	24,5	30	32
Tolerances	+4,0 -3,0										+4,5 -4,0 +1,5 -1,5			
d ₂ x number	19x4	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x12	28x8	28x12	31x12	26x12	30x12

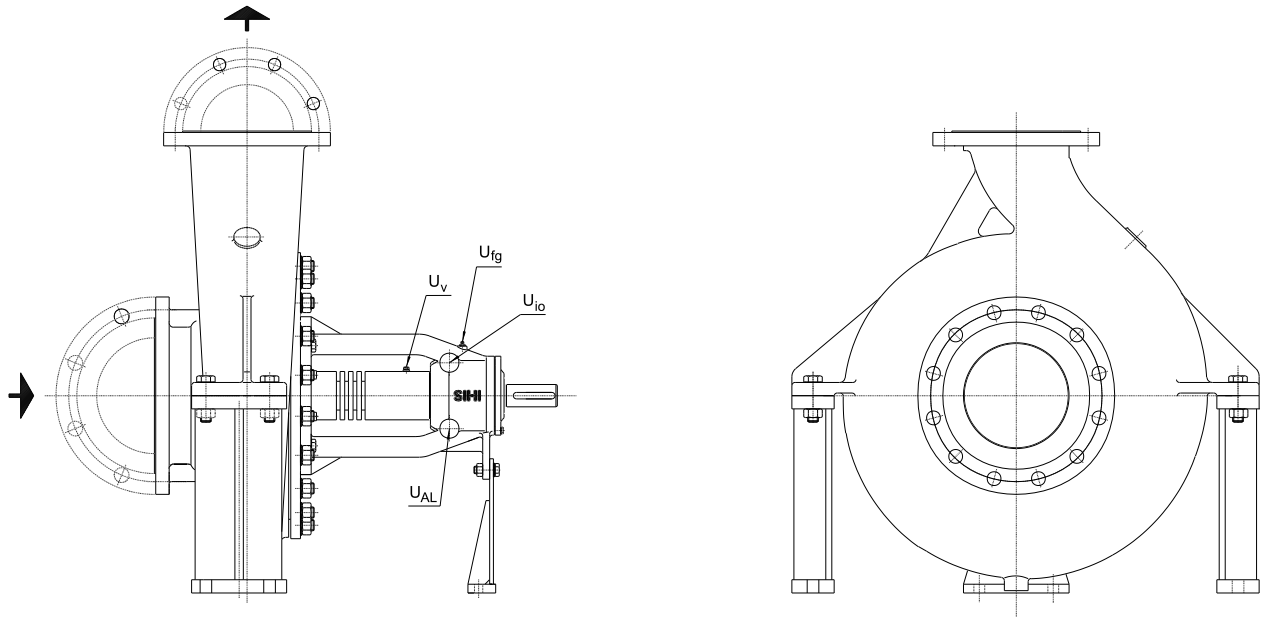
Connections for bearing brackets 25 and 35



- U_{fg} : Grease filling connection.
- U_{io} : Sealing liquid connection.
- U_{AL} : Drainage for leakage.
- U_v : Vent connection

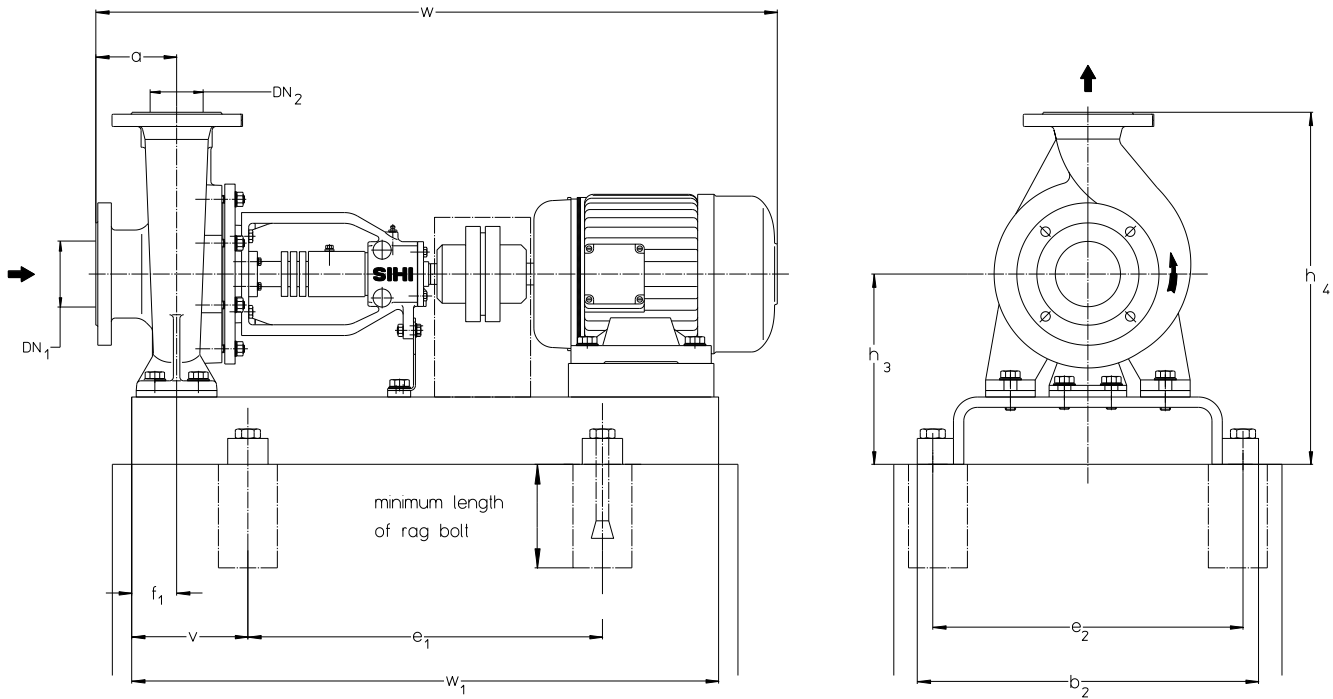
Size	U _{fg}	U _v	U _{io}	U _{AL}
032125				
032160				
032200				
032250				
040125				
040160				
040200				
040250				
040315				
050125				
050160				
050200				
050250				
050315				
065125				
065160	G 1/8	G 1/8	G 1/4	G 1/4
065200				
065250				
065315				
080160				
080200				
080250				
080315				
100160				
100200				
100250				
100315				
125200				
125250				
150200				
150250				

Connections for bearing bracket 45



- u_{fg} : Grease filling connection.
- u_{io} : Sealing liquid connection.
- u_{AL} : Drainage for leakage.
- u_v : Vent connection.

Size	u_{fg}	u_v	u_{io}	u_{AL}
150315				
150400				
150500				
200250	G 1/8	G 1/8	G 1/4	G 1/4
200315				
200400				
200500				



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coup-ling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	w*	w ₁	rag bolt DIN 529	
	size	kW			pump kg	Unit kg														
032125	71	0.25	S008	B68	32	51	32	50		297	400	265	120	60	152	292	682	640	M12x100	
	71	0.37				52														
032160	71	0.37	S270		39	69			80	360	420	320	115	60	197	357	716	650		M16x200
	80	0.55				72														
032200	80	0.55	S301		52	70			100	490	600	440	160	75	225	405	774	730		M20x400
	80	0.75				78														
	90L	1.50				80														
032250	80	0.75	S383		B80	52			103	490	600	440	160	75	260	485	736	920		M20x400
	90S	1.10							106											
	90L	1.50							108											
	100L	2.20		118																
040125	71	0.25	S270	B68	34	61	40	65	80	360	420	320	115	60	177	317	682	650	M16x200	
	71	0.37				62														
040160	80	0.55	S301		39	65			100	490	600	440	160	75	225	405	774	730		M20x400
	71	0.37				69														
	80	0.55				70														
040200	80	0.75	S383		57	78			125	540	660	490	170	75	305	555	970	1000		M20x400
	80	0.55				79														
	80	0.75				82														
	90L	1.50				84														
040250	90S	1.10	S434		B95	87			111	540	660	490	170	75	305	555	970	1000		M20x400
	90L	1.50		113																
	100L	2.20		123																
040315	100L	3.00	S434	B95	87	153	540	660	490	170	75	305	555	970	1000	M20x400				
	112M	4.00				154														
050125	132S	5.50	S434	B95	90	199	540	660	490	170	75	305	585	1067	1093	M20x400				
	132M	7.50				205														
050160	71	0.37	S270	B68	35	63	50	65	100	360	420	320	115	60	197	357	702	650	M16x200	
	80	0.55				67														
	80	0.75				80														
050200	80	0.55	S301	44	83	100	390	480	350	125	75	225	425	794	730	M20x400				
	80	0.75			79															
	90S	1.10			82															
050250	80	0.75	S383	57	84	125	540	660	490	170	75	305	585	1067	1093	M20x400				
	90L	1.50			94															
	100L	2.20			113															
	100L	3.00			123															
050315	90L	1.50	S434	B95	90	124	540	660	490	170	75	305	585	1067	1093	M20x400				
	112M	4.00				157														
050315	112M	4.00	S434	B95	90	202	540	660	490	170	75	305	585	1067	1093	M20x400				
	132S	5.50				205														

Foundation plan

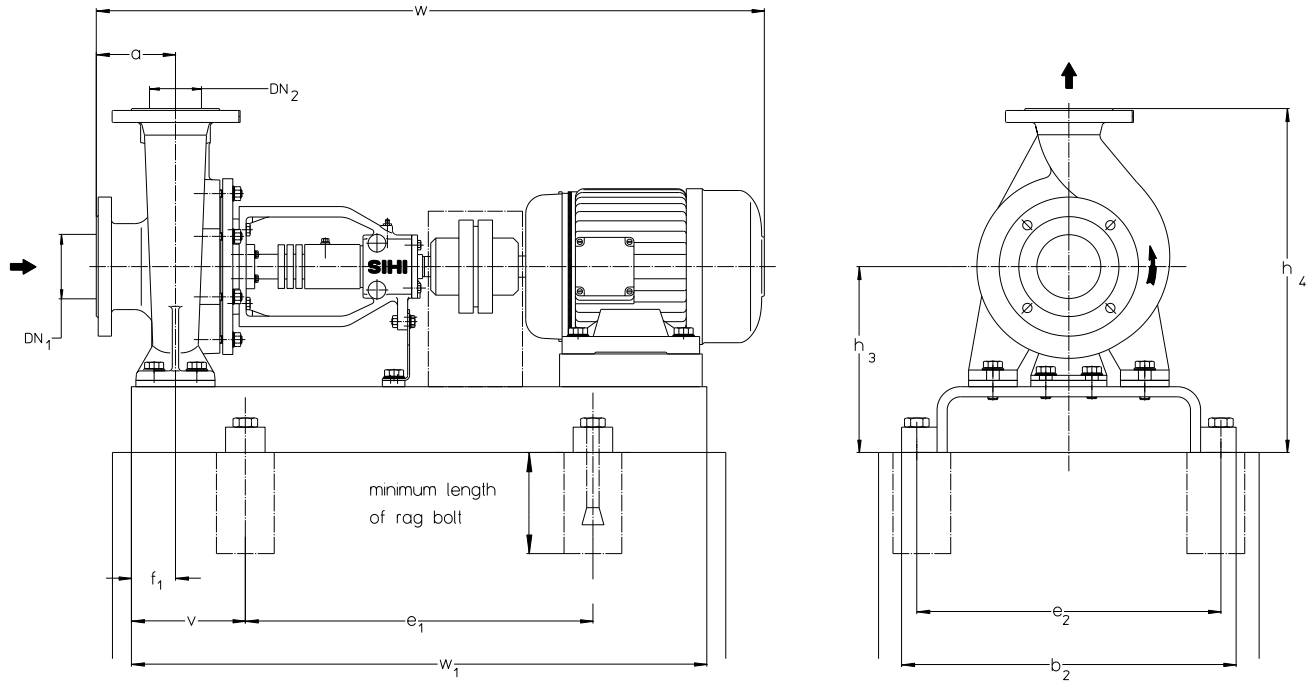
n = 1450 rpm

size	motor		base plate No.	coup-ling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	w*	w ₁	rag bolt DIN 529										
	size	kW			pump kg	Unit kg																							
065125	80	0,55	S342	B68	39	83	65	80	100	450	540	400	140	60	240	420	736	820	M20x400										
	80	0,75				86											794												
	90S	1,10				89											736												
065160	80	0,75		B80	45	92											440			794									
	90S	1,10				94														835									
	90L	1,50				105														835									
065200	100L	2,20	S383	B68	48	102			490	600	440	160	75	260	485	920	794	1000		M20x400									
	90L	1,50				104											835												
	100L	2,20				114											856												
	100L	3,00				115											945												
065250	100L	2,20	S434	B80	78	161			540	660	490	170	90	280	530	1000	966	M24x400											
	100L	3,00				162											1042												
	112M	4,00				190	1067																						
	132M	5,50				231	1093																						
065315	132S	5,50	S486	B95	94	234	610	840	550	205	90	325	605	1250	250	M24x400													
	160M	11,00				280									1185														
	160L	15,00				280									1247														
	160L	15,00				280									1247														
080160	80	0,75	S383	B68	51	102	80	100	125	490	600	440	160	75	260	485	761	920	M20x400										
	90S	1,10				105											819												
	90L	1,50				107											860												
	080200	100L		2,20	B80	71											118			510	929								
		100L		3,00													127				970								
100L		3,00		137													991												
080250	112M	4,00	S434	B95	84	138			610	840	550	205	90	300	580	1250	1067	M24x400											
	132S	5,50				183											1067												
	100L	3,00				192											970												
	112M	4,00				193											991												
080315	132S	5,50	S486	B80	104	221			610	840	550	205	90	350	665	1250	224	M24x400											
	132M	7,50				241											1067												
	132M	5,50				244	1093																						
	160M	11,00				260	1185																						
100160	100L	2,20	S434	B80	80	163	140	610	840	550	205	90	350	665	1250	1247	M24x400												
	100L	3,00				164										1068													
	112M	4,00		192	970																								
	132S	5,50		192	991																								
100200	100L	2,20	S434	B80	79	162	140	610	840	550	205	90	350	665	1250	1067	M24x400												
	100L	3,00				163										1068													
	112M	4,00				191										970													
100250	132M	7,50	S486	B95	89	194	140	610	840	550	205	90	350	665	1250	1094	M24x400												
	132M	5,50				226										1068													
	132M	7,50				229										1108													
	160M	11,00				245										1200													
100315	160M	11,00	S486	B110	106	262	140	610	840	550	205	90	350	665	1250	292	M24x400												
	160L	15,00				292										1262													
	180M	18,50				304										1324													
	180L	22,00				320										1404													
125200	132M	7,50	S486	B95	102	242	125	150	160	730	670	110	380	780	1120	278	M24x400												
	160M	11,00				258										1108													
	160L	15,00				288										1200													
125250	132M	7,50	S486	B110	109	249	125	150	160	730	670	110	380	780	1120	265	M24x400												
	160M	11,00				265										1108													
	160L	15,00				295										1262													
150200	132M	7,50	S605	B95	120	278	150	200	160	730	670	110	380	780	1120	1128	M24x400												
	160M	11,00				294										1220													
	160L	15,00				323										1282													
	150250	180M	18,50	S606	B110	134										335		160	730	670	670	190	110	380	780	1120	1344	M24x400	
		180L	22,00													351											1346		
		200L	30,00													395											1404		
150250	160L	15,00	S605	B110	134	337	150	200	160	730	670	190	110	380	780	1120	1282	M24x400											
	180M	18,50				339											1344												
	180L	22,00				377											1402												
	150315	200L	30,00	S606	B125	134											421		160	730	670	670	205	110	380	780	1120	1469	M24x400
		225S	37,00														467											1402	
		225M	45,00														487											1469	
150315	Foundation plans with base plates and fittings on request																												
150400																													
150500																													
200250																													
200315																													
200400																													
200500																													

* Motor protection type IP 55, dimensions depend on the motor manufacturer.
 Some sizes are not corresponding to the drawing in small details.
 Foundation plan for 60 Hz on request.

Foundation plan

n = 2900 rpm



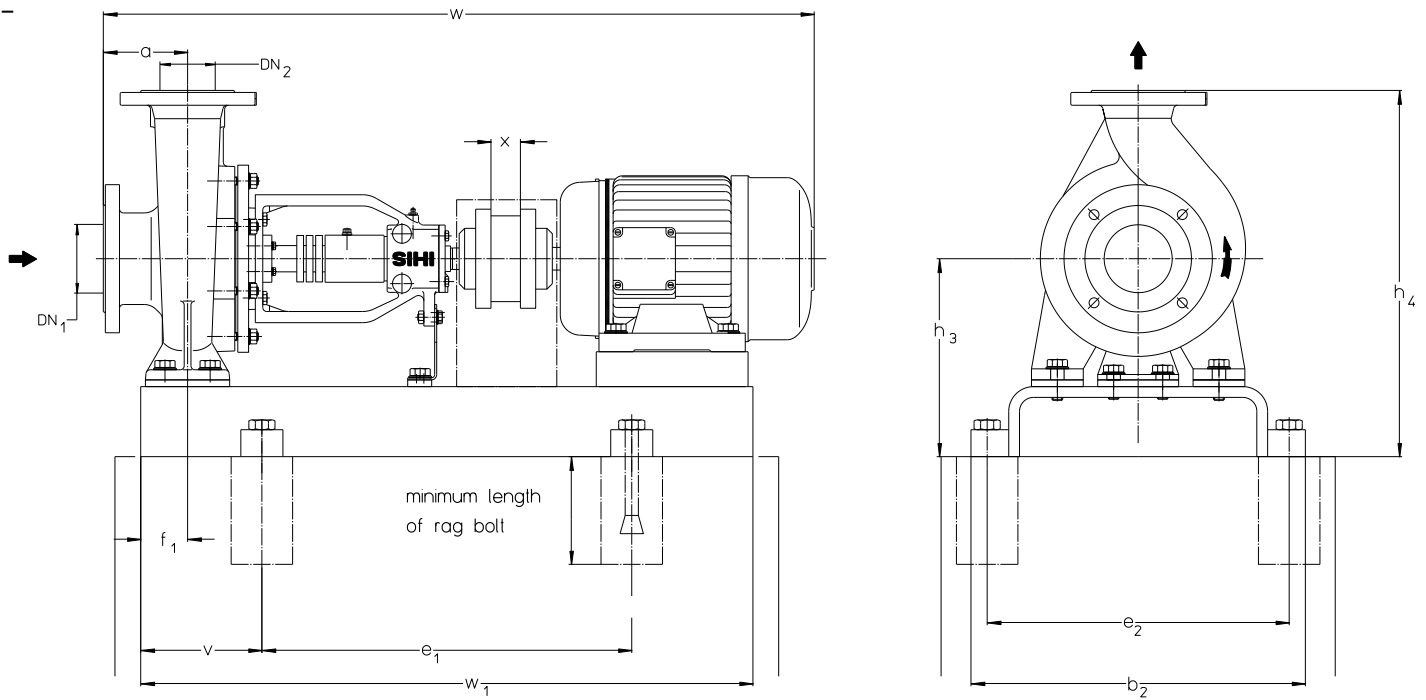
Dimensions in mm.
Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coupling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	w*	w ₁	rag bolt DIN 529														
	size	kW			pump kg	Unit kg																											
032125	71	0.55	S008	B68	32	52	32	50	80	297	400	265	120	60	152	292	682	640	M12x100														
	80	0.75				55											716																
	80	1.10				55											716																
	90S	1.50	67			774																											
	90L	2.20	69			774																											
032160	80	1.10	S270	B80	41	72	32	50	80	360	420	320	115	60	197	357	716	730	M16x200														
	90S	1.50	80			836																											
	90L	2.20	82			836																											
	100L	3.00	92			895																											
	112M	4.00	93			912																											
	132S	5.50	130			912																											
	132S	7.50	130			912																											
	90L	2.20	S301			B95											39			80	40	65	80	390	480	350	125	60	225	405	774	730	M16x200
	100L	3.00	90																	836													
	112M	4.00	91																	836													
132S	5.50	128	895																														
132S	7.50	128	912																														
160M	11.00	147	912																														
160M	15.00	147	912																														
160L	18.50	175	1088																														
132S	7.50	S342	B95	52	148		40	65	100	490	600	440	160	75	260	485		1150	920	M20x400													
160M	11.00	167			1050																												
160M	15.00	167			1050																												
80	1.10	S270			B68	34											65	40			65	80	360	420	320	115	60	177	317	716	650	M16x200	
90S	1.50	70															815																
90L	2.20	71															815																
100L	3.00	82															874																
90S	1.50	S241															B80													39			78
90L	2.20	80			836																												
100L	3.00	90			836																												
112M	4.00	91	895																														
132S	5.50	128	912																														
040160	132S	7.50	S342	B95	39	138	40	65	80	450	540	400	140	60	212	372	895	820	M20x400														
	160M	11.00	159			1030																											
	100L	3.00	94			1030																											
	112M	4.00	95			1030																											
	132S	5.50	132			1030																											
	132S	7.50	132			1030																											
	160M	11.00	158			1030																											
040200	100L	3.00	S301	B80	43	94	40	65	100	390	480	350	125	60	225	405	817	730	M16x200														
	112M	4.00	95			856																											
	132S	5.50	132			932																											
	132S	7.50	132			932																											
	160M	11.00	158			1050																											
040250	160M	15.00	S383	B95	57	153	40	65	100	490	600	440	160	75	260	485	932	920	M20x400														
	132S	7.50	172			1050																											
	160M	11.00	172			1050																											
	160M	15.00	216			1112																											
	160L	18.50	216			1112																											

Foundation plan

n = 2900 rpm

size	motor		base plate No.	coup-ling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	w*	w ₁	rag bolt DIN 5298												
	size	kW			pump kg	unit kg																									
050125	90S	1.50	S301	B68	35	74	50	65	100	390	480	350	125	60	197	357	794	730	M16x200												
	90L	2.20				76											835	820													
	100L	3.00	S272	B80		86											360		540	320	140	856									
	112M	4.00				87												450				400	212	372	932	M20x400					
	132S	5.50	S342	B95		124											390	480	350	125	225	405	794	730	M16x200						
050160	90L	2.20	S301	B68	44	85	65	80	100	490	540	400	140	60	240	420	932	820	M20x400												
	100L	3.00				95											794	820													
	112M	4.00	S342	B95		96											450		600	440	160	240	420	1050	920						
	132S	5.50				133												490						600	440	160	225	425	817	730	M16x200
	132S	7.50	S383	B95		159											450	540	400	140	240	440	932	820	M20x400						
160M	11.00	S342	B80	43	94	65	80	100	490	600	440	160	75	260	485	1112	1000														
100L	3.00	S301	B80	57	95											540	660	490	170	75	260	485	1174	1000							
112M	4.00				S342																		B95		132	490	600	440	160	240	440
132S	5.50	S383	B95																					158	450						
160M	15.00	S344	B95		163																		490	600	440	160	240	440	932	820	M20x400
160L	18.50	S383	B95		172	540	660	400	180	240	440	932	820	M20x400																	
050250	160M	11.00	S383	B110	57	216	65	80	100	540	660	490	170		75	260	485	1112	1000												
	160M	15.00				229								540				660	490	170	75	260	485	1174	1000						
	160L	18.50	S434			B110																		216		540	660	490	170	75	260
	180M	22.00	S435											B125				229	540	660	490	170	75		260						
	200L	30.00	S435			B125								296				540	660	490	170	75	260	485	1112	1000					
065125	100L	3.00	S342	B80	39	99	65	80	100	450	540	400	140	60	240	420	835	820	M20x400												
	112M	4.00				100											450			540	400	140	60	240	420	856					
	132S	5.50				128												450	540							400	140	60	240	420	932
	132S	7.50				134											450			540	400	140	60	240	420						932
	132S	5.50				S383												B95	45							160	65	80	100	490	600
132S	7.50	160	490	600	440		160	75	260	485	1112	1000																			
160M	11.00	163				490					600	440	160	75	260	485	1174	1000													
160M	15.00	207	490	600	440		160	75	260	485							1232	1140													
160L	18.50	S434				B110					220	540	660	490	170	75	260	485		1112	1000										
065200	160M	11.00	S383	B110	48	287	65	80	100	540	740	490	200	90	280	530	1222	1140	M24x400												
	160M	15.00				287											540			740	490	200	90	280	530	1284					
	160L	18.50	S435			B95												244	540							740	490	200	90	280	530
	180M	22.00	S435			B110											257	540		740	490	200	90	280	530						
	200L	30.00	S436			B125											324		610							840	550	205	325	575	1372
065250	160L	18.50	S435	B110	78	401	65	80	100	490	600	440	160	75	260	485	957	920	M20x400												
	180M	22.00				401											490			600	440	160	75	260	485	1075					
	200L	30.00	S436			B125												324	490							600	440	160	75	260	485
	225M	45.00	S486			B140											629	490		600	440	160	75	260	485						
	132S	7.50	S383			B95											51		147							65	80	100	125	540	660
160M	11.00	166		540	660		170	75	260	510	1309																				
160M	15.00	210	540								660	170	75	260	510	1309		1270													
160L	18.50	S434		B110	223		540	660	170	75						260			510	1367	1270										
180M	22.00	S435	B95	202	540						660	170	75	260	510			1367		1270											
160M	15.00	S435	B95	71		237	65	80	100	125						540	740	490	200		90	280	530	1367	1270						
160L	18.50				237	540					740	490	200	90	280					530				1367							
180M	22.00	S436	B125		317																			540	740	490	200	90	280	530	1367
200L	30.00	S436	B125		317	540					740	490	200	90	280					530											1367
200L	37.00	S436	B125		317																			540	740	490	200	90	280	530	1367
080200	200L	30.00	S436	B125	84	407	65	80	100	610	840	550	205	90	300	580	1367	1250	M24x400												
	200L	37.00				407											610			840	550	205	90	300	580	1367					
	225M	45.00	S486			B125												407	610							840	550	205	90	300	580
	250M	55.00	S607			B140											629	610		840	550	205	90	300	580						
	132S	7.50	S383			B95											51		147							65	80	100	125	610	840
160M	11.00	166		610	840		550	205	90	300	580	1397																			
160M	15.00	210	610									840	550	205	90	300		580	1397	1400											
160L	18.50	S434		B110	223		610	840	550	205	90								300		580	1397	1400								
180M	22.00	S435	B95	202	610							840	550	205	90	300		580		1397		1400									
160M	15.00	S435	B95	71		237	65	80	100	125	610						840		550	205	90		300	580	1397	1400					
160L	18.50				237	610						840	550	205	90	300		580				1397									
180M	22.00	S436	B125		317																	610			840	550	205	90	300	580	1397
200L	30.00	S436	B125		317	610						840	550	205	90	300		580													1397
200L	37.00	S436	B125		317																	610			840	550	205	90	300	580	1397
080250	200L	30.00	S486	B125	84	407	65	80	100	610	840	550	205	90	300	580	1397	1400	M24x400												
	200L	37.00				407											610			840	550	205	90	300	580	1397					
	225M	45.00	S486			B125												407	610							840	550	205	90	300	580
	250M	55.00	S607			B140											629	610		840	550	205	90	300	580						
	132S	7.50	S383			B95											51		147							65	80	100	125	610	840
160M	11.00	166		610	840		550	205	90	300	580	1397																			
160M	15.00	210	610									840	550	205	90	300		580	1397	1400											
160L	18.50	S434		B110	223		610	840	550	205	90								300		580	1397	1400								
180M	22.00	S435	B95	202	610							840	550	205	90	300		580		1397		1400									
160M	15.00	S435	B95	71		237	65	80	100	125	610						840		550	205	90		300	580	1397	1400					
160L	18.50				237	610						840	550	205	90	300		580				1397									
180M	22.00	S436	B125		317																	610			840	550	205	90			



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor size	motor kW	base-plate No.	coupling **	weight pump kg	weight unit kg	DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	x	w*	w ₁	rag bolt DIN 529																						
032125	71	0.25	S241	H80	32	63	32	50	80	330	480	290	125	60	177	317	100	780	730	M16x200																						
	71	0.37	S301			76				390		350			197	357																										
032160	80	0.55	S272		41	80				360	540	320	140		75	260					485	814	820	M20x400																		
	80	0.75				78																			81	225	405															
032200	90S	1.10			90L	1.50																			39	81	105	108	110	120	100	490	600	440	160	75	260	485	834	920	M20x400	
	80	0.75																								105																108
032250	90S	1.10			90L	1.50			52					110				120	100						490	600	440	160	75	260	485	834	920	M20x400								
	100L	2.20												110																					120							
040125	71	0.25	S241		H80	34			65	40	65	80	330	480	290	125		60	177		317	100	780		730	M16x200																
	71	0.37	S272						73				360		540				320		140						197	357														
040160	80	0.55	S301			39			74				390	480	350	125			75		260						485	814	820	M20x400												
	80	0.75							78																						81	225	405									
040200	90S	1.10		90L		1.50	43	81	105								108			110											120	100	490	600	440	160	75	260	485	834	920	M20x400
	80	0.55						89																																		
040250	90S	1.10		90L		1.50	57	113	115			125					100	490		600			440	160	75						260	485	834	920	M20x400							
	100L	2.20						113																												115	125					
040315	100L	2.20	100L	3.00		87	171	172	207			125	540	660	490	170	75	305	555	1068	1000		M20x400																			
	112M	4.00					171																	172	207																	
050125	71	0.37	S301	H80		35	70	50	65			100	390	480	350	125	60	197	357	100	800		730	M16x200																		
	80	0.55	S272				74						360		320			140	197						357																	
050160	80	0.75	S342		44	90	450			540	400		140	75	260	485		834	820			M20x400																				
	80	0.55				93																			240	420																
050200	90S	1.10			90L	1.50																			43	89	92	94	104	115	100	490	600	440	160	75	260	485	834	920	M20x400	
	90S	1.10																								89																92
050250	90L	1.50			100L	2.20						57					115				125		126		175	210	125	540	660	490	170	75	305	585	1068	1000	M20x400					
	100L	2.20															115																					126	175			
050315	112M	4.00	112M		4.00	90	210			213	210	125	540	660	490	170	75	305	585		1068		1000		M20x400																	
	132S	5.50					210																			213																

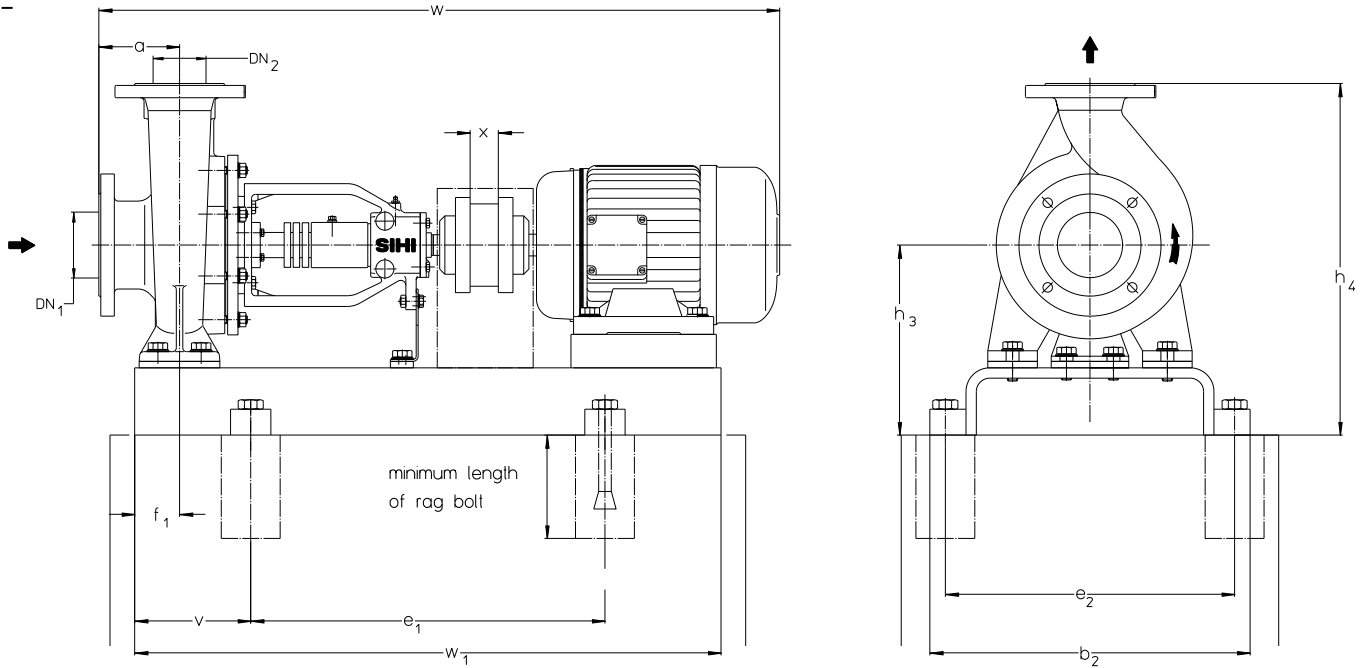
Foundation plan for units with spacer type coupling

n = 1450 rpm

size	motor size	motor kW	base plate No.	coupling **	weight pump kg	weight unit kg	DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	x	w*	w ₁	rag bolt DIN 529															
065125	80	0,55	S342	H80	39	85	65	80	100	450	540	400	140	60	240	420	100	834	820	M20x400															
	80	0,75				88												892																	
	90S	1,10				91												834																	
065160	80	0,75			S342	H80												45			91	65	80	100	450	540	400	140	60	240	440	100	892	820	M20x400
	90S	1,10																			94												892		
	90L	1,50																			96												933		
	100L	2,20	106																																
065200	90S	1,10	S383	H80	48	104	65	80	100	490	600	440	160	75	260	485	100	932	920	M20x400															
	90L	1,50				106												973																	
	100L	2,20				116												994																	
	100L	3,00				117																													
065250	100L	2,20	S434	H80	78	162	65	80	100	540	660	490	170	90	280	530	140	1083	1000	M24x400															
	112M	4,00				163												1104																	
	132S	5,50				198												1180																	
065315	132S	5,50	S486	H95	94	233	65	80	100	610	840	550	205	90	325	605	140	1205	1250	M24x400															
	132M	7,50				236												1231																	
	160M	11,00		252		1323																													
	160L	15,00		282		1385																													
080160	80	0,75	S383	H80	51	104	80	100	125	490	600	440	160	75	260	485	140	899	920	M20x400															
	90S	1,10				107												957																	
	90L	1,50				109												998																	
	100L	2,20				119												1067																	
	100L	3,00				144												1108																	
080200	90L	1,50	S434	H80	71	155	80	100	125	540	660	490	170	90	300	580	140	1129	1000	M24x400															
	100L	2,20				156												1205																	
	100L	3,00				191												1205																	
	112M	4,00				191												1108																	
080250	132S	5,50	S435	H95	84	194	65	80	100	610	840	550	205	90	350	665	140	1231	1250	M24x400															
	100L	3,00				195												1108																	
	112M	4,00				223												1129																	
	132S	5,50				226												1205																	
080315	132M	7,50	S486	H95	104	243	65	80	100	610	840	550	205	90	350	665	140	1231	1250	M24x400															
	132S	5,50				246												1205																	
	132M	7,50				262												1231																	
	160M	11,00		262		1323																													
	160L	15,00		292		1385																													
100160	100L	2,20	S434	H80	80	164	65	80	100	540	660	490	170	90	280	560	140	1108	1000	M20x400															
	100L	3,00				165												1129																	
	112M	4,00	200	1205																															
	132S	5,50	200	1108																															
100200	100L	2,20	S434	H80	79	163	65	80	100	540	660	490	170	90	325	605	140	1108	1000	M20x400															
	100L	3,00				164												1129																	
	112M	4,00				199												1205																	
	132S	5,50	202	1231																															
	132M	7,50	202	1144																															
100250	112M	4,00	S435	H95	89	200	65	80	100	610	840	550	205	90	350	665	140	1220	1250	M24x400															
	132S	5,50				228												1246																	
	132M	7,50				231												1338																	
	160M	11,00				247												1400																	
	160M	11,00				264												1462																	
100315	160L	15,00	S486	H110	106	294	65	80	100	610	840	550	205	90	350	665	140	1400	1250	M24x400															
	180M	18,50				306												1462																	
	180L	22,00		323		1426																													
	132M	7,50		244		1338																													
125200	160M	11,00	S486	H95	102	260	65	80	100	610	840	550	205	90	350	665	140	1400	1250	M24x400															
	160L	15,00				290												1400																	
	132M	7,50				251												1246																	
125250	160M	11,00	S486	H95	109	267	65	80	100	610	840	550	205	90	350	665	140	1400	1250	M24x400															
	160L	15,00				297												1338																	
	132M	7,50				279												1400																	
150200	132M	7,50	S605	H95	120	279	65	80	100	730	840	670	205	110	380	780	140	1266	1400	M24x400															
	160M	11,00				306												1358																	
	160L	15,00	337	1423																															
	180M	18,50	349	1482																															
150250	160L	15,00	S606	H110	134	351	65	80	100	730	940	670	230	110	380	780	140	1420	1250	M24x400															
	180M	18,50				363												1482																	
	180L	22,00	392	1482																															
	200L	30,00	436	1540																															
150315																																			
150400																																			
150500																																			
200250																																			
200315																																			
200400																																			
200500																																			

Foundation plans with base plates and fittings on request

* Motor protection type IP 55, dimensions depend on the motor manufacturer. Some sizes are not corresponding to the drawing in small details. Foundation plan for 60 Hz on request



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coupling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	x	w*	w ₁	rag bolt Din 529												
	size	kW			pump kg	unit kg																										
032125	71	0.55	S241	H80	32	64	32	50	80	330	480	290	125	60	177	317	100	780	730	M16x200												
	80	0.75				72												814														
	80	1.10				75												872														
	90S	1.50				77												872														
	90L	2.20				80												814														
032160	80	1.10	S272	H80	41	83	32	50	80	360	540	320	140	60	197	357	100	814	820	M16x200												
	90S	1.50				85												872														
	90L	2.20				85												872														
	100L	3.00	S303	H95	41	95												390	600		350	160	60	197	357	60	197	357	100	913	920	M16x200
	112M	4.00				96																								934		
	132S	5.50				98																								993		
	132S	7.50				98																								1012		
032200	90L	2.20	S272	H80	39	83	40	65	80	360	540	320	140	60	225	405	100	872	820	M20x400												
	100L	3.00				93												913														
	112M	4.00				94												934														
	132S	5.50	S303	H95	39	127												390	600		350	160	60	225	405	100	240	420	100	1010	920	M20x400
	132S	7.50				158																								1128		
	160M	11.00	S344	H95	39	203												450	660		400	180	60	240	420	100	240	420	100	1020	1020	M20x400
	160M	15.00				149																								1190		
	032250	160L	18.50	S385	H95	52												149	40		65	100	490	740	440	200	75	260	485	100	1140	920
132S		7.50	S383	184			600	440	160	1030																						
160M		11.0	S434	184			540	660	490	170	1148	1000																				
040125	80	1.10	S272	H80	34	73	40	65	80	360	540	320	140	60	177	317	100	814	820	M16x200												
	90S	1.50				76												872														
	90L	2.20				78												872														
	100L	3.00				88												913														
040160	90S	1.50	S272	H80	39	81	40	65	80	360	540	320	140	60	197	357	100	872	820	M16x200												
	90L	2.20				83												872														
	100L	3.00				93												913														
	112M	4.00	S303	H95	39	94												390	600		350	160	60	197	357	100	197	357	100	934	920	M16x200
	132S	5.50				127																								1010		
	132S	7.50				127																								1010		
	160M	11.00				S344																								162	1128	
040200	100L	3.00	S342	H80	43	104	40	65	100	450	660	400	180	75	240	420	100	1020	1020	M20x400												
	112M	4.00				105												933														
	132S	5.50	S303	H95	43	131				390	600	350	160					60	225		405	100	240	420	100	920	920	M16x200				
	132S	7.50				160																				1030						
	160M	11.00				S344																				160	1148					
040250	160M	15.00	S383	H95	57	154	40	65	100	490	740	440	200	75	260	485	100	1020	920	M20x400												
	160M	11.00				S434												189	540		660	490	170	1030								
	160L	18.50	S385	H95	57	219				490	740	440	200					60	225		405	100	240	420	100	920	920	M20x400				
	160L	18.50				S385																				219	540		660	490	170	1148

Foundation plan for units with spacer type coupling

n = 2900 rpm

size	motor		base plate No.	coupling **	weight		DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	x	w*	w ₁	rag bolt DIN 529		
	size	kW			pump kg	unit kg																
050125	90S	1,50	S272	H80	35	77	50	65	100	360	540	320	140	60	197	357	100	892	820	M16x200		
	90L	2,20				79												933		920	M12x100	
	100L	3,00	89																			
	112M	4,00	90																			
	132S	5,50	123																			
050160	90L	2,20	S342	H80	44	95	65	80	100	450	540	400	140	60	240	420	100	892	820	M20x400		
	100L	3,00				105												933		920	M20x400	
	112M	4,00	106																			
	132S	5,50	132																			
	132S	7,50	161																			
	160M	11,00	161																			
050200	100L	3,00	S342	H80	43	104	65	80	100	450	660	400	180	75	260	485	100	1148	1020	M20x400		
	112M	4,00				105												933			820	M20x400
	132S	5,50	131																			
	132S	7,50	160																			
	160M	11,00	160																			
	160M	15,00	195																			
	160L	18,50	189																			
050250	160M	11,00	S434	H95	57	219	65	80	100	540	660	490	170	75	260	485	100	1148	1000	M20x400		
	160L	18,50				238												1210			1140	1148
	180M	22,00	238																			
	200L	30,00	299																			
065125	100L	3,00	S342	H80	39	100	65	80	100	450	540	400	140	60	240	440	100	933	820	M20x400		
	112M	4,00				101												1030			920	M20x400
	132S	5,50	136																			
	132S	7,50	142																			
065160	132S	5,50	S383	H95	45	162	65	80	100	490	600	440	160	60	240	440	100	1148	1020	M20x400		
	132S	7,50				182																
	160M	11,00	210																			
065200	160M	15,00	S344	H95	48	210	65	80	100	490	740	440	200	75	260	485	100	1188	1140	M20x400		
	160L	18,50				229																
	180M	22,00	297																			
	200L	30,00	297																			
065250	160L	18,50	S436	H95	78	252	65	80	100	540	840	490	215	90	280	530	100	1370	1270	M24x400		
	180M	22,00				266																
	200L	30,00	362																			
	200L	37,00	445																			
	225M	45,00	445																			
080160	132S	7,50	S434	H95	51	164	65	80	100	540	660	490	170	75	260	485	100	1095	1000	M20x400		
	160M	11,00				165																
	160M	15,00	213																			
	160L	18,50	232																			
	180M	22,00	210																			
080200	160M	15,00	S435	H110	71	244	65	80	100	540	840	490	215	75	300	550	100	1275	1140	M20x400		
	160L	18,50				258																
	180M	22,00	354																			
	200L	30,00	354																			
080250	200L	37,00	S487	H125	84	354	65	80	100	610	840	550	205	90	300	580	100	1447	1250	M24x400		
	180M	22,00				284																
	200L	30,00	368																			
	200L	37,00	451																			
	225M	45,00	651																			
100160	180M	22,00	S486	H110	80	254	65	80	100	540	840	490	215	90	280	560	100	1385	1270	M20x400		
	200L	30,00				268																
	200L	37,00	364																			
	200L	37,00	364																			
100200	160L	18,50	S436	H95	79	253	65	80	100	540	840	490	215	90	280	560	100	1385	1270	M20x400		
	180M	22,00				267																
	200L	30,00	363																			
	200L	37,00	446																			
	225M	45,00	446																			
100250	200L	30,00	S487	H125	89	373	65	80	100	610	940	550	240	90	325	605	100	1520	1420	M24x400		
	200L	37,00				456																
	225M	45,00	656																			
	250M	55,00	909																			
	280S	75,00	909																			
	280M	90,00	959																			
125200	250M	55,00	S608	H140	102	669	65	80	100	730	1060	670	270	90	350	665	100	1680	1600	M24x400		
	280S	75,00				922																
	280M	90,00	972																			

* Motor protection type IP 55, dimensions depend on the motor manufacturer.
Some sizes are not corresponding to the drawing in small details.
Foundation plan for 60 Hz on request

Data regarding pump size

Type + Pump size	Hydraulics + Bearing	Shaft sealing	Material	Casing gasket
	A- hydraulic A B- hydraulic B D: transnorm size with double volute -A one ball bearing respectively two inclined ball bearing grease lubricated and one liquid flushed sleeve bearing	002 radial shaft seal rings GBC unbalanced standard mechanical seal	1B main parts of sperodial cast 2B main parts of cast steel	2 confined flat gasket of graphite with A4 insertion
ZTND	032125	alternatively 002 GBC	1B	2
	032160			
	032160			
	032200			
	032200			
	032250			
	040125			
	040160			
	040200			
	040250			
	040315			
	050125			
	050160			
	050200			
	050250			
	050315			
	065125			
	065160			
	065200			
	065250			
	065315			
	080160			
	080200			
	080250			
	080315			
	100160			
	100200			
	100250			
	100315			
	125200			
	125250			
	150200			
	150250			
150315				
150400				
150500				
200250				
200315				
200400				
200500	DA		2B	

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