

TECHNICAL DATA

Output:	max. 1000 m³/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		
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		

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.

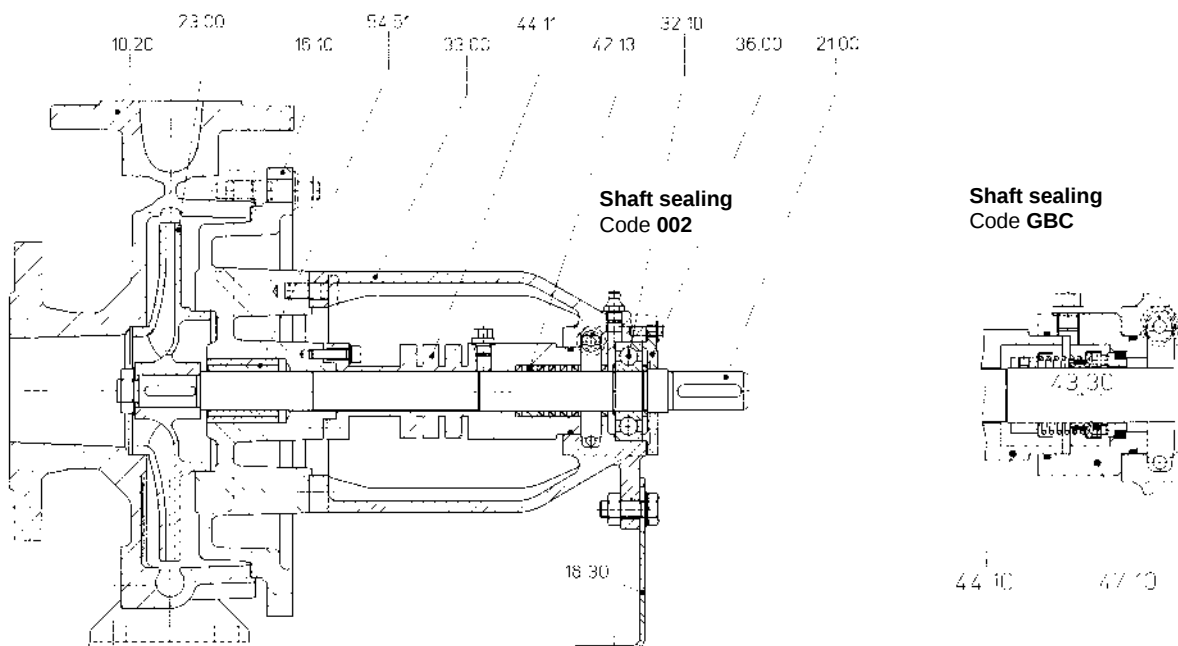
ZDN volute pumps to EN 22858, t_{max} 207 °C PN 25. Hot water design.

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.

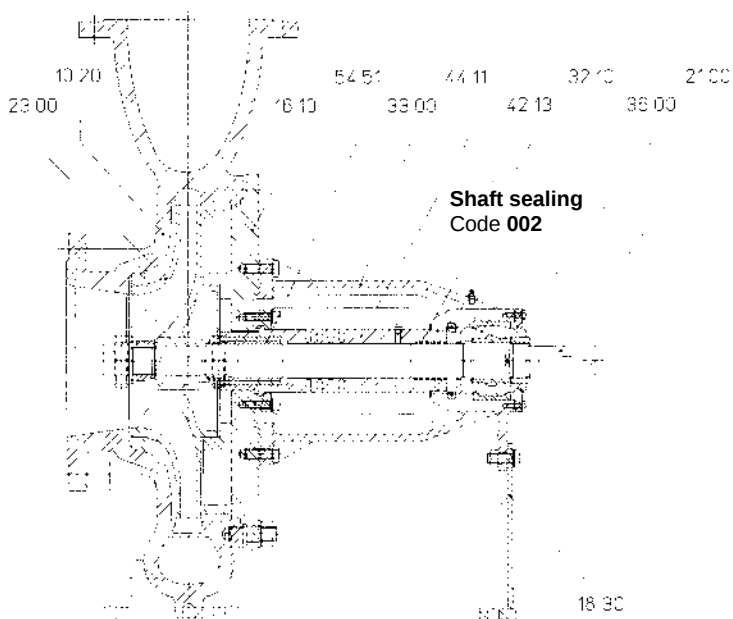
Technical documentation on these programmes will readily be supplied on request.

SECTIONAL DRAWING AND NOMENCLATURE
ZTN 032125 ... 150250

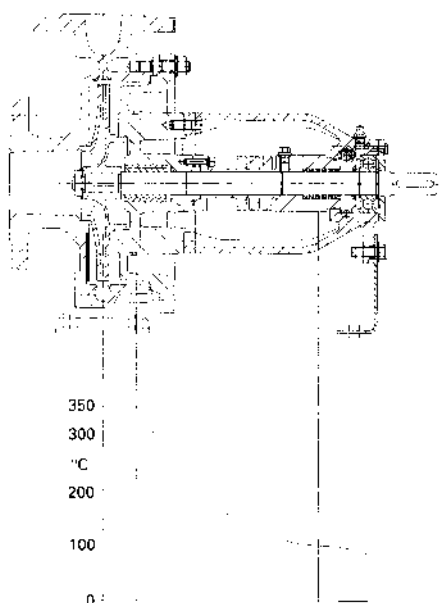


- 10.20 volute casing
- 16.10 casing cover
- 18.30 supporting foot
- 21.00 shaft
- 23.00 impeller
- 32.10 grooved ball bearing
- 33.00 bearing bracket
- 36.00 bearing cover
- 42.13 radial seal ring
- 43.30 mechanical seal
- 44.10 shaft seal casing
- 44.11 shaft seal casing
- 47.10 sealing cover
- 54.51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

ZTN 150315 ... 200500



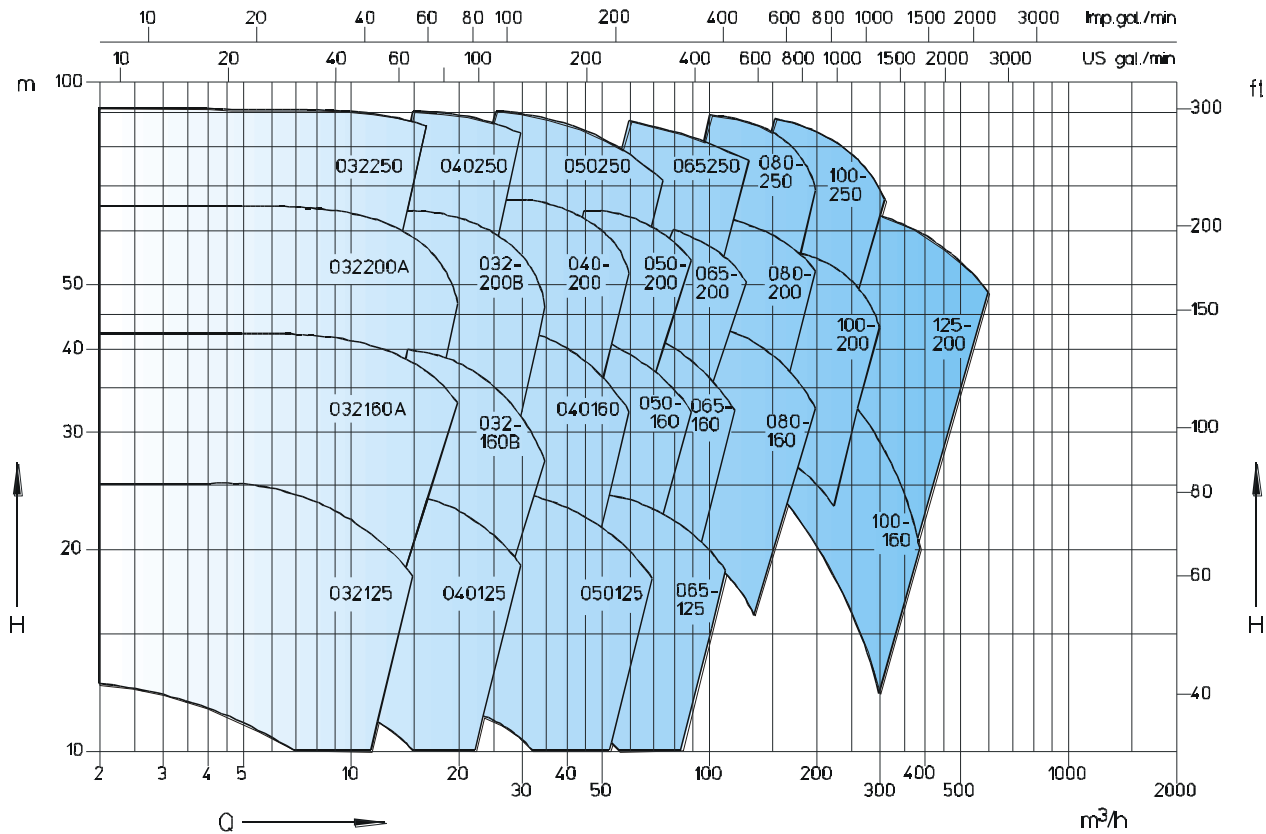
Heat barrier / shaft sealing / bearing



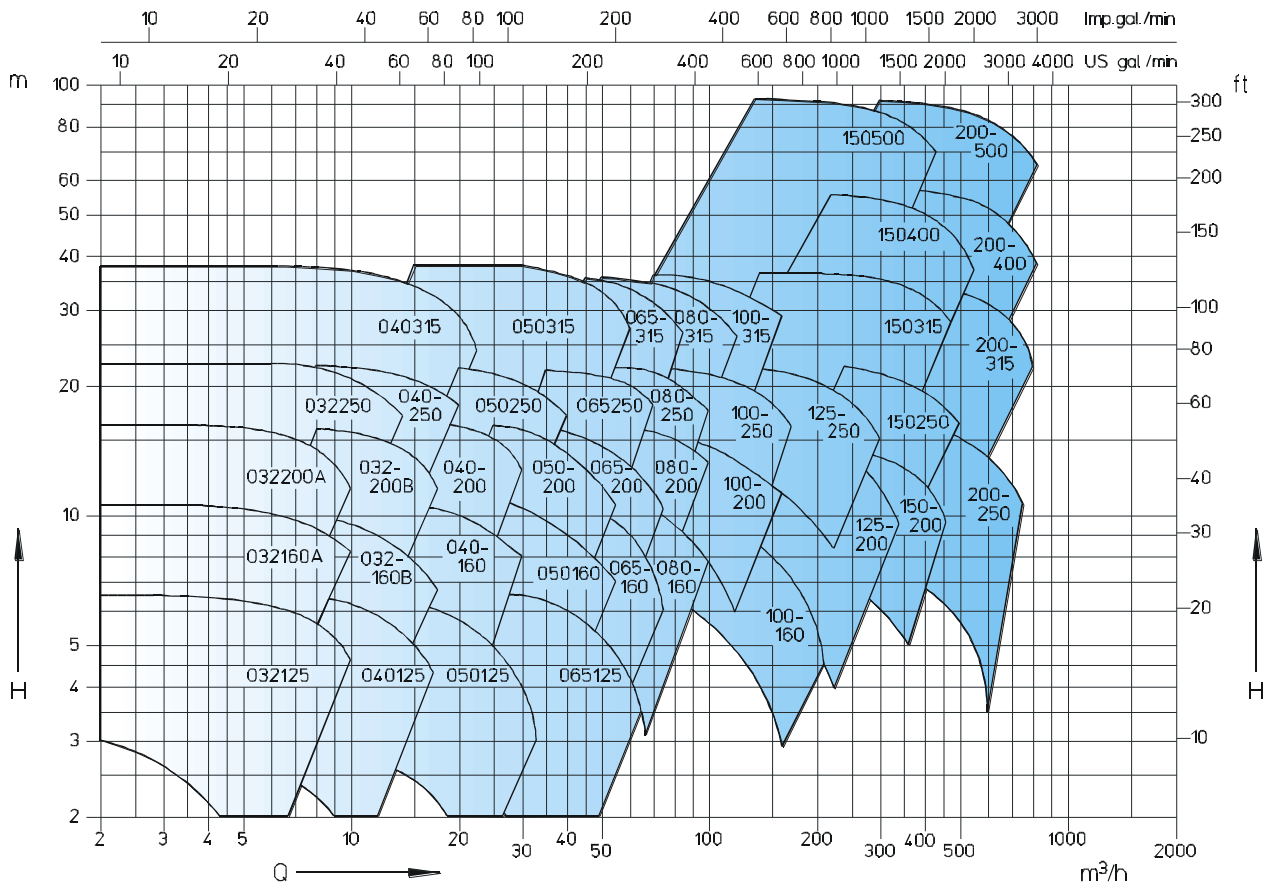
Heat transfer installations have achieved a high level of technical development. Consequently the requirements on pumps handling heat transfer oils have increased regarding operating safety, environmental protection, maintenance and operating costs. The Sterling SIHI ZTN pump, based on many years of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

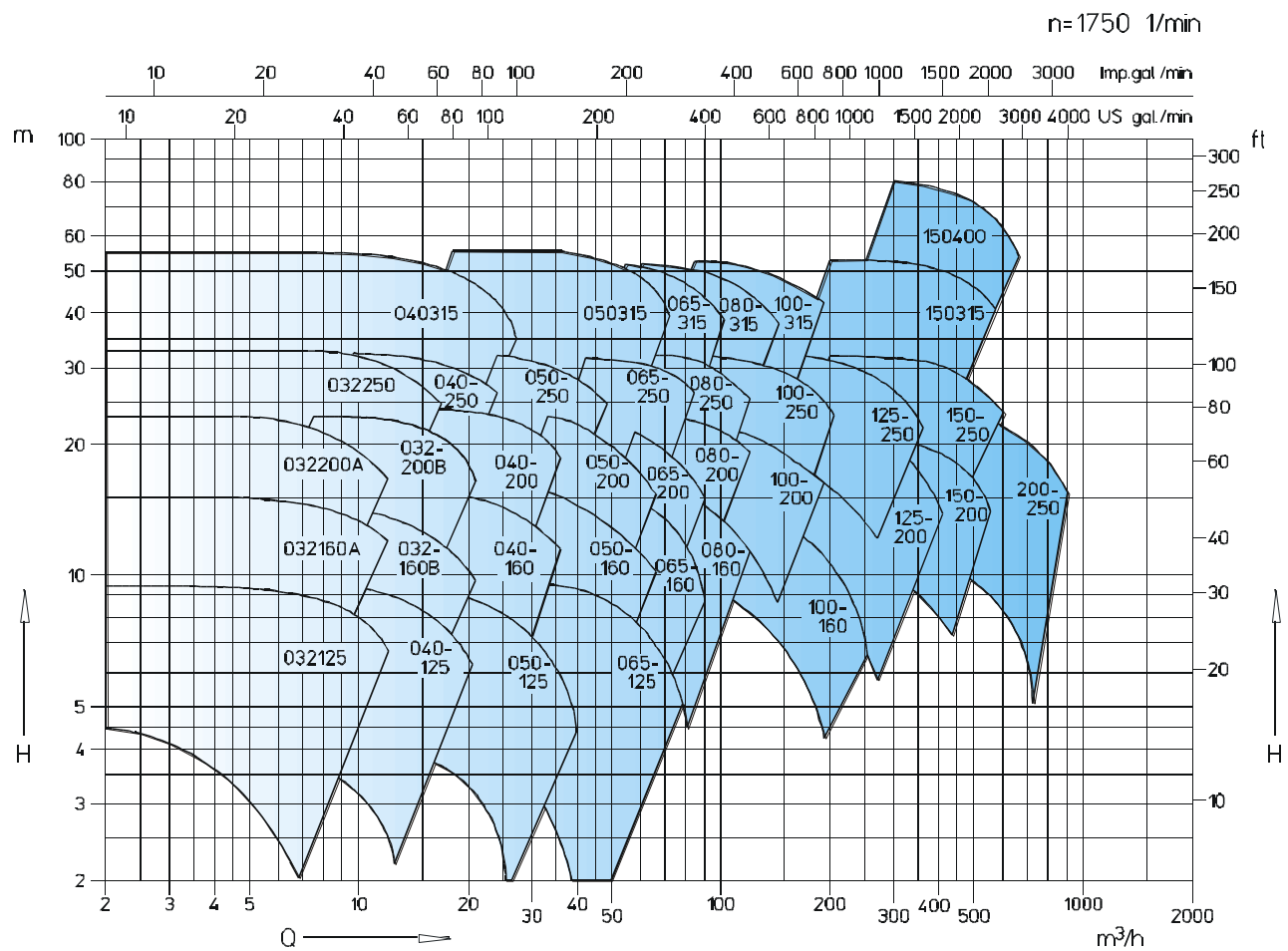
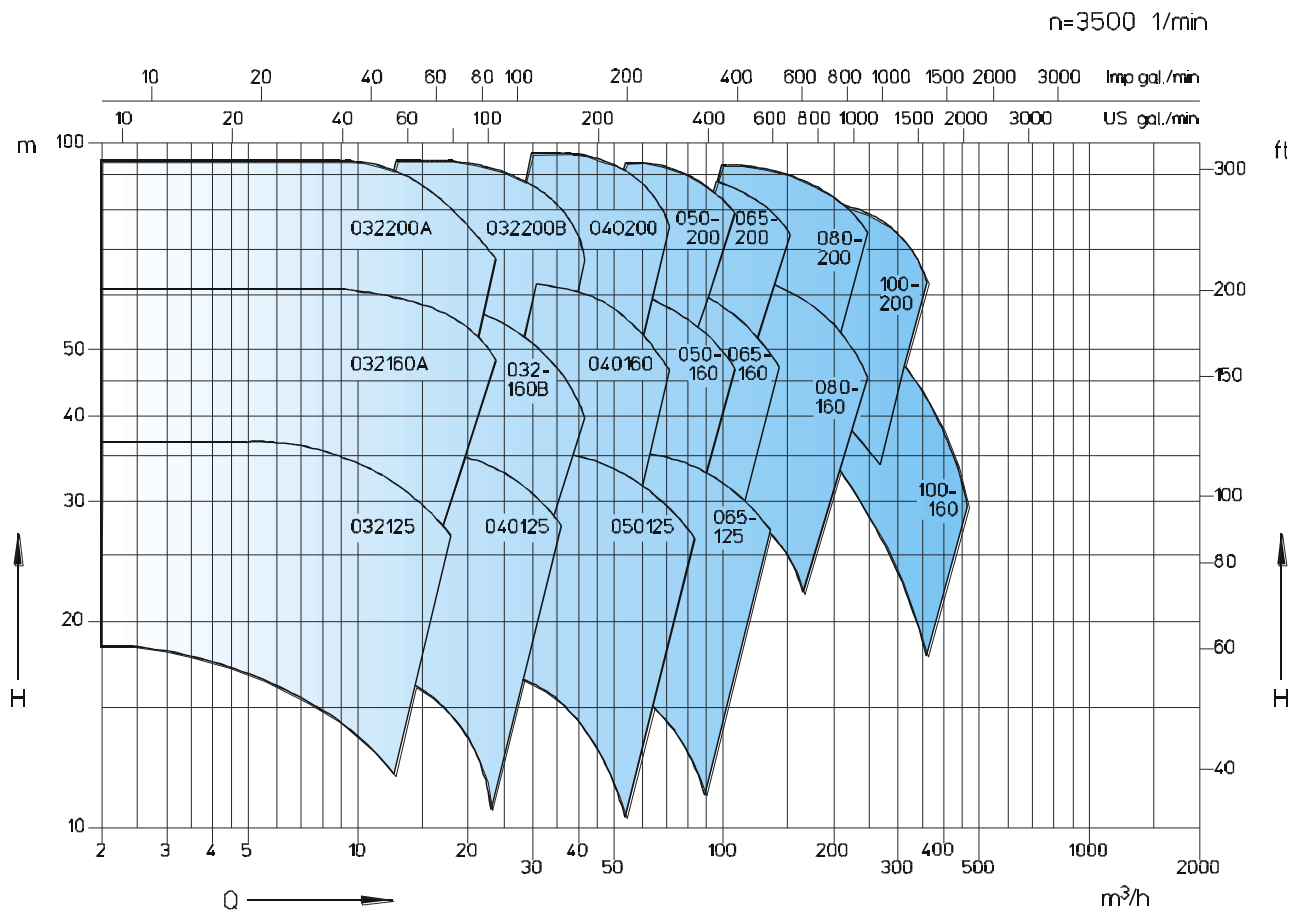
By the heat barrier with integrated throttle gap, located behind the cover, a favourable drop in temperature toward the drive side is achieved (see opposite drawing). Heat losses at the product side are effectively prevented (saving of energy). The reduced temperature allows the use of simple, uncooled 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

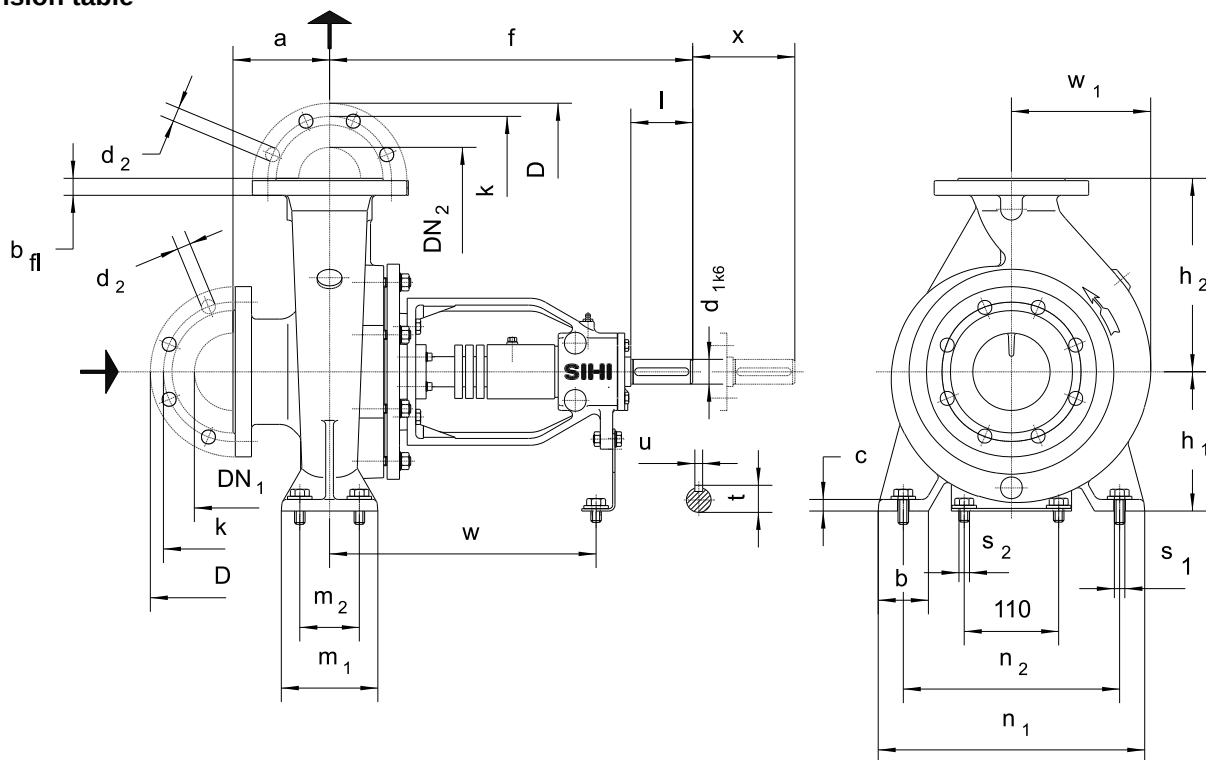


n=1450 1/min





Dimension table



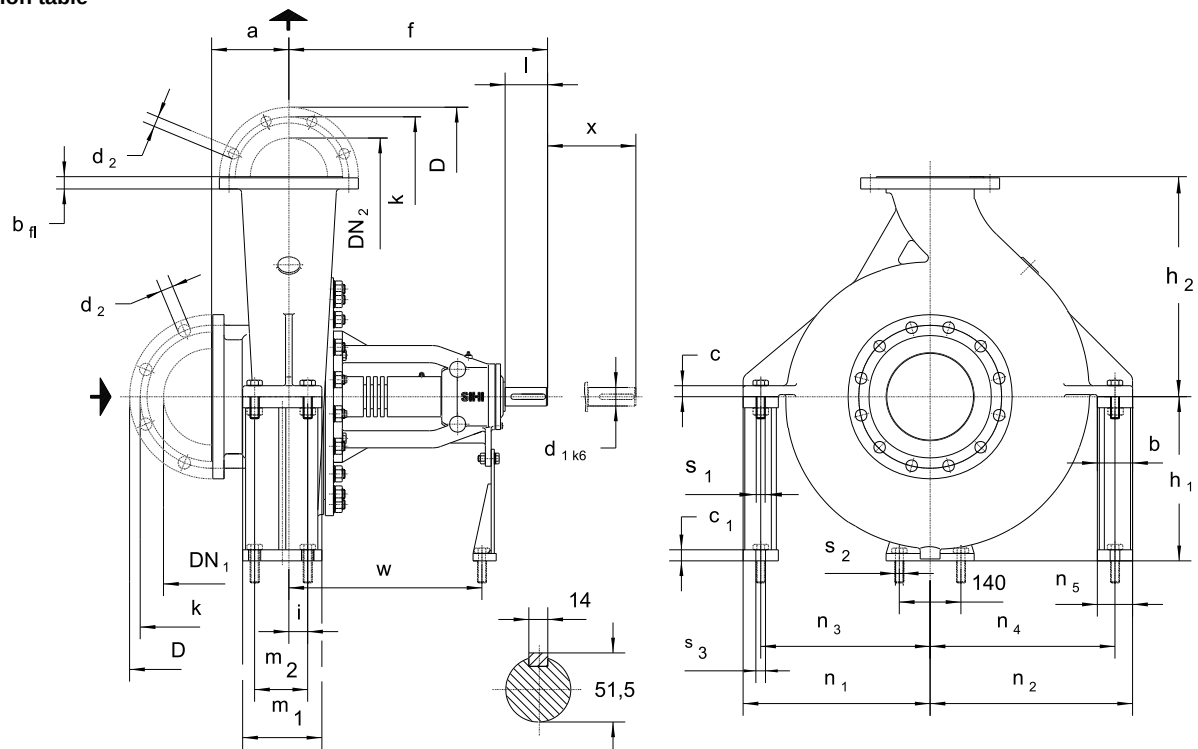
All dimensions in mm.

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 _i	l	t	u																													
032125	32	50	80	50	15	360	112	140	100	70	190	140	M12	M12	267	105	100	24	50	27	8																													
032160							132	160			240	190				120																																		
032200							160	180			320	250				127																																		
032250 ¹⁾							180	225								125						95	320	250	160																									
040125	40	65	80	50	18	470	112	140	100	70	210	160			340	108						204	120	32	80	35	10																							
040160							132	160			240	190				128																																		
040200							100	160			180	265				212												140																						
040250							65	180			225	320				250												164																						
040315 ¹⁾	50	100	125	65	18	470	225	250	125	95	345	280	M12	M12	267	120						267	130	150	169																									
050125							132	160			240	190				340										210	32	80	35	10																				
050160							160	180			265	212				24										50					27	8																		
050200							180	225			320	250																																						
050250	65	80	100	50	15	360	100	70	240	190	320	250			345							280	267	140	147								166																	
050315 ¹⁾																											125	17	470	225				280	125	95	280	212	360	280	160	120	360	280	340	183	220			
065125																160										180	200	250	160	120	360	280		24														50	27	8
065160																180										225	200	250	160	120	360	280																		
065200	80	100	125	65	15	360	180	225	125	95	320	250	340	165	267	180						200	235																											
065250																								200	250	160	120	360	280	200	280	400	315		M16															
065315																								225	280	160	120	360	280					200		280	400	315	M16											
080160																								80	100	125	65	15	360											180	225	125	95	320	250	340	165	267	180	200
080200	80	18	470	200	280	160	120	360	280	400	315	M16																																						
080250													200	280	160	120						360	280							400	315	M16																		
080315																																	250	315	160	120	360	280	400											
100160 ¹⁾																								100	125	140	80	18	470											200	280	160	120	360	280	400	315	M16		
100200	200	280	160	120	360	280	400	315	M16																																									
100250										225	315	160	120	360	280	400						315	M16																											
100315																														250	315	160	120	360	280	400	315	M16												
125200 ¹⁾																								125	150	160	100	20	470										250	355	200	150	550	450	M20					
125250	280	400	200	150	550	450	M20																																											
150200 ¹⁾								280	400	200	150	550	450	M20																																				
150250 ¹⁾															280	400						200	150							550	450	M20																		

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.

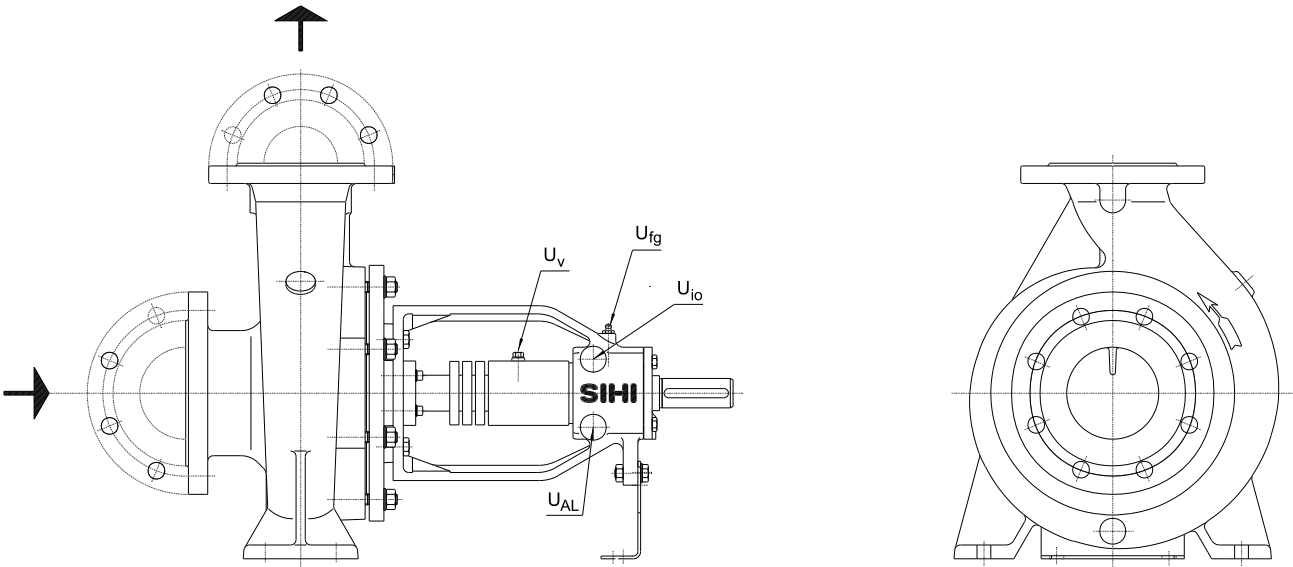
size	DN ₂	DN ₁	a	f	h ₁	h ₂	m ₁	m ₂	i	l	x	d ₁	w	c	c ₁	s ₁	s ₂ *	s ₃ *	n ₁	n ₂	n ₃	n ₄	b,n ₅	
150315 ¹⁾	150	200	180	670	315	400	160	100	35	110	180	48	500	25	23	M20	M12	M20	320	360	290	330	60	
150400 ¹⁾					355	450	180	120									45		M16	380	420	340	380	80
150500 ¹⁾					400	500														M12	425	460	385	
200250 ¹⁾	200	250	250	670	335	425	180	120	45	110	180	48	500	30	23	M20	M12	M20	340		410	300	370	
200315 ¹⁾			200		355	450	180	120	35								M16		360	420	320	380		
200400 ¹⁾					375	500													400	480	360	440		
200500 ¹⁾					425	560													220	160	50	475	575	425

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														
d ₂ x number	19x4	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x12	28x8	28x12	31x12	26x12	30x12

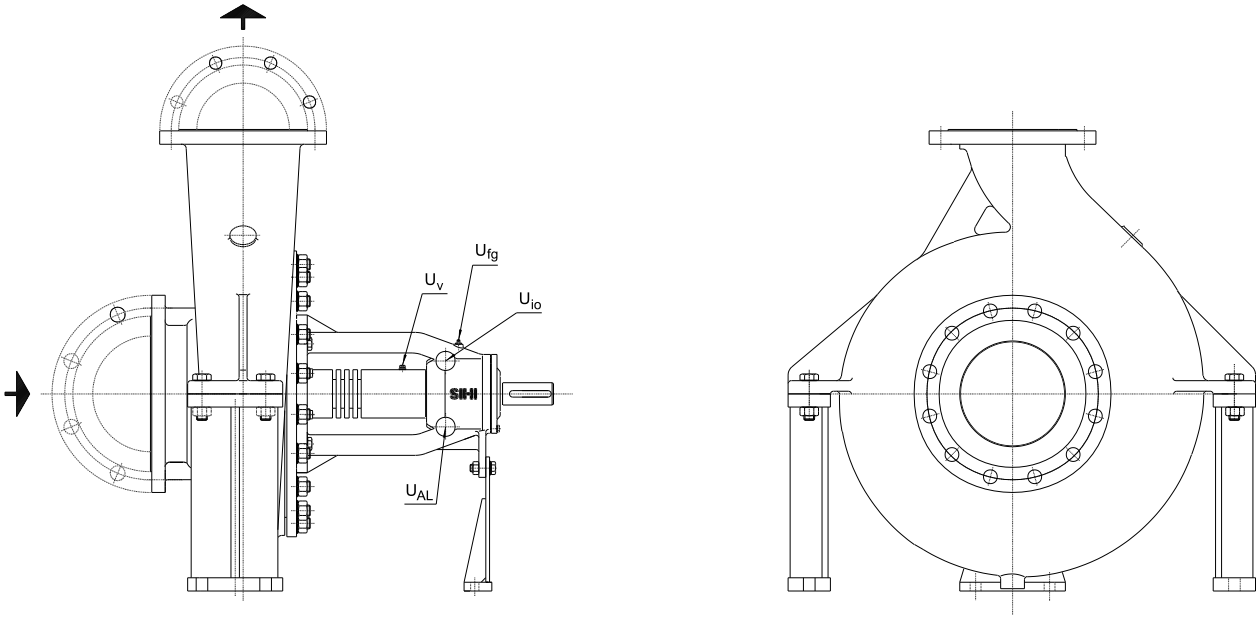
Connections for bearing brackets 25 and 35



Ufg : Grease filling connection.
Uio : Sealing liquid connection.
UAL : Drainage for leakage.
Uv : Vent connection

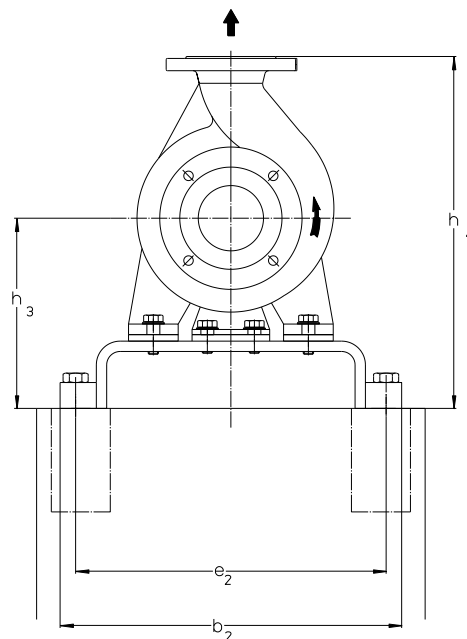
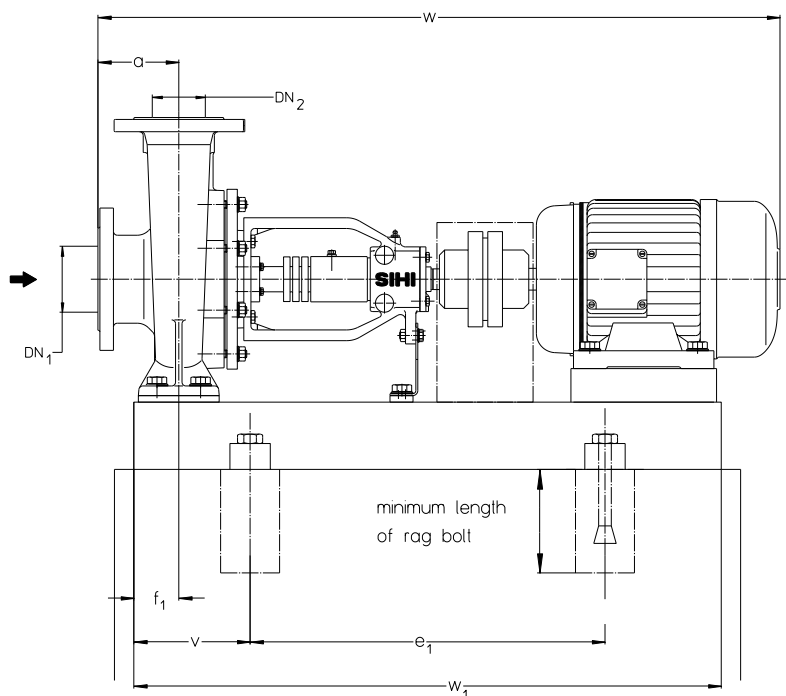
Size	Ufg	Uv	Uio	UAL
032125	G 1/8	G 1/8	G 1/4	G 1/4
032160				
032200				
032250				
040125				
040160				
040200				
040250				
040315				
050125				
050160				
050200				
050250				
050315				
065125				
065160				
065200				
065250				
065315				
080160				
080200				
080250				
080315				
100160				
100200				
100250				
100315				
125200				
125250				
150200				
150250				

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	G 1/8	G 1/8	G 1/4	G 1/4
150400				
150500				
200250				
200315				
200400				
200500				



Dimensions in mm.

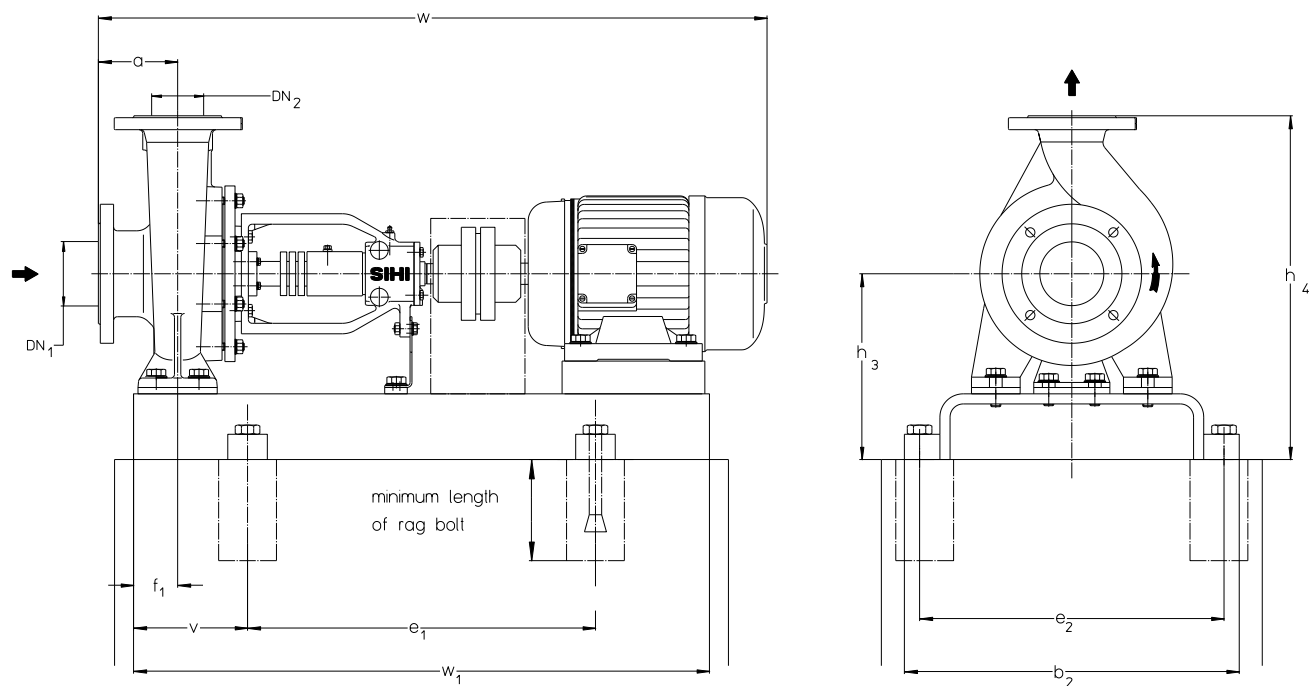
Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

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	w*	w ₁	rag bolt DIN 529
032125	71	0.25	S008	B68	32	51	32	50	80	297	400	265	120	60	152	292	682	640	M12x100
	71	0.37				52													
032160	71	0.37			41	69													
	80	0.55	S270			72													
	80	0.55				70													
032200	80	0.75			39	78													
	90S	1.10				80													
	90L	1.50	S301			103													
	90S	1.10				106													
	90L	1.50				108													
032250	80	0.75		B80	52	103	40	65	100	490	600	440	160	75	260	485	736	920	M20x400
	90S	1.10	S383			106											794		
	90L	1.50				108											835		
	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											716		
	80	0.55				65											682		
040160	71	0.37				69											716		
	80	0.55				70											774		
	80	0.75				78											736		
040200	90S	1.10				84											794		
	80	0.55				82											835		
	80	0.75				111											970		
	90S	1.10				113											991		
040250	90L	1.50		B80	57	123			100	490	600	440	160	75	260	485	835	920	M20x400
	100L	2.20				153											970		
	100L	2.20				154											991		
	100L	3.00				199											1067		
	132S	5.50	S434																
050125	71	0.37	S270	B68	35	63	50	65	100	360	420	320	115	60	197	357	702	650	M16x200
	80	0.55				67											736		
	80	0.75				80											794		
050160	80	0.55				83											736		
	80	0.75				79											794		
	90S	1.10				82											835		
050200	80	0.75				84											794		
	90S	1.10				94											835		
	90L	1.50				113											794		
	100L	2.20				123											835		
050250	100L	3.00		B80	57	124			125	490	600	440	160	75	260	485	856	920	M20x400
	112M	4.00				157											991		
	112M	4.00				202											1067		
	132S	5.50				205											1093		
	132M	7.50	S434																

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			S383	B80										45	92			490	600	440	160	75	260	485	440	794	920							
	90S	1.10															94											835								
	90L	1.50															102											835								
065200	100L	2.20	S434	B80												48	104	540									660	490		170	90	280	530	945	1000	
	90L	1.50															114																			966
	100L	2.20															115																			1042
065250	100L	3.00			S486	B95			78	161	610	840	550	205	325	605	1067												1250							
	100L	3.00								162																								1093		
	112M	4.00								190																								1185		
065315	132M	5.50	S383	B80					94	231							490			600	440	160	75	260	485	1247								920		
	132M	7.50								234																									970	
	160M	11.00								250																									991	
080160	160L	15.00			S434	B95			51	280								540								660	490	170	90	300	580	1067	1250			
	80	0.75								102																									970	
	90S	1.10								105																									1067	
080200	90L	1.50	S486	B80					71	107	610	840	550	205	350	665																1093		M24x400		
	90L	2.20								118																									1093	
	100L	3.00								127																									1185	
080250	100L	2.20			S434	B95	84	137	610	840							550		205	350	665	1247	M24x400													
	100L	3.00						138																1247												
	112M	4.00						183																1247												
080315	132S	5.50	S486	B80			104	192										610				840		550	205	350	665	1067	M24x400							
	132S	5.50						193																						1067						
	132M	7.50						221																						1093						
100160	132M	7.50			S434	B95	104	241			610	840	550	205	350	665							1067					M24x400								
	132M	7.50						244																						1093						
	160M	11.00						260																						1185						
100200	160L	15.00	S486	B110			80	290	610	840							550		205	350	665		1247						M24x400							
	100L	2.20						163																						1247						
	100L	3.00						164																						1247						
100250	112M	4.00			S434	B80	79	192										610				840	550	205	350	665	1067	M24x400								
	112M	4.00						193																						1067						
	132S	5.50						221																						1093						
100315	132M	7.50	S486	B95			104	241			610	840	550	205	350	665											1067		M24x400							
	132M	7.50						244																						1093						
	160M	11.00						260																						1185						
125200	160L	15.00			S434	B110	80	290	610	840							550		205	350	665						1247	M24x400								
	100L	2.20						163																						1247						
	100L	3.00						164																						1247						
125250	112M	4.00	S486	B80			79	192										610				840	550	205	350	665	1067		M24x400							
	112M	4.00						193																						1067						
	132S	5.50						221																						1093						
150200	132M	7.50			S605	B95	120	241			610	840	550	205	350	665											1067	M24x400								
	132M	7.50						244																						1093						
	160M	11.00						260																						1185						
150250	160L	15.00	S606	B110			134	290	610	840							550		205	350	665						1247		M24x400							
	160L	15.00						294																						1247						
	180L	22.00						304																						1247						
150315	180M	18.50			S606	B125	134	320										610				840	550	205	350	665	1247	M24x400								
	200L	30.00						327																						1247						
	225S	37.00						337																						1247						
150400	225M	45.00	S606	B140			134	421			610	840	550	205	350	665											1247		M24x400							
	225M	45.00						467																						1247						
	225M	45.00						487																						1247						
150315	Foundation plans with base plates and fittings on request																																			
150400																																				
150500																																				
200250																																				
200315																																				
200400																																				
200500																																				



Dimensions in mm.

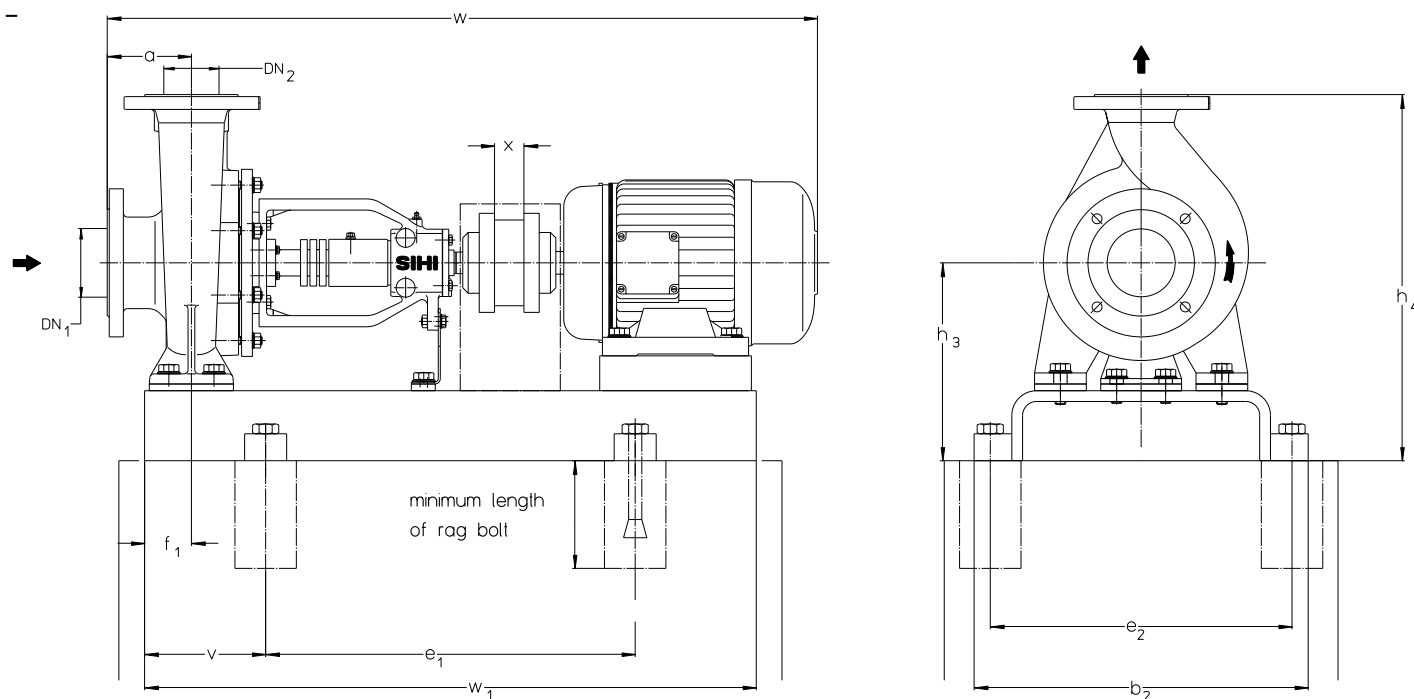
Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor size	motor kW	base plate No.	coupling **	weight pump kg	Unit kg	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
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				67											774		
	90S	1.50				69											716		
	90L	2.20				72											774		
032160	80	1.10	S270	B80	41	80	32	50	80	390	480	350	125	60	197	357	815	730	M16x200
	90S	1.50				82											836		
	90L	2.20				92											895		
	100L	3.00				93											912		
	112M	4.00				130											774		
032200	132S	5.50	S342	B95	39	128	40	65	80	450	540	400	140	60	212	372	895	820	M20x400
	132S	7.50				147											912		
	90L	2.20				80											774		
	100L	3.00				90											815		
	112M	4.00				91											836		
032250	132S	5.50	S342	B95	39	128	40	65	80	450	540	400	140	60	240	420	912	820	M20x400
	132S	7.50				147											1088		
	160M	11.00				175											1150		
	160M	15.00				148											932		
	160L	18.50				167											1050		
040125	80	1.10	S270	B68	34	65	40	65	80	360	420	320	115	60	177	317	716	650	M16x200
	90S	1.50				70											774		
	90L	2.20				71											815		
	100L	3.00				82											774		
	90S	1.50				78											815		
040160	90L	2.20	S301	B80	39	80	40	65	80	390	480	350	125	60	197	357	776	730	M16x200
	100L	3.00				80											815		
	112M	4.00				91											836		
	132S	5.50				128											912		
	132S	7.50				138											895		
040200	160M	11.00	S383	B95	43	159	40	65	80	490	600	440	160	60	212	372	1030	820	M20x400
	100L	3.00				94											912		
	112M	4.00				95											895		
	132S	5.50				132											1050		
	132S	7.50				158											932		
040250	160M	11.00	S434	B95	57	153	40	65	100	490	600	440	160	60	225	405	817	730	M16x200
	160M	15.00				172											856		
	160L	18.50				216											932		
	132S	5.50				132											1050		
	132S	7.50				153											932		
040250	160M	11.00	S434	B95	57	172	40	65	100	490	600	440	160	60	225	405	856	730	M16x200
	160M	15.00				216											1050		
	160L	18.50				216											1112		
	132S	5.50				132											932		
	132S	7.50				153											1050		

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	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	M20x400																																												
	112M	4,00				87				932																																																				
	132S	5,50				S342				B95	124	450	400				212		372	932																																										
050160	90L	2,20	S301	B68	44	85				60	225	405	794	730	M16x200																																															
	100L	3,00		95		835							856																																																	
	112M	4,00	B80	96		390							480	350	125	240	420	932	820	M20x400																																										
	132S	5,50		S342		B95							133	450	540	400	140	1050	920																																											
	132S	7,50	159										490	600	440	160	240	440	817	858	730	M16x200																																								
	160M	11,00	S383										B80	94	390	480	350	125	225	425	817		858																																							
050200	100L	3,00	S301	B80	43	94							65	80	100	450	540	400	140	75	260	440	932	820	M20x400																																					
	112M	4,00				95										390	480	350	125				225	425		817	858	730																																		
	132S	5,50	S342	B95		132										450	540	400	140				240	440		932	820																																			
	132S	7,50				158										490	600	440	160				1050	920																																						
	160M	11,00				163										450	660	400	180				240	440		1050	1020																																			
	160M	15,00				172										490	600	440	160				240	440		1050	1020																																			
	160L	18,50				S344				163	450	660				400	180	240	440				1050	1020																																						
050250	160M	11,00	S383	B95	57	216				65	80	100				540	600	440	160	75	260	485	1112	1000	M20x400																																					
	160M	15,00				229										540	600	440	160				260	485		1112	1174	1000																																		
	160L	18,50				S434										296	540	660	490				170	280		505	1232	1140																																		
	180M	22,00				S435										296	540	660	490				170	280		505	1232	1140																																		
065125	100L	3,00	S342	B80	39	99										65	80	100	125	450	540	400	140	60	240	420	835	M20x400																																		
	112M	4,00				100																					856																																			
	132S	5,50				128																					932																																			
	132S	7,50				134							1050	920																																																
	132S	5,50				160							1050	920																																																
065160	160M	11,00	S383	B95	45	163							65	80	100												125		490	600	440	160	75	260	485	1112	M20x400																									
	160M	15,00				207				1174	1232																																																			
	160M	11,00				220				1232	1284																																																			
065200	160L	18,50	S434	B110	48	287				65	80	100																								125		540	660		170	75	260	485	1112	M20x400																
	180M	22,00				220																																							1174		1232															
	200L	30,00				B125																																							244		1222	1284	1140													
	200L	37,00				B125																																							257		1222	1284	1140													
065250	160L	18,50	S435	B110	78	324																																							65		80	100	125	540	740	490	200	90	280	530	1342	M24x400				
	180M	22,00				401																																																			1372		1250			
	200L	30,00				147	1075	1137	1199																																																1185		1247	1309	1367	1270
	225M	45,00				S486	629	1400																																																						
080160	132S	7,50	S383	B95	51	166	80	100	125							125	490	600	440	160	75	260	485	957	M20x400																																					
	160M	11,00				210																		1137		1199		1185																													1247		1309	1367	1270	
	160M	15,00				223																		1247		1309		1367																													1270					
	160L	18,50				202																		1247		1309		1367																													1270					
	180M	22,00				237																		1247		1309		1367																													1270					
080200	160M	15,00	S435	B110	71	250							80	100	125									125		540	740	490	200	75	260	510	1247	M20x400																												
	200L	30,00				317																											1247		1309		1367																				1270					
	200L	37,00				342																											1247		1309		1367																				1270					
	225M	45,00				407				1247	1309	1367																					1270																													
080250	180M	22,00	S486	B125	84	282				80	100	125																					125		610	840	550	205	90	300	580	1309	M24x400																			
	200L	30,00				342																																				1309		1367		1270																
	200L	37,00				407																																				1309		1367		1270																
	225M	45,00				629																																				1309		1367	1270																	
100160	160L	18,50	S435	B95	80	246																																				80		100	125	125	540	740	490	200	90	280	560	1247	M20x400							
	180M	22,00				259																																																1247		1309	1367	1270				
	200L	30,00				326																																																1247		1309	1367	1270				
	200L	37,00				258	1247	1309	1367							1270																																														
	225M	45,00				402	1247	1309	1367							1270																																														
100200	160L	18,50	S435	B110	79	245	80	100	125							125	610	840	550	205	90	280	560		1247																													M20x400								
	180M	22,00				258																			1247																															1309	1367	1270				
	200L	30,00				325																			1247																															1309	1367	1270				
	200L	37,00				402							1247	1309	1367									1270																																						
100250	200L	30,00	S486	B125	89	347							80	100	125									125	610	840	550	205	90	325	605	1397		M24x400																												
	200L	37,00				412																										1397																								1412	1450					
	225M	45,00				634																										1397																								1412	1450					
	250M	55,00				903				1397	1412	1450																																																		
	280S	75,00				953				1397	1412	1450																																																		
125200	250M	55,00	S607	B140	102	647				80	100	125																				150	125		730	940	670	230	90	350	630		1542													M24x400						
	280S	75,00				916																																					1542														1600					
	280M	90,00				966																																				1542	1600																			



Dimensions in mm.

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

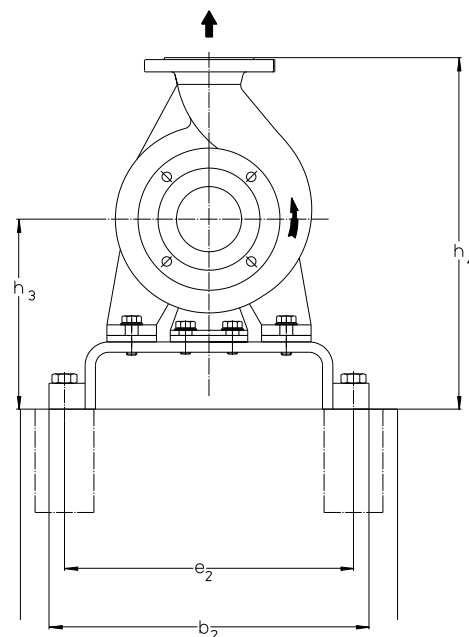
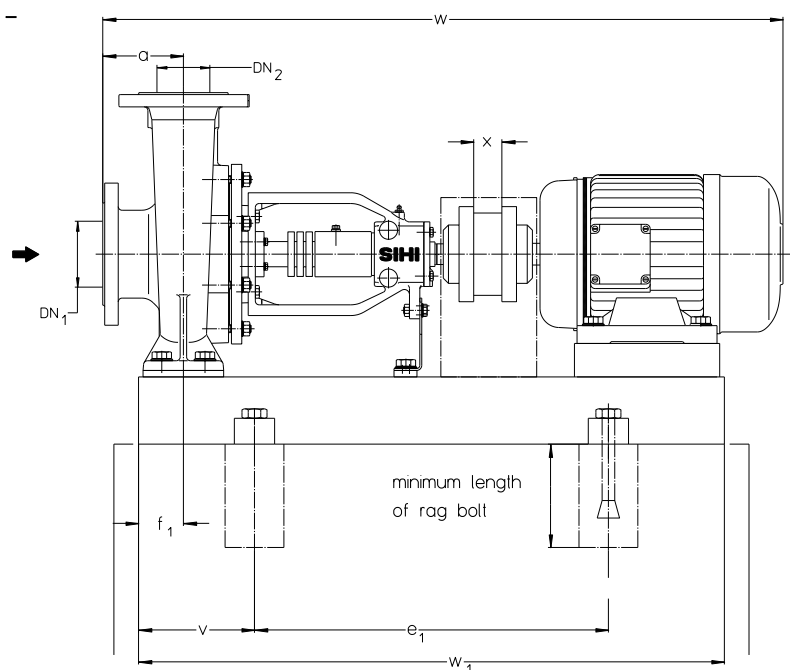
size	size	motor kW	base- plate No.	coup- ling **	weight pump kg	unit kg	DN ₂	DN ₁	a	b ₂	e ₁	e ₂	v	f ₁	h ₃	h ₄	x	w*	w ₁	rag bolt DIN 529																	
032125	71	0.25	S241	H80	32	63	32	50	80	330	480	290	125	60	177	317	100	780	730	M16x200																	
	71	0.37	S301		41	76				390	350	197	357		814	820																					
	71	0.37				80				360	540	320	140					225	405		872																
032160	80	0.55	S272		39	78				32	50	80	360		540	320		140	60		225	405	814	820	872												
	80	0.55				81																															
	80	0.75				83																															
90S	1.10	105																																			
032200	90L	1.50	S383		52	108			32	50	80	360	540	320	140	60		225	405	814	820	872															
	80	0.75				110																															
	90S	1.10				120																															
	90L	1.50																																			
	100L	2.20																																			
032250	80	0.75	S383	52	105	32	50	80	360	540	320	140	60	225	405	814	820	872																			
	90S	1.10			108																																
	90L	1.50			110																																
100L	2.20	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	39	73	360	540	320	140	197	357	814	820																								
	80	0.55			74	390	480	350	125	780	730																										
040160	71	0.37	S301	39	78	40	65	80	360	540	320	140	60	197	357	814	820	872																			
	80	0.55	81																																		
	80	0.75	89																																		
040200	90S	1.10	S342		43																92	40			65	100	450	540	400	140	60	197		357	814	820	872
	80	0.55		94																																	
	80	0.75		113																																	
040250	90S	1.10		S383		57	115	40	65	100	450	540	400	140	60	197	357	814	820		872																
	90L	1.50	125																																		
	100L	2.20	171																																		
	100L	3.00	172																																		
040315	100L	2.20	S434	87	207	40	65	100	450	540	400	140	60	197	357	814	820	872																			
	100L	3.00			171																																
	112M	4.00			172																																
050125	132S	5.50			S435															H95		207	50	65	125	540	660	490	170	75	305	555	1068	1000	1089	1165	
	71	0.37	S301	H80	35	70	100	390	480	350	125	60	197	357	834	820	892	834	892	933																	
	80	0.55	S272		74	360		540	320	140	240		420	892							834	892															933
	80	0.75	S342		90	390		480	350	125	60		197	357							834	820															892
	80	0.55		93	450	540	400	140	60	197	357	834	820	892	834	892	933																				
90S	1.10	89		450	540	400	140	60	197	357	834	820	892	834	892	933																					
90S	1.10	92		450	540	400	140	60	197	357	834	820	892	834	892	933																					
050200	90L	1.50	S383	57	125	50	65	100	450	540	400	160	75	260	485	305	585	892	933	920																	
	90L	1.50			125																490	600	440	160	75	260	485	892	933	920							
	100L	2.20			126																490	600	440	160	75	260	485	892	933	920							
	112M	4.00			175																490	600	440	160	75	260	485	892	933	920							
050250	112M	4.00	S434	H95	90	210	50	65	125	540	660	490	200	75	305	585	892	933	920	1089	1000																
	132S	5.50	210		490	600																440	160	75	305	585	892	933	920	1089	1000						
	132M	7.50	S435		213	490																600	440	160	75	305	585	892	933	920	1089	1000					

Foundation plan for units with spacer type coupling

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	x	w*	w ₁	rag bolt DIN 529																	
	size	kW			pump kg	unit kg																															
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			45	94										96		106			440	490	600	440	160	75	260	485	440	1083	1000	1104	1180	1140			
	90S	1,10																																	104	932	920
	90L	1,50																																	106	973	
065200	100L	2,20	48		116	117			162	540	660	490	170	90	280	530	325	605	1205		1231	1250	M24x400														
	100L	3,00																						1232	1233												
	112M	4,00																						1234		1235											
	100L	2,20																						1236			1238										
065250	100L	3,00	S434		78	163			198	610	840	550	205	90	325	605	1205	1231	1250		M24x400																
	112M	4,00																				1232	1233														
	132S	5,50		1234			1235																														
065315	132S	5,50	S486	H95	94	233		610	840	550	205	90	325	605	1205	1231	1250	M24x400																			
	132M	7,50																	1232	1233																	
	160M	11,00					1234												1235																		
	160L	15,00					1236														1238																
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	100L	1,50	S434		71	155			540	660	490	170	90	280	560	325	605	1205	1231	1250	M24x400																
	100L	2,20																					156	1129													
	100L	3,00																					191	1205													
	112M	4,00																					194	1206													
080250	100L	3,00	S486		H80	84			195	610	840	550	205	90	300	580	350	665	1205	1231	1250		M24x400														
	112M	4,00																						223	1231												
	132S	5,50																						226	1232												
	132M	7,50		243			1233																														
080315	132M	7,50	S486	H95	104	246	610	840	550	205	90	300	580	350	665	1205	1231	1250	M24x400																		
	160M	11,00																		262	1232																
	160L	15,00																		292	1233																
	100L	2,20																		164	1108																
100160	100L	3,00	S434	H80	80	165	540	660	490	170	90	280	560	325	605	140	1129	1000	M20x400																		
	112M	4,00															200			1205																	
	132S	5,50															202			1206																	
	100L	2,20															163			1108																	
100200	100L	3,00	S434	H80	79	164	540	660	490	170	90	280	560	325	605	140	1129	1000		M20x400																	
	112M	4,00															199				1205																
	132S	5,50															202				1206																
	132M	7,50															228				1231																
100250	132M	7,50	S486	H80	89	231	610	840	550	205	90	300	580	350	665	140	1231	1250			M24x400																
	160M	11,00															247					1232															
	160M	11,00															264					1233															
	160L	15,00															294					1234															
100315	180M	18,50	S486	H110	106	306	610	840	550	205	90	300	580	350	665	140	1462	1250	M24x400																		
	180L	22,00															323					1463															
	132M	7,50															244					1464															
	160M	11,00															260					1465															
125200	160L	15,00	S486	H95	102	290	610	840	550	205	90	300	580	350	665	140	1482	1250		M24x400																	
	160L	15,00															251					1483															
	132M	7,50															267					1484															
	160M	11,00															297					1485															
125250	160L	15,00	S486	H110	109	323	610	840	550	205	90	300	580	350	665	140	1486	1250			M24x400																
	132M	7,50															244					1487															
	160M	11,00															260					1488															
	160L	15,00															290					1489															
150200	160L	15,00	S605	H95	120	337	610	840	550	205	90	300	580	350	665	140	1490	1250	M24x400																		
	180M	18,50															349					1491															
	160L	15,00															351					1492															
	180M	18,50															363					1493															
150250	180L	22,00	S607	H125	134	392	610	840	550	205	90	300	580	350	665	140	1494	1250		M24x400																	
	200L	30,00															436					1495															
	132M	7,50															279					1496															
	160M	11,00															306					1497															
150315	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1498	1250			M24x400																
	180M	18,50															363					1499															
	180L	22,00															392					1500															
	200L	30,00															436					1501															
	132M	7,50															279		1502																		
	160M	11,00															306		1503																		
150400	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1504	1250	M24x400																		
	180M	18,50															363					1505															
	180L	22,00															392			1506																	
	200L	30,00															436			1507																	
	132M	7,50															279			1508																	
	160M	11,00															306			1509																	
150500	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1510	1250		M24x400																	
	180M	18,50															363				1511																
	180L	22,00															392				1512																
	200L	30,00															436				1513																
	132M	7,50															279				1514																
	160M	11,00															306				1515																
200250	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1516	1250	M24x400																		
	180M	18,50															363				1517																
	180L	22,00															392				1518																
	200L	30,00															436				1519																
	132M	7,50															279				1520																
	160M	11,00															306				1521																
200315	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1522	1250		M24x400																	
	180M	18,50															363				1523																
	180L	22,00															392				1524																
	200L	30,00															436				1525																
	132M	7,50															279				1526																
	160M	11,00															306				1527																
200400	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1528	1250	M24x400																		
	180M	18,50															363				1529																
	180L	22,00															392				1530																
	200L	30,00															436				1531																
	132M	7,50															279				1532																
	160M	11,00															306				1533																
200500	160L	15,00	S606	H110	134	351	610	840	550	205	90	300	580	350	665	140	1534	1250		M24x400																	
	180M	18,50															363				1535																
	180L	22,00															392				1536																
	200L	30,00															436				1537																
	132M	7,50															279				1538																
	160M	11,00															306				1539																
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.	coupp- ling **	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																									
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	S272			72				360	540	320	140					197	357		814	820																							
	80	1.10				75															872																								
	90S	1.50				77															814																								
	90L	2.20				80															872																								
032160	80	1.10	S272	H95	41	80				390	600	350	160		225	405		913	240		420	1012	920	M20x400																					
	90S	1.50				83												993																											
	90L	2.20				85												1012																											
	100L	3.00				95												872																											
	112M	4.00	96			934																																							
032200	132S	5.50	S303	H80	39	98			360	540	320	140	450	660	400	180		240	420		934	1010	920																						
	132S	7.50	127			490															740	440	200	1128	1020																				
	160M	11.00	158																							100	600	440	160	1190	1140														
	160M	15.00	203																													75	260	485	1030	920									
	160L	18.50	149																	1148																	1000								
	132S	7.50	S383																																			S434	184	540	660	490	170	1148	1000
	160M	11.0	S434																																										
160M	15.0																																												
040125	80	1.10	S272	H80	34	73			40	65	80	360	540	320	140	60		177	317	100	814	M16x200																							
	90S	1.50				76															872																								
	90L	2.20				78	913																																						
	100L	3.00				88	872																																						
040160	90S	1.50	S272	H95	39	81	360	540				320	140	390	600		350	160	197		357			913	820																				
	90L	2.20				83																		934																					
	100L	3.00				93																		1010																					
	112M	4.00				94																		993																					
	132S	5.50	S303			127																		450	660	400	180	240	420	1128	1020														
	132S	7.50	162			100																540								400	140	225	405	933	820										
	160M	11.00	S344								160					1148																		1020											
040200	100L	3.00	S342	H80	43	104	390	600			350	160	450	660	400	180	240	420	954		M20x400	M16x200																							
	112M	4.00	105			75													260				485	1148	1000																				
	132S	5.50	131																							1030	920																		
	132S	7.50	160																									1148	1020																
	160M	11.00	S344																											154	1030	920													
040250	132S	7.50	S383	H95	57	154	490	600			440	160	540	660	490	170	75	260	485		1148	1000	M20x400																						
	160M	11.00	S434			189															1148	1000																							
	160M	15.00	219			1210															1140																								
	160L	18.50	S385			219															1210	1140																							
	160L	18.50	S385			219			1210	1140																																			

Foundation plan for units with spacer type coupling

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	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																
	100L	3,00	89			361				600	325	160	182		342	920					1030	M12x100
	112M	4,00	90																			
	132S	5,50	S303			H95				123	390	350	197		357						954	M16x200
90L	2,20	S342	H80	44	95	450				540								400	140	240		
100L	3,00				105																	
112M	4,00				106	390				600	350	160	225		405	1030		920	M16x200			
132S	5,50				S303															H95	132	450
160M	11,00				S344	161				450	540	400	140		240	440		1030	920	M16x200		
100L	3,00	S342	H80	43	104	390	600	350	160					225			425				1030	920
112M	4,00				105					450	660	400	180		240	440		1148	1020	M20x400		
132S	5,50				S303	H95	131	490	740					440			200				260	485
132S	7,50				S344	H95	57			160	540	660	400		180	240		440	1148	1020		
160M	11,00							195	490	740				440			200				260	485
160M	15,00	S385	189	540				660			490	170	260		485	1148		1000	M20x400			
160L	18,50	S434	219						490	740				440			200			260	485	1148
160M	11,00	S385	H110	238				540			660	490	170		260	485		1148	1000			
200L	30,00			S435	H25	299	540		660	490				170			260			485	1148	1000
100L	3,00			S342	H80	39		100			450	540	400		140	240		420	1030			
112M	4,00	101	490				600	440	160	240				440			1030			920	M20x400	
132S	5,50	136									450	660	400		180	240		440	1148			1020
132S	7,50	S383	H95				142	490	600	440				160			240			440	1030	
132S	5,50	S344	H95				45				162	450	660		400	180		240	440			1148
160M	11,00			182	490	740		440	200	260	485			1148			1000			M20x400		
160M	15,00			S385								210	540		660	490		170	260		485	1148
160L	18,50			S435	H110	229		540	660	490	170	260		485			1148			1000		
180M	22,00					H125							297		540	660		490	170		260	485
200L	30,00	S436	H95			252	610	940	550	240	300	550	1480	1420			M24x400					
160L	18,50	S467	H110	266	730	1060									670	230		325	575	1510	1400	M24x400
180M	22,00			H125			362	730	1060	670	230	325	575	1510			1400					
200L	30,00			S487	H125	445	730								1060	670		230	325	575	1510	1400
225M	45,00	S607	445	730	1060	670		230	325	575	1510	1400	M24x400									
132S	7,50	S434	H95				51							164	540	660	490	170	260	485	1095	1000
160M	11,00	165		490	600	440		160	240	440	1030	920	M20x400									
160M	15,00	S385												H110	213	540	660	490	170	260	485	1030
160L	18,50	S435		H95	232	540		660	490	170	260	485	1030	920	M20x400							
180M	22,00				210											540	660	490	170	260	485	1030
160M	15,00		S436		H110	244	540	660	490	170	260	485	1030	920	M20x400							
160L	18,50	S487	H125	258	540	660										490	170	260	485	1030	920	M20x400
180M	22,00			354			540	660	490	170	260	485	1030	920	M20x400							
200L	30,00			S486	H110	284										540	660	490	170	260	485	1030
200L	37,00	S487	H125	368	540	660	490	170	260	485	1030	920	M20x400									
180M	22,00	S486	H110	451										540	660	490	170	260	485	1030	920	M20x400
200L	30,00	S487	H125	651	540	660	490	170	260	485	1030	920	M20x400									
225M	45,00	S607	H125	651										540	660	490	170	260	485	1030	920	M20x400
250M	55,00	S608	H140	651	540	660	490	170	260	485	1030	920	M20x400									
160L	18,50	S436	H95	80										254	540	660	490	170	260	485	1030	920
180M	22,00				H110	268	540	660	490	170	260	485	1030	920								
200L	30,00				S487	H125									364	540	660	490	170	260	485	1030
200L	37,00	S436	H95	79	253	540	660	490	170	260	485	1030	920	M20x400								
160L	18,50				H110										267	540	660	490	170	260	485	1030
180M	22,00				S487	H125	363	540	660	490	170	260	485	1030	920							
200L	30,00				S607	H125	446									540	660	490	170	260	485	1030
200L	37,00						S487	H140	373	540	660	490	170	260	485							
225M	45,00	S608	H140	456			540	660	490							170	260	485	1030	920	M20x400	
250M	55,00	S609A	H160	656	540	660				490	170	260	485	1030	920							M20x400
280S	75,00	S609A	H160	909			540	660	490							170	260	485	1030	920	M20x400	
280M	90,00			959	540	660				490	170	260	485	1030	920							M20x400
250M	55,00	S608	H140	669			540	660	490							170	260	485	1030	920	M20x400	
280S	75,00	S609A	H160	922	540	660				490	170	260	485	1030	920							M20x400
280M	90,00			972			540	660	490							170	260	485	1030	920	M20x400	

* 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	AA	alternatively 002 GBC	1B	2	
	032160					
	032160					
	032200					
	032200					
	032250	AA				
	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			DA		2B
	200500					

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