

Vertical cantilever sump pumps
without friction bearings

1. Fields of Application

CINCP / CINCN are vertical, centrifugal pumps designed for wells, ditches and tanks. For neutral or aggressive liquids with significant quantity of solid particles of reduced size.

Since there is no bearing under the base plate, there is no need to inject any external water or grease.

The CINCP / CINCN Series of KSB ITUR may pump a wide range of fluids such as:

- Water with sand
- Water with mill scale
- Drain water
- Sea water with cinder
- Sewage water
- Canal water
- Chemical sludges
- Hydrocarbons

Applications of these pump series are to be found in following industries like:

- Petrochemical industry
- Raw obtaining processes
- Sewage treatment plants
- Painting processes
- Steel factories

2. Operating Data

		50 Hz	60 Hz
Flow, max.	m ³ /h	780	950
Head, max.	m	105	102
Operating temp., max.	°C	100	100
Operating temp., min.	°C	-10	-10
Operating pressure, max.	bar	10	10
Max. length of submerged pipe.	mm	1000	1000

For any specific application beyond these limits, please consult KSB ITUR. All data given in this document are for fully standard construction

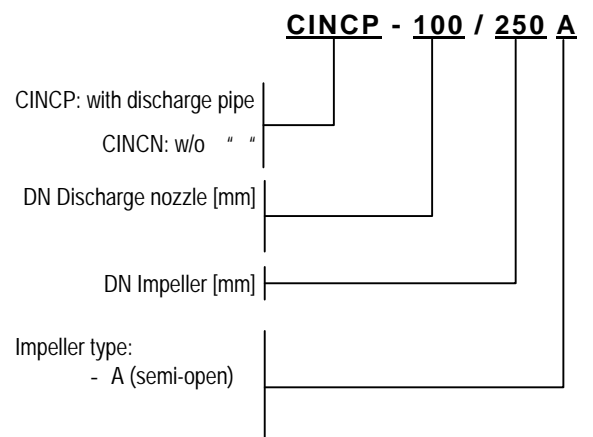
3. Design

Spiral pump casing with axial suction and radial impulsion. Single-stage semi-open impeller. Filter in suction.

The CINCP series has a discharge pipe to the outside of the base plate. The CINCN series does not have a discharge pipe.

Pump is for vertical installation in non pressurized tanks as standard.

4. Designation



5. Materials

Denomination	No.	Material variant				
		00	02	05	07	12
Volute Casing	102	JL 1040 (1)	JL 1040 (1)	CF8M (2)	CA6NM (3)	JL 1040 (1)
Pump Cover	161	JL 1040 (1)	JL 1040 (1)	CF8M (2)	CA6NM (3)	JL 1040 (1)
Shaft(s)	211	F-114 (4)	F-114 (4)	AISI-316L (5)	F-114 (4)	F-114 (4)
Impeller	230	JL 1040 (1)	CF8M (2)	CF8M (2)	CA6NM (3)	CA6NM (3)
Pedestal	341	JL 1040 (1)	JL 1040 (1)	JL 1040 (1)	JL 1040 (1)	JL 1040 (1)
Wear Rings	502	JL 1040 (1)	JL 1040 (1)	CF8M (2)	CF8M (2)	CA6NM (3)
Discharge Pipe	711	Carbon steel	Carbon steel	AISI-316L (5)	Carbon steel	Carbon steel
Base Plate	890	Carbon steel	Carbon steel	Carbon steel (6)	Carbon steel	Carbon steel

(1) Grey cast iron to EN 1561 = GJL-250

(2) Cast chrome nickel molybdenum steel 1.4408

(3) Hot rolled chrome nickel molybdenum steel 1.4435

(4) Tempering steel = C45

(5) Cast chrome steel 1.4313

(6) Under request special variant with stainless steel base plate can be supplied

6. Components

6.1 Shaft Seal

Labyrinth sealing is supplied as standard.

6.2 Drive

IEC frame electric motor. M V1 mounting arrangement.

6.3 Bearings / Lubrication

Thrust ball bearings in the upper support and cylindrical roller bearing for radial loading in the lower support above the base plate. Both are lubricated through grease nipples.

6.4 Coupling

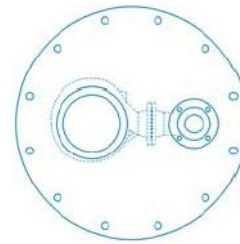
Flexible, rubber plug type coupling. Other types, upon request.

Coupling Guard: Transparent plastic protections are supplied as standard. Metallic protections can be supplied as option.

6.5 Base Plate

Standard base plate is rectangular shaped, and non sealing design. Circular base plate can be supplied as option

Circular base plate version



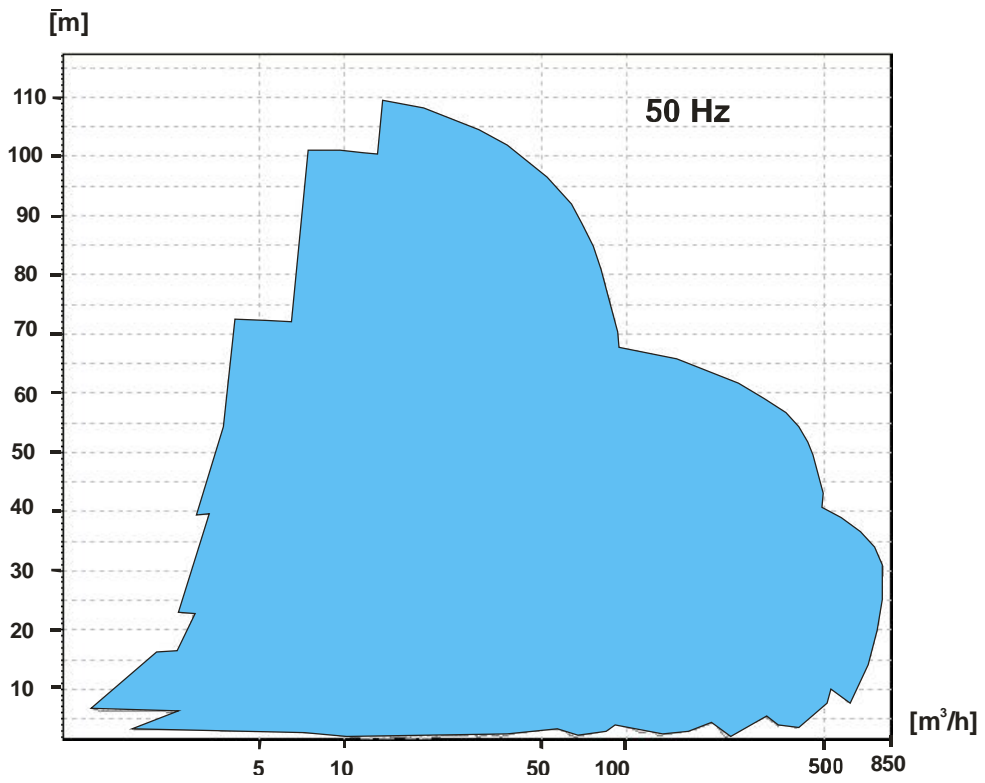
7. Certification - ATEX

Certified quality management according to ISO-9001.

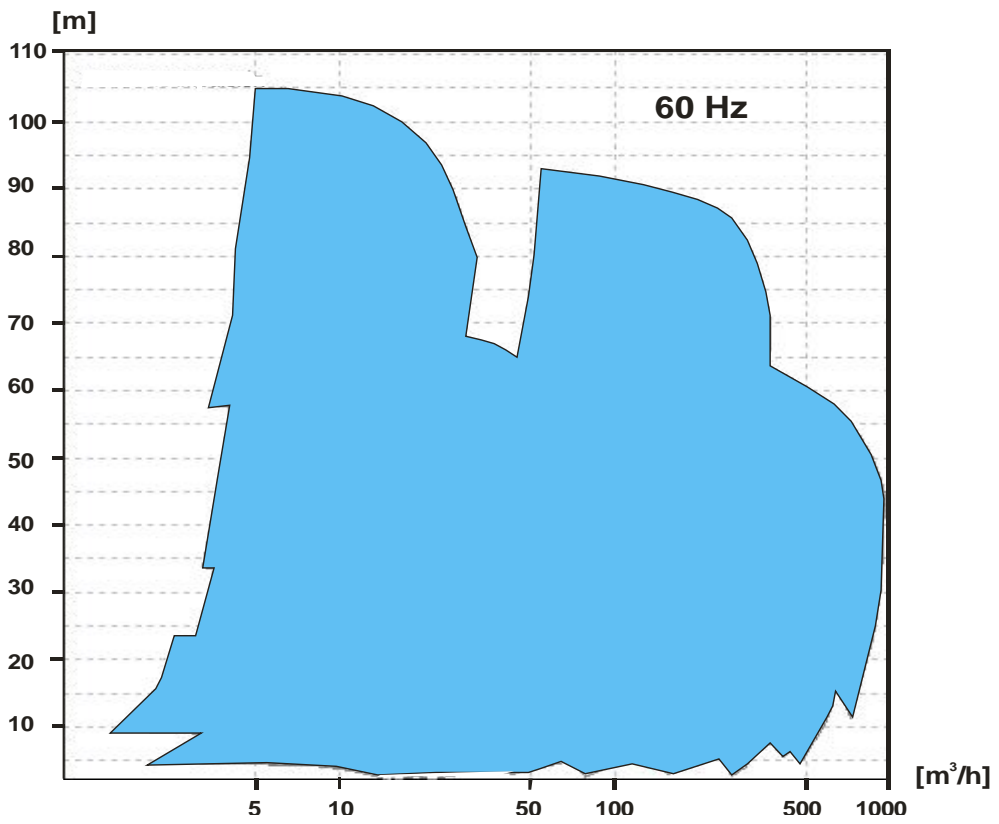
This series can be supplied as ATEX (94/9/EC) compliant.

8. Range Charts

50 Hz

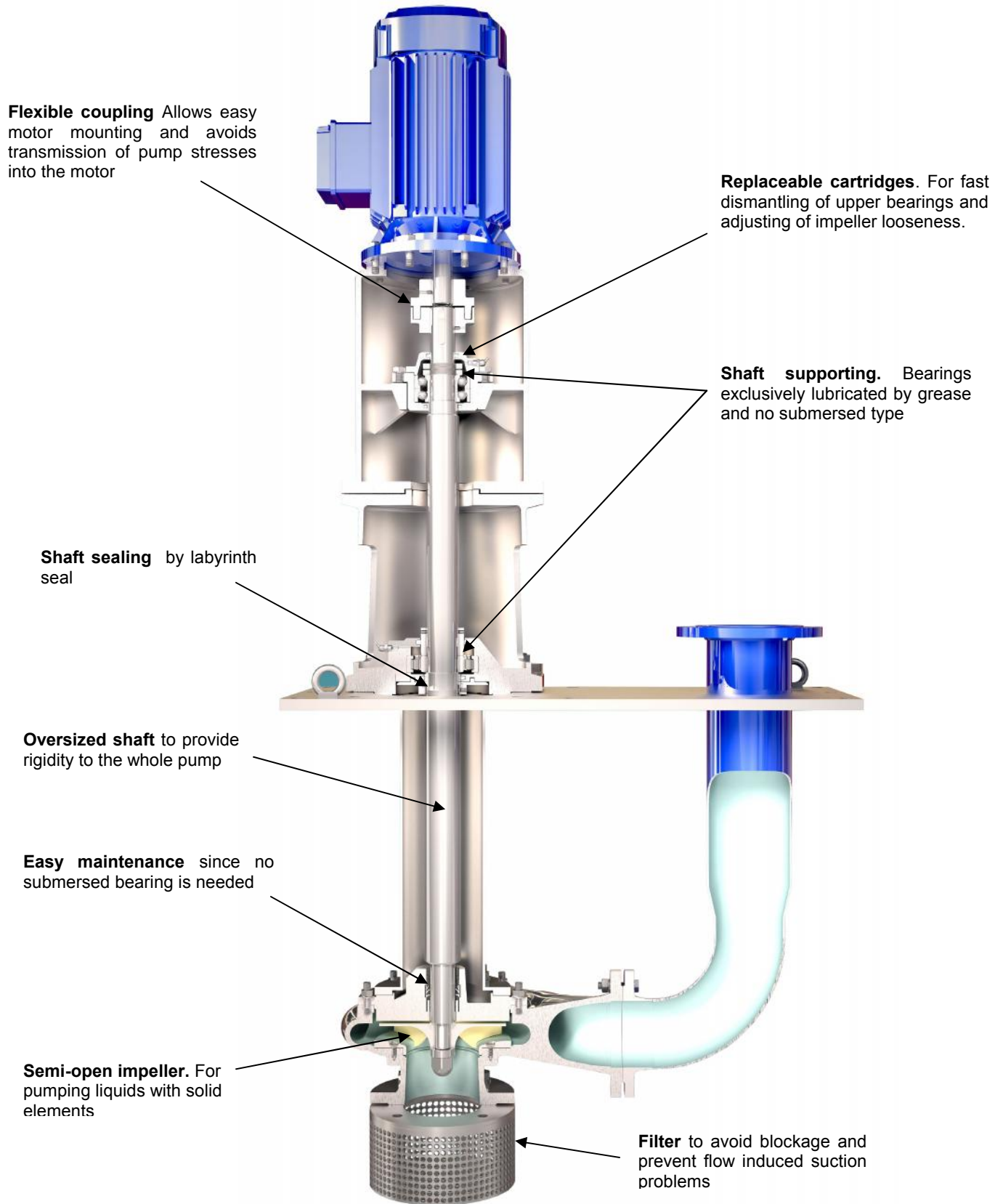


60 Hz



9. Benefits at a Glance

Robustness. Sturdy and balanced pumps for pumping of abrasive fluids.



10. Technical data

		PUMP SIZE																					
		Units	32/125A	32/160A	32/200A	40/125A	40/160A	40/200A	50/125A	50/160A	32/250A	40/250A	50/200A	50/250A	65/125A	65/160A	65/200A	80/160A	40/315A	50/315A	65/250A		
General																							
Impeller outlet width	mm	10	9			12	13	11	20	18	12	12	14	15	24	22	27	10	13	22			
Impeller eye section	cm ²	12,6	9,7	13,5	22,5	22,1	32,3	32,8	39	34		35	34	75	69	75	91	24,5	37	55			
Max. & min. Impeller Ø	mm	See individual curve																					
Ø suction strainer holes	mm	3				10						20				10		20					
Shaft Ø																							
At Impeller	mm	16						22						32									
Under bearing motor side	mm	35									50												
Under bearing non motor side	mm	55									65 or 80 (1)												
At coupling	mm	32									48												
Bearings (above base plate)																							
Motor side		2 x 7307																2 x 7310					
Non motor side		NU 311																NU 313 (2) or NU 2216 (3)					
Allowable motor frame		See "Dimensions per motor size" paragraph																					
Drive rating																							
	P/n	0,005						0,0137						0,0433									
Shaft seal																							
Standard		Labyrinth seal																					

(1) Shaft Ø depends on radial load and shaft length. Consult with KSB ITUR for specific data

(2) Bearing for shaft Ø of 65 mm

(3) Bearing for shaft Ø of 80 mm

		PUMP SIZE																			
		Units	65/315A	80/200A	80/250A	80/315A	100/200A	100/250A	100/315A	125/240A	125/250A	150/250A	200/250A	80/400A	100/400A	125/315A	125/400A	150/315A	150/400A	200/330A	
General																					
Impeller outlet width	mm	7	20	26	24	40	20	19	28		40	70	9	12	23	22	35	28	50		
Impeller eye section	cm ²	34,5	95	103	99	105	136	95	141	139	177	289	95	94	137	227	461				
Max. & min. Impeller Ø	mm	See individual curve																			
Ø suction strainer holes	mm	7	20				7	20				7	20								
Shaft Ø																					
At impeller	mm	32										42									
Under bearing motor side	mm	50										80									
Under bearing non motor side	mm	65 or 80 (1)										80									
At coupling	mm	48										80									
Bearings (above base plate)																					
Motor side		2 x 7310																			
Non motor side		NU 313 (2) or NU 2216 (3)										NU 2216									
Allowable motor frame		See "Dimensions per motor size" paragraph																			
Drive rating																					
	P/n	0,0433										0,1067									
Shaft seal																					
Standard		Labyrinth seal																			

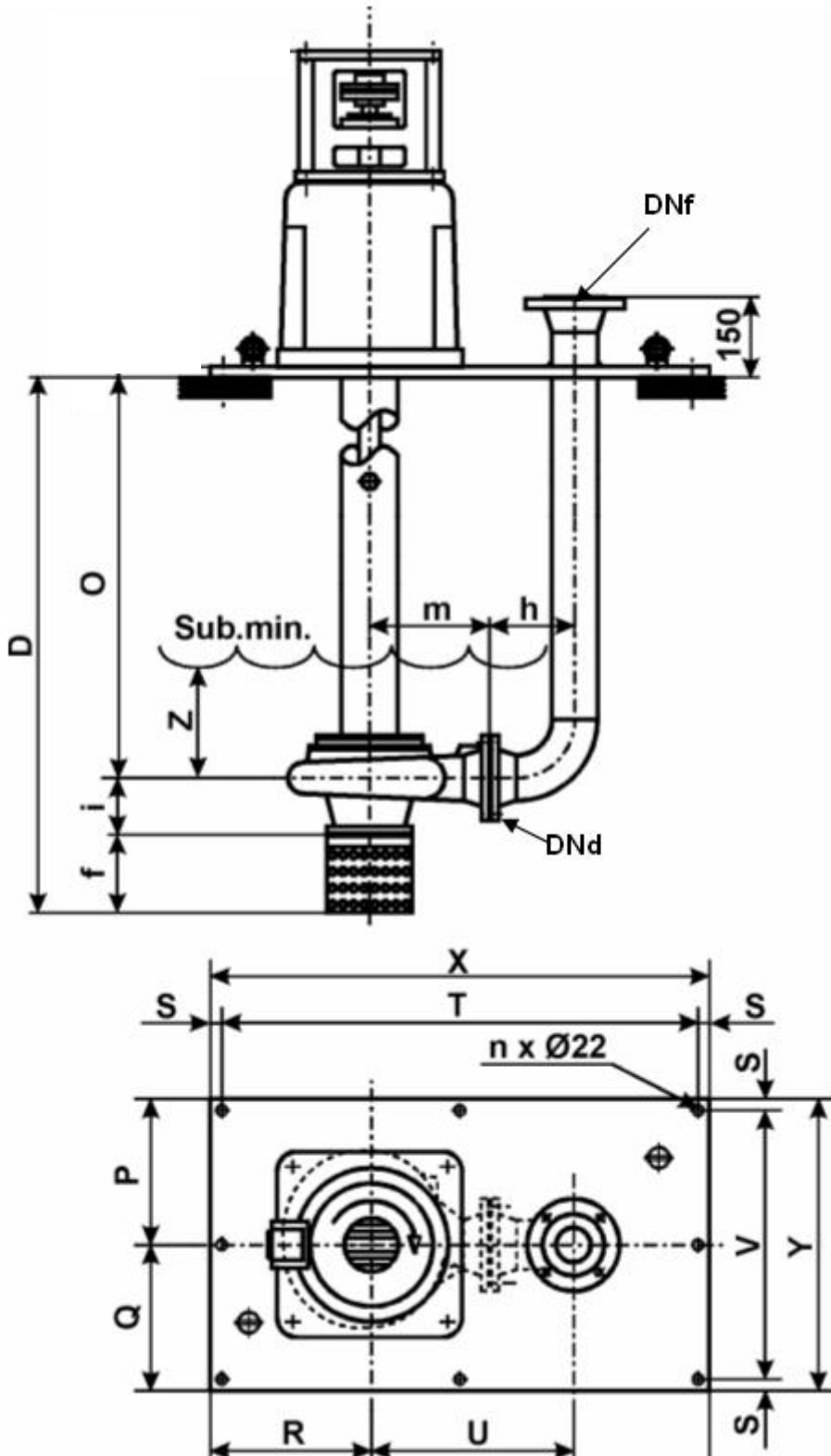
(1) Shaft Ø depends on radial load and shaft length. Consult with KSB ITUR for specific data

(2) Bearing for shaft Ø of 65 mm

(3) Bearing for shaft Ø of 80 mm

11. Dimensions

All dimensions in mm



Pump size	f	h	i	m	n	P	Q	R	S	T	U	V	X	Y	Z
32/125	100	130	80	140	8	250	250	250	30	630	270	440	690	940	120
32/160	100	110	80	160	8	250	250	250	30	630	270	440	690	940	120
32/200	100	90	80	180	8	250	250	250	30	630	270	440	690	940	200
32/250	100	90	100	225	8	250	250	250	30	680	315	440	740	940	200
40/125	100	142	80	140	6	250	250	250	30	640	282	440	700	940	120
40/160	100	122	80	160	8	250	250	250	30	640	282	440	700	940	120
40/200	100	102	100	180	8	250	250	250	30	640	282	440	700	940	200
40/250	100	102	100	225	8	250	250	250	30	680	327	440	740	940	200
50/125	100	124	100	160	8	250	250	250	30	670	284	440	730	940	120
50/160	100	124	100	180	8	250	250	250	30	680	304	440	740	940	120
50/200	100	124	100	200	8	250	250	250	30	670	324	440	730	940	220
50/250	100	124	100	225	8	250	250	250	30	710	349	440	770	940	220
65/125	100	143	100	180	8	250	250	250	30	710	323	440	770	940	120
65/160	100	143	100	200	8	250	250	250	30	740	343	440	800	940	220
65/200	100	143	100	225	8	260	260	255	30	740	368	460	800	970	220
80/160	100	167	125	225	8	250	250	250	30	780	392	440	840	940	220
40/315	100	102	125	250	8	300	300	300	30	780	352	540	840	1140	220
50/315	100	124	125	280	8	300	300	300	30	830	404	540	890	1140	220
65/250	100	143	100	250	8	260	260	260	30	770	393	460	830	980	220
65/315	100	143	125	280	8	300	300	310	30	870	423	540	930	1160	220
80/200	100	167	125	250	8	250	250	250	30	780	417	440	840	940	220
80/250	100	167	125	280	8	300	300	300	30	870	447	540	930	1140	240
80/315	100	167	125	315	8	320	320	320	30	920	482	580	980	1220	240
100/200	150	207	125	280	8	300	300	300	30	940	487	540	1000	1140	220
100/250	150	207	140	280	8	300	300	290	30	920	487	540	980	1120	220
100/315	150	207	140	315	8	350	350	350	30	1020	522	640	1080	1340	220
125/240	150	248	140	355	8	280	280	280	30	1010	603	500	1070	1060	220
125/250	150	248	140	355	8	280	280	280	30	1010	603	500	1070	1060	220
150/250	200	286	160	400	8	360	360	344	30	1200	686	660	1260	1348	240
200/250	200	370	200	400	8	400	400	430	30	1440	770	740	1500	1600	260
80/400	100	167	125	355	8	345	345	345	30	980	522	630	1040	1320	240
100/400	150	207	140	355	8	365	365	365	30	1080	562	670	1140	1400	240
125/315	150	248	140	355	8	350	350	355	30	1110	603	640	1170	1350	240
125/400	150	248	140	400	8	350	350	380	30	1210	648	640	1270	1400	240
150/315	200	286	160	400	8	350	350	330	30	1190	686	640	1250	1300	240
150/400	200	286	160	450	8	400	400	400	30	1280	736	740	1340	1540	240
200/330	250	370	200	450	12	420	420	400	30	1420	820	780	1480	1580	260

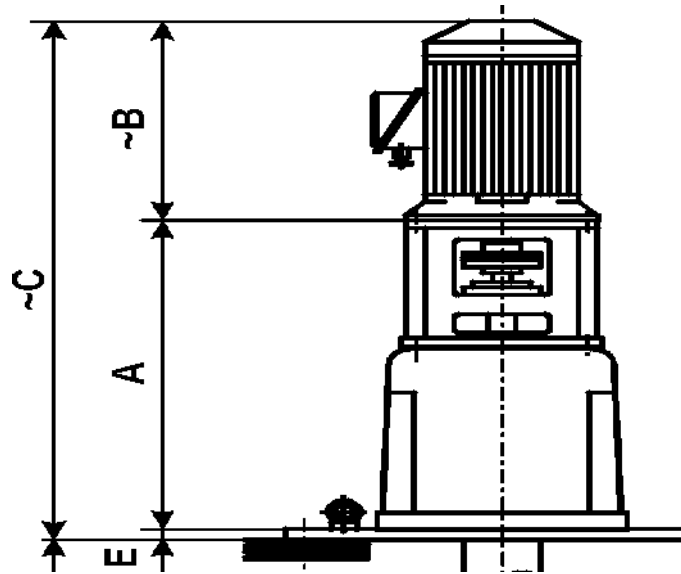
Discharge Flange dimensions

Pump casing flange DNd	Discharge flange DNf [mm/"] (1)					
	32	32	1 ¼"	40	1 ½"	50
40	40	1 ½"	50	2"	65	2 ½"
50	50	2"	65	2 ½"	80	3"
65	65	2 ½"	80	3"	100	4"
80	80	3"	100	4"	125	5"
100	100	4"	125	5"	150	6"
125	125	5"	150	6"	200	8"
150	150	6"	200	8"	250	10"
200	200	8"	250	10"	300	12"

(1) EN 1092 / DIN PN10
ANSI B16.5 150#

Pump size	AVAILABLE "O" LENGTHS AND MAX. SPEED (1) "D" length = O + i + f							
	O	rpm max	O	rpm max	O	rpm max	O	rpm max
32/125	440	3600	640	3600	840	3600	1040	3600
32/160	440	3600	640	3600	840	3600	1040	3600
32/200	440	3600	640	3600	840	3600	1040	3600
32/250	440	2683	640	2667	840	2652	1040	2637
40/125	440	3600	640	3600	840	3600	1040	3600
40/160	440	3600	640	3600	840	3600	1040	3600
40/200	440	3248	640	3225	840	3202	1040	3181
40/250	440	3219	640	3219	840	3219	1040	3219
50/125	440	3600	640	3600	840	3600	1040	3600
50/160	440	3600	640	3600	840	3600	1040	3600
50/200	440	3561	640	3525	840	3490	1040	3457
50/250	440	2933	640	2897	840	2862	1040	2753
65/125	440	3600	640	3600	840	3600	1040	3600
65/160	440	3600	640	3600	840	3600	1040	3068
65/200	440	3077	640	3033	840	2992	1040	2705
80/160	440	3600	640	3600	840	3408	1040	2768
40/315	455	2315	655	2308	855	2300	1055	2292
50/315	455	2230	655	2220	855	2210	1055	2200
65/250	455	2816	655	2793	855	2772	1055	2750
65/315	455	2455	655	2450	855	2445	1055	2440
80/200	455	3600	655	3600	855	3600	1055	3600
80/250	455	2756	655	2728	855	2701	1055	2675
80/315	455	2287	655	2262	855	2238	1055	2215
100/200	455	3600	655	3600	855	3600	1055	3517
100/250	455	2771	655	2740	855	2710	1055	2681
100/315	455	2117	655	2101	855	2086	1055	2071
125/240	455	3256	655	3200	855	3147	1055	3097
125/250	455	2611	655	2577	855	2544	1055	2513
150/250	460	2738	660	2677	860	2621	1060	2490
200/250	470	2810	670	2697	870	2286	1070	1877
80/400	468	1684	668	1681	868	1678	1068	1676
100/400	468	1593	668	1586	868	1579	1068	1572
125/315	463	1978	663	1958	863	1939	1063	1921
125/400	463	1936	663	1936	863	1936	1063	1936
150/315	463	1894	663	1867	863	1841	1063	1816
150/400	463	1689	663	1666	863	1645	1063	1624
200/330	485	1936	685	1896	885	1859	1085	1824

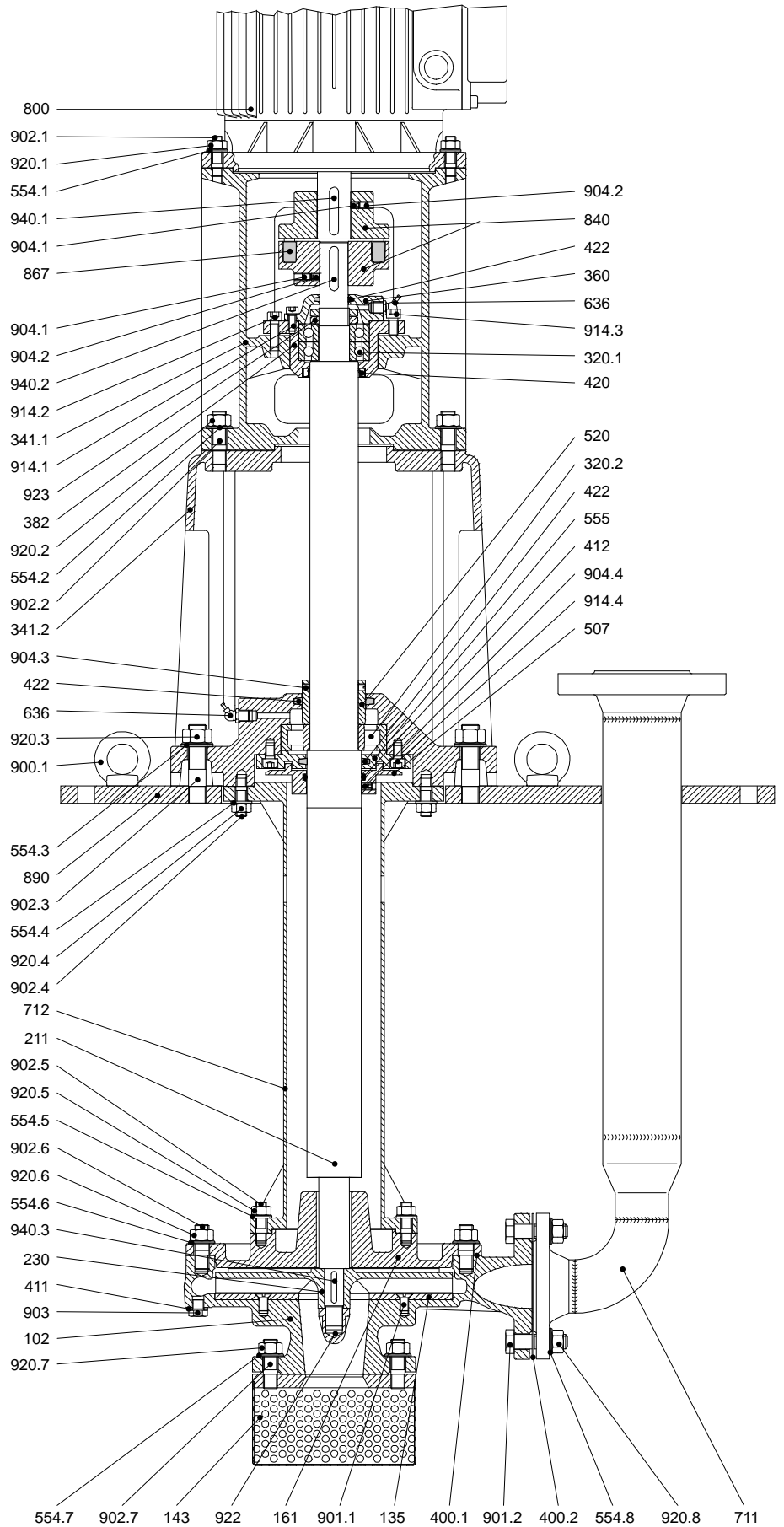
(1) some of the material variants may have a lower maximum speed than shown in this table

Dimensions per motor size


Pump size	IEC Frame	A	B	E	C	Pump size	IEC Frame	A	B	E	C				
32/125 32/160 32/200 32/250 40/125 40/160 40/200 40/250 50/125 50/160 50/200 50/250 65/125 65/160 65/200 80/160	80	705	234	20	959	80/400 100/400	160	875	446	20	1341				
	90	715	281		1016		180		602		1497				
	100	685	312		1017		200		660		1555				
	112		333		1038		225	666	1591						
	132	705	373		1098		250	747	1602						
	160	735	478		1233		835	280	820		1675				
	180		602		1357			315	865		932	1817			
	40/315 50/315 65/250 65/315 80/200 80/250 80/315 100/200 100/250 100/315 125/240 125/250 150/250 200/250	100	845		312		20	1177	125/315 125/400 150/315 150/400 200/330		160	875	446	25	1346
		112			333			1198			180		602		1502
132		373	1268	200	660	1560									
160		875	446	1341	225	666		1596							
180			602	1497	835	747		1607							
200			660	1555		280		820		1680					
225		905	666	1591		315		865		932	1822				

12. Cross sectional drawings

No.	Denomination
102	Volute casing
135	Wear plate
143	Suction strainer
161	Pump cover
211	Pump shaft
230	Impeller
320	Bearing
341	Pedestal
360	Bearing cover
382	Bearing support
400	Gasket
411	Circular gasket
412	O-ring
420	Lip seal
422	Felt ring
507	Deflector protection
520	Shaft sleeve
554	Flat washer
555	Labyrinth sealing
636	Grease nipple
711	Discharge pipe
712	Intermediate pipe
800	Motor
840	Coupling
867	Coupling flexible
890	Base plate
900	Screw
901	Hexagonal head screw
902	Bolt
903	Plug
904	Setscrew
914	Allen screw
920	Nut
922	Impeller nut
923	Bearing nut
940	Key



13. Coating

Single coat of 40 microns thickness water basis enamel with finish colour blue RAL 5010. Painted surface maximum temperature 70 °C. Other coatings upon request.

14. Recommended spare parts stock for two years continuous operation

No.	Denomination	Number of pumps (including stand-by pumps)						
		1-2	3	4	5	6-7	8-9	10 and more
---	Joints (set)	2	3	4	5	6	7	90%
135	Wear plate	1	1	2	2	2	3	30%
320	Bearing (set)	1	1	2	2	2	3	30%
420	Lip seal (set)	1	1	2	2	2	3	30%
422	Felt ring (set)	1	1	2	2	2	3	30%
507	Deflector protection	1	1	2	2	2	3	30%
520	Shaft sleeve	1	1	2	2	2	3	30%
867	Coupling flexible (set)	1	1	2	2	2	3	30%
922	Impeller nut	1	1	2	2	2	3	30%
940	Key (set)	1	1	2	2	2	3	30%
211	Pump shaft	1	1	2	2	2	3	30%
230	Impeller	1	1	2	2	2	3	30%
840	Coupling	1	1	2	2	2	3	30%



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