



AMCAL
INDUSTRIAL PUMP SOLUTIONS

KSB
DATA BOOKLET

HPK-L

Type Series Booklet



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Type Series Booklet HPK-L

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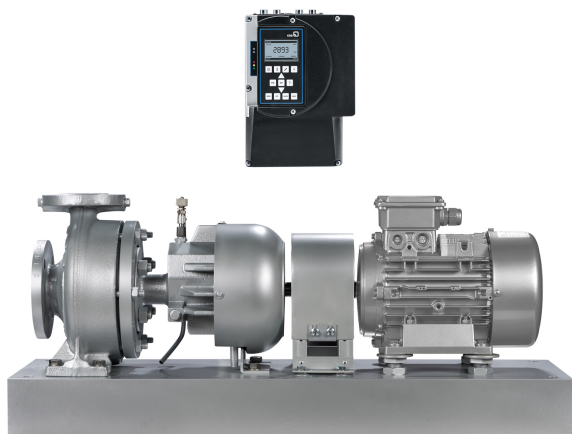
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Centrifugal Pumps with Shaft Seal

Heat Transfer Fluid Pumps / Hot Water Pumps

HPK-L



 The product illustrated as an example may include options incurring a surcharge.

Main applications

Pump for handling hot water and organic or synthetic heat transfer fluids in piping or tank systems.

- Heating systems
- Forced circulation boilers
- District heating
- Heat transfer systems

Operating data

Table 1: Operating properties

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 1160	≤ 1400
Head	H [m]	≤ 162	≤ 233
Fluid temperature, variant S/Z	T [°C]	≥ -40	
		≤ +350	
Fluid temperature, variant E/Y	T [°C]	≥ -40	
		≤ +400	
Operating pressure, variant E/S	p [bar]	≤ 25	
Operating pressure, variant Y/Z	p [bar]	≤ 40	

Design details

Design

- Volute casing pump
- Horizontal installation
- Back pull-out design
- Single-stage
- Technical requirements to ISO 5199
- Dimensions and ratings to ISO 2858 complemented by pumps of nominal sizes DN 25, DN 200 and above

Pump casing

- Single or double volute, depending on the pump size
- Radially split volute casing
- Volute casing with integrally cast pump feet
- Replaceable casing wear rings

Shaft seal

- KSB mechanical seal, optimised for installation in an HPK-L pump, with integrated shaft sleeve (standard Europe)
- Optional commercial single mechanical seals with replaceable shaft sleeve (standard Asia/Americas)
- Versions with two mechanical seals can be supplied for heat transfer applications.

Impeller type

- Closed radial impeller with multiply curved vanes

Bearings

Bearings:

- Version with single mechanical seal
 - Radial bearing: plain bearing, product-lubricated
 - Fixed bearings: two angular ball bearings, grease-packed
- Version with two mechanical seals
 - Radial bearing: plain bearing, product-lubricated
 - Fixed bearing: one deep groove ball bearing or one four-point bearing (depending on the pump size), grease-packed

Bearing bracket designation

Example: CS50

Table 2: Bearing bracket designation

Code	Description
CS	Bearing bracket
50	Size

Table 3: Bearings used

Design	Bearing bracket	Plain bearing	Ball bearing
One mechanical seal	CS40	SSiC	2x7307
	CS50	SSiC	2x7307
	CS60	SSiC	2x7309
	CS80	SSiC	2x7313
Two mechanical seals	CS40	SSiC	1x6307 or QJ307
	CS50	SSiC	1x6307 or QJ307
	CS60	SSiC	1x6309
	CS80	SSiC	1x6313 or QJ313

Designation

Table 4: Designation example

Position																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
H	P	K	L	0	5	0	-	0	3	2	-	2	5	0	1	E	G	B	S		X	W		W	0	0	7	5	4		B
See name plate and data sheet																					See data sheet										

Table 5: Designation key

Position	Code	Description
1-4	Pump type	
	HPKL	HPK-L
5-16	Size, e.g.	
	050	Nominal suction nozzle diameter [mm]
	032	Nominal discharge nozzle diameter [mm]
	2501	Nominal impeller diameter [mm]
17	Pump casing material / Casing cover material	
	E	GP240GH+N/ A216 Gr. WCB P250GH / 1.7335/P355NL1 (Europe) GP240GH+N / A216 Gr. WCB (Asia)
	S	GP240GH+N/ A216 Gr. WCB EN-GJS-400-18-LT
	Y	1.7706 P250GH / 1.7335/P355NL1
	Z	1.7706 EN-GJS-400-18-LT
18	Impeller material	
	C	Stainless steel 1.4408 / A743 Gr. CF8M
	E	Steel GP240GH+N / A216 Gr WCB
	G	Grey cast iron EN-GJL-250 / A 48 CL 35B
19-21	Shaft seal type	
	BS	Single mechanical seal, dead-end arrangement, air-cooled
	TL	Tandem mechanical seals, dead-end arrangement, air-cooled
22	Design	
	-	Standard
	X	Non-standard (BT3D, BT3)
23	Fluid handled	
	O	Heat transfer fluids
	W	Hot water
24	-	
25	Bearing bracket design	
	W	Bearing bracket for heat transfer applications
26-29	Motor rating P _N [kW]	
	0007	0,75
	...	...
	1320	132,00
30	Number of motor poles	
31-32	Product generation	
	A	HPK-L 2001
	B	HPK-L 2013 Global Pump

Automation (Europe only)

- PumpDrive

Automation options:

Materials

Table 6: Overview of available materials (Europe)

Description	Material variant							
	SG	SC	EG	EC	ZG	ZC	YG	YC
Volute casing	GP240GH+N				1.7706			
Casing cover	EN-GJS-400-18-LT		P250GH/1.7335/P355NL ¹⁾		EN-GJS-40-18-LT		P250GH/1.7335/P355NL ¹⁾	
Impeller	EN-GJL-250	1.4408	EN-GJL-250	1.4408	EN-GJL-250	1.4408	EN-GJL-250	1.4408
Shaft	1.4021+QT800							
Shaft sleeve	1.4021+QT800							
Bearing bracket	EN-GJS-400-18-LT							
Support foot	Steel							
Casing wear ring	None ²⁾	None ³⁾	None ²⁾	None ³⁾	None ²⁾	None ³⁾	None ²⁾	None ³⁾
Impeller wear ring	None ⁴⁾	None ⁵⁾	None ⁴⁾	None ⁵⁾	None ⁴⁾	None ⁵⁾	None ⁴⁾	None ⁵⁾
Impeller nut	AISI316							
Gasket	CrNi graphite 1G							

Table 7: Overview of available materials (Asia)

Description	Material variant	
	EG	EE
Volute casing	A216 Gr WCB	
Casing cover	A216 Gr WCB	
Impeller	A48CL35B	A216 Gr WCB
Shaft	A276 Type 410 COND. H	
Shaft sleeve	A276 Type 410 COND. H	
Bearing bracket	A216 Gr WCB	
Support foot	Steel	
Casing wear ring	A48CL35B	None ⁶⁾
Impeller wear ring	None	None ⁶⁾
Impeller nut	AISI 316	
Gasket	CrNi graphite 1G	

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Low temperature in the mechanical seal chamber; no cooling water required thanks to air-cooled bearing bracket with heat barrier.
- Increased operating reliability of versions for heat transfer applications by an optional two mechanical seals preventing leakage.
- Higher efficiencies than the previous HPK-L model by continued development of the flow passage within the hydraulic system.
- Optimised venting of mechanical seal chamber by patented VenJet profile.

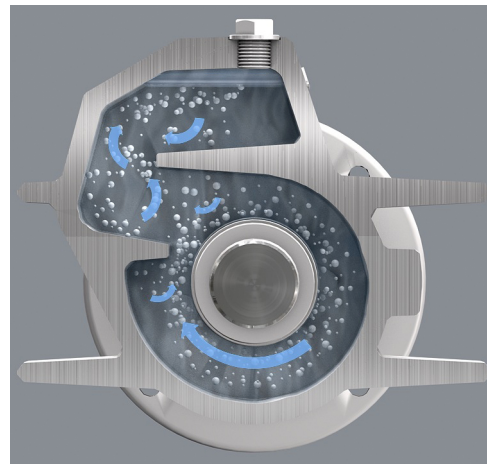


Fig. 1: VenJet profile

¹⁾ Depending on the size
²⁾ Optional casing wear ring made of EN-GJL-250 or VG434
³⁾ Optional casing wear ring made of VG434
⁴⁾ Optional impeller wear ring made of 1.4021+QT in combination with casing wear ring made of EN-GJL-250 or VG434
⁵⁾ Optional impeller wear ring made of CrNiMoSt in combination with casing wear ring made of VG434
⁶⁾ Optional casing wear ring made of Chrome hard 400 in combination with impeller wear ring made of A743 Gr CA15

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see <https://www.ksb.com/en-global/company/corporate-responsibility/reach>.

Acceptance tests and warranty

- Materials testing
 - Test report 2.2 on request
- Final inspection

- Inspection certificate 3.1 to EN 10204 on request

▪ Hydraulic test

The duty point of each pump is guaranteed according to ISO 9906/2A.

The following acceptance tests can be performed and certified at extra charge:

- Performance test to ISO 9906
- NPSH test

▪ Other tests (e.g. vibrations, strength) on request.

▪ Warranty

Warranties are given within the scope of the valid terms and conditions of sale and delivery.

Overview of product features / selection tables

Bearings

- Version with single mechanical seal
 - Radial bearing: plain bearing, product-lubricated
 - Fixed bearings: two angular ball bearings, grease-packed
- Version with two mechanical seals
 - Radial bearing: plain bearing, product-lubricated
 - Fixed bearing: one deep groove ball bearing or one four-point bearing (depending on the pump size), grease-packed

Bearing bracket designation

Example: CS50

Table 8: Bearing bracket designation

Code	Description
CS	Bearing bracket
50	Size

Table 9: Bearings used

Design	Bearing bracket	Plain bearing	Ball bearing
One mechanical seal	CS40	SSiC	2x7307
	CS50	SSiC	2x7307
	CS60	SSiC	2x7309
	CS80	SSiC	2x7313
Two mechanical seals	CS40	SSiC	1x6307 or QJ307
	CS50	SSiC	1x6307 or QJ307
	CS60	SSiC	1x6309
	CS80	SSiC	1x6313 or QJ313

Pressure and temperature limits

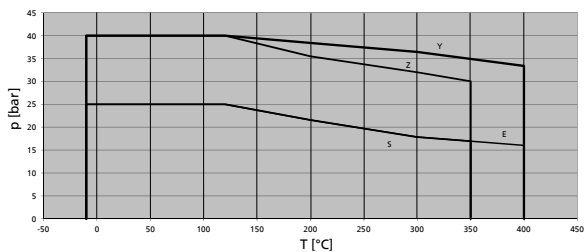


Fig. 2: Pressure and temperature limits of the pump

ASME flanges do not have any impact on the pressure and temperature limits of the pump.

Technical data

Table 10: Technical data

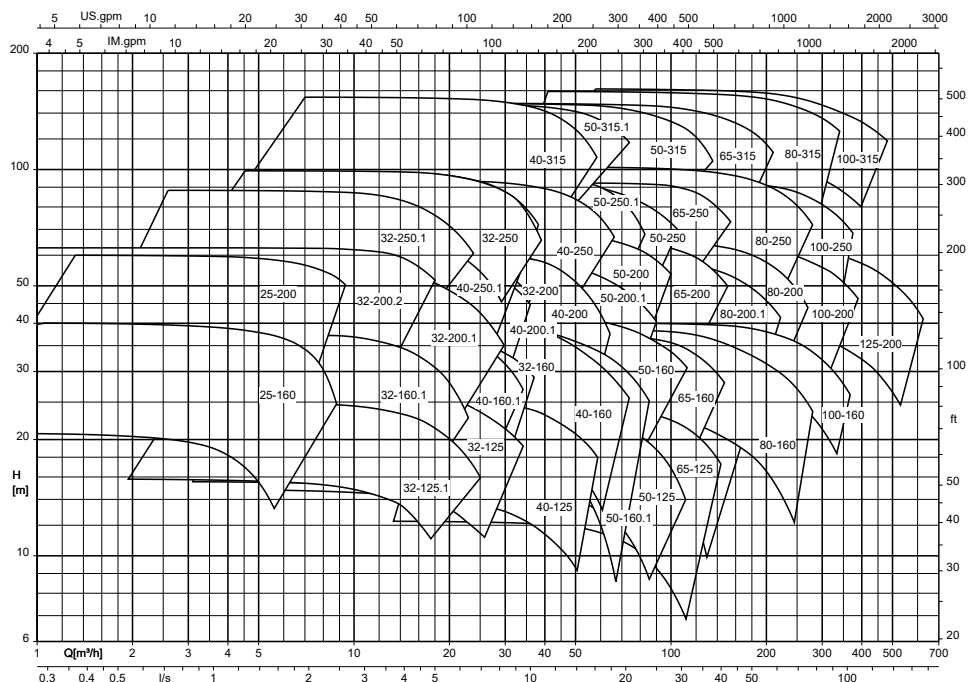
Size	Bearing bracket	Impeller					Shaft diameter					Speed limit		Weights	Volute type ⁷⁾
		Impeller outlet width	Free passage	Impeller inlet width	Max. impeller diameter	Min. impeller diameter	Without shaft sleeve	Pump-end bearing	Drive-end bearing	Coupling	Shaft sleeve	Minimum	Maximum		
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[rpm]			
040-025-160	CS40	6	5,7	44	169	130	28	24	35	24	33	800	3600	50	E
040-025-200	CS40	6	5,7	44	209	160	28	24	35	24	33	800	3600	60	E
050-032-125.1	CS40	7	6,0	52	139	114	28	24	35	24	33	800	3600	47	E
050-032-160.1	CS40	6	5,4	52	170	138	28	24	35	24	33	800	3600	51	E
050-032-200.1	CS40	6	5,3	54	204	138	28	24	35	24	33	800	3600	60	E
050-032-250.1	CS50	6	5,2	58	254	220	38	35	35	32	43	800	3600	87	E
050-032-125	CS40	10	5,7	63	139	110	28	24	35	24	33	800	3600	47	E
050-032-160	CS40	9	5,8	63	174	135	28	24	35	24	33	800	3600	51	E
050-032-200	CS40	7	6,7	62	209	178	28	24	35	24	33	800	3600	61	E
050-032-250	CS50	8	7,1	63	261	212	38	35	35	32	43	800	3600	87	E
065-040-160.1	CS40	9	8,5	65	169	130	28	24	35	24	33	800	3600	50	E
065-040-250.1	CS50	7	6,6	68	260	200	28	24	35	24	43	800	3600	88	E
065-040-125	CS40	14	9,6	74	139	110	28	24	35	24	33	800	3600	48	E
065-040-160	CS40	13	11,5	70	174	135	28	24	35	24	33	800	3600	50	E
065-040-200	CS40	9	8,9	69	209	175	28	24	35	24	33	800	3600	64	E
065-040-250	CS50	8	8,0	73	260	214	38	35	35	32	43	800	3600	88	E
065-040-315	CS50	8	7,1	75	326	278	38	35	35	32	43	800	3600	119	E
080-050-315.1	CS50	8	7,6	85	320	260	38	35	35	32	43	800	3600	136	E
080-050-315	CS50	10	9,5	86	323	270	38	35	35	32	43	800	3600	136	E
080-050-125	CS40	20	11,6	88	142	114	28	24	35	24	33	800	3600	55	E
080-050-160	CS40	17	11,6	87	174	135	28	24	35	24	33	800	3600	57	E
080-050-200	CS40	14	11,9	83	219	180	28	24	35	24	33	800	3600	66	E
080-050-250	CS50	11	10	84	260	220	38	35	35	32	43	800	3600	136	E
100-065-125	CS40	26	12,9	99	141	114	28	24	35	24	33	800	3600	56	E
100-065-160	CS50	21	12,2	92	174	132	38	35	35	32	43	800	3600	89	E
100-065-200	CS50	17	13,3	100	219	180	38	35	35	32	43	800	3600	91	E
100-065-250	CS50	15	14,3	101	260	220	38	35	35	32	43	800	3600	109	E
100-065-315	CS60	14	13,0	107	320	270	48	38	45	42	53	800	3600	152	E
125-080-160	CS50	32	15,1	124	174	122	38	35	35	32	43	800	3600	95	E
125-080-200	CS50	25	15,2	115	219	180	38	35	35	32	43	800	3600	98	E
125-080-250	CS50	19	15,8	115	269	220	38	35	35	32	43	800	3600	118	D
125-080-315	CS60	19	17,8	115	334	281	48	38	45	42	53	800	3600	159	D
125-080-400	CS60	15	14,3	129	398	330	48	38	45	42	53	800	1800	234	E
125-100-160	CS50	38	16,4	135	185	155	38	35	35	32	43	800	3600	115	E
125-100-200	CS50	33	17,9	142	219	179	38	35	35	32	43	800	3600	108	E
125-100-250	CS60	27	18,8	145	262	216	48	38	45	42	53	800	3600	134	D
125-100-315	CS60	23	19,9	142	334	280	48	38	45	42	53	800	3600	166	D
125-100-400	CS60	18	17,1	142	401	329	48	38	45	42	53	800	1800	243	E
150-125-200	CS60	41	21,1	160	224	162	48	38	45	42	53	800	3600	142	D
150-125-250	CS60	37	22,4	162	269	218	48	38	45	42	53	800	1800	167	E
150-125-315	CS60	31	22,6	162	334	280	48	38	45	42	53	800	1800	208	E
150-125-400	CS60	26	20,9	162	419	330	48	38	45	42	53	800	1800	263	D
200-150-200	CS60	60	25,2	179	224	158	48	38	45	42	53	800	1800	213	E
200-150-250	CS60	49	23,0	191	269	220	48	38	45	42	53	800	1800	201	E
200-150-315	CS80	40	26,9	192	334	264	60	47	65	48	65	800	1800	278	E
200-150-400	CS80	33	23,8	191	419	330	60	47	65	48	65	800	1800	327	D
200-150-500	CS80	23	19,1	190	504	400	60	47	65	48	65	800	1800	454	D
200-200-250	CS80	62	37,2	190	260	200	60	47	65	48	65	800	1800	327	E
250-200-315	CS80	50	20,8	222	320	260	60	47	65	48	65	800	1800	342	E

⁷⁾ E = single volute, D = double volute

Size	Bearing bracket	Impeller					Shaft diameter					Speed limit		Weights	Volute type ²⁾
		Impeller outlet width	Free passage	Impeller inlet width	Max. impeller diameter	Min. impeller diameter	Without shaft sleeve	Pump-end bearing	Drive-end bearing	Coupling	Shaft sleeve	Minimum	Maximum		
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[rpm]			
250-200-400	CS80	40	18,4	222	404	320	60	47	65	48	65	800	1800	409	D
250-200-500	CS80	32	20,6	222	504	400	60	47	65	48	65	800	1800	565	D
300-250-315	CS80	73	26,7	270	324	260	60	47	65	48	65	800	1800	505	D

Selection charts

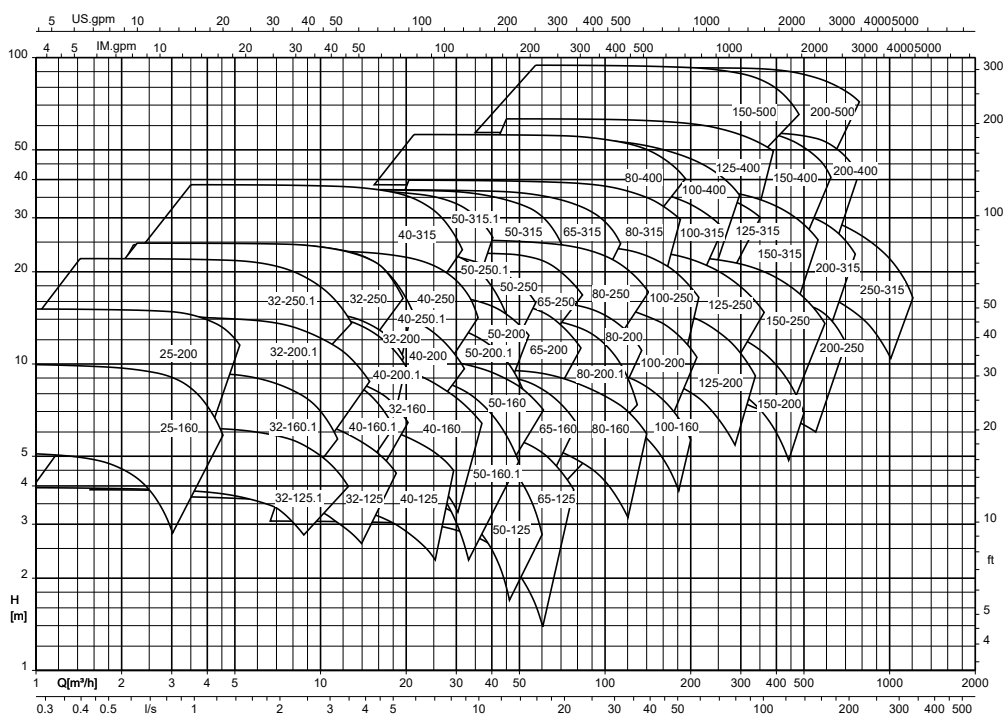
HPK-L, $n = 2900$ rpm



Size 065-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

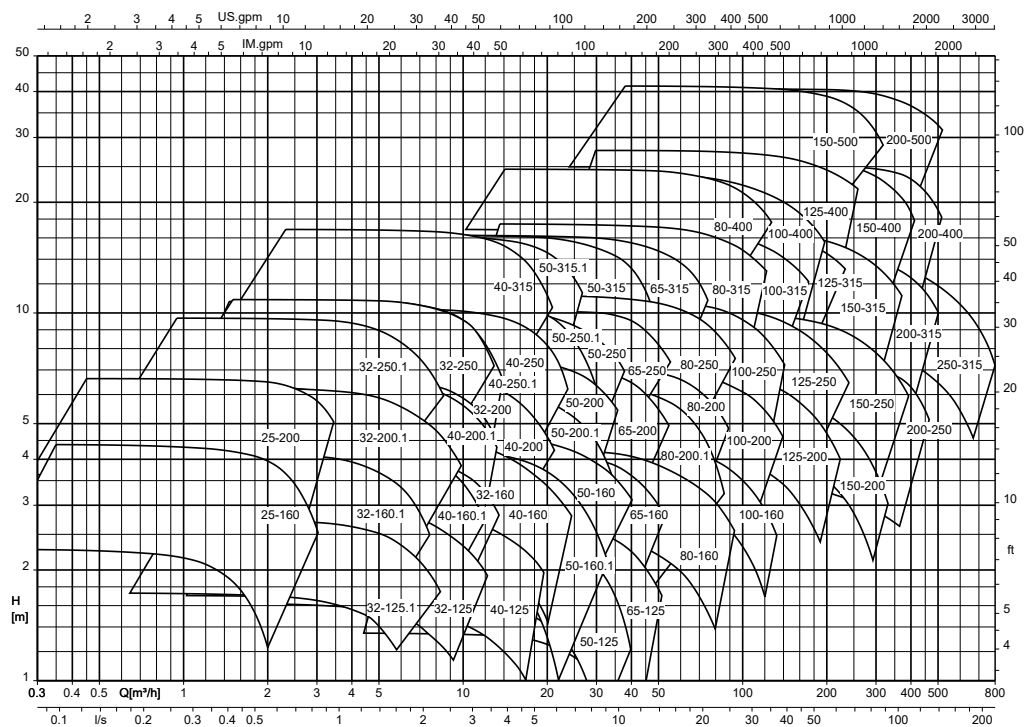
HPK-L, n = 1450 rpm



Size 65-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

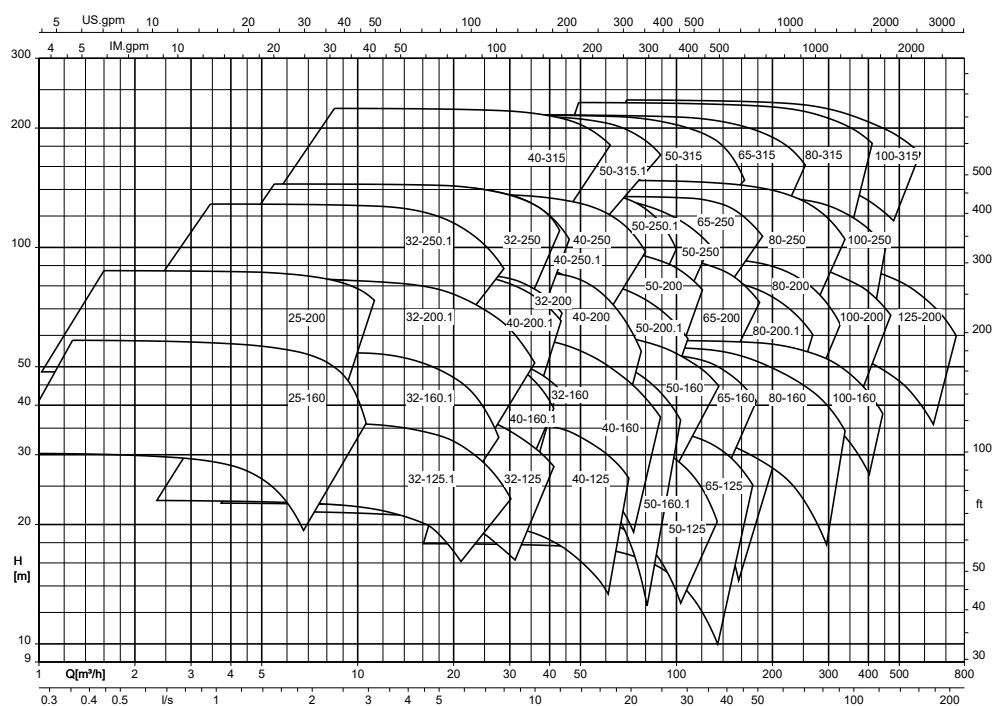
HPK-L, n = 960 rpm



Size 65-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

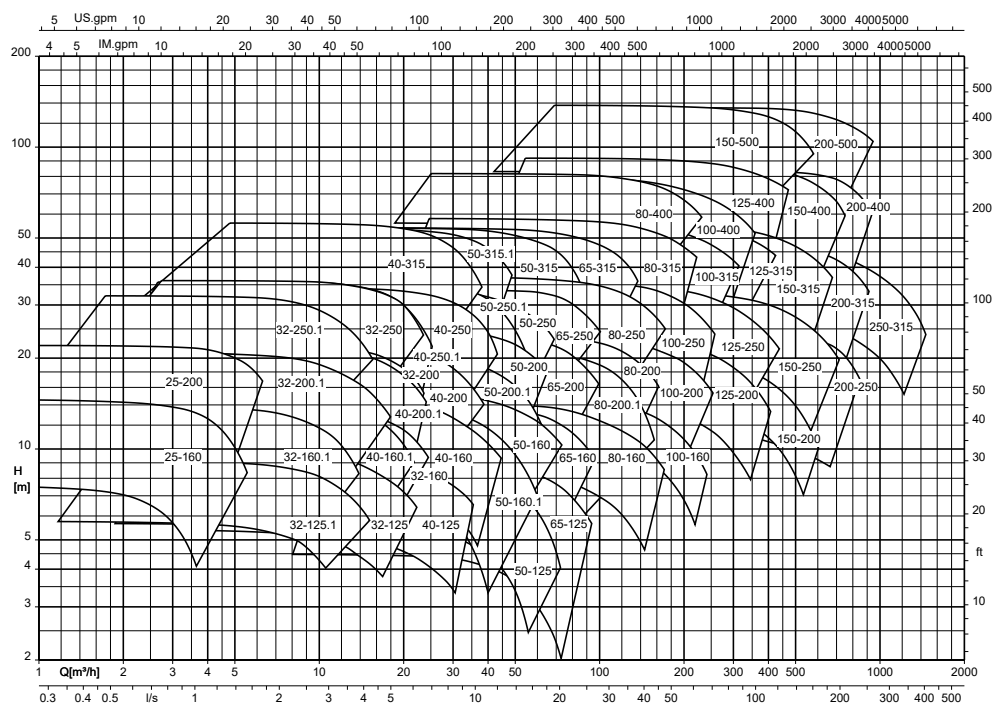
HPK-L, $n = 3500$ rpm



Size 65-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

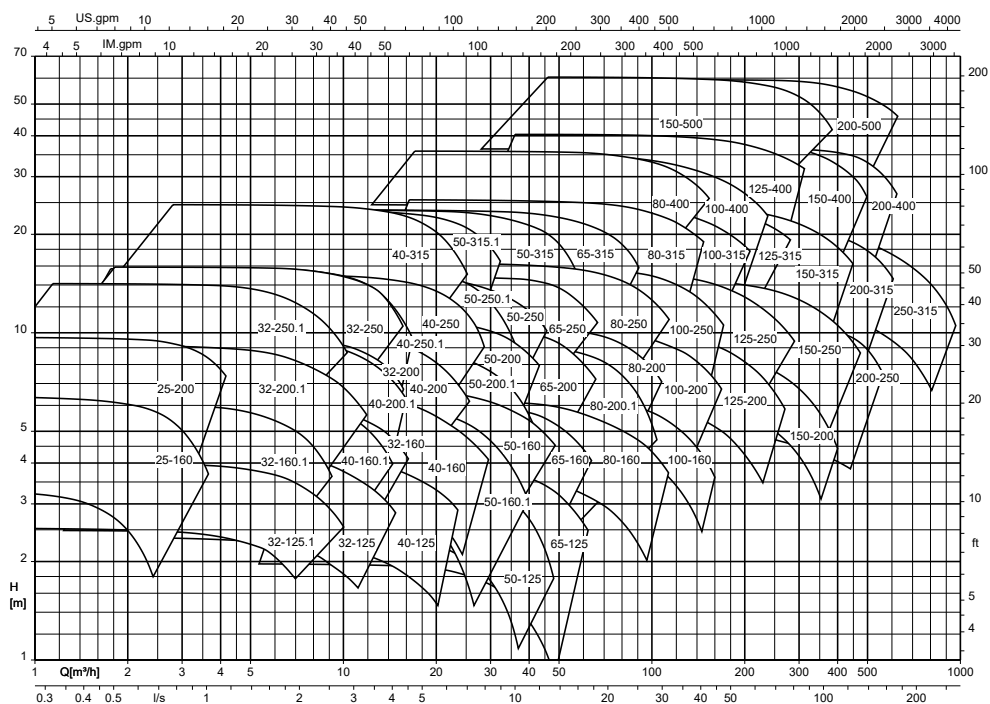
HPK-L, $n = 1750$ rpm



Size 65-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

HPK-L, $n = 1160 \text{ rpm}$



Size 65-125 not available in Asia

Sizes 040-160.1, 040-250.1 and 050-315.1 are only available in Europe.

Dimensions and connections

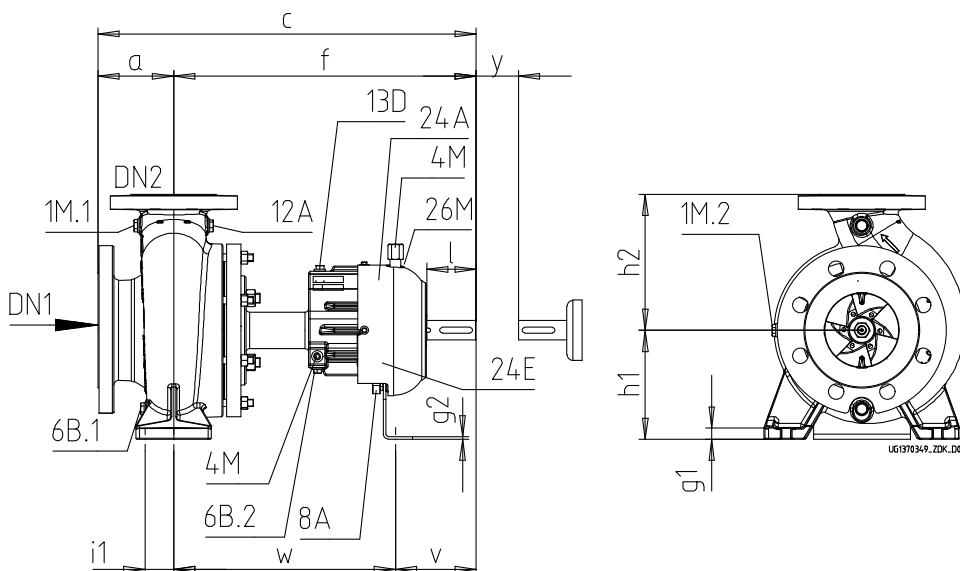


Fig. 3: Dimensions and connections of the pump

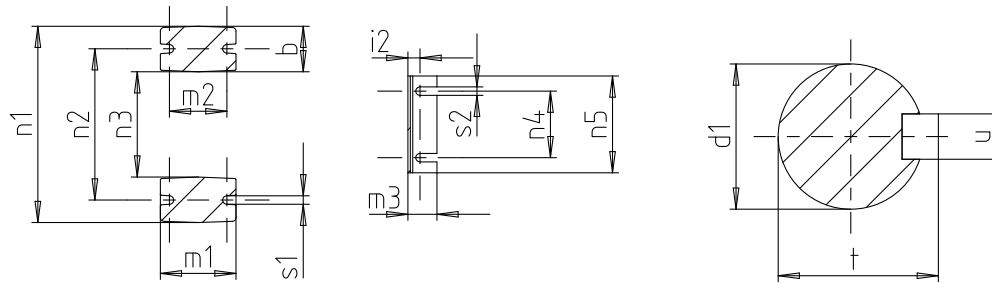

Fig. 4: Dimensions of pump feet and shaft end

Table 11: Connection types, Europe

Connection	Discharge nozzle			Description
	≤ DN 50	DN 65-DN 80	≥ DN 100	
1M.1	G1/4	G3/8	G1/2	Pressure gauge
1M.2	G1/4	G3/8	G1/2	Pressure gauge
4M		G1/4		Temperature measuring instrument
6B.1	G1/4	G3/8	G1/2	Fluid drain
6B.2		G1/4		Fluid drain
8A		R1/4		Leakage drain
12A	G1/4	G3/8	G1/2	Auxiliary connection
13D		G1/4		Vent plug
24 E/A		G1/2		Quench fluid IN/OUT
26M		M8		Vibration measurement

Table 12: Connection types, Asia/Americas

Connection	Discharge nozzle			Description
	≤ DN 50	DN 65-DN 80	≥ DN 100	
1M.1	NPT1/4	NPT3/8	NPT1/2	Pressure gauge
1M.2	NPT1/4	NPT3/8	NPT1/2	Pressure gauge
4M		G1/4		Temperature measuring instrument
6B.1	NPT1/4	NPT3/8	NPT1/2	Fluid drain
6B.2		G1/4		Fluid drain
8A		R1/4		Leakage drain
12A	NPT1/4	NPT3/8	NPT1/2	Auxiliary connection
13D		G1/4		Vent plug
24 E/A		NPT1/2		Quench fluid IN/OUT
26M		M8		Vibration measurement

Table 13: Pump dimensions

Size	Bearing bracket	Pump dimensions														
		DN1	DN2	a	b	c	f	g1	g2	h1	h2	m1	m3	n1	n3	n5
040-025-160	CS40	40	25	80	50	465	385	15	4	132	160	100	48	240	140	160
040-025-200	CS40	40	25	80	50	465	385	15	4	160	180	100	48	240	140	160
050-032-125	CS40	50	32	80	50	465	385	15	4	112	140	100	48	190	90	160
050-032-125.1	CS40	50	32	80	50	465	385	15	4	112	140	100	48	190	90	160
050-032-160.1	CS40	50	32	80	50	465	385	15	4	132	160	100	48	240	140	160
050-032-200.1	CS40	50	32	80	50	465	385	18	4	160	180	100	48	240	140	160
050-032-250.1	CS50	50	32	100	65	600	500	18	4	180	225	125	48	320	190	160
050-032-160	CS40	50	32	80	50	465	385	15	4	132	160	100	48	240	140	160
050-032-200	CS40	50	32	80	50	465	385	18	4	160	180	100	48	240	140	160
050-032-250	CS50	50	32	100	65	600	500	18	4	180	225	125	48	320	190	160
065-040-160.1	CS40	65	40	80	50	465	385	15	4	132	160	100	48	240	140	160
065-040-250.1	CS50	65	40	100	65	600	500	18	4	180	225	125	48	320	190	160
065-040-125	CS40	65	40	80	50	465	385	15	4	112	140	100	48	210	110	160

Size	Bearing bracket	Pump dimensions														
		DN1	DN2	a	b	c	f	g1	g2	h1	h2	m1	m3	n1	n3	n5
065-040-160	CS40	65	40	80	50	465	385	15	4	132	160	100	48	240	140	160
065-040-200	CS40	65	40	100	50	485	385	18	4	160	180	100	48	265	165	160
065-040-250	CS50	65	40	100	65	600	500	18	4	180	225	125	48	320	190	160
065-040-315	CS50	65	40	125	65	625	500	18	6	200	250	125	48	345	215	160
080-050-315.1	CS50	80	50	125	65	625	500	18	6	225	280	125	48	345	215	160
080-050-125	CS40	80	50	100	50	465	385	18	4	132	160	100	48	240	140	160
080-050-160	CS40	80	50	100	50	485	385	18	4	160	180	100	48	265	165	160
080-050-200	CS40	80	50	100	50	485	385	18	4	160	200	100	48	265	165	160
080-050-250	CS50	80	50	125	65	625	500	18	4	180	225	125	48	320	190	160
080-050-315	CS50	80	50	125	65	625	500	18	6	225	280	125	48	345	215	160
100-065-125	CS40	100	65	100	65	485	385	18	4	160	180	125	48	280	150	160
100-065-160	CS50	100	65	100	65	600	500	18	4	160	200	125	48	280	150	160
100-065-200	CS50	100	65	100	65	600	500	18	4	180	225	125	48	320	190	160
100-065-250	CS50	100	65	125	80	625	500	20	6	200	250	160	48	360	200	160
100-065-315	CS60	100	65	125	80	655	530	20	6	225	280	160	48	400	240	160
125-080-160	CS50	125	80	125	65	625	500	18	4	180	225	125	48	320	190	160
125-080-200	CS50	125	80	125	65	625	500	18	4	180	250	125	48	345	215	160
125-080-250	CS50	125	80	125	80	625	500	18	6	225	280	160	48	400	240	160
125-080-315	CS60	125	80	125	80	655	530	20	6	250	315	160	48	400	240	160
125-080-400	CS60	125	80	125	80	655	530	20	6	280	355	160	48	435	275	160
125-100-160	CS50	125	100	125	80	625	500	18	6	200	280	160	48	360	200	160
125-100-200	CS50	125	100	125	80	625	500	18	6	200	280	160	48	360	200	160
125-100-250	CS60	125	100	140	80	670	530	18	6	225	280	160	48	400	240	160
125-100-315	CS60	125	100	140	80	670	530	18	6	250	315	160	48	400	240	160
125-100-400	CS60	125	100	140	100	670	530	20	6	280	355	200	48	500	300	160
150-125-200	CS60	150	125	140	80	670	530	20	6	250	315	160	48	400	240	160
150-125-250	CS60	150	125	140	80	670	530	20	6	250	355	160	48	400	240	160
150-125-315	CS60	150	125	140	100	670	530	20	6	280	355	200	48	500	300	160
150-125-400	CS60	150	125	140	100	670	530	20	6	315	400	200	48	500	300	160
200-150-200	CS60	200	150	180	100	710	530	20	6	280	400	200	48	550	350	160
200-150-250	CS60	200	150	160	100	690	530	20	6	280	375	200	48	500	300	160
200-150-315	CS80	200	150	160	100	830	670	20	12	315	400	200	60	550	350	200
200-150-400	CS80	200	150	160	100	830	670	20	12	315	450	200	60	550	350	200
200-150-500	CS80	200	150	180	100	850	670	22	12	375	500	200	60	550	350	200
200-200-250	CS80	200	200	180	100	850	670	22	12	355	425	200	60	550	350	200
250-200-315	CS80	250	200	200	100	870	670	22	12	355	450	200	60	550	350	200
250-200-400	CS80	250	200	180	100	850	670	22	12	355	500	200	60	550	350	200
250-200-500	CS80	250	200	200	100	870	670	22	12	425	560	200	60	660	460	200
300-250-315	CS80	300	250	250	130	920	670	26	12	400	560	260	60	690	430	200

Table 14: Dimensions of shaft end and foot bolts

Size	Bearing bracket	Shaft end					Foot bolts								
		d1	l	t	u	y	i1	i2	m2	n2	n4	s1	s2	v	w
040-025-160	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
040-025-200	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
050-032-125	CS40	24	50	27	8	100	35	20	70	140	110	14	14	100	285
050-032-125.1	CS40	24	50	27	8	100	35	20	70	140	110	14	14	100	285
050-032-160.1	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
050-032-200.1	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
050-032-250.1	CS50	32	80	35	10	100	47,5	20	95	250	110	14	14	130	370
050-032-160	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
050-032-200	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
050-032-250	CS50	32	80	35	10	100	47,5	20	95	250	110	14	14	130	370
065-040-160.1	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
065-040-250.1	CS50	32	80	35	10	100	47,5	20	95	250	110	14	14	130	370
065-040-125	CS40	24	50	27	8	100	35	20	70	160	110	14	14	100	285

Size	Bearing bracket	Shaft end					Foot bolts								
		d1	l	t	u	y	i1	i2	m2	n2	n4	s1	s2	v	w
065-040-160	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
065-040-200	CS40	24	50	27	8	100	35	20	70	212	110	14	14	100	285
065-040-250	CS50	32	80	35	10	100	47,5	20	95	250	110	14	14	130	370
065-040-315	CS50	32	80	35	10	100	47,5	20	95	280	110	14	14	130	370
080-050-315.1	CS50	32	80	35	10	100	47,5	20	95	280	110	14	14	130	370
080-050-125	CS40	24	50	27	8	100	35	20	70	190	110	14	14	100	285
080-050-160	CS40	24	50	27	8	100	35	20	70	212	110	14	14	100	285
080-050-200	CS40	24	50	27	8	100	35	20	70	212	110	14	14	100	285
080-050-250	CS50	32	80	35	10	100	47,5	20	95	250	110	14	14	130	370
080-050-315	CS50	32	80	35	10	100	47,5	20	95	280	110	14	14	130	370
100-065-125	CS40	24	50	27	8	100	47,5	20	95	212	110	14	14	100	285
100-065-160	CS50	32	80	35	10	100	47,5	20	95	212	110	14	14	130	370
100-065-200	CS50	32	80	35	10	140	47,5	20	95	250	110	14	14	130	370
100-065-250	CS50	32	80	35	10	140	60	20	120	280	110	18	14	130	370
100-065-315	CS60	42	110	45	12	140	60	20	120	315	110	18	14	160	370
125-080-160	CS50	32	80	35	10	140	47,5	20	95	250	110	14	14	130	370
125-080-200	CS50	32	80	35	10	140	47,5	20	95	280	110	14	14	130	370
125-080-250	CS50	32	80	35	10	140	60	20	120	315	110	18	14	130	370
125-080-315	CS60	42	110	45	12	140	60	20	120	315	110	18	14	160	370
125-080-400	CS60	42	110	45	12	140	60	20	120	355	110	18	14	160	370
125-100-160	CS50	32	80	35	10	140	60	20	120	280	110	19	14	130	370
125-100-200	CS50	32	80	35	10	140	60	20	120	280	110	18	14	130	370
125-100-250	CS60	42	110	45	12	140	60	20	120	315	110	18	14	160	370
125-100-315	CS60	42	110	45	12	140	60	20	120	315	110	18	14	160	370
125-100-400	CS60	42	110	45	12	140	75	20	150	400	110	23	14	160	370
150-125-200	CS60	42	110	45	12	140	60	20	120	315	110	19	14	160	370
150-125-250	CS60	42	110	45	12	140	60	20	120	315	110	18	14	160	370
150-125-315	CS60	42	110	45	12	140	75	20	150	400	110	23	14	160	370
150-125-400	CS60	42	110	45	12	140	75	20	150	400	110	23	14	160	370
200-150-200	CS60	42	110	45	12	180	75	20	150	450	110	24	14	160	370
200-150-250	CS60	42	110	45	12	180	75	20	150	400	110	23	14	160	370
200-150-315	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
200-150-400	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
200-150-500	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
200-200-250	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
250-200-315	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
250-200-400	CS80	48	103	51	14	180	75	39	150	450	140	23	18	170	500
250-200-500	CS80	48	103	51	14	180	75	39	150	560	140	23	18	170	500
300-250-315	CS80	48	103	51	14	180	95	39	190	560	140	28	18	170	500

Flange design

Table 15: Flange design by materials

Material	Standard	Pressure class
E/ S	EN 1092-1	PN 25
	Drilled to ASME B16.5	Class 300 ⁸⁾
Y/ Z	EN 1092-1	PN 40
	Drilled to ASME B16.5	Class 300

Scope of supply

Depending on the model, the following items are included in the scope of supply:

- Pump

Drive

- Surface-cooled IEC frame three-phase squirrel-cage motor

Coupling

- Flexible coupling with or without spacer

Contact guard

- Coupling guard

Baseplate

Europe:

- Baseplate (to ISO 3661), cast or welded, for pump and motor, in torsion-resistant design
- Channel section steel or folded steel plate

⁸ Not possible for size 100-065-125

Asia/Americas:

- Baseplate to local KSB standard

Special accessories

- As required

General assembly drawing with list of components

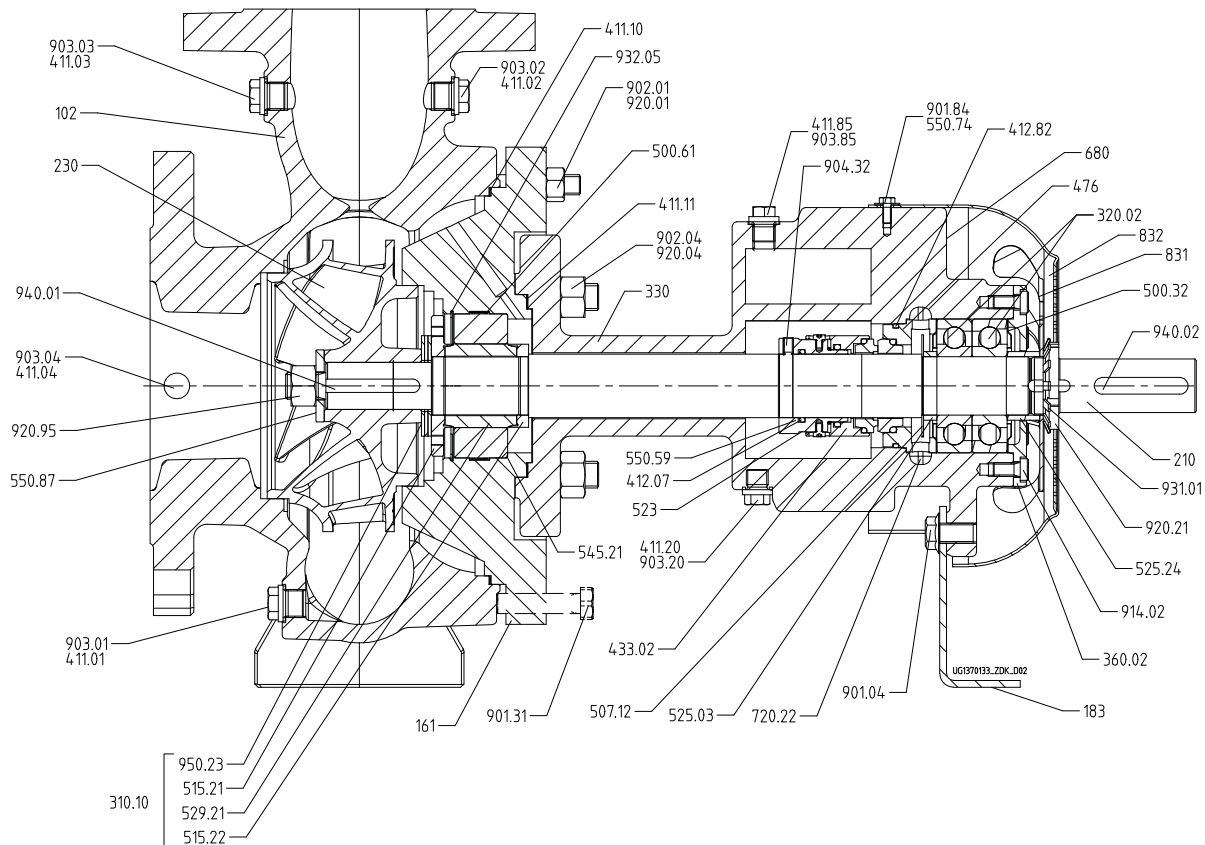
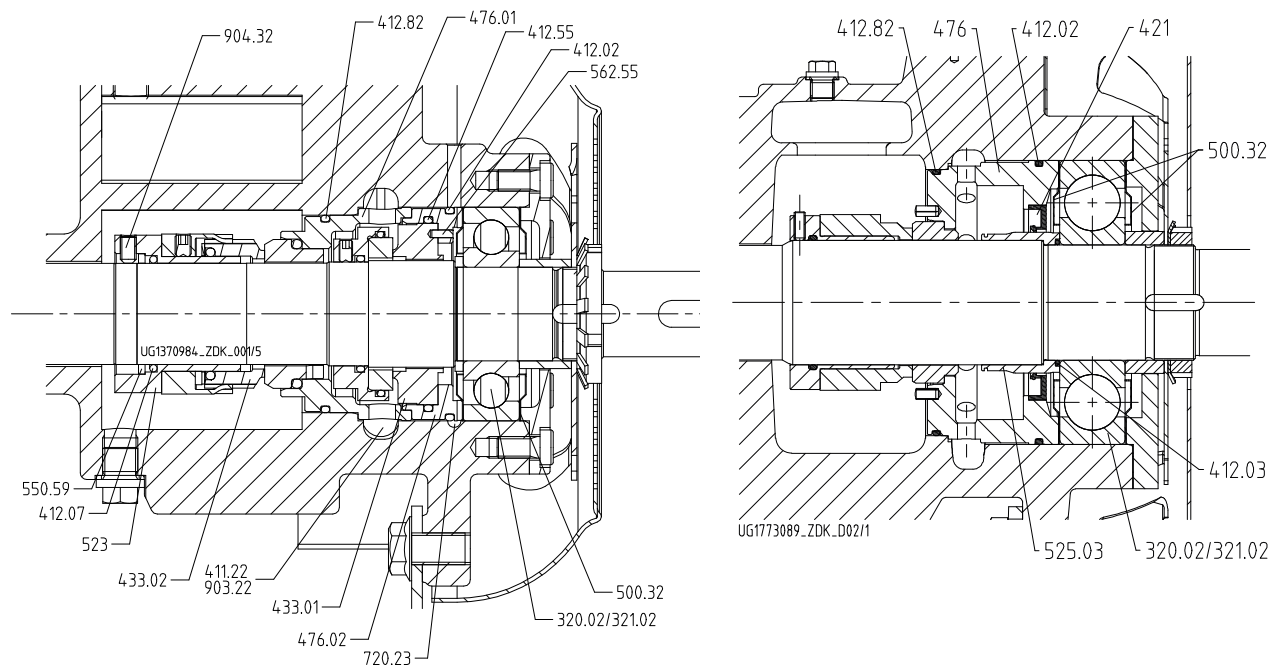
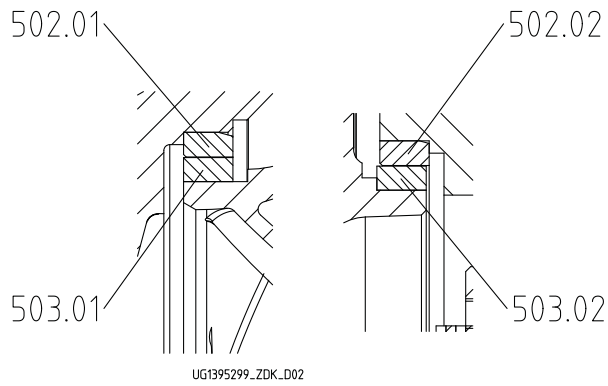


Fig. 5: General assembly drawing for version with one mechanical seal and two angular contact ball bearings

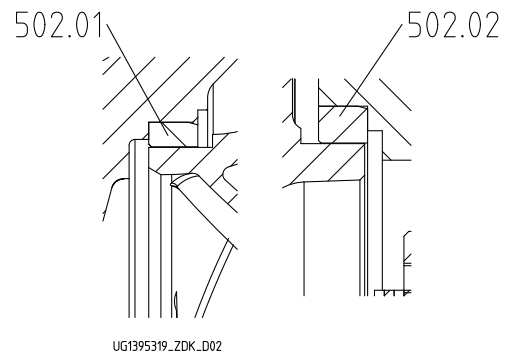


Version with two mechanical seals and one deep groove ball bearing
or one four-point bearing

Version with one mechanical seal with lip seal and one
deep groove ball bearing or one four-point bearing



Version with casing wear ring and impeller wear ring



Version with casing wear ring

Table 16: List of components

Part No.	Comprising	Description
102	102	Volute casing
	411.01/.02/.03/.04/.10	Joint ring
	502.01 ⁹⁾	Casing wear ring
	902.01	Stud
	903.01/.02/.03/.04	Screw plug
	920.01	Hexagon nut
161	161	Casing cover
	411.11	Joint ring
	500.61	Tolerance ring
	502.02 ⁹⁾	Casing wear ring
	545.21	Bearing bush
	901.31	Hexagon head bolt
	902.04	Stud
	920.04	Hexagon nut
	932.05	Circlip
183	183	Support foot
210	210	Shaft
	550.87	Disc
	920.21	Slotted round nut
	920.95	Hexagon nut
	931.01	Lock washer
	940.01/02	Key
230	230	Impeller
	503.01/.02 ¹⁰⁾	Impeller wear ring
310.10	310.10	Plain bearing
	515.21/.22	Locking ring
	529.21	Bearing sleeve
	950.23	Disc spring
320.02 ¹¹⁾	320.02 ¹¹⁾	Angular contact ball bearing
321.02 ¹¹⁾	321.02 ¹¹⁾	Deep groove ball bearing
330	330	Bearing bracket
360.02	360.02	Bearing cover
411.20/.22/.35 ¹²⁾ /.36 ¹²⁾ /.55/.85	411.20/.22/.35 ¹²⁾ /.36 ¹²⁾ /.55/.85	Joint ring
412.02 ¹³⁾ .03 ¹⁴⁾ /.07 ¹³⁾ /.55 ¹³⁾ /.82 ¹³⁾	412.02 ¹³⁾ /.03 ¹⁴⁾ /.07 ¹³⁾ /.55 ¹³⁾ /.82 ¹³⁾	O-ring

- ⁹⁾ For version with casing wear ring only
¹⁰⁾ For version with casing wear ring and impeller wear ring only
¹¹⁾ Depending on the design
¹²⁾ For version with two mechanical seals only
¹³⁾ Not fitted on version with KSB mechanical seal
¹⁴⁾ For version with one mechanical seal only

Part No.	Comprising	Description
421 ¹⁵⁾	421 ¹⁵⁾	Lip seal
433.01	433.01	Mechanical seal
433.02	433.02	Mechanical seal
476/.01 ¹³⁾ /.02 ¹³⁾	476/.01 ¹³⁾ /.02 ¹³⁾	Mating ring carrier
500.32	500.32	Nilos ring
507.12	507.12	Thrower
523 ¹³⁾	523 ¹³⁾	Shaft sleeve
525.03/.24	525.03/.24	Spacer sleeve
550.59 ¹³⁾	550.59 ¹³⁾	Support disc
550.74	550.74	Disc
562.55 ¹³⁾	562.55 ¹³⁾	Parallel pin
680	680	Guard
720.22 ¹⁴⁾ /.23 ¹²⁾	720.22	Barrel nipple
720.35 ¹²⁾ /.36 ¹²⁾	720.35 ¹²⁾ /.36 ¹²⁾	Extension
831	831	Fan impeller
832	832	Fan hood
901.04/.84	901.04/.84	Hexagon head bolt
902.04	902.04	Stud
903.20/.22/.85	903.20/.22/.85	Screw plug
904.32 ¹³⁾	904.32 ¹³⁾	Grub screw
914.02	914.02	Hexagon socket head cap screw
920.04	920.04	Hexagon nut

Designation

Table 17: Designation example

Position																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
H	P	K	L	0	5	0	-	0	3	2	-	2	5	0	1	E	G	B	S		X	W		W	0	0	7	5	4		B
See name plate and data sheet																						See data sheet									

Table 18: Designation key

Position	Code	Description
1-4	Pump type	
	HPKL	HPK-L
5-16	Size, e.g.	
	050	Nominal suction nozzle diameter [mm]
	032	Nominal discharge nozzle diameter [mm]
	2501	Nominal impeller diameter [mm]
17	Pump casing material / Casing cover material	
	E	GP240GH+N/ A216 Gr. WCB P250GH / 1.7335/P355NL1 (Europe) GP240GH+N / A216 Gr. WCB (Asia)
	S	GP240GH+N/ A216 Gr. WCB EN-GJS-400-18-LT
	Y	1.7706 P250GH / 1.7335/P355NL1
	Z	1.7706 EN-GJS-400-18-LT
18	Impeller material	
	C	Stainless steel 1.4408 / A743 Gr. CF8M
	E	Steel GP240GH+N / A216 Gr WCB
	G	Grey cast iron EN-GJL-250 / A 48 CL 35B
19-21	Shaft seal type	
	BS	Single mechanical seal, dead-end arrangement, air-cooled
	TL	Tandem mechanical seals, dead-end arrangement, air-cooled
22	Design	
	-	Standard
	X	Non-standard (BT3D, BT3)
23	Fluid handled	

¹⁵⁾ For version with one mechanical seal, lip seal and one bearing only

Position	Code	Description
23	O	Heat transfer fluids
	W	Hot water
24	-	
25	Bearing bracket design	
	W	Bearing bracket for heat transfer applications
26-29	Motor rating P_N [kW]	
	0007	0,75
	...	...
	1320	132,00
30	Number of motor poles	
31-32	Product generation	
	A	HPK-L 2001
	B	HPK-L 2013 Global Pump



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