

Type	Data
Models	SMT, SMT16B, SMAPI
Installation position	Free for vertical, for horizontal, for submerged
Connection	G or SAE 3000
Drive loading	No axial or radial loads
Shaft rotation	Clockwise (from shaft end) , (suitable also for counter clockwise rotation)
Shaft speed	0 ~3600rpm
Flows	0~ 8000L/min
Outlet pressure	0~ 80bar
Inlet pressur	- 0.7~3bar
Fluids	Machine oil, Crude oil, diesel oil, Synthetic fluid or emulsion, water-oil emulsion 40% of volume, Lubrication high viscosity oils, Special synthetic fluid, Fuel oil and other fluids on request
Viscosity	1~10000mm <sup>2</sup> /s
Seal typ	NBR,VITON,FPM and other seal on request
Noise	52 ~68db(A) at 2950rpm
Pump material	Aluminum for housing and steel and castiron for screw, other material on request
Screw	Steel for primary screw, cast iron for secondary screw
Environment temperatu	-50~+60 °C
Hydraulic temperatu	-50~+300 °C
Filtration	Permissible degree of fluid contamination NAS 1638

\* For other products , please contact Helnco

1	2	3	4	5	6	7	8	9	
Type		L/Min 2750rpm	Pump body	Viscosity (mm <sup>2</sup> s)	Hollow shaft	Shaft seal	Internal pressure relief valve	Rotation	
GR20	SMT16B (Max.40bar)	8L,12L 15L,20L	None Aluminum G Cast iron A Carbon steel	None (0~100) S1 (from SMT16B 100~250) S2 (from SMT 250~500) S3 (from SMT 500~800) S4 (from SMT 800~10000)	AC19	None NBR V FKM E EDPM TM Mechanical Seal	None No security valve RF1 (5bar) RF2 (10bar) RF3 (15bar) RP Variable regulation valve(2)	None Right rotation  SX Left rotation	
GR25		25L,30L			AC19				
GR32		35L,45L 55L,75L			AC19/24				
GR40		100L,125L 150L			AC19/24/28				
GR45		180L,210L			AC28/38				
GR55		250L,300L 330L,380L			AC28/38				
GR60		440L,500L			AC28/38				
GR70		SMT (Max.80bar)			600L,660L 800L				AC28/38
GR80		SMAPI (Max.80bar)			1000L,1200L				Not available for hollow shaft pump
GR90		1500L,1700L 2000L,2200L							
GR110		2300L,2500L 2800L,3200L							
GR130		3300L,3800L							
GR150		4800L,5300L 6000L							
GR180		7000L,7800L 8500L,9500L							

(1) SMT16B Available from S1, SMT Available from S2,S3,S4.

(2) RP available from GR20 to GR70 included.

(3) For example GR40SMT16B100LGS1AC24RF2SX.

# 40bar n=1750rpm 60Hz

Type	bar	46mm <sup>2</sup> /s		320mm <sup>2</sup> /s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR20-8L	5	6.4	0.1	6.5	0.1
	10	6.2	0.1	6.3	0.2
GR20-12L	5	8.9	0.1	9.1	0.2
	10	8.7	0.2	8.9	0.3
GR20-15L	5	10.6	0.2	10.7	0.3
	10	10.3	0.3	10.5	0.4
GR20-20L	5	15.3	0.2	15.5	0.4
	10	14.9	0.4	15.2	0.5
GR25-25L	5	20	0.3	20.2	0.4
	10	19.4	0.4	19.8	0.6
GR25-30L	5	24.9	0.4	25.3	0.5
	10	24.6	0.6	24.8	0.7
GR32-35L	5	29.4	0.4	29.8	0.6
	10	28.6	0.6	29.2	0.8
GR32-45L	5	29.7	0.4	30.2	0.7
	10	28.9	0.7	29.6	0.9
GR32-55L	5	39.2	0.5	39.8	0.7
	10	38.1	0.8	39	1.1
GR32-75L	5	52.3	0.7	53.1	1
	10	50.9	1.1	52	1.4
GR40-100L	5	71.5	0.9	72.5	1.3
	10	69.5	1.5	71	1.9
GR40-125L	5	86.9	1.1	88.1	1.5
	10	84.4	1.8	86.3	2.3
GR40-150L	5	102.3	1.3	103.6	1.8
	10	99.3	2.1	101.5	2.7
GR45-180L	5	122.9	1.5	124.6	2.1
	10	119.4	2.5	122	3.2
GR45-210L	5	145.5	1.8	147.6	2.5
	10	141.4	3	144.5	3.8
GR55-250L	5	183.5	2.2	186.1	3
	10	178.4	3.7	182.3	4.6
GR55-300L	5	207.7	2.5	210.6	3.4
	10	201.9	4.2	206.2	5.2
GR55-330L	5	229.4	2.8	232.7	3.8
	10	223	4.7	227.8	5.7

Type	bar	46mm <sup>2</sup> /s		320mm <sup>2</sup> /s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR55-380L	5	261	3.1	264.5	4.3
	10	254	5.3	259	6.5
GR60-440L	5	310	3.7	314.8	5
	10	302	6.3	308.2	7.7
GR60-500L	5	345	4.1	349.8	5.6
	10	335	7	342.5	8.5
GR70-560L	5	372	4.3	376.9	5.8
	10	361	7.4	369	9
GR70-600L	5	422	4.9	428.5	6.6
	10	411	8.5	419.5	10.2
GR70-660L	5	469	5.5	476.1	7.3
	10	456	9.4	466.2	11.4
GR70-800L	5	548	6.4	555.4	8.6
	10	532	11	543.9	13.3
GR80-1000L	5	715	7.9	725.4	10
	10	695	13.8	710.3	15.9
GR80-1200L	5	869	9.6	880.9	12.1
	10	844	16.8	862.6	19.3
GR90-1500L	5	988	10.8	1001.9	13.5
	10	960	18.7	981.1	21.5
GR90-1700L	5	1152.6	12.6	1168.9	15.8
	10	1120.5	21.9	1144.1	25.1
GR90-2000L	5	1317.2	14.3	1335.9	18.1
	10	1280.6	25	1308.1	28.7
GR90-2200L	5	1514.8	16.5	1536.3	20.8
	10	1472.7	28.7	1504.3	33
GR110-2300L	5	1475.8	16.1	1496.7	20.2
	10	1434.7	28	1465.6	32.1
GR110-2500L	5	1672.5	18.2	1696.2	22.9
	10	1626	31.7	1661	36.4
GR110-2800L	5	1869.3	20.4	1895.8	25.6
	10	1817.3	35.4	1856.4	40.7
GR110-3200L	5	2164.5	23.6	2195.1	29.7
	10	2104.3	41.0	2149.5	47.1

## 40bar n=1450rpm 50Hz

Type	bar	46mm <sup>2</sup> /s		320mm <sup>2</sup> /s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR20-8L	5	5.3	0.1	5.3	0.1
	10	5.2	0.1	5.2	0.1
GR20-12L	5	7.3	0.1	7.5	0.2
	10	7.2	0.2	7.3	0.2
GR20-15L	5	10.6	0.2	10.7	0.3
	10	10.3	0.3	10.5	0.4
GR20-20L	5	12.6	0.2	13	0.3
	10	12.3	0.3	12	0.4
GR25-25L	5	16.5	0.3	17	0.3
	10	16	0.4	16	0.5
GR25-30L	5	20.6	0.3	21	0.4
	10	20.1	0.5	20	0.6
GR32-35L	5	24.3	0.3	25	0.4
	10	23.7	0.6	24	0.6
GR32-45L	5	29.7	0.4	30.2	0.7
	10	28.9	0.7	29.6	0.9
GR32-55L	5	32.4	0.5	33	0.6
	10	31.5	0.7	32	0.9
GR32-75L	5	43.3	0.6	44	0.8
	10	42	1	43	1.2
GR40-100L	5	59.2	0.8	60	1
	10	57.5	1.3	58	1.5
GR40-125L	5	71.8	1	73	1.2
	10	69.8	1.6	71	1.8
GR40-150L	5	84.6	1.1	85	1.4
	10	82.1	1.9	83	2.2
GR45-180L	5	101.6	1.3	103	1.7
	10	98.7	2.2	100	2.5
GR45-210L	5	120.3	1.6	122	2
	10	116.9	2.6	119	3
GR55-250L	5	151.8	1.9	153	2.4
	10	147.4	3.2	150	3.7
GR55-300L	5	171.7	2.2	173	2.7
	10	166.9	3.6	169	4.2
GR55-330L	5	189.8	2.4	192	3
	10	184.2	4	187	4.6

Type	bar	46mm <sup>2</sup> /s		320mm <sup>2</sup> /s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR55-380L	5	215.7	2.8	218	3.4
	10	209.5	4.6	213	5.2
GR60-440L	5	256.7	3.2	259	4
	10	249.4	5.4	253	6.2
GR60-500L	5	285.2	3.6	288	4.4
	10	277	6	281	6.8
GR70-560L	5	307.4	3.8	310	4.6
	10	298.5	6.4	303	7.2
GR70-600L	5	349.4	4.3	353	5.2
	10	339.3	7.3	344	8.2
GR70-660L	5	388.3	4.8	392	5.8
	10	377	8.1	383	9.1
GR70-800L	5	453	5.6	457	6.8
	10	439.9	9.4	447	10.7
GR80-1000L	5	591.6	6.8	597	7.9
	10	574.6	11.7	583	12.8
GR80-1200L	5	718.4	8.3	725	9.6
	10	697.7	14.2	708	15.5
GR90-1500L	5	817.1	9.3	825	10.8
	10	793.7	15.9	805	17.4
GR90-1700L	5	953.3	10.8	963	12.5
	10	925.9	18.5	940	20.3
GR90-2000L	5	1089.4	12.4	1100	14.3
	10	1058.1	21.2	1074	23.1
GR90-2200L	5	1252.9	14.2	1265	16.5
	10	1216.8	24.3	1235	26.6
GR110-2300L	5	1220.6	13.8	1233	16.1
	10	1185.5	23.7	1203	25.9
GR110-2500L	5	1389	16.5	1397	18.2
	10	1343.5	26.9	1364	29.4
GR110-2800L	5	1546.1	17.5	1561	20.3
	10	1501.6	30	1524	32.8
GR110-3200L	5	1790.1	20.3	1808	23.6
	10	1738.8	34.8	1765	38

# 40bar n=1450rpm 50Hz

Type	bar	46mm <sup>2</sup> /s		320mm <sup>2</sup> /s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR130-3300L	5	1949.9	24.5	1978.4	31.5
	10	1860	41.9	1901.3	49
GR130-3800L	5	2257.8	28.3	2290.7	36.5
	10	2153.6	48.6	2201.5	56.7
GR150-4800L	5	2459.3	30.9	2495.3	39.7
	10	2345.9	52.9	2398	61.8
GR150-5300L	5	2732.6	34.3	2772.6	44.1
	10	2606.6	58.8	2664.5	68.6
GR150-6000L	5	3142.5	39.5	3188.5	50.8
	10	2997.6	67.6	3064.3	78.9
GR180-7000L	5	3541.4	44.5	3593.3	57.2
	10	3378.2	76.2	3453.3	88.9
GR180-7800L	5	3935	49.4	3992.5	63.6
	10	3753.5	84.6	3837	98.8
GR180-8500L	5	4328.5	53.4	4391.8	69.9
	10	4128.9	93.1	4220.6	108.7
GR180-9500L	5	4820.3	60.5	4890.9	77.9
	10	4598.1	103.7	4700.3	121



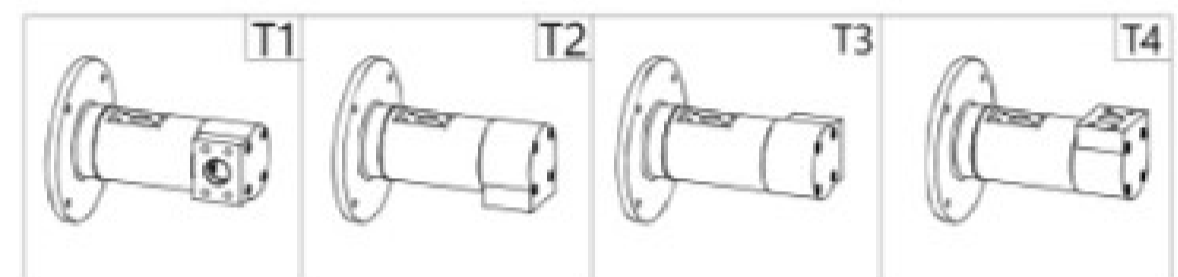
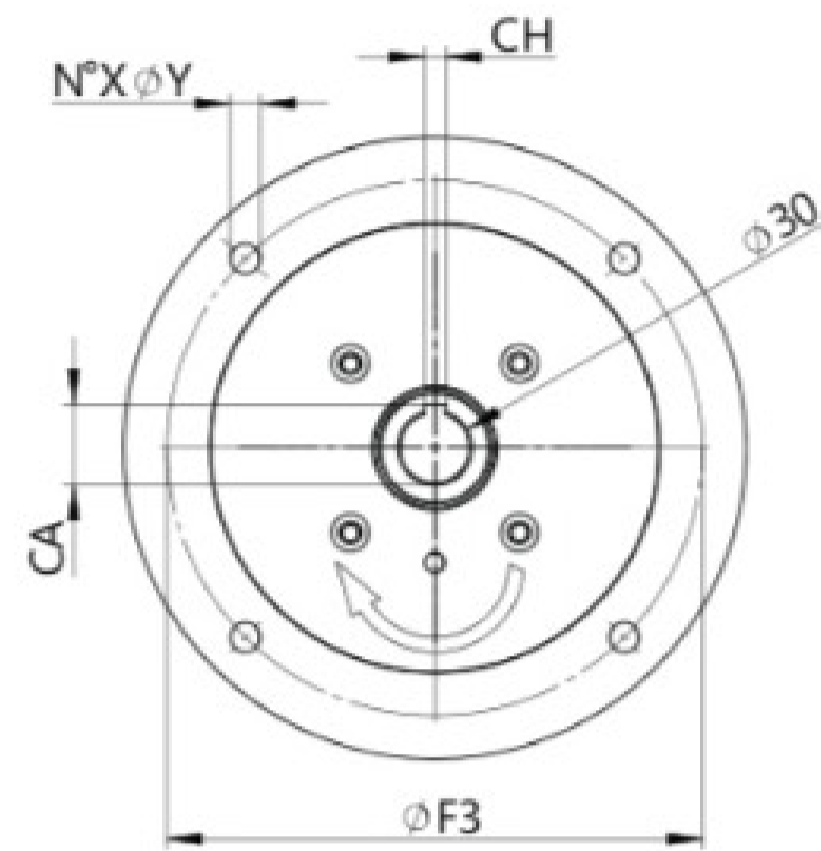
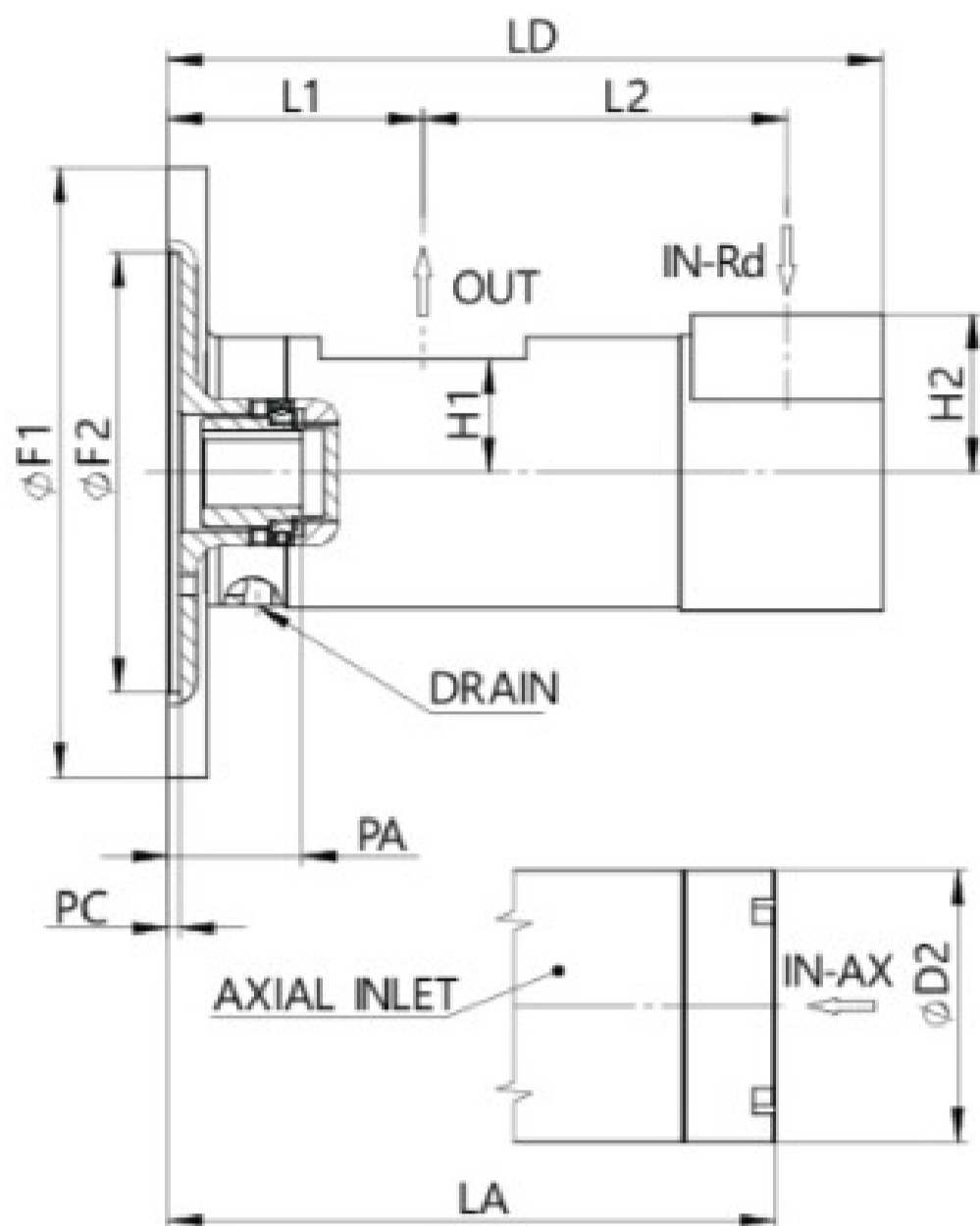
## 40bar n=1750rpm 60Hz

Type	bar	46mm $\varnothing$ s		320mm $\varnothing$ s	
		Flow Q	Power	Flow Q	Power
		L/min	KW	L/min	KW
GR130-3300L	5	2370.5	30.5	2400.8	39.9
	10	2269.8	51.6	2313.7	61.0
GR130-3800L	5	2744.8	35.3	2779.9	46.2
	10	2628.3	59.7	2678.9	70.6
GR150-4800L	5	2990.0	38.5	3028.1	50.4
	10	2862.9	65.1	2918.2	77.0
GR150-5300L	5	3322.2	42.8	3364.6	56.0
	10	3181.1	72.3	3242.4	85.5
GR150-6000L	5	3820.6	49.2	3869.3	64.4
	10	3658.1	83.1	3728.8	98.3
GR180-7000L	5	4305.6	55.4	4360.5	72.5
	10	4122.6	93.7	4202.2	110.8
GR180-7800L	5	4783.9	61.6	4845.0	80.6
	10	4580.6	104.1	4669.1	123.1
GR180-8500L	5	5262.4	67.7	5329.5	88.7
	10	5038.8	114.5	5136.0	135.4
GR180-9500L	5	5860.4	75.4	5935.1	98.7
	10	5611.3	127.5	5719.6	150.8



# Dimensional drawing

## Hollow shaft pump GR20 ~ GR70/AC

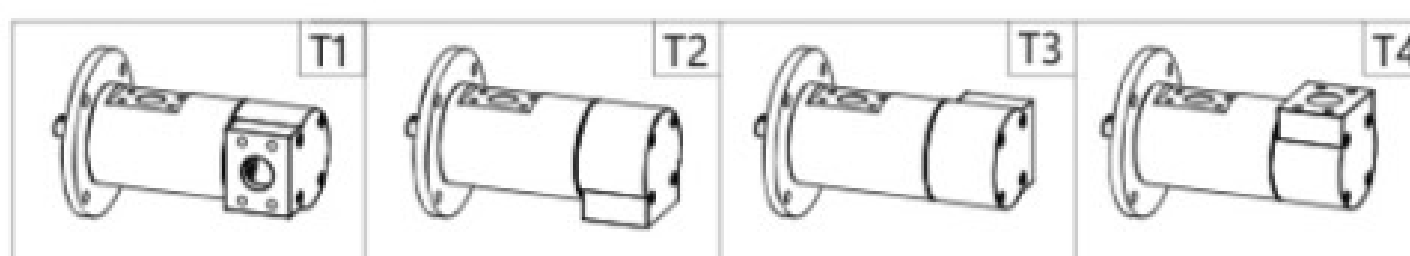
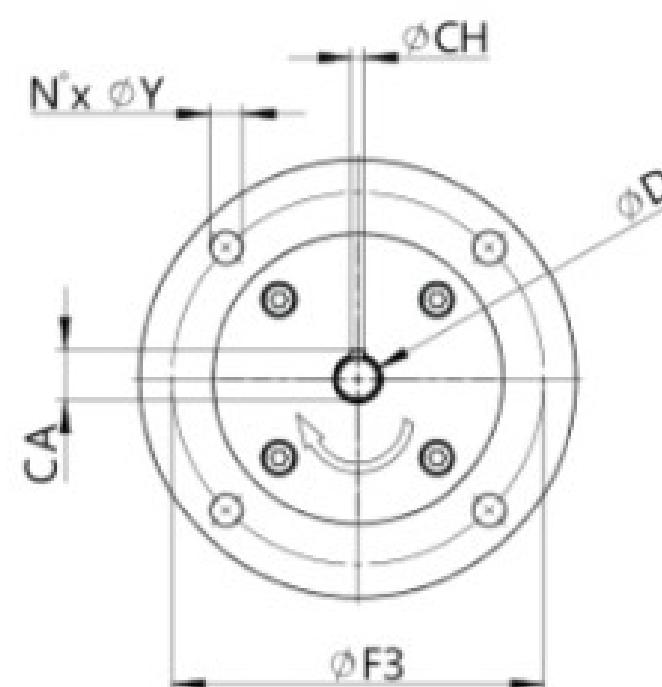
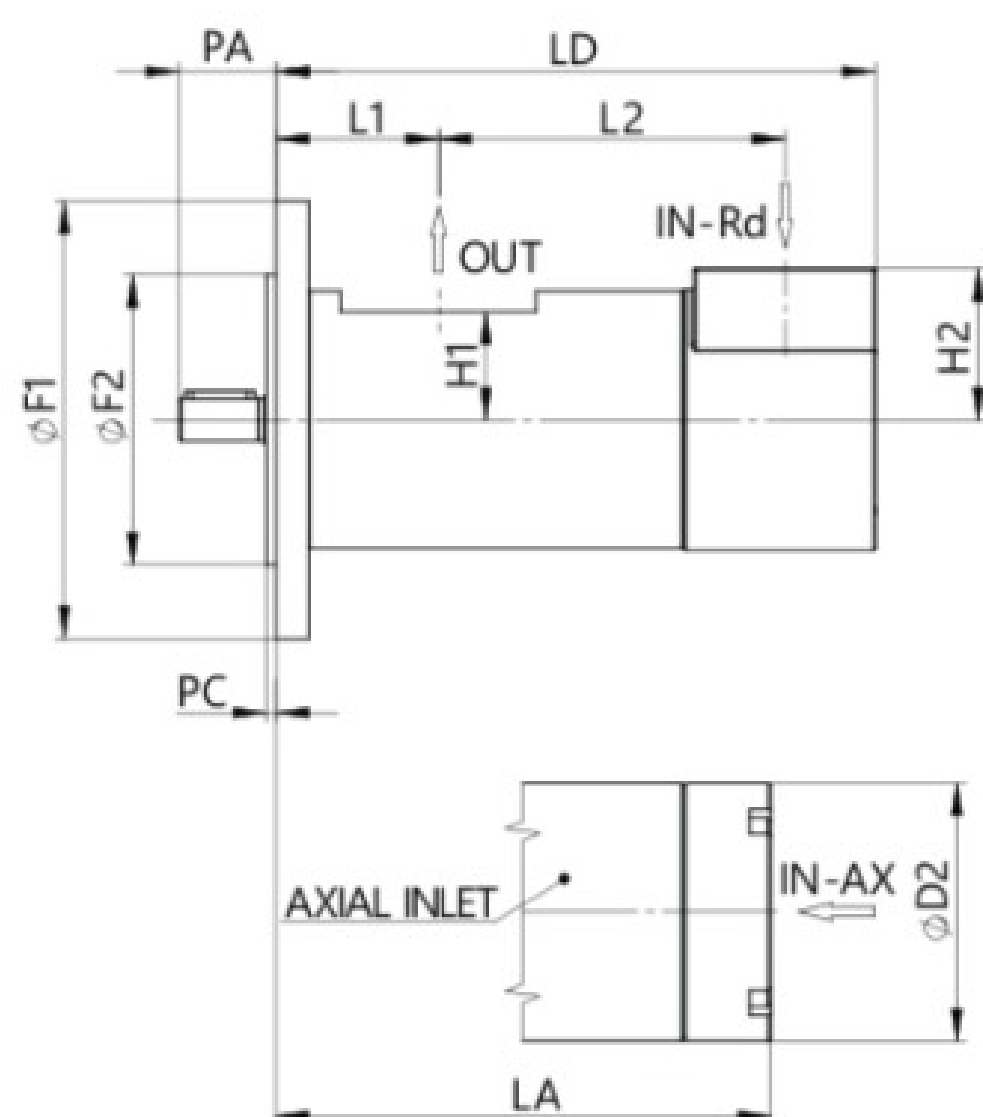


Size	Pump dimension												
	SMT16B				SMT				PA	PC	D2	H1	H2
	LD	LA	L1	L2	LD	LA	L1	L2					
GR20-AC19	173	156	75	78	215	196	75	118.5	42	5	59	26	26
GR25-AC19	182	182	76.5	87	266	266	76.5	171	42.5	4.5	65	27.5	27
GR32-AC24	241.7	194.7	84.7	123	318.7	271.7	92.7	192	43.7	5	94	41	55
GR32-AC19	241.7	194.7	84.7	123	318.7	271.7	92.7	192	52.7	5	94	41	55
GR40-AC19	282.5	236.5	94	149.5	373	327	109.5	224.5	42.5	5	108	46.5	65
GR40-AC24	282.5	236.5	94	149.5	373	327	109.5	224.5	52.5	5	108	46.5	65
GR40-AC28	293	247	104.5	149.5	383.5	337.5	120	224.5	64	6	108	46.5	65
GR45-AC28	341.5	289.5	106.4	190.1	413	361	120	248	63.5	5	122.5	51.5	85
GR45-AC38	355	303	119.9	190.1	426.5	374.5	133.5	248	81	6	122.5	51.5	85
GR55-AC28	363	299	108	202.5	474.5	410.5	125.5	297	62.5	6	142.5	55	95
GR55-AC38	383	319	128.5	202.5	494.5	430.5	145.5	297	82.5	6	142.5	55	95
GR60-AC28	399	317.5	108.5	228.5	530.5	448.5	126	342	65	6	155	63	105
GR60-AC38	419.5	337.5	128.5	228.5	550.5	468.5	146	342	83	6	155	63	105
GR70-AC28	465.3	389.3	118.3	279	629.3	553.3	139.3	422	63.1	5	180	73	110
GR70-AC38	486.5	410.5	139.5	279	650.5	574.5	160.5	422	87.3	6	180	73	110

Size	Flange						Suction			Discharge	Weight(Kg)		
	F1	F2	F3	X	Y	D	CA	CH	IN-Ax	IN-Rd	Out	SMT16B	SMT
GR20-AC19	200	130	165	4	11	19	21.7	6.5	1/2" G	1/2" G	1/2" G	2.2	2.3
GR25-AC19	200	130	165	4	10.5	19	21.9	6.5	3/4" G	3/4" G	1/2" G	2.5	4.2
GR32-AC24	200	130	165	4	12	19	21.9	6.5	1 1/4" SAE	1 1/4" SAE	1" SAE	5.1	6.7
GR32-AC19	200	130	165	4	12	24	27.3	8.5	1 1/4" SAE	1 1/4" SAE	1" SAE	5.5	6.3
GR40-AC19	200	130	165	4	12	19	22	6.5	1 1/2" SAE	1 1/2" SAE	1 1/4" SAE	6.2	8.2
GR40-AC24	200	130	165	4	12	24	27.5	8.5	1 1/2" SAE	1 1/2" SAE	1 1/4" SAE	6.9	11.2
GR40-AC28	250	180	215	4	14	28	31.5	8.5	2" SAE	1 1/2" SAE	1 1/4" SAE	8.5	12.4
GR45-AC28	250	180	215	4	14	28	31.5	8.5	2" SAE	2" SAE	1 1/2" SAE	10.9	15.9
GR45-AC38	300	230	265	4	15	38	42	10.5	2 1/2" SAE	2" SAE	1 1/2" SAE	12.5	17.6
GR55-AC28	250	180	215	4	14	28	31.5	8.5	2 1/2" SAE	2 1/2" SAE	2" SAE	15.9	24.2
GR55-AC38	300	230	265	4	15	38	42	10.5	2 1/2" SAE	2 1/2" SAE	2" SAE	17.7	23.1
GR60-AC28	250	180	215	4	14	28	31.5	8.5	3" SAE	3" SAE	2 1/2" SAE	19.3	31.5
GR60-AC38	300	230	265	4	14.5	38	41.8	10.5	3" SAE	3" SAE	2 1/2" SAE	22.1	27.6
GR70-AC28	250	180	215	4	14	28	31.5	8.5	3 1/2" SAE	3 1/2" SAE	3" SAE	32.3	45.5
GR70-AC38	300	230	265	4	14.5	38	41.8	10.5	3 1/2" SAE	3 1/2" SAE	3" SAE	33.6	48.4

# Dimensional drawing

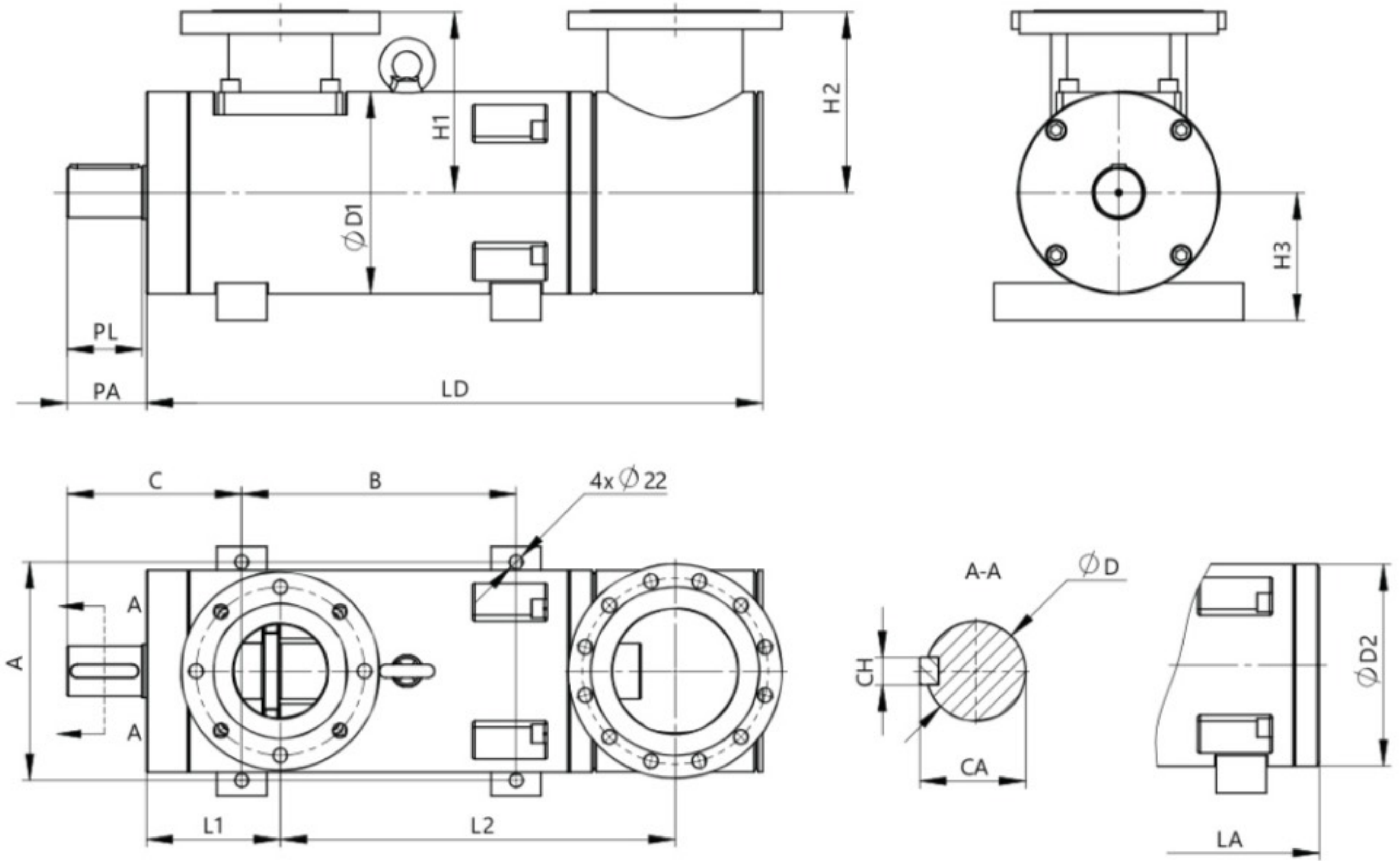
## Normal shaft pump GR20~GR110



Size	Pump Dimension												
	SMT16B				SMT				PA	PC	D2	H1	H2
	LD	LA	L1	L2	LD	LA	L1	L2					
GR20	153	134	53	78.5	193	174	53	118.5	37	4.5	59	25	26
GR25	178	178	72.5	87	262	262	72.5	171	42	4.5	65	27.5	27
GR32	218	171	61	123	295	248	69	192	41	4	94	41	55
GR40	257.5	211.5	69	149.5	348	302	84.5	224.5	42.5	4	108	46.5	65
GR45	310.5	258.5	75.4	190.1	382	330	89	248	64.5	4	122.5	51.5	85
GR55	338	274	83.5	202.5	449.5	385.5	100.5	297	64.5	4	142.5	55	95
GR60	374.5	292.5	83.5	228.5	505	423	101	342	65.5	4	155	63	105
GR70	441.5	365.5	94.5	279	605.5	529.5	115.5	422	65.5	4	180	73	110
GR80	519	468	150	294.5	695	644	150	470.5	75	4	210	83	125
GR90	881	816	256	525	881	816	256	525	118	5	250	100	140
GR90S	731	608	144.5	488	731	608	144.5	488	75	4	200	85	110
GR110	876	811	287	489	876	811	287	489	118	5	250	100	140

Size	Flange					Suction			Discharge	Weight ( Kg )			
	F1	F2	F3	X	Y	D	CA	CH	IN-Ax	IN-Rd	Out	SMT16B	SMT
GR20	125	80	103	2	11	14	16	5	1/2" GAS	1/2" GAS	1/2" GAS	1.5	1.58
GR25	125	80	103	2	11	19	21.5	6	3/4" GAS	3/4" GAS	1/2" GAS	2.7	4
GR32	150	100	125	4	11	19	21.5	6	1 1/4" SAE	1 1/4" SAE	1" SAE	4.4	6.5
GR40	188	125	160	4	14	19	21.5	6	1 1/2" SAE	1 1/2" SAE	1 1/4" SAE	7	10.8
GR45	188	125	160	4	14	32	35	10	2" SAE	2" SAE	1 1/2" SAE	11	15
GR55	235	160	200	4	18	32	35	10	2 1/2" SAE	2 1/2" GAS	2" SAE	15.5	23.5
GR60	300	160	200	4	18	32	35	10	3" SAE	3" SAE	2 1/2" SAE	25	30
GR70	235	200	250	4	22	32	35	10	3 1/2" SAE	3 1/2" GAS	3" SAE	30	44
GR80	300	200	250	4	22	38	41	10	4" SAE	4" SAE	3" SAE	47.5	59
GR90	350	250	300	4	26	55	59	16	DN150	5" SAE	4" SAE	95	95
GR90S	300	200	250	4	22	38	41	10	DN150	5" SAE	3" SAE	62.3	62.3
GR110	350	250	300	4	26	55	59	16	DN200	5" SAE	4" SAE	120	120

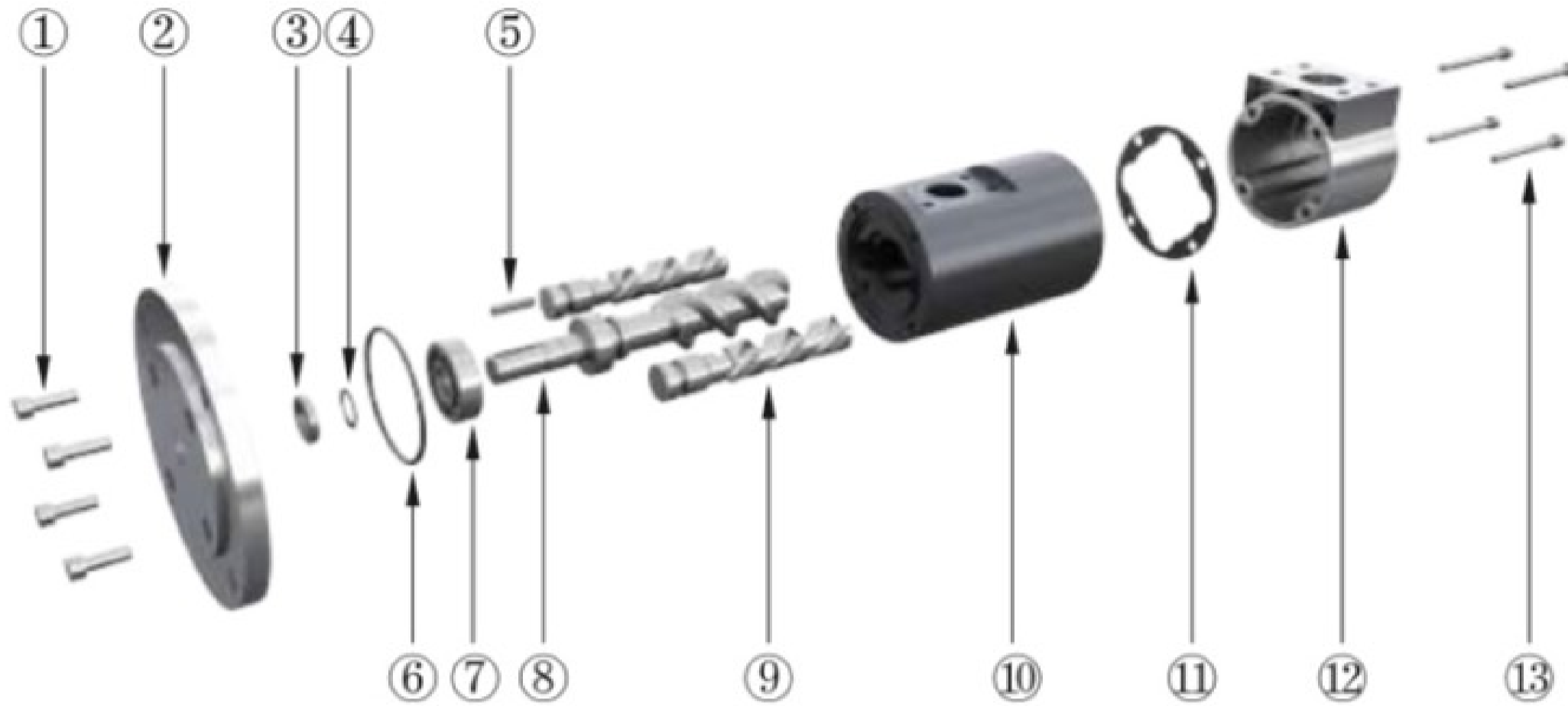
# GR Male Shaft



Size	Suction		Discharge	Weight ( kg )
	IN-Ax	IN-Rd	OUT	SMT16B
GR130	8"ANSI-150-WN-RF	8"ANSI-150-WN-RF	6"ANSI-300-WN-RF	296
GR150	8"ANSI-150-WN-RF	8"ANSI-150-WN-RF	6"ANSI-300-WN-RF	301
GR180	10"ANSI-150-WN-RF	10"ANSI-150-WN-RF	8"ANSI-300-WN-RF	396

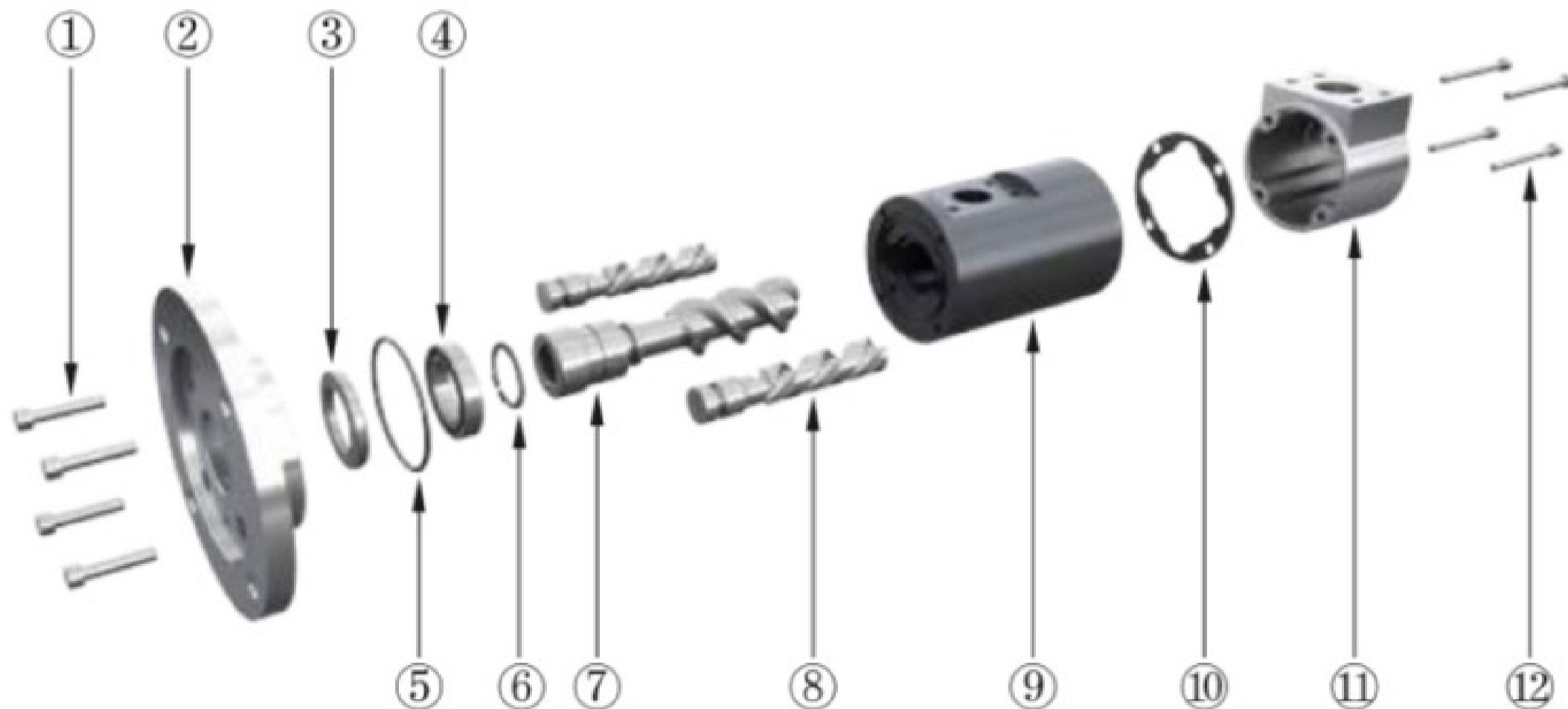
Size	Pump Dimension																
	PA	PL	H1	H2	H3	A	B	C	LD	LA	L1	L2	D	D1	D2	CA	CH
GR130	134	130	290	290	207	400	393	257	920	610	210	570	65	324	343	85	18
GR150	134	130	290	290	207	400	393	257	920	610	210	570	80	324	343	85	22
GR180	132	130	320	320	207	400	498	255	1094	754	250	669	80	375	406	85	22

## Component description



## Normal shaft pump

1. Screws	2. Flange	3. seal	4. Seeger	5. Key
6. O-ring seal	7. Ball bearing	8. Mainscrew	9. Idlerscrew	10. Pump body
11. Plane gasket		12. Radial suctioncover		13. Screws



## Hollow shaft pump

1. Screws	2. Flange	3. seal	4. Seeger	5. O-ring seal
6. Ballbearing	7. Main screw	8. Idlerscrew	9. Pump body	10. Plane gasket
11. Radial suctioncover		12. Screw		