



ARAGON  
U M P S

**SP**  
**Submersible**  
**Sewage**  
**Pump**



## Application

SP series submersible sewage pumps are mainly used to pump waste, sewage and mud with solids in civil engineering, industry, and construction site, etc.

## Performance Range

Speed	740 - 2840r/min
Discharge dia.	40 - 600mm
Flow rate	10 - 3750m <sup>3</sup> /h
Head	5 - 56m
Power	1.1 - 250kW

## Operation Condition

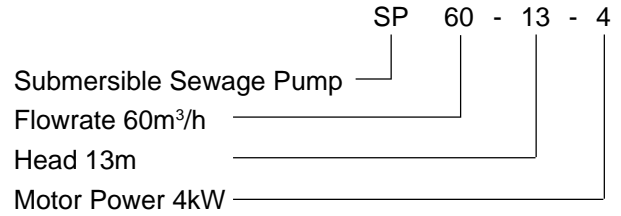
Power source	: 380V 50Hz
Pumped liquid PH	: 5-9
Max. temperature	: 60°C
Allowable passed solid's dia.	: 1/3 of discharge dia. (Approx)
Start version	: Direct-start or thyristor soft-start

## Cooling Version:

1.1 - 15kW	Using external cooling media
18.5 - 250kW	Internal self-circulation cooling

## Lowest Water Level:

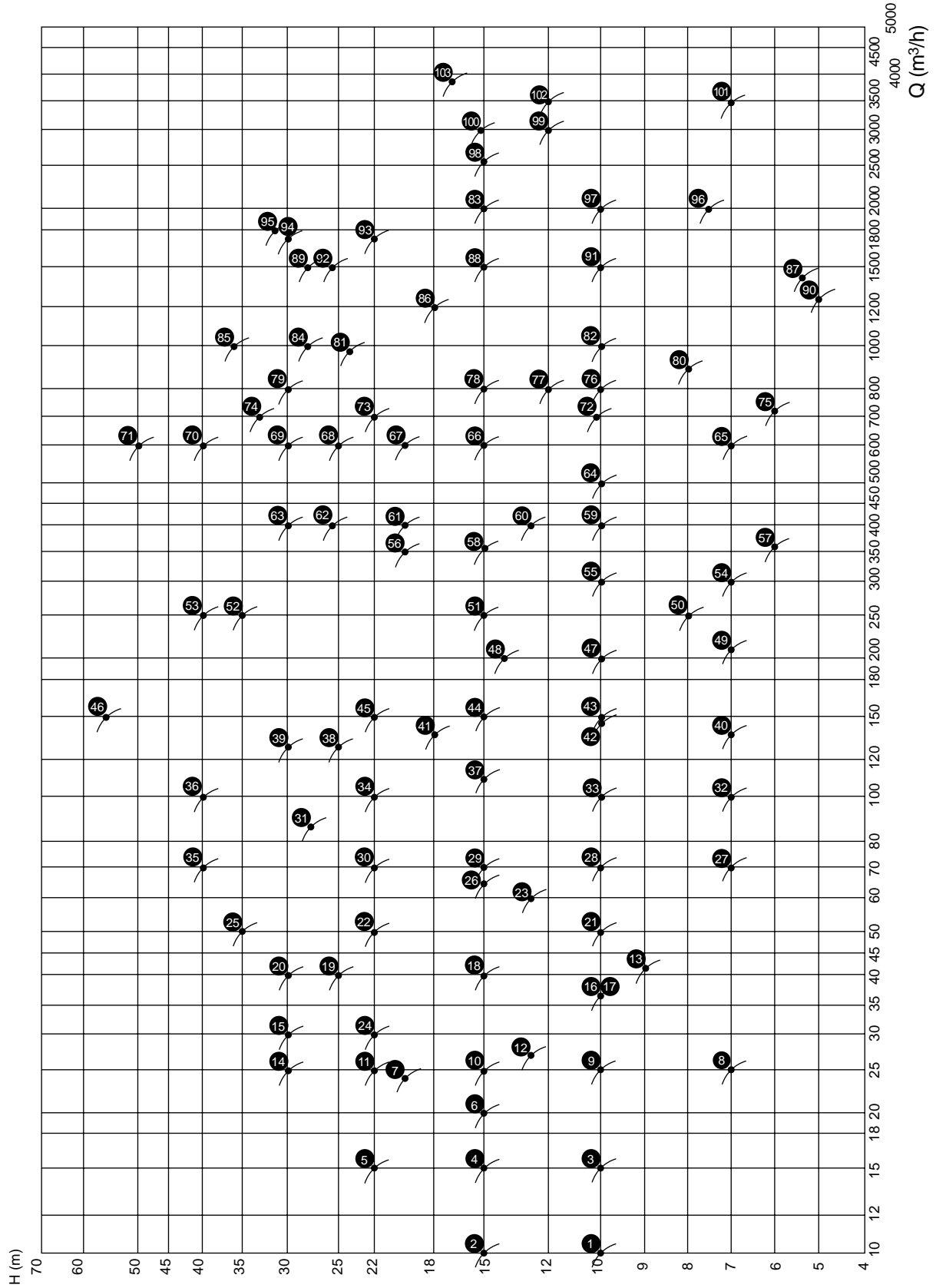
1.1 - 15kW	At least half a submersible motor must be submerge
18.5 - 250kW	Submersible motor permit to bare out of water.



- Excellent Performance: Impeller with single of double blockage-free vane avoids jamming and clogging.
- Convenient to install: Portable use version of automatic coupling installation version is available.
- Convenient to control: Full automatic control system for protection and signal output is easy to achieve central monitoring.
- Excellent reliability: With functions of leakage monitoring, overheating protection and overload protection, etc.



# Submersible Sewage Pump



## Performance Table

No.	Model	Discharge diameter (mm)	Capacity (m <sup>3</sup> /h)	Head (m)	Speed (r/min)	Power (kW)	Efficiency (%)	Weight (kg)
1	SP 10-10-1.1	40	10	10	2840	1.1	50	48
2	SP 10-15-1.5	40	10	15	2840	1.5	55	60
3	SP 15-10-1.5	50	15	10	2840	1.5	51	60
4	SP 15-15-2.2	50	15	15	2840	2.2	55	62
5	SP 15-22-2.2	50	15	22	2840	2.2	58.4	70
6	SP 20-15-2.2	50	20	15	2840	2.2	52	70
7	SP 24-20-4	50	24	20	1440	4	54	121
8	SP 25-7-1.5	50	25	7	2840	1.5	42	40
9	SP 25-10-2.2	50	25	10	2840	2.2	45	70
10	SP 25-15-3	50	25	15	1440	3	60	70
11	SP 25-22-4	50	25	22	1440	4	52	121
12	SP 27-13-2.2	50	27	13	2840	2.2	55	70
13	SP 42-9-2.2	50	42	9	2840	2.2	74.8	70
14	SP 25-30-5.5	80	25	30	1440	5.5	40	190
15	SP 30-30-7.5	80	30	30	1440	7.5	43	180
16	SP 37-10-3	80	37	10	2840	3	43	70
17	SP 37-10-3	80	37	10	1440	3	54	120
18	SP 40-15-4	80	40	15	1440	4	53	121
19	SP 40-25-7.5	80	40	25	1440	7.5	55	180
20	SP 40-30-11	80	40	30	1440	11	47	180
21	SP 50-10-4	80	50	10	1440	4	65	125
22	SP 50-22-7.5	80	50	22	1440	7.5	53	190
23	SP 60-13-4	80	60	13	1440	4	72.1	121
24	SP 30-22-5.5	100	30	22	1440	5.5	52	190
25	SP 50-35-15	100	50	35	1460	15	48	293
26	SP 65-15-5.5	100	65	15	1440	5.5	71.4	190
27	SP 70-7-3	100	70	7	1440	3	72	128
28	SP 70-10-4	100	70	10	1440	4	67	130
29	SP 70-15-7.5	100	70	15	1440	7.5	61.7	208
30	SP 70-22-11	100	70	22	1440	11	69.5	293
31	SP 87-28-15	100	87	28	1460	15	53	360
32	SP 100-7-4	100	100	7	1440	4	74	188
33	SP 100-10-5.5	100	100	10	1440	5.5	73	190
34	SP 100-22-15	100	100	22	1460	15	72.2	360
35	SP 70-40-18.5	150	70	40	1470	18.5	54.2	520
36	SP 100-40-30	150	100	40	1470	30	60.1	900
37	SP 110-15-11	150	110	15	1460	11	72.4	280
38	SP 130-25-18.5	150	130	25	1470	18.5	65	520
39	SP 130-30-22	150	130	30	970	22	66.8	520
40	SP 140-7-5.5	150	140	7	1440	5.5	64	190
41	SP 140-18-15	150	140	18	1460	15	73	360
42	SP 145-10-7.5	150	145	10	1440	7.5	70	208
43	SP 150-10-11	150	150	10	1460	11	70	360
44	SP 150-15-15	150	150	15	1460	15	76.2	360
45	SP 150-22-22	150	150	22	970	22	69	820
46	SP 150-56-55	150	150	56	1470	55	68.6	1206
47	SP 200-10-15	150	200	10	1460	15	79.4	360
48	SP 200-14-18.5	150	200	14	1470	18.5	68.3	520
49	SP 210-7-7.5	150	210	7	1440	7.5	70	190
50	SP 250-8-15	150	250	8	1460	15	65	360

# Submersible Sewage Pump



No.	Model	Discharge diameter (mm)	Capacity (m <sup>3</sup> /h)	Head (m)	Speed (r/min)	Power (kW)	Efficiency (%)	Weight (kg)
51	SP 250-15-18.5	200	250	15	1470	18.5	67	520
52	SP 250-35-45	200	250	35	980	45	63	1280
53	SP 250-40-55	200	250	40	980	55	65	1400
54	SP 300-7-11	200	300	7	1460	11	72.4	290
55	SP 300-10-18.5	200	300	10	970	18.5	68	820
56	SP 350-20-37	200	350	20	980	37	70	1100
57	SP 360-6-11	200	360	6	1460	11	72.4	290
58	SP 360-15-30	200	360	15	980	30	77.9	900
59	SP 400-10-22	200	400	10	980	22	75	900
60	SP 400-13-30	200	400	13	980	30	73	900
61	SP 400-20-45	200	400	20	980	45	72	1400
62	SP 400-26-55	200	400	26	980	55	70	128
63	SP 400-30-75	250	400	30	980	75	68	1420
64	SP 500-10-30	250	500	10	980	30	72	900
65	SP 600-7-22	250	600	7	980	22	74	820
66	SP 600-15-45	250	600	15	980	45	73	1450
67	SP 600-20-55	250	600	20	980	55	72	1350
68	SP 600-25-75	250	600	25	980	75	71	1516
69	SP 600-30-90	250	600	30	990	90	70	1860
70	SP 600-40-110	250	600	40	990	110	70	2300
71	SP 600-50-132	250	600	50	990	132	66	2750
72	SP 700-11-37	250	700	11	980	37	70	1150
73	SP 700-22-90	250	700	22	990	90	74	1860
74	SP 700-33-110	250	700	33	990	110	78	2300
75	SP 720-6-22	300	720	6	970	22	74	820
76	SP 800-10-45	300	800	10	980	45	71	1250
77	SP 800-12-45	300	800	12	980	45	73	1250
78	SP 800-15-55	300	800	15	980	55	75	1350
79	SP 800-30-110	300	800	30	990	110	69.7	2300
80	SP 900-8-37	300	900	8	980	37	74	1150
81	SP 950-24-110	300	950	24	980	110	75	2300
82	SP 1000-10-45	300	1000	10	980	45	74	1450
83	SP 2000-15-132	300	2000	15	980	132	78	2900
84	SP 1000-28-132	350	1000	28	745	132	75	2830
85	SP 1000-36-160	350	1000	36	745	160	73	3150
86	SP 1200-18-90	350	1200	18	990	90	76	2000
87	SP 1440-5.5-37	350	1440	5.5	990	37	76	1250
88	SP 1500-15-90	350	1500	15	990	90	75	2000
89	SP 1500-28-200	350	1500	28	740	200	78	4390
90	SP 1250-5-30	400	1250	5	980	30	72	900
91	SP 1500-10-75	400	1500	10	980	75	70	1670
92	SP 1500-26-160	400	1500	26	745	160	72	3200
93	SP 1700-22-160	400	1700	22	745	160	75	3200
94	SP 1700-30-200	400	1700	30	740	200	75	3850
95	SP 1800-32-250	400	1800	32	740	250	80	4690
96	SP 2000-7.5-75	400	2000	7.5	740	75	76.2	1700
97	SP 2000-10-110	450	2200	10	990	110	80	2300
98	SP 2600-15-160	500	2600	15	745	160	80	3214
99	SP 3000-12-160	550	3000	12	745	160	78	3250
100	SP 3000-16-200	550	3000	16	740	200	80	3850
101	SP 3500-7-110	550	3500	7	745	110	77.5	2300
102	SP 3500-12-185	600	3500	12	745	185	78	3420
103	SP 3750-17-250	600	3750	17	740	250	80	4690

## Version of portable use

In this version of portable use, the discharge of elbow is directly connected with a hose and the pump is supported by its foot (see Fig. 2). It is mainly used for drainage purpose, and it is convenient to remove to different case.

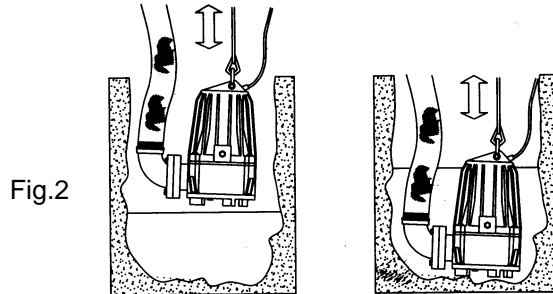


Fig.2

Dimension of elbow (Fig. 3)

table 2 2(mm)

Dia. of discharge	$\phi C$	H2	H3
50	58	100	120
80	78	120	150
100	104	150	180
150	154	200	200

Outside dimension of pump (Fig. 4)

table 3 3(mm)

No	Model	$\phi A$	L5MAX	H1
1	SP 10-10-1.1	180	245	510
2	SP 10-15-1.5	180	245	510
3	SP 15-10-1.5	180	252	515
4	SP 15-15-2.2	180	252	515
5	SP 15-22-2.2	225	275	530
6	SP 20-15-2.2	180	252	515
7	SP 24-20-4	348	420	870
8	SP 25-7-1.5	180	245	515
9	SP 25-10-2.2	180	245	515
10	SP 25-15-3	348	420	870
11	SP 25-22-4	348	420	870
12	SP 27-13-2.2	225	255	530
13	SP 42-9-2.2	225	295	550
14	SP 25-30-5.5	420	505	855
15	SP 30-30-7.5	425	532	895
16	SP 37-10-3 (2840rpm)	215	280	450
17	SP 37-10-3 (1440rpm)	318	383	900
18	SP 40-15-4	318	383	900
19	SP 40-25.7.5	420	490	965
21	SP 50-10-4	318	383	900
22	SP 50-22-7.5	380	470	910
23	SP 60-13-4	318	405	900
24	SP 30-22-5.5	420	490	855
26	SP 65-15-5.5	340	470	890
27	SP 70-7-3	318	420	905
28	SP 70-10-4	318	420	905
29	SP 70-15-7.5	380	470	910
32	SP 100-7-4	348	456	915
33	SP 100-10-5.5	340	456	905
40	SP 140-7-5.5	350	500	950
42	SP 145-10-7.5	350	500	950
49	SP 210-7-7.5	350	512	950

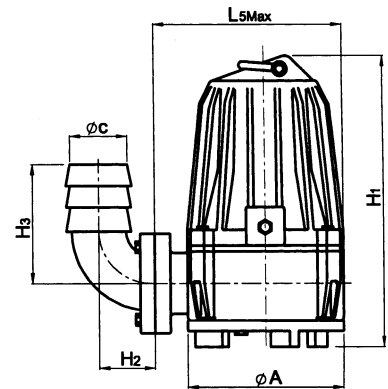


Fig.3

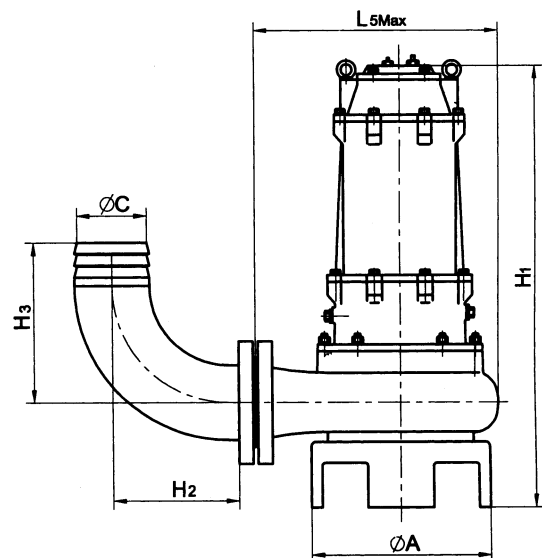


Fig.4

In this version of installation float switch, and full automatic protection device and control cabinet are available according to consumers' request.

Version of portable use is only for those which power is below 11kW.

# Submersible Sewage Pump

## Version of automatic coupling

Type GAK series automatic coupling system is suitable for the installation of submersible sewage pump. The pump can be mounted securely by using a guide rail. Smaller expense is required for checking and repair, as it is not necessary to empty the tank.

Diagram of installation of automatic coupling system (Fig. 5):

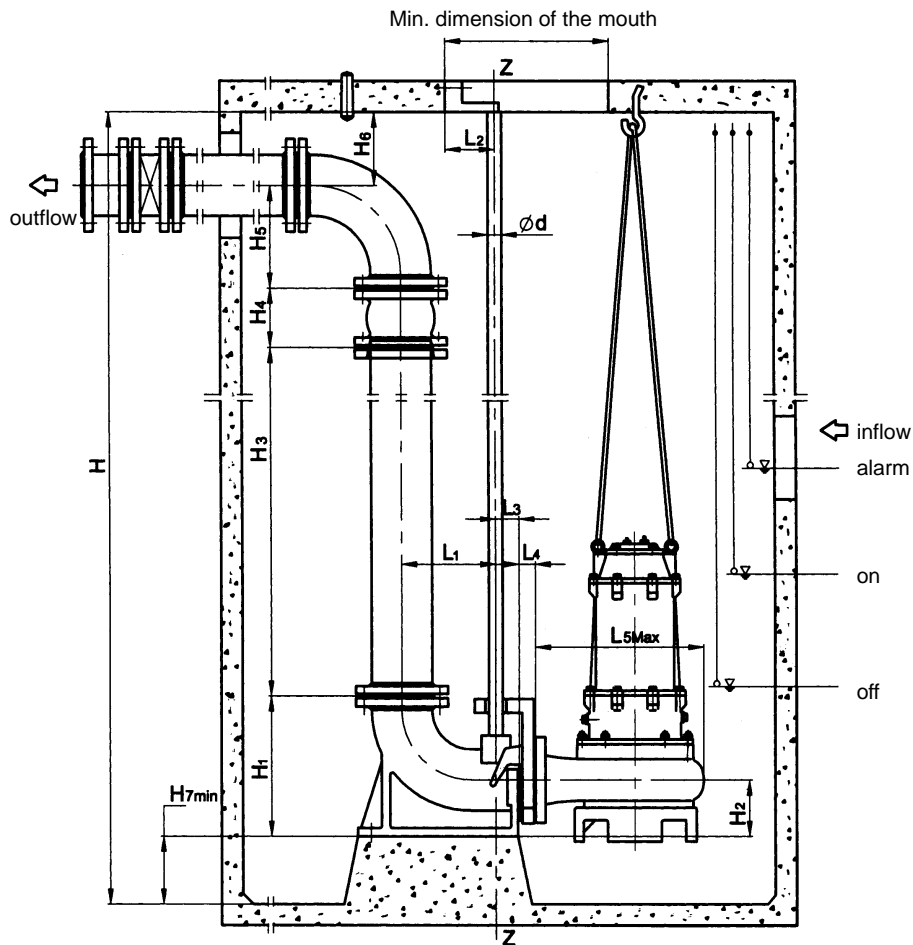


Fig.5

- 1) depth of the pool

$$H = H_1 + H_3 + H_4 + H_5 + H_6 + H_{7\text{Min}}$$

Note:  $H_{7\text{Min}}$  is height of convex surface for pedestal

$H_1$  is height of pedestal

$H_3$  is vertical height of discharge pipe

$H_4$  is mounting dimension of turable rubber jointer

$H_5$  is height of center of discharge pipe elbow

$H_6$  is distance from the center of discharge elbow to the bottom side of the pool cover.

(Dimension of  $H_3$ ,  $H_4$ ,  $H_5$  and  $H_6$  is subject to customer)

- 2) Dimension of the mouth of waste water pool  $M > L_2 + L_3 + L_4 + L_{5\text{Max}}$

$L_2$  is mounting dimension of the supporter

$L_3$  is distance from Z-axis to flange of the pump

$L_4$  is mounting dimension of bracket

$L_{5\text{Max}}$  is max. dimension from discharge flange to casing outside

3) Dimension relevant to design of sump

Min. dimension from casing to the wall should exceed 300mm at our suggestion.

When several pumps must be installed in parallel we advise that the distance between each casing should exceed 400mm.

4) Ordering procedure

When ordering, please specify the pool depth and the distance from the center of discharge pipe to the bottom of pool besides the selected model.

Dimension relevant to automatic coupling table 4

Model	L <sub>5</sub> Max	L <sub>7</sub> Min
SP 10-10-1.1	245	130
SP 10-15-1.5	245	130
SP 15-10-1.5	252	100
SP 15-15-2.2	252	100
SP 15-22-2.2	275	130
SP 20-15-2.2	252	100
SP 24-20-4	420	180
SP 25-7-1.5	245	100
SP 25-10-2.2	245	100
SP 25-15-3	420	180
SP 25-22-4	420	180
SP 27-13-2.2	255	130
SP 42-9-2.2	295	180
SP 25-30-5.5	505	180
SP 30-30-7.5	532	200
SP 37-10-3	280	100
SP 37-10-3	283	200
SP 40-15-4	383	200
SP 40-25-7.5	470	200
SP 40-30-11	532	200
SP 50-10-4	383	200
SP 50-22-7.5	470	200
SP 60-13-4	405	200
SP 30-22-5.5	490	200
SP 50-35-15	545	200
SP 65-15-5.5	470	200
SP 70-7-3	420	200
SP 70-10-4	420	200
SP 70-15-7.5	470	250
SP 70-22-11	475	250
SP 87-28-15	512	250
SP 100-7-4	456	200
SP 100-10-5.5	456	200
SP 100-22-15	483	250
SP 70-40-18.5	498	350
SP 100-40-30	754	350
SP 110-15-11	547	250
SP 130-25-18.5	510	350
SP 130-30-22	510	350
SP 140-7-5.5	500	250
SP 140-18-15	553	250
SP 145-10-7.5	500	250
SP 150-10-11	520	250
SP 150-15-15	520	250
SP 150-22-22	580	350
SP 150-56-55	762	350
SP 200-10-15	520	250
SP 200-14-18.5	535	300
SP 210-7-7.5	512	300
SP 250-8-15	520	250
SP 250-15-18.5	655	350
SP 250-35-45	688	350

table 4

Model	L <sub>5</sub> Max	L <sub>7</sub> Min
SP 250-40-55	688	350
SP 300-7-11	615	300
SP 300-10-18.5	750	350
SP 350-20-37	810	350
SP 360-6-11	615	300
SP 360-15-30	750	350
SP 400-10-22	725	350
SP 400-13-30	750	350
SP 400-20-45	770	350
SP 400-26-55	783	350
SP 400-30-75	810	350
SP 500-10-30	860	350
SP 600-7-22	845	350
SP 600-15-45	870	400
SP 600-20-55	870	400
SP 600-25-75	950	400
SP 600-30-90	950	400
SP 600-40-110	1010	400
SP 600-50-132	1010	400
SP 700-11-37	900	350
SP 700-22-90	950	400
SP 700-33-110	970	400
SP 720-6-22	845	400
SP 800-10-45	875	400
SP 800-12-45	875	400
SP 800-15-55	875	400
SP 800-30-110	1010	500
SP 900-8-37	845	400
SP 950-24-110	985	500
SP 1000-10-45	980	400
SP 2000-15-132	1140	550
SP 1000-28-132	1100	550
SP 1000-36-160	1000	550
SP 1200-18-90	1110	550
SP 1440-5.5-37	845	550
SP 1200-15-90	1110	550
SP 1500-28-200	1400	550
SP 1250-5-30	845	550
SP 1500-10-75	1100	550
SP 1500-26-160	1350	550
SP 1700-22-160	1020	550
SP 1700-30-200	1120	550
SP 1800-32-250	1400	550
SP 2000-7.5-75	1300	550
SP 2000-10-110	980	550
SP 2600-15-160	1060	550
SP 3000-12-160	1060	550
SP 3000-16-200	1060	550
SP 3500-7-110	1410	550
SP 3500-12-185	1510	550
SP 3750-17-250	1810	550



Outside dimension of pump (Fig. 4)

**Table of dimension of automatic coupling device**

**Table 5**

No.	1	2	3	4	5	6	7
Model	50GAK	80GAK	100GAK	150GAK	200GAK	250GAK	300GAK
A	50	80	100	150	200	250	300
B <sub>1</sub>	125	160	180	240	295	350	395
C	300	345	352	410	510	590	760
D	225	250	270	310	420	470	600
n <sub>1</sub> -E	4-17.5	8-17.5	8-17.5	8-22	8-22	12-22	12-22
n <sub>1</sub> -N	4-12	4-16	4-16	/	8-20	12-20	12-22
n <sub>2</sub> -F	4-18	4-18	4-18	4-18	4-22	4-27	6-27
n <sub>2</sub> -T	/	/	/	8-17.5	/	/	/
G	0	0	0	0	0	0	180
H <sub>1</sub>	320	300	360	400	545	680	720
H <sub>2</sub>	150	150	180	200	305	357	388
I	260	340	340	370	480	600	620
J	220	300	300	330	410	500	500
K	220	220	220	230	410	500	500
L <sub>1</sub>	220	235	240	310	342	400	552
L <sub>2</sub>	100	110	110	110	140	160	160
L <sub>3</sub>	40	40	40	40	43	50	48
L <sub>4</sub>	26	27	44	48	48	55	60
p	47	65	52	72	55	69	103
b	18	18	18	18	18	27	27
d	48	60	60	60	76	76	76
h	25	30	30	30	35	40	45
L <sub>6</sub>	100	100	100	100	120	150	150
B <sub>2</sub>	110	150	170	225	295	350	400

**Table 5 continued**

No.	8	9	10	11	12	13
Model	350GAK	400GAK	450GAK	500GAK	550GAK	600GAK
A	350	400	450	500	550	600
B <sub>1</sub>	460	515	565	620	675	725
C	880	1095	1220	1400	1400	1500
D	720	815	815	815	815	900
n <sub>1</sub> -E	16-22	16-26	20-26	20-26	20-30	20-30
n <sub>1</sub> -N	16-22	16-24	20-24	20-24	20-30	20-30
n <sub>2</sub> -F	6-30	6-30	6-30	6-30	6-40	6-40
n <sub>2</sub> -T	/	/	/	/	/	/
G	180	265	265	265	265	350
H <sub>1</sub>	850	855	855	920	1040	1150
H <sub>2</sub>	500	500	500	600	600	600
I	620	850	850	1000	1000	1200
J	500	640	640	640	640	840
K	500	640	640	640	640	840
L <sub>1</sub>	650	700	700	739	850	850
L <sub>2</sub>	150	160	160	160	160	160
L <sub>3</sub>	50	60	60	60	60	65
L <sub>4</sub>	60	70	70	80	80	90
p	103	200	200	29	290	300
b	18	27	27	27	27	35
d	76	89	89	89	89	95
h	45	50	50	50	50	60
L <sub>6</sub>	150	250	400	300	300	400
B <sub>2</sub>	460	515	565	620	675	725

# Submersible Sewage Pump

## Structure

SP series submersible sewage pumps consist of motor and pump, separated by oil chamber and mechanical seal. The products are compact, with variety of protections to ensure for pump safe and reliable operating.

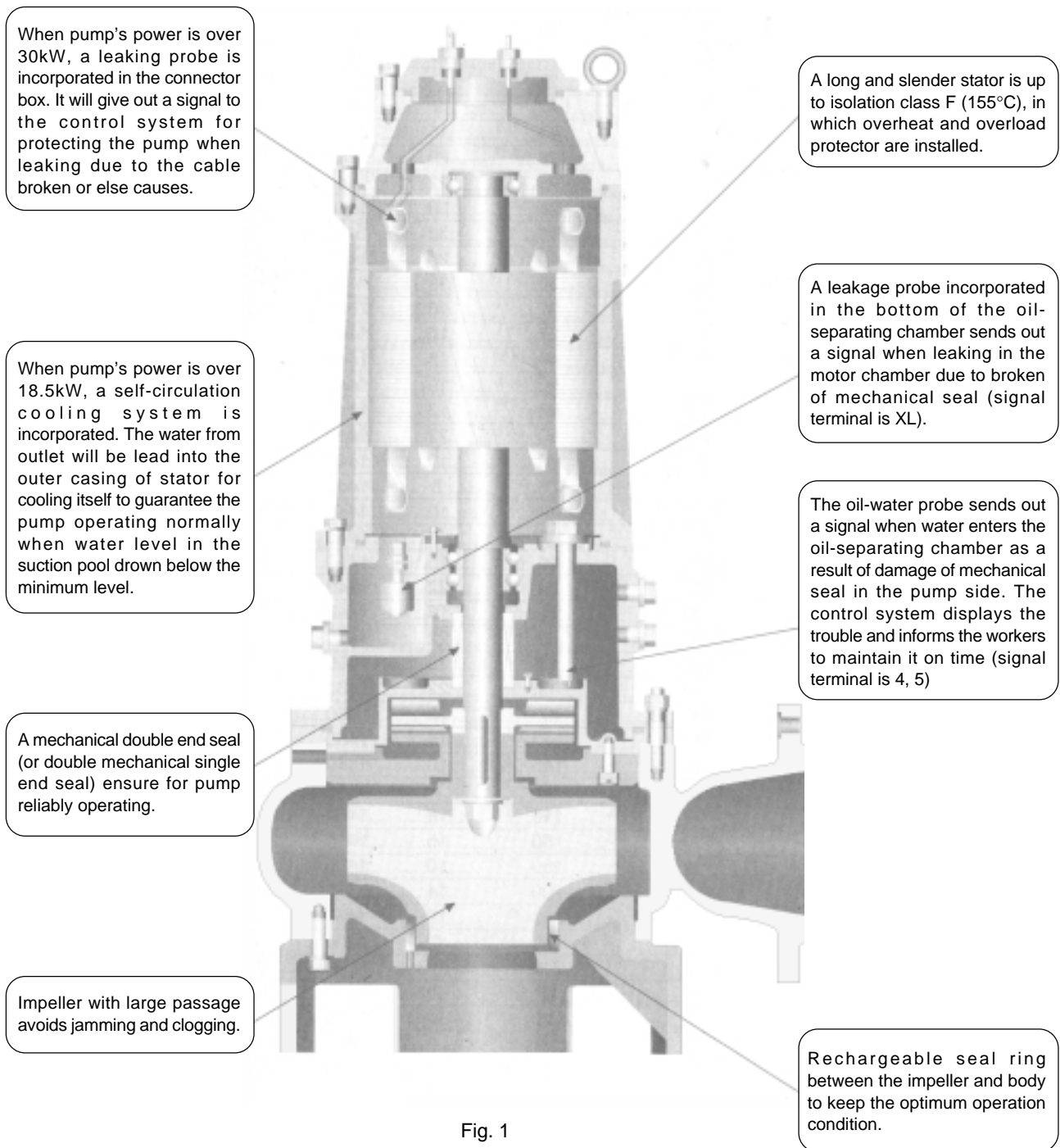


Fig. 1



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