



EBARA

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Plastic Self Priming Pumps

Model FPSQ

* "Model○○○" in this catalog is our model code.







Application

Intake, supply and circulation of seawater;
transfer and circulation of corrosive chemical liquids;
transfer and circulation of hot spring water.

Newly joined self priming pumps in the plastic pump series

this self priming pump is suitable for drain of pit which contains light slurry and intake of seawater because of high self-priming ability and construction which not including check valve.

Specifications

Standard specifications

		Seawater spec.	Hot spring water spec.	Chemical liquid spec.
Liquid	Name Temperature	Seawater, circulating seawater -5~50°C	Hot spring water 20~50°C	Acids and chlorides -5~50°C
Max. suction performance (Temperature 20°C Horizontal pull 1m)		-5m※		
Allowable suction pressure		See dimensions drawing		
Max. working pressure		See selection chart		
Construction	Impeller Gland cover Flushing Bearing Bearing lubrication	Semi-open type Gland packing External flushing Ball bearing Oil bath	Semi-open type Gland packing External flushing Ball bearing Oil bath	Semi-open type Outside mechanical seal Quenching Ball bearing Oil bath
Flange		JIS10K or equivalent	JIS10K or equivalent	JIS10K or equivalent
Materials	Casing Gland cover Impeller Shaft Shaft sleeve Gland packing Mechanical seal O-ring Common base Anchor bolts	PDCPD※1 PDCPD/SCS13 PDCPD/SUS316 SUS316 SUS316 P#6502L※2 — NBR※3 SS400 SUS304	PDCPD※1 PDCPD/SCS13 PDCPD/SUS316 SUS316 SUS316 P#4507L※5 — NBR※3 SS400 SUS304	PDCPD※1 PDCPD/SCS13 PDCPD/SUS316 SUS316 PDCPD — SiC/SiC-SUS316 FPM※4 SS400 SUS304
Painting	Bearing, base, etc. Plastic parts	Polyurthane resin paint Unpainted	Polyurthane resin paint Unpainted	Polyurthane resin paint Unpainted
Installation location		Indoors/outdoors	Indoors/outdoors	Indoors/outdoors

Optional specifications

		Seawater spec.	Hot spring water spec.	Chemical liquid spec.
Construction	Flushing Bearing lubrication	Self flushing Grease packed	Self flushing Grease packed	— Grease packed
Materials	Shaft sleeve Inside mechanical seal Common base	Titanium SiC/SiC-SUS316(mono coil) SUS304	Titanium SiC/SiC-SUS316(mono coil)※6 SUS304	Titanium — SUS304
Painting	Bearing, base, etc. Plastic parts	— Acrylic urethane resin paint	Epoxy resin paint Acrylic urethane resin paint	Epoxy resin paint Acrylic urethane resin paint

Material symbols:

- ※1: PDCPD: Dicyclopentadiene
- ※2: P#6502L: Carbon fiber (symbol for use with seawater, oil, weak acids/alkalis)
- ※3: NBR: Nitrile rubber (oil-resistant synthetic rubber)
- ※4: FPM: Fluororubber (acid-resistant synthetic rubber)
- ※5: P#4507L: Graphite-filled PTFE fiber packing (acid-and alkali-resistant)
- ※6: Inside mechanical seal: Suitable for hot spring over pH7
- ※ It depends on temperature, pipeline layout and models

Accessories

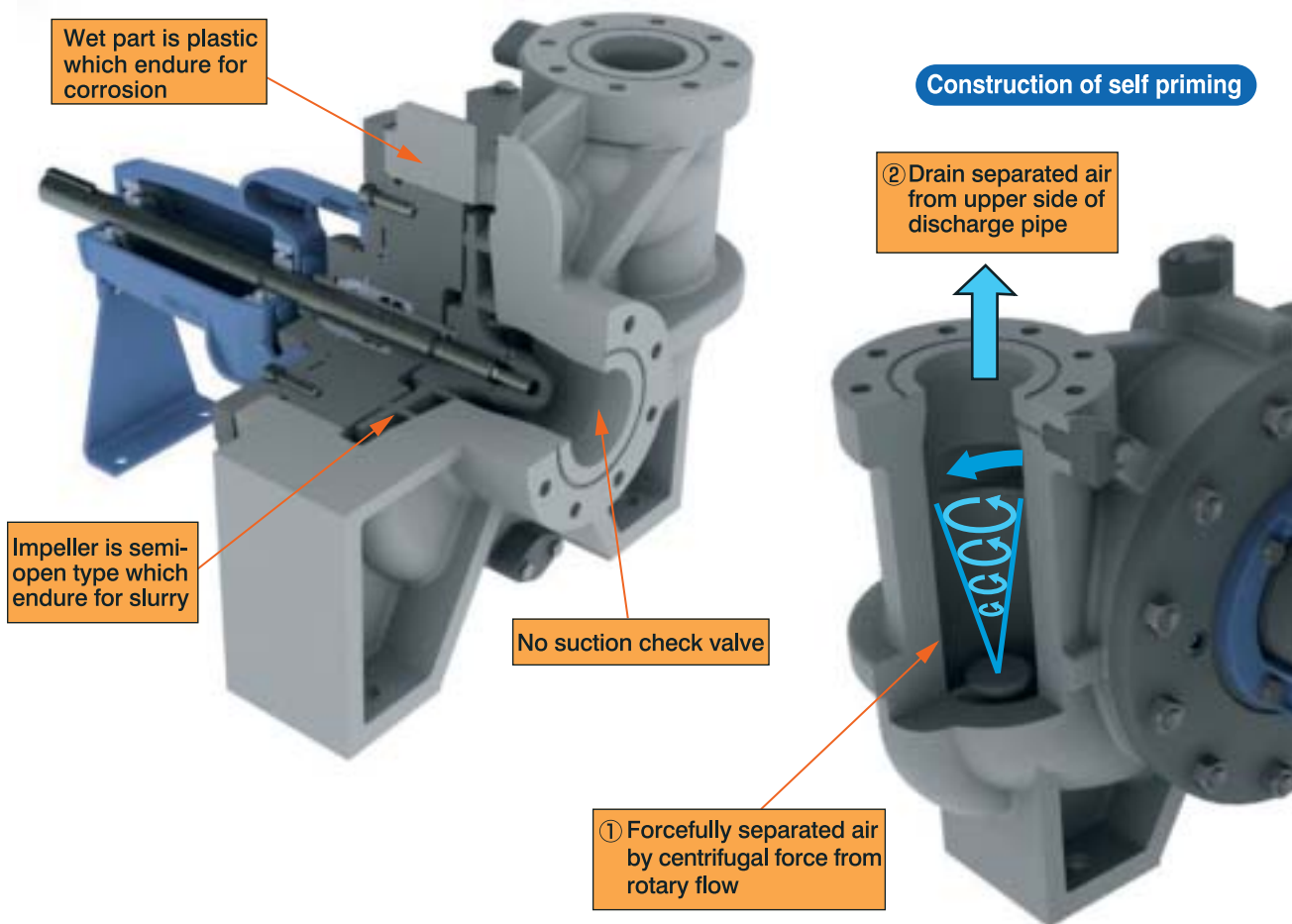
Standard accessories

Common base	1
Anchor bolt	1 set
Coupling	1 set
Coupling guard	1

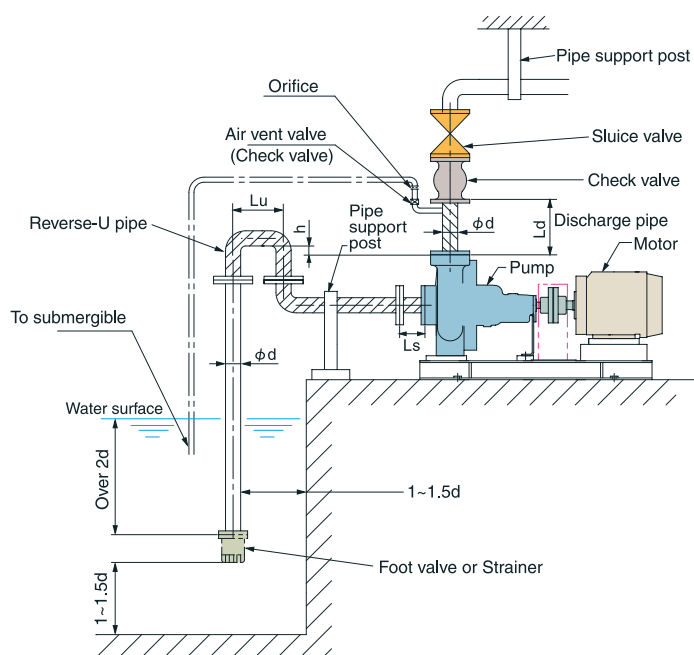
Optional accessories

- Special flange for gauge (AV gauge flange made of PVC)
- Gauges
- Automatic air valve (made of PVC)

Construction



Instruction about Pipe layout for self Priming Pump



(a) Pipe diameter of suction pipe shall be same as the diameter of pump suction bore. (ϕd)

(b) Locate the position of riser pipe higher than pump discharge port (Flange). (h)

(c) Set the length of straight pipe connected with pump suction port to 0.3 to 1.0m (Ls)

(d) Set the length of horizontal part of suction side reverse-U pipe at suction side piping up to 2.0m (Lu)

(e) Provide necessary length of discharge riser pipe stated below table with same diameter of pump discharge bore.

Pipe size (ϕ)	50	80	100	125	150
Length (mm)	450	500	550	600	800

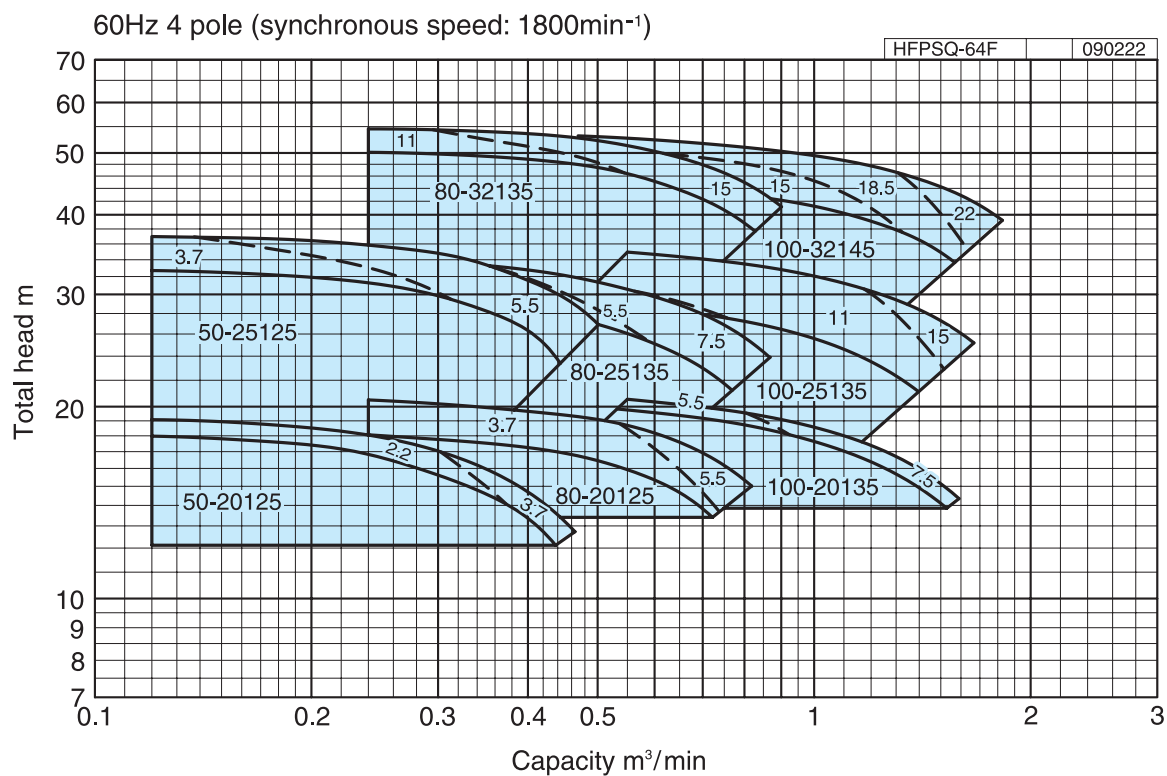
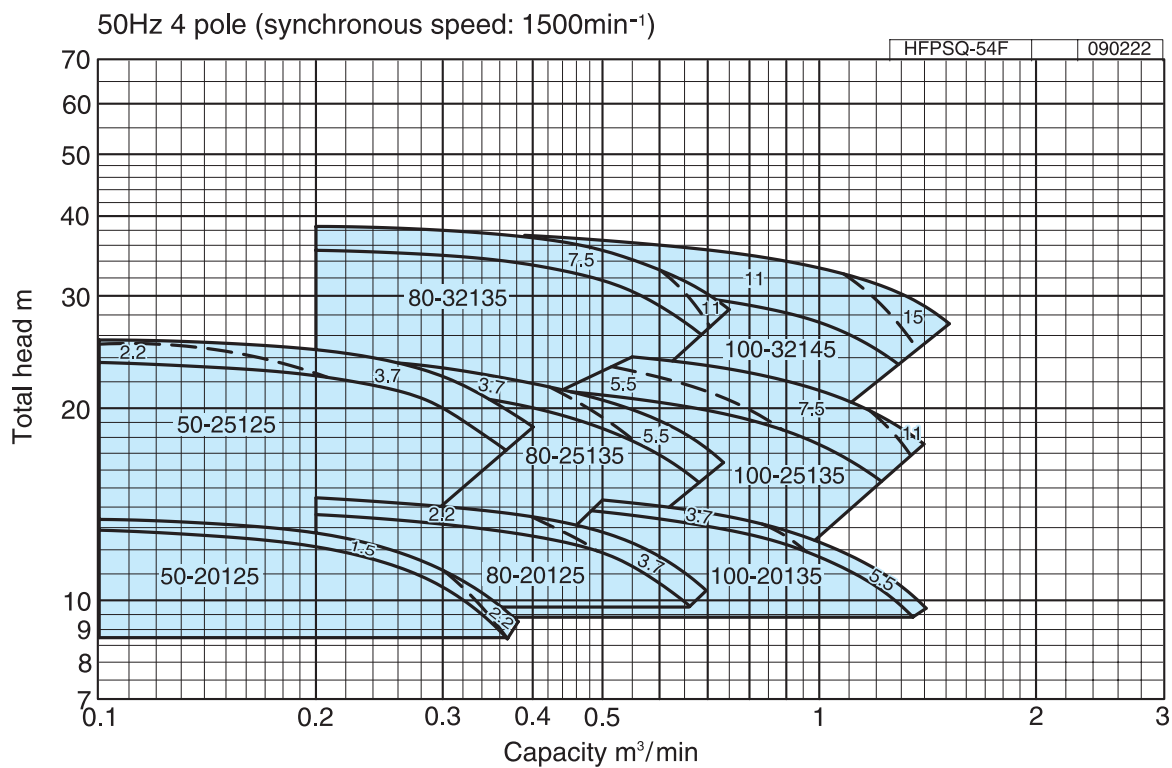
(f) Install air vent valve with size stated below as upper side as possible on the discharge riser pipe.

Pipe size (ϕ)	50	80	100	125	150
Air vent valve (ϕ)	15	15	15	15	20

(g) Install the horizontal pipe at suction side to avoid accumulation of air.

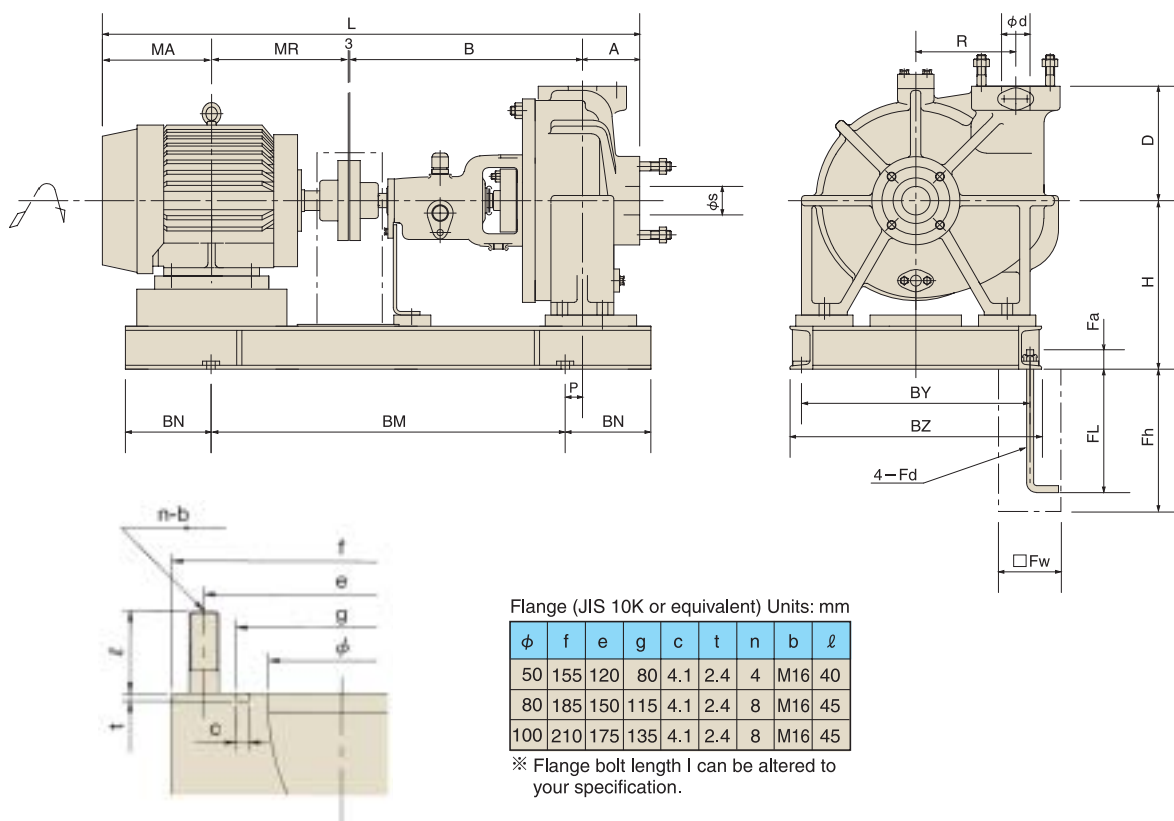
(h) Pay attention not to occur air leakage on the pipe of suction side.

Selection Charts



- ※ 1. Figures inside the broken lines are motor output(kW) in case of density 1.0kg/L and viscosity 1.0mPa·s(1.0cP).
 2. Confirm pump model and motor output when density and viscosity are different.
 3. There is restrict to cut impeller due to hold self priming ability. When not able to select due to low total head to raise total head inside the selectional position.

Dimensions



Flange (JIS 10K or equivalent) Units: mm

ϕ	f	e	g	c	t	n	b	ℓ
50	155	120	80	4.1	2.4	4	M16	40
80	185	150	115	4.1	2.4	8	M16	45
100	210	175	135	4.1	2.4	8	M16	45

※ Flange bolt length ℓ can be altered to your specification.

Units: mm																											
Model	Motor					Pump										Common base					Anchor bolts					Total Weight (mass) kg	Max. working pressure (at 80°C) MPa
	Output kW	Frame No.	MA	MR	Weight (mass) kg	φ s	φ d	A	B	D	H	R	L	P	Weight (mass) kg	BM	BN	BY	BZ	Weight (mass) kg	Fd	Fa	FL	Fh	Fw		
	4 pole																										
50FPSQM20125	1.5	90L	143	168.5	17	50	50	100	407	155	295	155	821.5	30	40	600	150	360	400	40	M12	34	216	250	110	97	0.49
	2.2	100L	157.5	193	22	50	50	100	407	155	295	155	860.5	30	40	600	150	360	400	40	M12	34	216	250	110	102	
	3.7	112M	186	200	28	50	50	100	407	155	295	155	896	30	40	600	150	360	400	40	M12	34	216	250	110	108	
50FPSQM25125	2.2	100L	157.5	193	22	50	50	100	407	200	295	175	860.5	30	49	620	150	400	440	45	M12	34	216	250	110	116	0.58
	3.7	112M	186	200	28	50	50	100	407	200	295	175	896	30	49	620	150	400	440	45	M12	34	216	250	110	122	
	5.5	132S	210.5	239	42	50	50	100	407	200	295	175	959.5	30	49	620	150	400	440	45	M12	34	216	250	110	136	
80FPSQM20125	2.2	100L	157.5	193	22	80	80	100	408	200	320	180	861.5	30	41	620	150	360	400	42	M12	34	216	250	110	105	0.49
	3.7	112M	186	200	28	80	80	100	408	200	320	180	897	30	41	620	150	360	400	42	M12	34	216	250	110	111	
	5.5	132S	210.5	239	42	80	80	100	408	200	320	180	960.5	30	41	620	150	360	400	42	M12	34	216	250	110	125	
80FPSQM25135	3.7	112M	186	200	28	80	80	125	505	200	345	205	1019	55	59	700	180	490	540	62	M16	40	275	315	130	149	0.58
	5.5	132S	210.5	239	42	80	80	125	505	200	345	205	1082.5	55	59	700	180	490	540	62	M16	40	275	315	130	163	
	7.5	132M	229.5	258	48	80	80	125	505	200	345	205	1120.5	55	59	700	180	490	540	62	M16	40	275	315	130	169	
80FPSQM32135	7.5	132M	229.5	258	48	80	80	125	505	210	400	235	1120.5	45	72	840	180	490	540	70	M16	40	275	315	130	190	0.88
	11	160M	302	323	73	80	80	125	505	210	400	235	1258	45	72	840	180	490	540	70	M16	40	275	315	130	215	
	15	160L	280	345	84	80	80	125	505	210	400	235	1258	45	72	840	180	490	540	70	M16	40	275	315	130	226	
100FPSQM20135	3.7	112M	186	200	28	100	100	100	505	190	345	190	994	55	52	700	180	490	540	60	M16	40	275	315	130	140	0.49
	5.5	132S	210.5	239	42	100	100	100	505	190	345	190	1057.5	55	52	700	180	490	540	60	M16	40	275	315	130	154	
	7.5	132M	229.5	258	48	100	100	100	505	190	345	190	1095.5	55	52	700	180	490	540	60	M16	40	275	315	130	160	
100FPSQM25135	5.5	132S	210.5	239	42	100	100	125	505	200	370	215	1082.5	45	62	840	180	490	540	65	M16	40	275	315	130	169	0.58
	7.5	132M	229.5	258	48	100	100	125	505	200	370	215	1120.5	45	62	840	180	490	540	65	M16	40	275	315	130	175	
	11	160M	30.2	323	73	100	100	125	505	200	370	215	1258	45	62	840	180	490	540	65	M16	40	275	315	130	200	
	15	160L	280	345	84	100	100	125	505	200	370	215	1258	45	62	840	180	490	540	65	M16	40	275	315	130	211	
100FPSQM32145	11	160M	302	323	73	100	100	125	565	225	400	240	1318	35	93	940	180	490	540	75	M16	40	275	315	130	241	0.88
	15	160L	280	345	84	100	100	125	565	225	400	240	1318	35	93	940	180	490	540	75	M16	40	275	315	130	252	
	18.5	180M	320	351.5	160	100	100	125	565	225	400	240	1364.5	35	93	940	180	490	540	75	M16	40	275	315	130	328	
	22	180M	320	351.5	170	100	100	125	565	225	400	240	1364.5	35	93	940	180	490	540	75	M16	40	275	315	130	338	

The Products described herein fall under “the goods listed in row 16 of the appended table 1 of the Export Trade Control Order of Japan”, so in cases of export of such Products, you need to confirm “use” and “purchaser and/or end-user” and, as case may be, obtain the approval of the Minister of Economy, Trade and Industry. (Please confirm these conditions on your own.) Furthermore, some of the Products fall under row 1-15 of the appended table 1 (listed items). In case of export of these listed items, you are required to obtain the export license from the Minister of Economy, Trade and Industry. For more information, please contact our sales office located near you.

CAUTION

- Do not attempt to operate, inspect or service this pump before you have read and understood manual of pump.
- Wiring and grounding work must NOT be performed by unqualified persons. It is extremely dangerous for unqualified persons to perform such work. The user should install electrical leakage breakers and overload safety devices to prevent electric shock and fire.

※1 “Model ○○○” in this catalog is our model code.

※2 All specifications subject to change without notice.



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