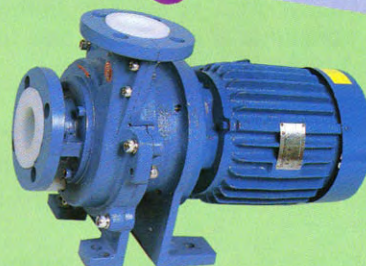
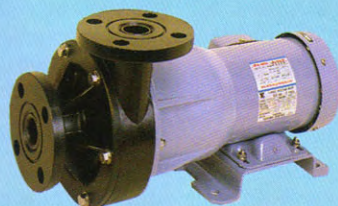
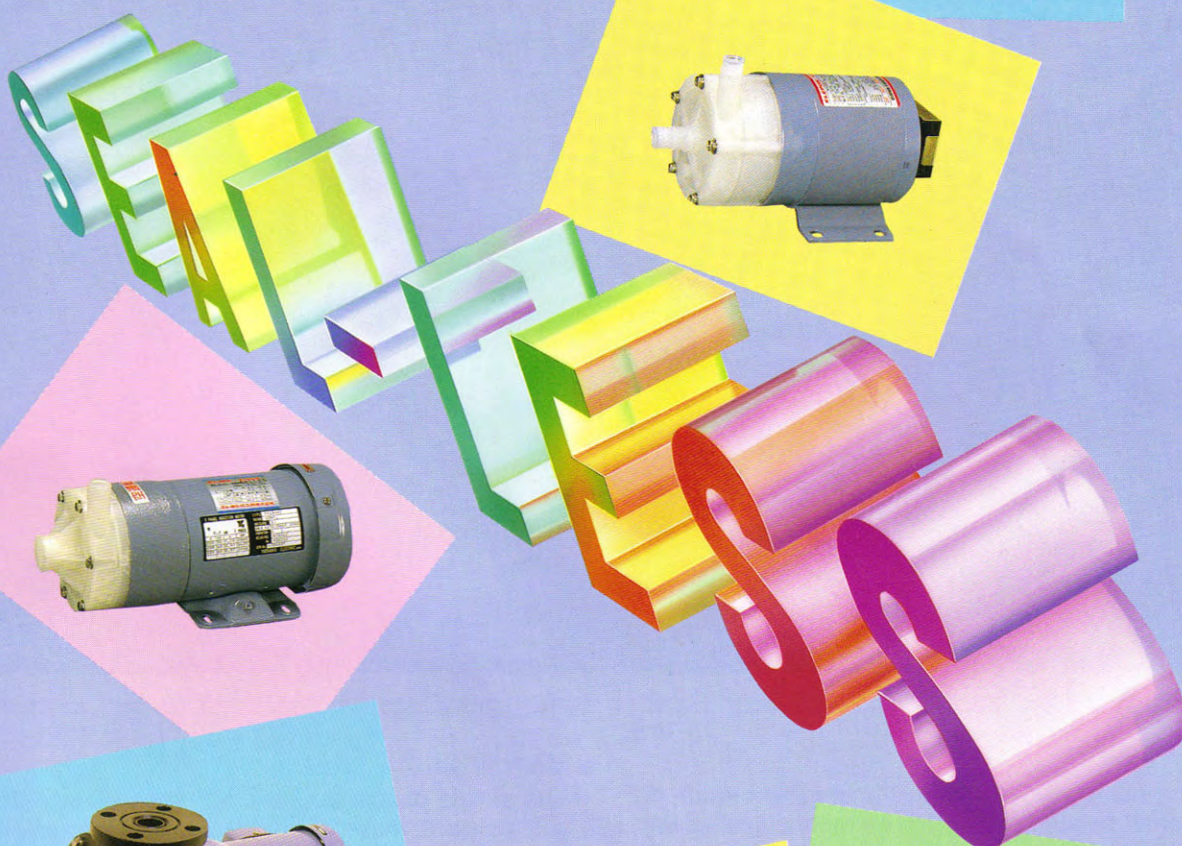
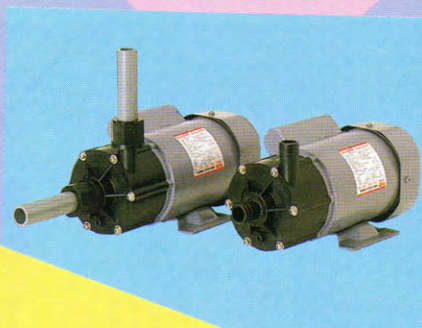
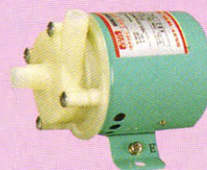


TOTAL FLUID MANAGEMENT... **ELEPON**

# SEAL-LESS PUMPS (MAGNETIC DRIVE)

**SL** type  
**SLF-C** type **SERIES**



**ELEPON E.C.A.P. CORPORATION**



# PERFECTLY SEALED FREE OF LEAKAGE, SIMPLY CONSTRUCTED AND MAINTENANCE-FREE

ELEPON SEAL-LESS PUMPS have been developed after years of research by ELEPON E.C.A.P., which is a leader in the seal-less pump industry and is always top in pump technology.

The seal-less pump SL Series are of the magnetic drive type centrifugal pumps, which incorporate permanent magnetics to the motors and by means of these magnets synchronously turn the impellers

to produce fluid flow. The pump housing is made of corrosion resistant polypropylene. With magnetic driven pumps, there is no need for shaft sealing parts such as mechanical seals, packing gland, etc. The possibility of liquid leakage resulting in these, clean-up and possible corrosion attack to the pump itself and surrounding equipment is eliminated.



## FEATURES

### ■ WON'T LEAK

Since the pump has no power transmission shaft, it has no shaft sealing parts such as mechanical seals and gland packings at all. The hermetically sealed pumping chamber is absolutely free from leakage of the liquid handled to the outside.

### ■ WON'T CORRODE

Highly chemical resistant polypropylene, fluororubber and ceramics are standard materials for wetted parts. These offer a wider range of pump applications.

### ■ DRY OPERATION POSSIBLE (NEW PRODUCT)

Thanks to a special ceramic material, the FD model is able to tolerate dry operation for approx. one hour in the event of problems.

### ■ MAINTENANCE-FREE

The simple design coupled with the absence of any sealing parts make maintenance and inspection the simplicity itself. So durable, the pumps withstand sustained continuous operation.

### ■ SMALL IN SIZE AND HIGH IN PERFORMANCE

The pumps are logically designed to compact sizes to offer exceptionally high efficiency. All pumps are ideally suited for building into various kinds of apparatus and machinery.

### ■ A COMPLETE SELECTION: FROM 3W TO 5.5kW (AC)

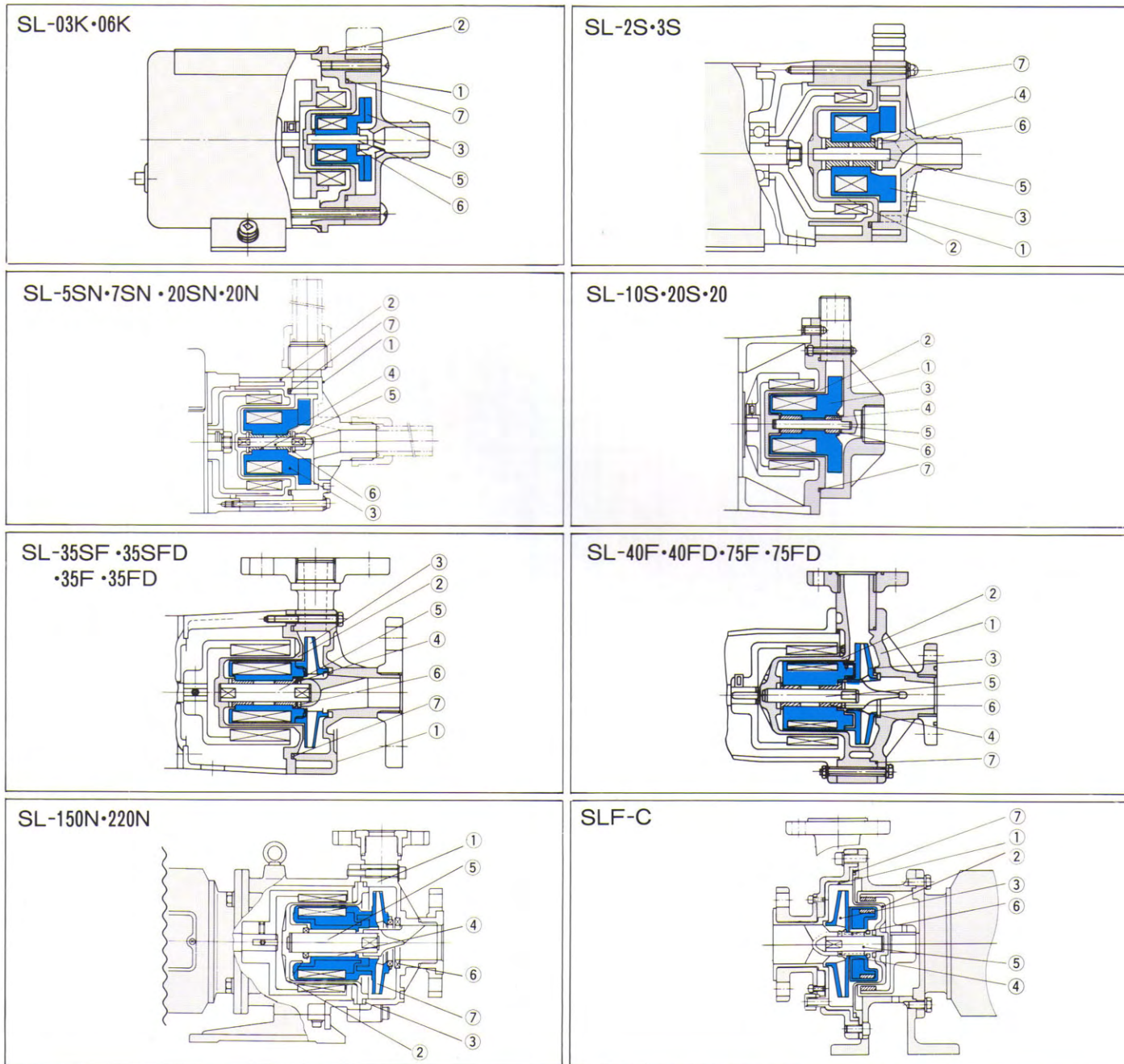
The innovative technology employed in these large-scale pumps, makes the large capacity sealless pump tough enough to transfer large volumes of liquids for extended periods.



## ■ APPLICATIONS

- Corrosive chemical solutions, acids and alkalis
- Photograph developing solutions, fixers, bleaching solutions and inks
- Sea water, salt water and pure water
- Soy sauce, vinegar, brewery, and fruit juice
- Plating solutions, surface treating apparatus, and filtration system
- Medical apparatus, physicochemical apparatus, and thermostatic baths
- Drugs, chemicals, and cosmetics
- Etching apparatus for electronic parts, and photochemical processes
- Dyeing equipment and waste liquid treating units
- Alkaline batteries, and storage batteries
- Refrigerators, cold counters, and coolers
- Vending machines for beverages, and ice machines
- Laboratories, test rooms and test plants
- Processes
- For hot water circulation
- Other apparatus and equipment

## ■ CONSTRUCTIONS

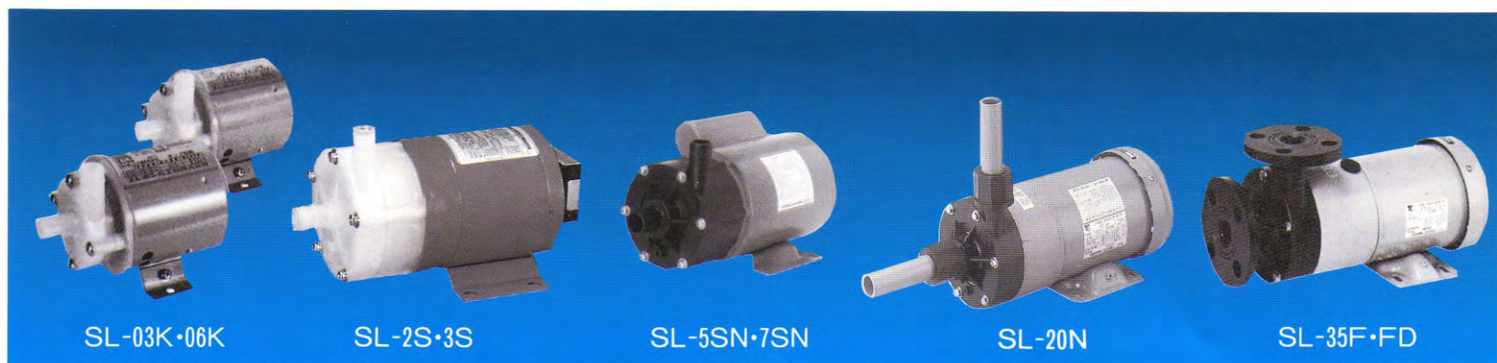


## ■ MATERIALS OF PARTS

Type	SL-03K•06K	SL-2S • 3S• 5SN • 7SN•20SN • 20N	SL-10S 20(S)	SL-35F • 40F • 75F	SL-150N 220N	FD model	SLF-C
Part name							
1) Pump casing	p p + glass fiber	p p + glass fiber	p p	p p + glass fiber	p p + glass fiber	p p + glass fiber	PVDF
2) Rear casing	p p + glass fiber	p p + glass fiber	p p	p p + glass fiber	p p + glass fiber	p p + glass fiber	PVDF
3) Impeller	p p + glass fiber	p p + glass fiber	p p	p p/PVDF	p p + glass fiber	p p/PVDF	PVDF
4) Bearing	—	Rareflon	Rareflon	Rareflon	Rareflon	Special ceramics	Ceramics
5) Pump shaft	Ceramics	Ceramics	Ceramics	Ceramics	Ceramics	Special ceramics	Ceramics
6) Thrust shaft	PE	Ceramics	Ceramics	Ceramics	Ceramics	Special ceramics	Ceramics
7) O-ring	EPT	Viton	Viton	Viton	Viton	Viton	FPM



# CHOOSE THE SIZES AND CAPACITIES THAT MEET YOUR PARTICULAR APPLICATION REQUIREMENTS.



SL-03K-06K

SL-2S-3S

SL-5SN-7SN

SL-20N

SL-35F-FD

## SL SPECIFICATIONS (MATERIAL:PP)

50Hz  
60Hz

Model	Connection size			Maximum performance				Rated performance				Motor				Weight kg
	Suction mm	Discharge mm		50Hz		60Hz		50Hz		60Hz		Output W	Power source V	Speed r.p.m.		
				Max. capacity	Max. head	Max. capacity	Max. head	Capacity	Head	Capacity	Head			50Hz	60Hz	
				ℓ/min	m	ℓ/min	m	ℓ/min	m	ℓ/min	m					
SL-03K	12	12	Hose connection	8	1.0	9	1.4	2.8	0.8	5	0.8	3	Single phase 100	2700	3100	1.0
SL-06K	12	12		11	1.5	12	2.1	5	1.0	8	1.0	6	Single phase 100	2600	3000	1.0
SL-2S	12	12		15	2.4	19	3.4	8	1.5	13	1.5	15	Single phase 100	2850	3430	2.0
SL-3S	15	15		29	3.0	34	4.3	16	2.0	24	2.0	30	Single phase 100	2840	3430	2.5
SL-5SN	19	19	Hose	34	3.6	42	5.3	20	2.5	30	2.5	45	Single phase 100	2810	3380	4.5
	16A	16A	Union													
SL-7SN	19	19	Hose	42	4.3	50	6.5	23	3.5	34	4.0	65	Single phase 100	2690	3200	4.8
	16A	16A	Union													
SL-20SN	25	25	Hose	87	6.3	100	9.0	33	5.0	62	5.0	200	Single phase 100	2800	3380	8.0
	20A	20A	Union													
SL-20N	25	25	Hose	87	6.3	100	9.0	33	5.0	62	5.0	200	3-phase 200	2840	3410	7.0
	20A	20A	Union													
SL-10S	PS $\frac{3}{4}$ "	PT $\frac{1}{2}$ "	Hoses can be connected with the hose adapter supplied with each pump as a standard accessory	50	5.8	60	8.2	20	4.7	28	6.0	100	Single phase 100	2800	3380	5.2
SL-20S	PS $\frac{3}{4}$ "	PT $\frac{1}{2}$ "		65	7.3	75	10.5	20	6.0	32	8.0	200	Single phase 100	2800	3380	7.0
SL-20	PS $\frac{3}{4}$ "	PT $\frac{1}{2}$ "		65	7.3	75	10.5	20	6.0	32	8.0	200	3-phase 200	2870	3430	6.8
SL-35SF/35SFD	JIS10kg/cm <sup>2</sup> 25A Flange			135	11.2	135	11.2	60	8.5	60	8.5	250	Single phase 100	2800	3380	9.6
SL-35F/35FD	JIS10kg/cm <sup>2</sup> 25A Flange			135	11.2	135	11.2	60	8.5	60	8.5	250	3-phase 200	2900	3470	8.7
SL-40F/40FD	JIS10kg/cm <sup>2</sup> 40A Flange			200	10.0	200	10.0	80	8.0	80	8.0	400	3-phase 200	2920	3490	20.0
SL-75F/75FD	JIS10kg/cm <sup>2</sup> 40A Flange			250	16.0	250	16.0	130	11.0	130	11.0	750	3-phase 200	2870	3430	21.0
※ SL-150N	50A	40A	JIS 10kg/cm <sup>2</sup> Flange	340	24.0	340	24.0	200	18.0	200	18.0	1500	3-phase 200	2830	3390	34.0
※ SL-220N	50A	40A		415	24.5	415	24.5	250	20.0	250	20.0	2200	3-phase 200	2840	3400	35.0

\*Note: The flanges of the SL-35S, 35F, FD, SL-40, 75F and FD models are of JIS 10kgf/cm<sup>2</sup>. The mating flange, packing, nuts and bolts are optional. Please order separately as required.

1) The performance levels indicated are based on a test at normal room temperature and using clean water.

2) The open flow at 0m head and no discharge pressure are shown respectively as the maximum flow rate and the maximum head.

3) The critical specific gravity of the solution to be processed can be up to 1.3. For 2S,3S,150N this figure is 1.1, for 220N this figure 1.2.

4) Viscosity of the solution can be up to 30 mPa.s.

5) Temperature range of the solution to be processed is from 0°C to 80°C. For SL-10S, 20S, and 20, the maximum temperature is 60°C.

6) Solutions containing slurry will shorten pump life.

7) Dry operation is not possible, with the exception of the FD model. This pump is solely able to withstand dry operation for a maximum of one hour.

8) Type of motor (standard)

SL-03K, 06K:

SL-2S, 3S, 5SN:

SL-, 10S, 20S, 20SN:

SL-7SN, 20, 20N, 35S, 35, 40F, 75F, 150N, 220N: Totally enclosed fan-cooled (indoor)

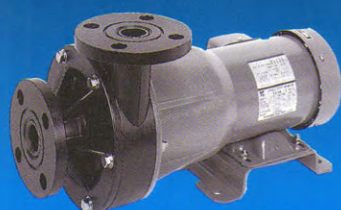
9) For motors with other special specifications, please enquire.

Shading coil open type

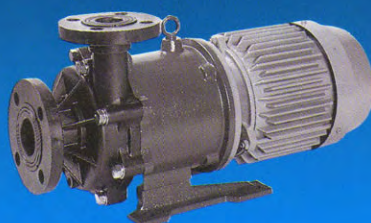
Totally enclosed self-cooling

Drip-proof protection





SL-40F•FD  
SL-70F•FD



SL-150N•220N



SLF-220C

## ■ SLF-C SPECIFICATIONS (MATERIAL:PVDF)

Type	Aperture Suction × discharge (mm)	Rated performance		Motor output (kW)	Allowable specific gravity	Frequency/rate off revolution (Hz/r.p.m.)	Weight (kg)
		Capacity (ℓ/min)	Total head (m)				
SLF-40C (E)	40 <sup>A</sup> × 20 <sup>A</sup> JIS10kg/cm <sup>2</sup> RF Flange	60	7.5	0.4	1.6	50/1,420	34
SLF-40C (W)			10		1.13	60/1,700	34
SLF-75HC (E)		30	20	0.75	1.13	50/2,890	36
SLF-75HC (W)			20		1.13	60/3,410	36
SLF-150HC (E)			25	1.5	1.7	50/2,910	43
SLF-150HC (W)			25		1.7	60/3,420	43
SLF-150H2C (E)			30		1.5	50/2,910	43
SLF-150H2C (W)			30		1.43	60/3,420	43
SLF-150H3C (E)			35		1.23	50/2,910	43
SLF-150H3C (W)			35		1.18	60/3,420	43
SLF-75C (E)	50 <sup>A</sup> × 40 <sup>A</sup> JIS10kg/cm <sup>2</sup> RF Flange	100	10	0.75	1.4	50/2,890	37
SLF-75C (W)			10		1.2	60/3,410	37
SLF-150C (E)		200	15	1.5	1.4	50/2,910	47
SLF-150C (W)			15		1.4	60/3,420	47
SLF-220C (E)			20	2.2	1.6	50/2,870	53
SLF-220C (W)			20		1.6	60/3,430	53
SLF-220HC (E)			25		1.2	50/2,870	53
SLF-220HC (W)			25		1.2	60/3,430	53
SLF-370C (E)	50 <sup>A</sup> × 40 <sup>A</sup> JIS10kg/cm <sup>2</sup> RF Flange	400	20	3.7	1.6	50/2,900	115
SLF-370C (W)			20		1.4	60/3,500	115
SLF-370HC (E)			25		1.3	50/2,900	115
SLF-370HC (W)			25		1.2	60/3,500	115
SLF-550C (E)		400	29	5.5	1.7	50/2,900	136
SLF-550C (W)			30		1.5	60/3,500	136

### \*Notes

1. The weight indicated is with a standard totally enclosed fan-cooled motor.
2. The performance indicated is based on a test using clean water at normal room temperature.
3. Maximum solution temp.: 80°C
4. Revolution is clockwise when viewed from the motor side.
5. Paint color: Munsell 2.5B4/8
6. Standard accessories: Anchor bolts
7. Motor output can be changed to correspond with the critical specific gravity (made to order).

## • SPECIAL ACCESSORIES

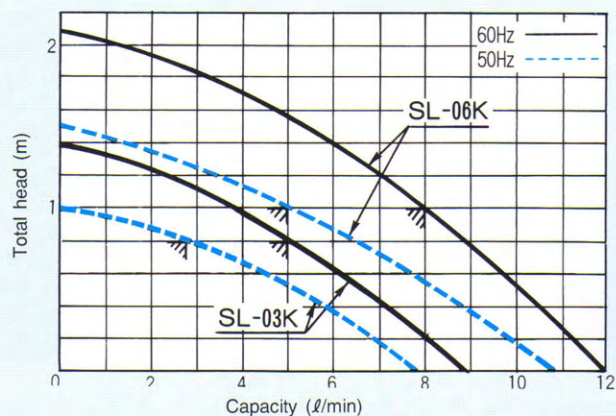
The dry monitor stops the pump immediately to prevent any accidents, should it start racing. Since the monitor uses motor current for control, there is no need to provide the pump and piping with any special device. Cavitation by racing can be prevented simply by setting the current at the desired value under a closed state on the discharge side instead of the normal state (specified point) of the pump.



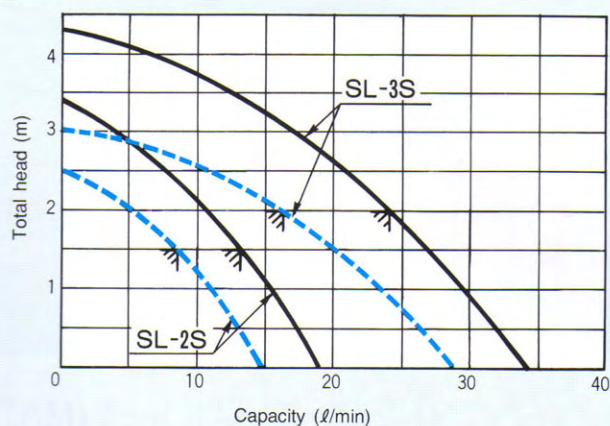


# ■ SL PERFORMANCE CURVES (MATERIAL : PP)

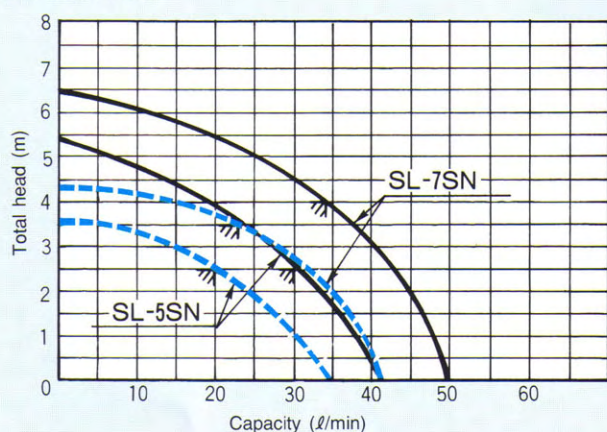
SL-03K·06K



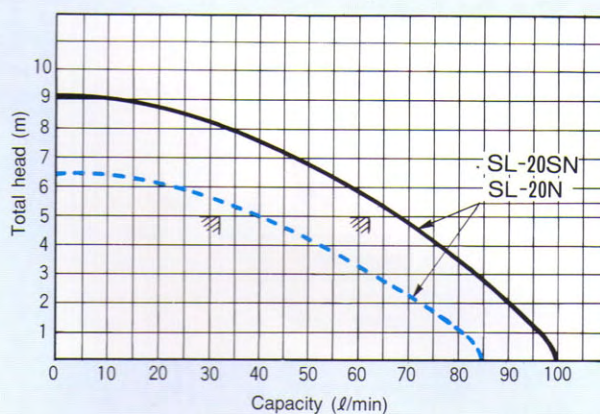
SL-2S·3S



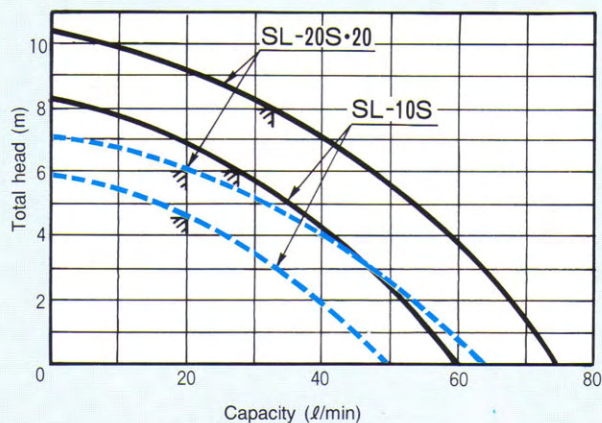
SL-5SN·7SN



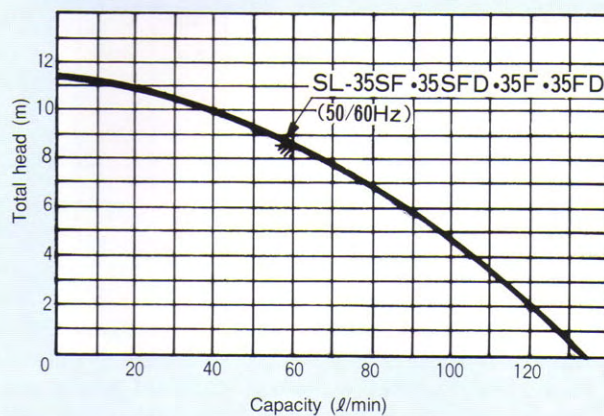
SL-20SN·20N



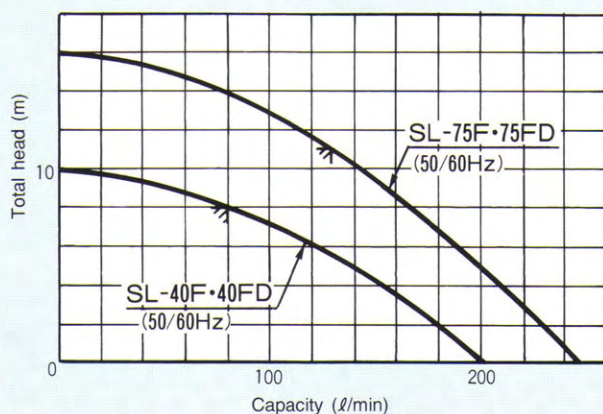
SL-10S·20S·20



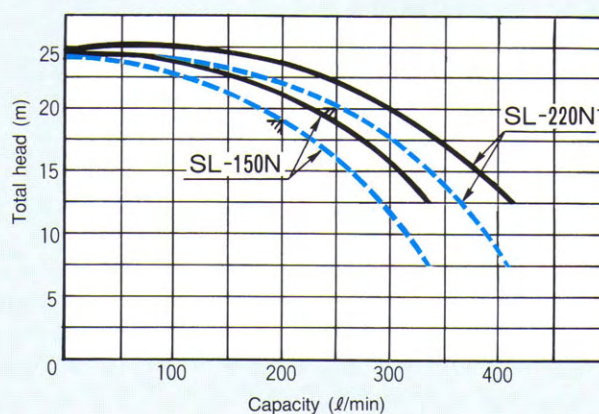
SL-35SF·35SFD·35F·35FD



SL-40F·40FD·75F·75FD



SL-150N·220N

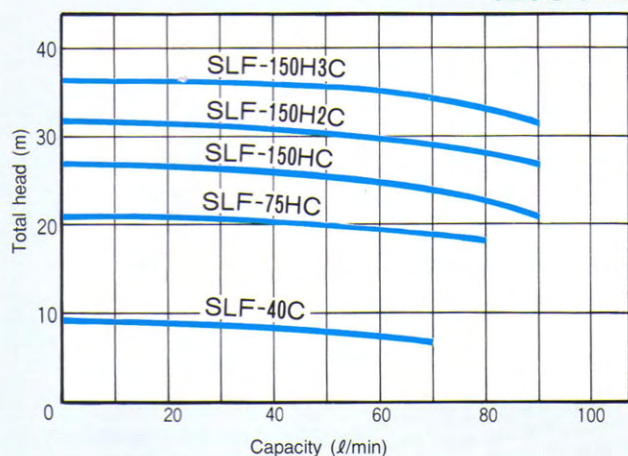




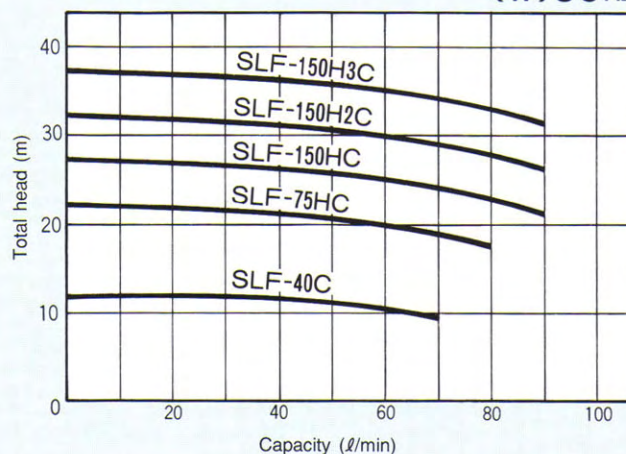
# ■ SLF-C PERFORMANCE CURVES (MATERIAL:PVDF)

SLF-40C•75HC•150HC•150H2C•150H3C

(E)50Hz

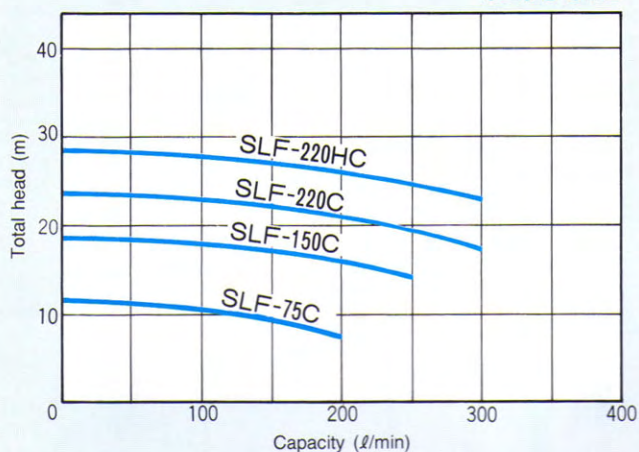


(W)60Hz

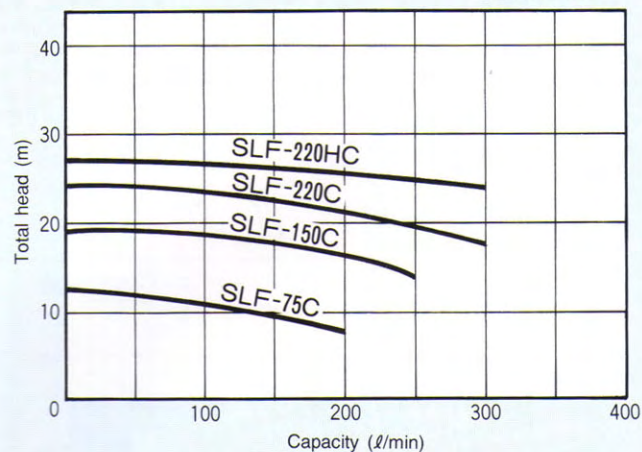


SLF-75C•150C•220C•220HC

(E)50Hz

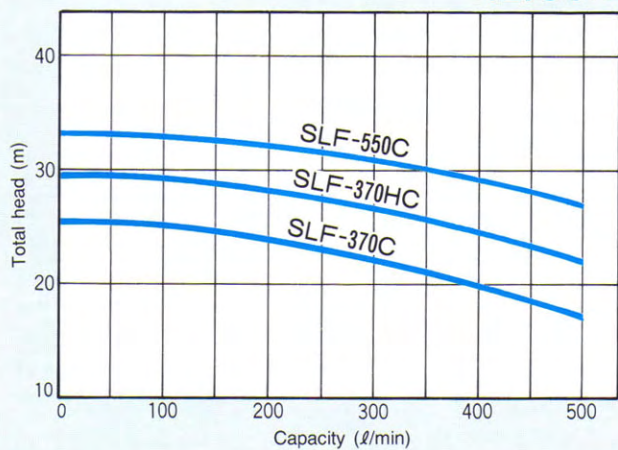


(W)60Hz

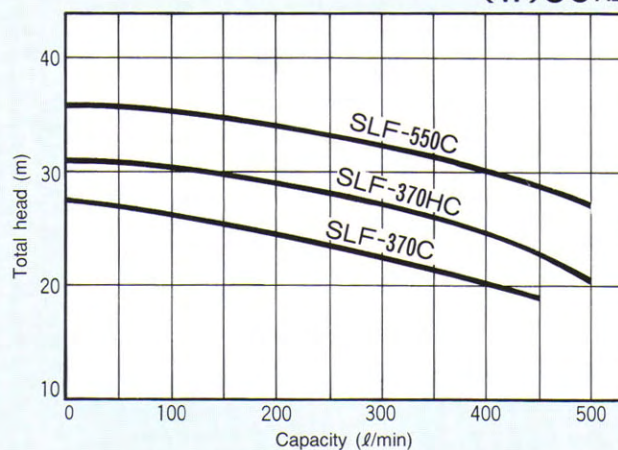


SLF-370C•370HC•550C

(E)50Hz



(W)60Hz

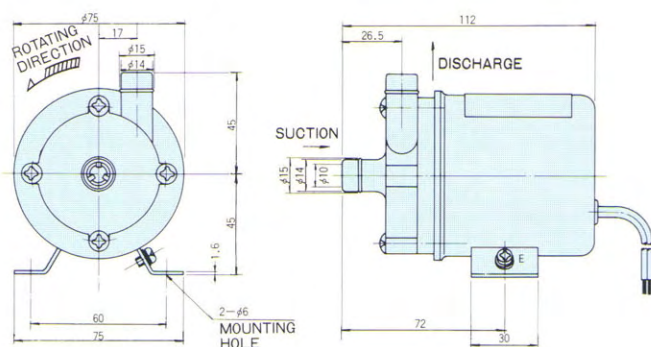




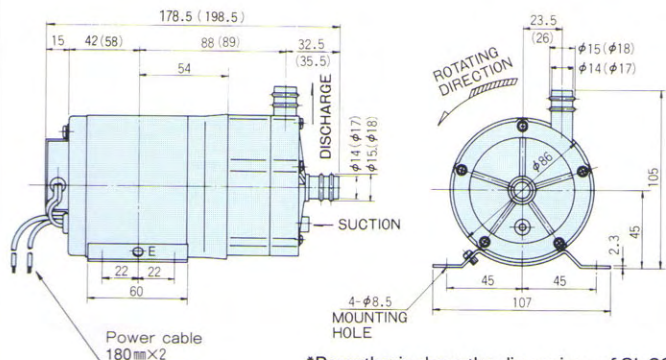
# EXCEPTIONALLY HIGH EFFICIENCY AND HIGH ACCURACY ARE REALIZED FROM SMALL TO LARGE SIZES

## ■ SL DIMENSIONS

SL-03K·06K

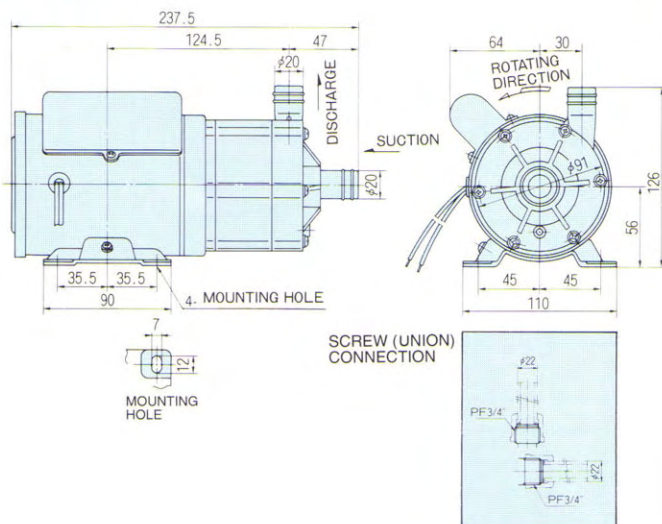


SL-2S·3S

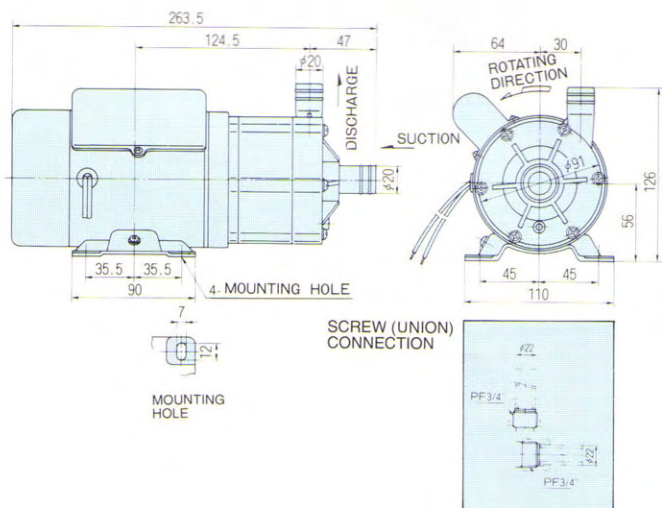


\*Parenthesis show the dimensions of SL-3S. Others are of the same dimensions.

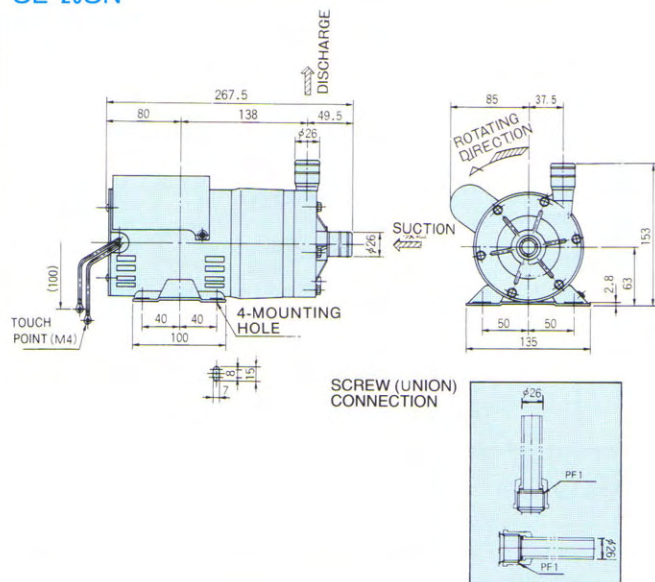
SL-5SN



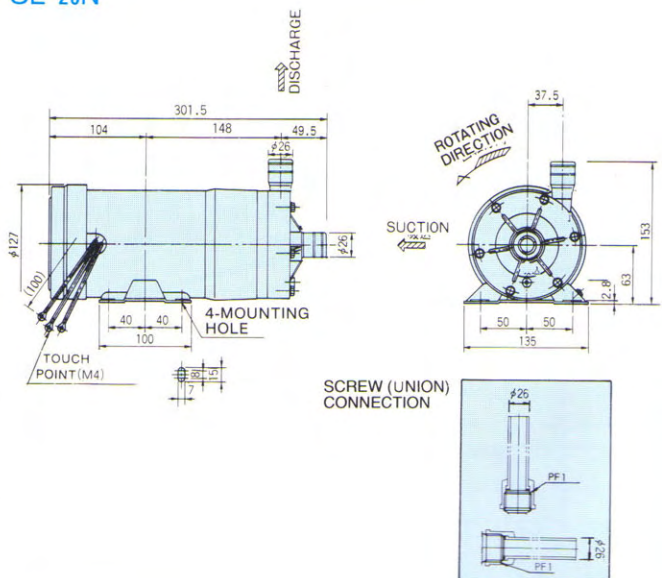
SL-7SN



SL-20SN

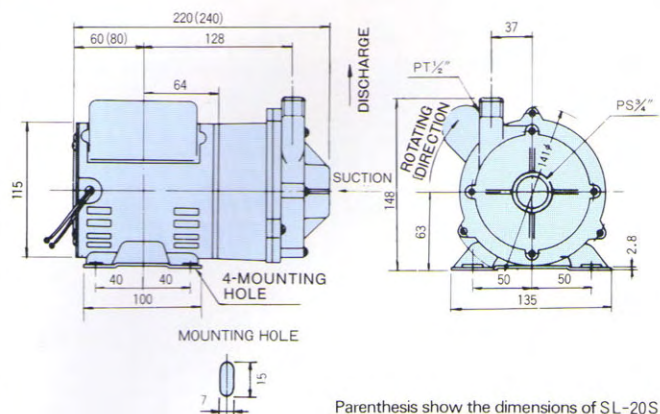


SL-20N



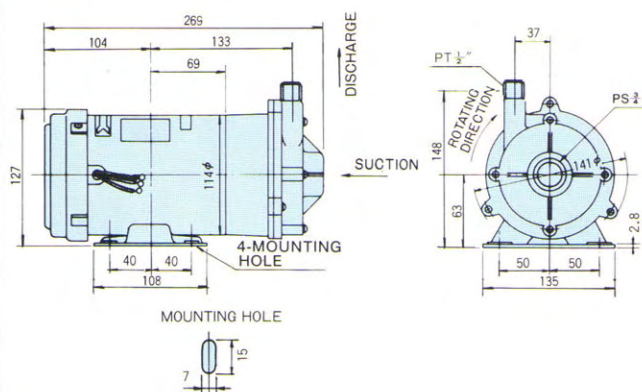


### SL-10S·20S

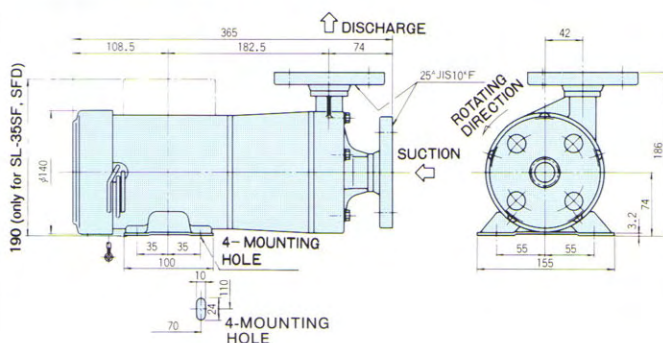


Parenthesis show the dimensions of SL-20S

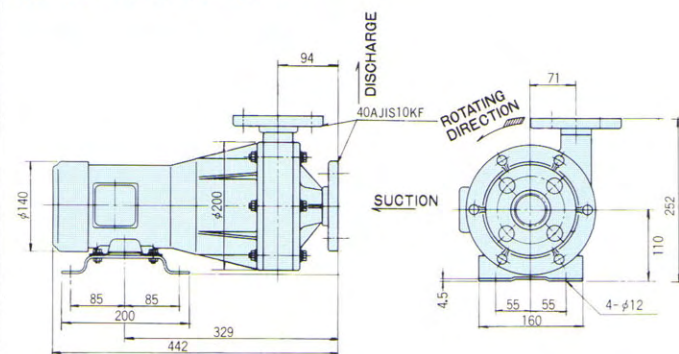
### SL-20



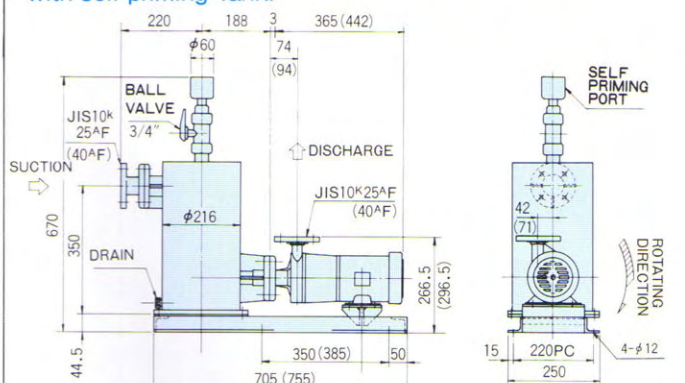
### SL-35SF·35SFD·35F·35FD



### SL-40F·40FD·75F·75FD

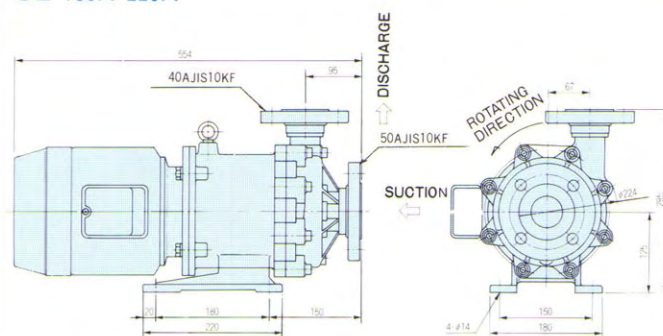


### SL-35SF·35SFD·35F·35FD·40F·40FD·75F·75FD with self priming Tank.

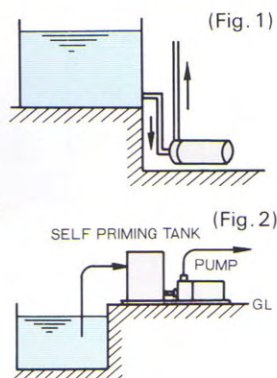


\*Parenthesis show the dimensions of SL-75F. Others are of the same dimensions.

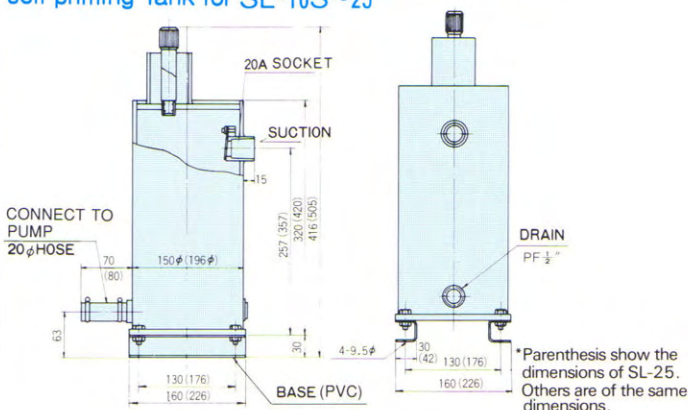
### SL-150N·220N



SL Series are non-self-priming pumps and are recommended for us in the force feed state as shown in Fig. 1. The use of our self-priming tank (option) as shown in Fig. 2 is recommended in the case of using these pumps in the lifting state.



### self priming Tank for SL-10S~25



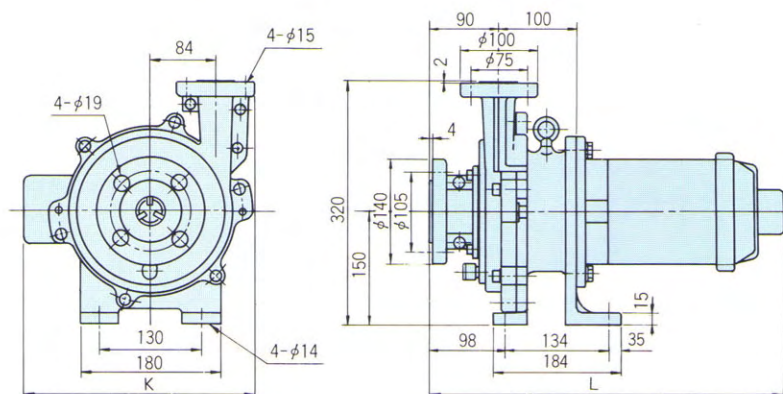
\*Parenthesis show the dimensions of SL-25. Others are of the same dimensions.



# SEAL-FREE PUMP MADE OF PVDF; COMPACT DESIGN FOR UNIVERSAL APPLICATION

## ■SLF-C DIMENSIONS

SLF-40C•75HC•150HC•150H2C•150H3C

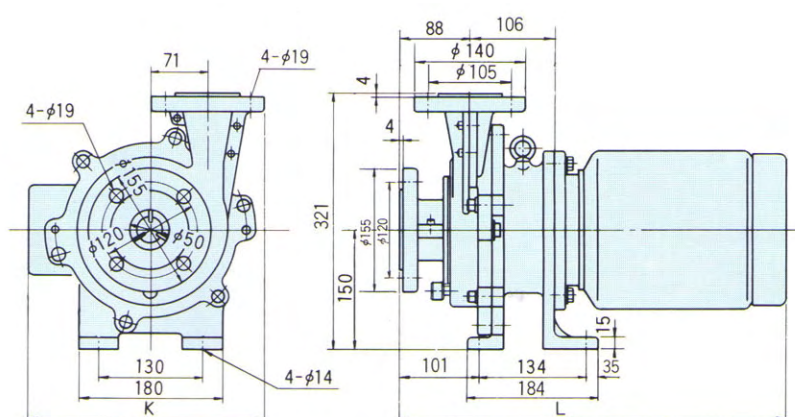


Totally enclosed fan-cooled outdoor model (standard)

TYPE		K	L
SLF-40C	(E)	288	397
	(W)	288	397
SLF-75HC	(E)	295	433
	(W)	288	447
SLF-150HC	(E)	310	459
	(W)	300	500
SLF-150H2C	(E)	310	459
	(W)	300	500
SLF-150H3C	(E)	310	459
	(W)	300	500

※ Dimensions K and L will vary depending on the motor manufacturer.

SLF-75C•150C•220C•220HC

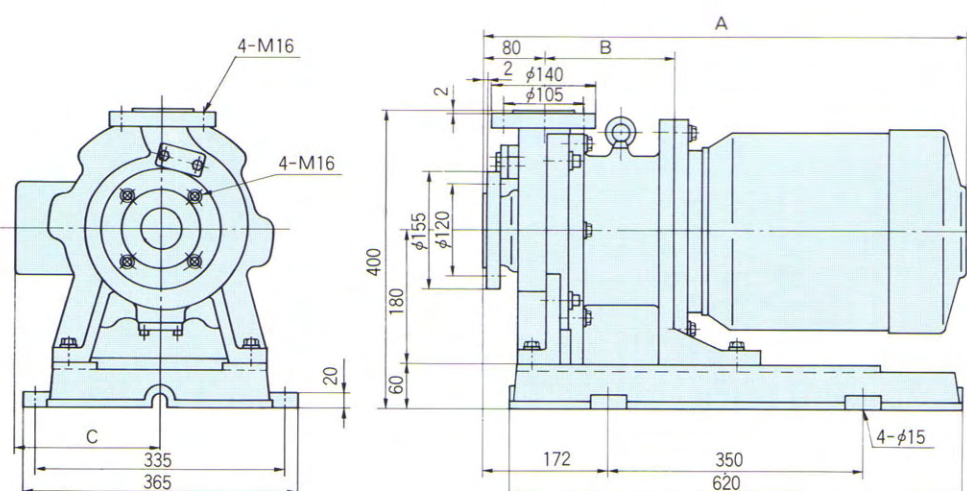


Totally enclosed fan-cooled outdoor model (standard)

TYPE		K	L
SLF-75C	(E)	302	437
	(W)	295	451
SLF-150C	(E)	317	463
	(W)	307	504
SLF-220C	(E)	317	483
	(W)	307	504
SLF-220HC	(E)	317	483
	(W)	307	504

※ Dimensions K and L will vary depending on the motor manufacturer.

SLF-370C•370HC•550C



Totally enclosed fan-cooled outdoor model (standard)

TYPE	A	B	C
SLF-370C	593	159	187
SLF-370HC	593	159	187
SLF-550C	662	179	239

※ Dimensions A and C will vary depending on the motor manufacturer.



(PVDF)

## Tables of corrosion resistivity

Chemicals	Molecular formula	Concentration (wt%)	Temperature (°C)										"O" ring material
			10	20	30	40	50	60	70	80	90		
Nitrous acid	HNO <sub>2</sub>												F
Sodium nitrite	NaNO <sub>2</sub>	40%											F
Sulfurous acid	H <sub>2</sub> SO <sub>3</sub>												F
Sodium sulfite	Na <sub>2</sub> SO <sub>3</sub>	Saturated											F
Ethyl alcohol	C <sub>2</sub> H <sub>5</sub> OH												F
Zinc chloride	ZnCl <sub>2</sub>	50%											F
Aluminium chloride	AlCl <sub>3</sub>	Saturated											F
Ammonium chloride	NH <sub>4</sub> Cl	25%											F
Ethyl chloride	C <sub>2</sub> H <sub>5</sub> Cl												F
Ethylene dichloride	ClCH <sub>2</sub> CH <sub>2</sub> Cl												F
Potassium chloride	KCl	30%											F
Calcium chloride	CaCl <sub>2</sub>	40%											F
Ferrous chloride	FeCl <sub>2</sub>	Saturated											F
Ferric chloride	FeCl <sub>3</sub>	50%											F
Sodium chloride	NaCl	Saturated											F
Magnesium chloride	MgCl <sub>2</sub>	Saturated											F
Hydrochloric acid	HCl	35%											F
Potassium chlorate	KClO <sub>3</sub>	10%											F
Calcium chlorate	Ca(ClO <sub>3</sub> ) <sub>2</sub>	20%											F
Sodium chlorate	NaClO <sub>3</sub>	30%											F
Chlorine	Cl <sub>2</sub>												F
Aqua regia	HCl+HNO <sub>3</sub>	28%											F
Sea water													F
Hydrogen peroxide solution	H <sub>2</sub> O <sub>2</sub>	30%											F
		50%											F
Sodium peroxide	Na <sub>2</sub> O <sub>2</sub>	60%											F
Sodium hydroxide	NaOH	50%											E
Potassium permanganate	KMnO <sub>4</sub>	Saturated											F
Formic acid	HCOOH												F
Chromic acid	H <sub>2</sub> CrO <sub>4</sub>	20%											F
		50%											F
Chloroform	CHCl <sub>3</sub>												F
Silicofluoric acid	H <sub>2</sub> SiF <sub>6</sub>	30%											F
Acetic acid	CH <sub>3</sub> COOH	50%											E
Calcium hypochlorite	Ca(ClO) <sub>2</sub>	30%											F
Sodium hypochlorite	NaClO	12%											F
Potassium cyanide	KCN	Saturated											F
Sodium cyanide	NaCN	Saturated											F
Hydrobromic acid	HBr												F
Sodium bromide	NaBr	40%											F
Oxalic acid	(COOH) <sub>2</sub> ·2H <sub>2</sub> O												F

Chemicals	Molecular formula	Concentration (wt%)	Temperature (°C)										"O" ring material
			10	20	30	40	50	60	70	80	90		
Potassium bichromate	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	Saturated											F
Nitric acid	HNO <sub>3</sub>	25%											F
		50%											F
		60%											F
Aluminium nitrate	Al(NO <sub>3</sub> ) <sub>3</sub>	40%											F
Ammonium nitrate	NH <sub>4</sub> NO <sub>3</sub>	40%											F
Potassium nitrate	KNO <sub>3</sub>	20%											F
Calcium nitrate	Ca(NO <sub>3</sub> ) <sub>2</sub>												F
Sodium nitrate	NaNO <sub>3</sub>	50%											F
Nickel nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub>	70%											F
Ammonium hydroxide	NH <sub>4</sub> OH												E
Magnesium hydroxide	Mg(OH) <sub>2</sub>												F
Potassium hydroxide	KOH	50%											E
Potassium carbonate	K <sub>2</sub> CO <sub>3</sub>	60%											F
Calcium carbonate	CaCO <sub>3</sub>												F
Sodium carbonate	Na <sub>2</sub> CO <sub>3</sub>	10%											F
Magnesium carbonate	MgCO <sub>3</sub>												F
Sodium thiosulfate	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Saturated											F
Trichloroethylene	CHCl <sub>3</sub> /CCl <sub>4</sub>												F
Toluene	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>												F
Phenol	C <sub>6</sub> H <sub>5</sub> OH	10%											F
Aluminum fluoride	AlF <sub>3</sub>												F
Hydrofluoric acid	HF	30%											F
Sodium fluoride	NaF												F
Butyl alcohol	C <sub>4</sub> H <sub>9</sub> OH												F
Methyl alcohol	CH <sub>3</sub> OH												F
Monochloroacetic acid	CH <sub>2</sub> ClCOOH	50%											E
Potassium sulfate	H <sub>2</sub> SO <sub>4</sub>	70%											F
		90%											F
		98%											F
Potassium sulfate	K <sub>2</sub> SO <sub>4</sub>	10%											F
Calcium sulfate	CaSO <sub>4</sub>												F
Ferrous sulfate	FeSO <sub>4</sub>	Saturated											F
Ferric sulfate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	Saturated											F
Copper sulfate	CuSO <sub>4</sub>	Saturated											F
Sodium sulfate	Na <sub>2</sub> SO <sub>4</sub>	Saturated											F
Nickel sulfate	NiSO <sub>4</sub>	Saturated											F
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	85%											F
Ammonium phosphate	N <sub>2</sub> H <sub>9</sub> PO <sub>4</sub>												F
Sodium phosphate	Na <sub>2</sub> HPO <sub>4</sub>												F

O ring material F: FPM E: EPDM

• For information regarding chemicals other than those listed above, please consult us.

※ Use E.T.F.E. grade for marked pharmaceuticals.