

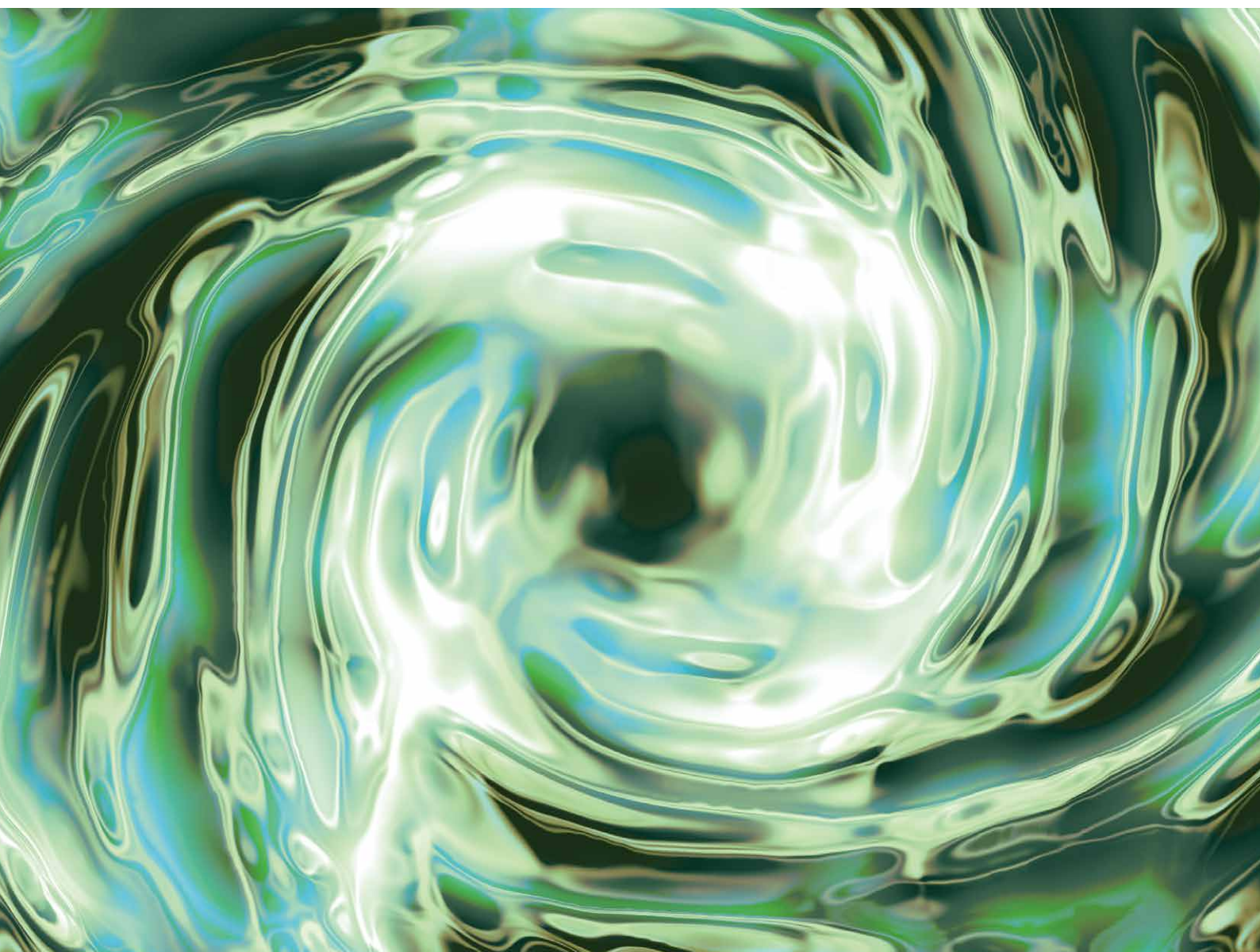
# Coolant Pumps General Catalog














**TERAL**



**TERAL: Maximizing Effectiveness**

50Hz/60Hz



Document for selection		Usage and Table of General Specification	General Concept Chart for Use in Selecting Products	Features	How to choose pumps	Handling precautions Notes on ordering
		P.3	P.4	P.6	P.8	P.9
Installation type	Flow rate	Low flow rate		Medium flow rate		High flow rate
	Head					
Immersion type (Non-self-priming)	Low head	<b>VKP</b>  P.12				
		<b>LFE</b>  P.20				
	Medium head	<b>LHW</b>  P.22				
		<b>VKD</b>  P.24		<b>LFO</b> ※Available for dirty liquid  P.31		
		<b>LBK</b>  P.36		<b>LPWE/LPW</b> ※Available for dirty liquid  P.47      P.52		
		<b>LKW</b>  P.62		<b>VKB</b>  P.66		
High head	<b>LVS / LVSS</b>  P.76      P.97					
	Floor type (Self-priming)	Low head	<b>VKN</b>  P.117			
Medium head		<b>LPSE/LPS</b> ※Available for dirty liquid  P.123      P.128				
Immersion type (For cleaning inside tanks)	Low head	<b>SKM</b>  P.132		※Available for dirty liquid These are the pumps to use after the primary process through mesh cage, chip conveyor, or magnet separator, etc.		The frame for each unit type is colored by the material of the impeller <span style="color: green;">■</span> Stainless steel (SUS304) <span style="color: red;">■</span> Cast iron (FC, FCD) <span style="color: yellow;">■</span> Others (Resin, CAC407)

### Usage

- Circulation and transfer of coolant for machine tools  
For internal environment of machine tools such as spindle, drill, end mill, etc., or transfer
- Circulation and transfer of cleaning liquid  
For washing work, jig, bed, inside of the machine, etc.  
For shower washing and splash gun
- For various filtration
- For pumping from the tank
- Other purposes

### Table of General Specification

Installation type	Priming method	Dirty liquid	Sealing structure	Model	Stage	Immersion type: Immersion depth <sup>※1</sup> Floor type: maximum suction lift	Material			Frequency (Hz)	Representative discharge rate <sup>※2</sup> (L/min)	Max. head <sup>※2</sup> (m)	Output <sup>※1</sup> (kW)	Allowable kinematic viscosity (mm <sup>2</sup> /s)	Poles (P)	CE marking	
							Impeller	Discharge casing	Intermediate casing guide vane								
Immersion type	Non-self-priming	—	Non-seal	VKP	Single	130-350mm	Resin or CAC407	FC150	—	50	13-165	7	0.02-0.75	300	2	○	
										60	19-285	7	0.02-0.75	150	2		
		—	Non-seal	VKP-H	Single	145-280mm	Resin or CAC407	FC150	—	50	10-20	13	0.06-0.4	37.5	2	○	
										60	10-20	18	0.06-0.4		2		
		—	Non-seal	LHW	Multiple	200mm	Resin	FC200	Resin	50	20-80	50	0.75-1.1	1	2		
										60	20-90	73	0.75-1.1		2		
		—	Non-seal	LBK	2	Multiple	153-297mm	SUS304	FC200	SUS304	50	25-42	66	0.35-1.8	75	2	○
											60	30-50	88.9	0.55-2.2		2	
											50	85	32.9	0.35-1.8		2	
											60	100	47.6	0.55-2.2		2	
		—	Non-seal	LFE	Single	300mm	FCD450	FC200	—	60	60-430	8	0.25-0.75	1	2		
										50	100-750	24	0.75-5.5	A:32 B:150	2		
		Available	Non-seal	LFO	Single	350/500mm	FCD450	FC200	—	60	100-900	36	0.75-5.5			2	
										50	80-400	40	0.75-3.0	75	2		
		—	Non-seal	VKD	Multiple	258-402mm	FC200	FC200	FC200	60	100-500	54	0.75-3.0			2	○
										50	50-400	40	0.75-3.0	A:32 B:150	2		
		Available	Non-seal	LPWE	Multiple	255-299mm	FCD450	FC200	FC200	60	50-450	56.4	0.75-3.0			2	○
										50	200-700	63	1.5-7.5	40C:32 40D:150 50A/65A:1	2		
		Available	Non-seal	LPW	Multiple	255-330mm	FCD450	FC200	FC200	60	60-750	64	0.75-7.5			2	
										50	20-70	400	2.0-4.0×2	1	2		
—	Non-seal	LKW	Multiple	330(Single)mm	Resin	FC200	Resin (+SUS304)	60	20-70	400	2.0-4.0×2		2				
								50	40	114	0.4-2.6	37.5or75 <sup>※1</sup> FH/FQ:1	2				
—	Non-seal	VKB	H	Multiple	300-616mm	SUS304	FC200	SUS304	60	50	152		0.68-3.57		2	○	
									50	85	78		0.54-3.96	2			
—	Non-seal	VKB	Q	Multiple	291-711mm	SUS304	FC200	SUS304	60	100	108		0.9-3.6		2	○	
									50	10-500	230	0.75-18.5	1	2			
—	Non-seal	LVS	Multiple	196-979mm	SUS304	FC200	SUS304	60	10-600	260	0.75-18.5			2	○		
								50	10-500	230	0.75-18.5	1	2				
—	Non-seal	LVSS	Multiple	196-979mm	SUS304	SCS13	SUS304	60	10-600	260	0.75-18.5			2	○		
								50	10-600	260	0.75-18.5		2				
Floor type	Self-priming	—	Mechanical seal	VKN	A	Single	-0.7m	Resin or CAC407	FC150	—	50	13-230	7	0.04-0.75	200	2	○
											60	16-320	7	0.04-0.75	75	2	
		—	Mechanical seal		H	Single	-0.7m	Resin or CAC407	FC150	—	50	10-20	12	0.06-0.4	37.5	2	○
											60	10-20	17	0.06-0.4		2	
		Available	Non-seal	LPSE	Multiple	-0.7m	FCD450	FC200	FC200	50	50-350	38.7	0.75-3.0	A:32 B:150	2	○	
										60	50-400	34	0.75-3.0		2		
		Available	Non-seal	LPS	Multiple	-0.7m	FCD450	FC200	FC200	50	250-650	62	5.5-7.5	1	2		
										60	250-700	56	5.5-7.5		2		
Immersion type	Non-self-priming	—	Non-seal	SKM	Single	257mm	SUS304	FC150	—	50	50	6	0.25	1	2		
										60	50	9	0.25		2		

※1 : The value depends on the type. Please refer to the specification table of each unit type.

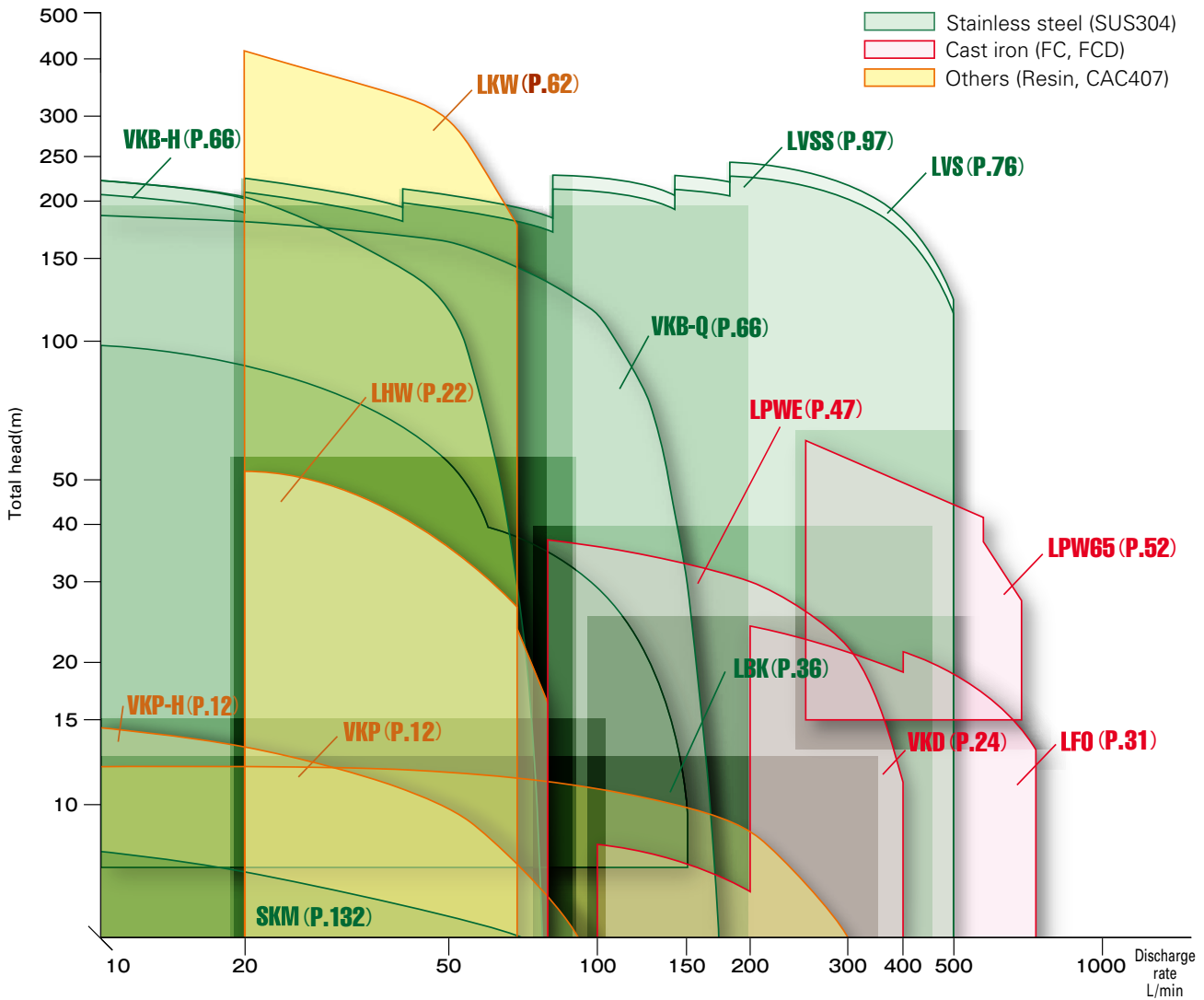
※2 : The value is a typical performance value. Please refer to selection chart and specification table for detailed performance of each model.

50Hz

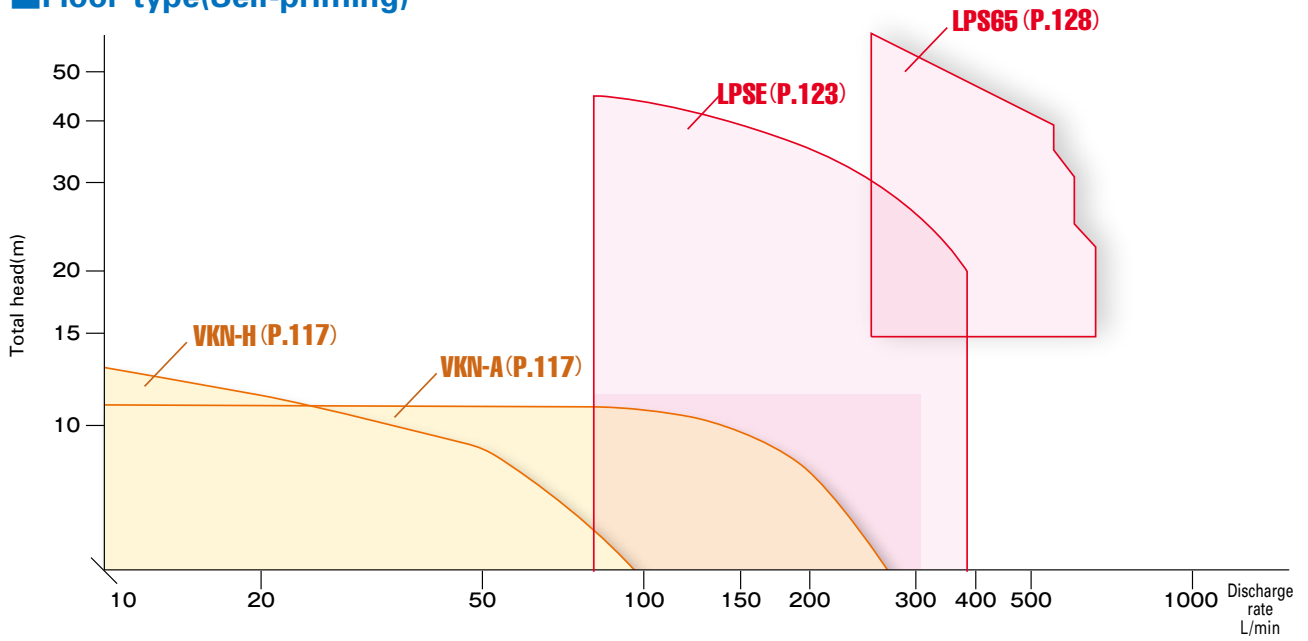
Immersion type

Figures in the selection chart are colored by the material of impellers.

- Stainless steel (SUS304)
- Cast iron (FC, FCD)
- Others (Resin, CAC407)



Floor type(Self-priming)



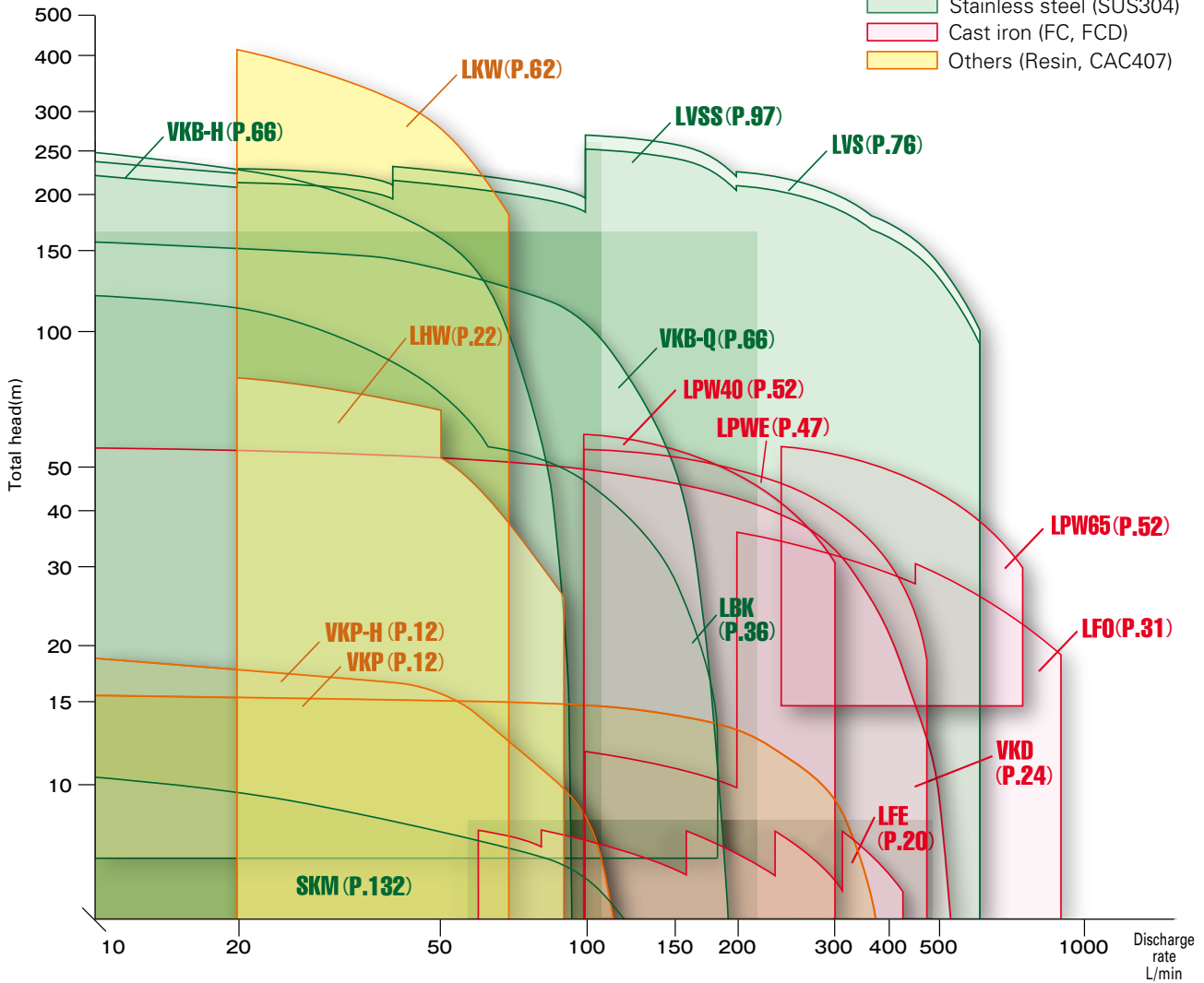
Please refer to the page of each unit type for the choices.

60Hz

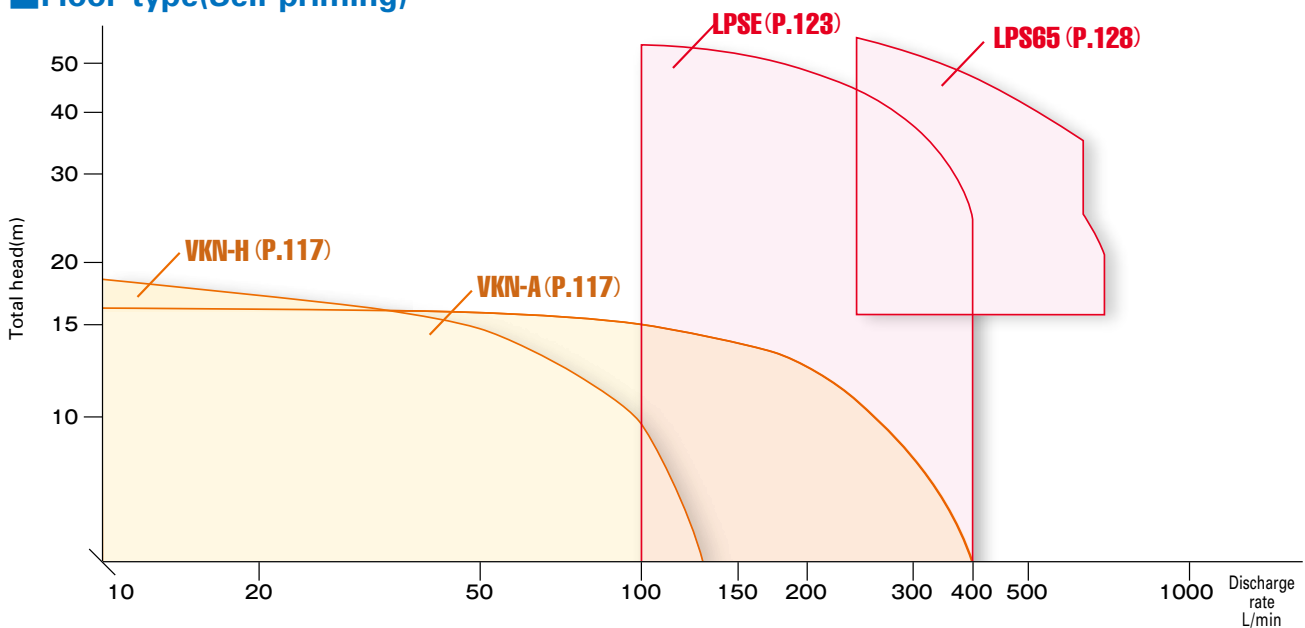
### Immersion type

Figures in the selection chart are colored by the material of impellers.

- Stainless steel (SUS304)
- Cast iron (FC, FCD)
- Others (Resin, CAC407)



### Floor type (Self-priming)



Please refer to the page of each unit type for the choices.

# TERAL Coolant Pump

We have continued improvements reflecting our longtime experience and customers' opinions.

## Wide variation

### Installation method

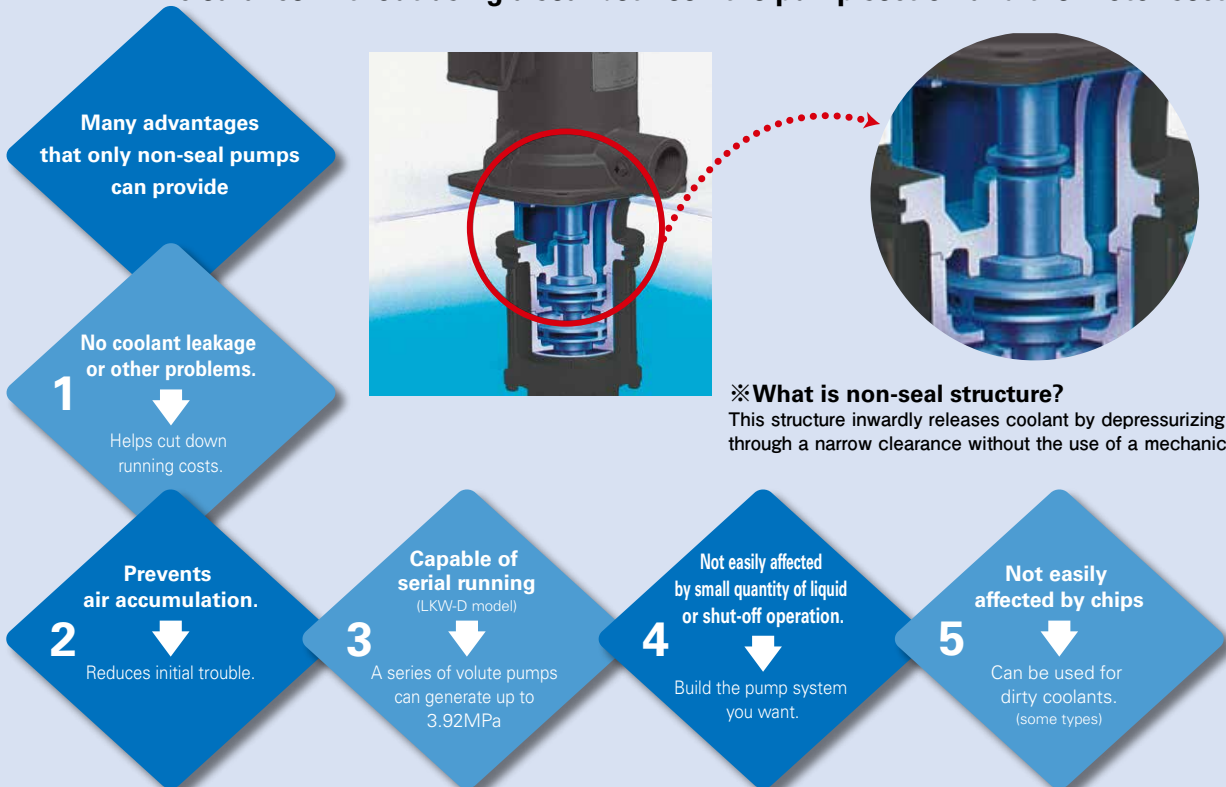


### Shaft seal structure

**Mechanical seal type** (VKC, VKN) It is highly efficient because there is no leak in the shaft seal.

**Non-seal (mechanical seal-less) type** •Resistant to sludge, they are usable for dirty liquid (some types).  
•There are other features including following:

**TERAL' s original non-seal structure allows coolant to flow from a narrow clearance without using a seal between the pump section and the motor section.**



### Others

**[Material of the impeller and casing]** Stainless steel, cast iron, resin, etc.

**[Performance]** Low - high flow rate, low - high head

**[Length of the immersion part]** There are alternatives (some types)

You can make a choice according to the various uses.

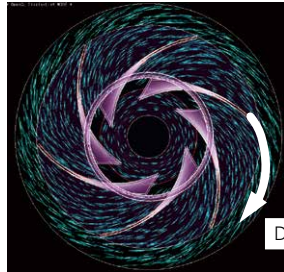
## High Durability, Abrasion Resistant

### ● High Efficiency is realized with 3-dimensional fluid analysis & structural analysis (LVS-e)

- Energy conserving by enhancing the efficiency of pumps
- Life cycle cost saving by non-seal structure



Example of fluid analysis in impellers



The flow of the fluid in the impeller is simulated with computers to optimize the shape of the impellers. Each line in the figure shows the flow of the fluid.

Direction of the flow

### ● High durability is demonstrated with our reliability test (VKB)

- Reduction of characteristic value is within 10%
- No leak, no abnormal vibration or sound.
- No abnormal abrasion of parts

※ Validated with the operation test (accelerated life test) of 2 years (about 17,500 hours, switching on/off 4.2 million times)








A tank containing sludge (slurry content is about 10wt%)



Scene of the testing

※ It is the result of the internal test. Durable life of pumps and their parts differ by liquid and operation circumstances.

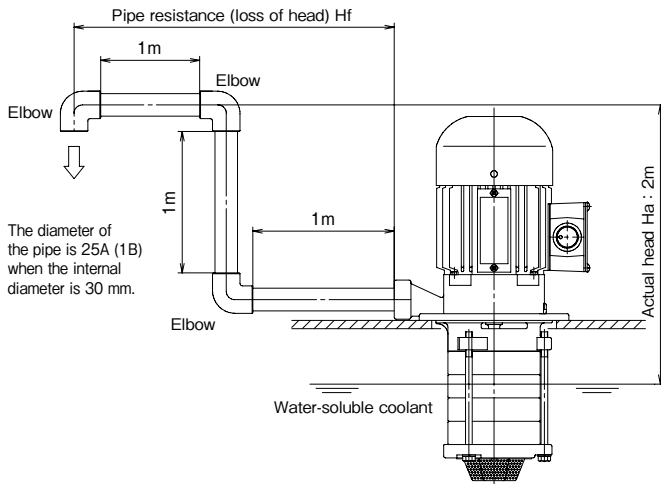
## List of obtained certifications

Model	USA 	CANADA 	EU 	CHINA 	KOREA 
	UL&NEMA Premium	CSA	CE/RoHS	GB3	KC
VKP	○		○	○	
VKD	○		○	○	○
LFO				○	
LBK	○	○	○	○	○
LPWE			○	○	
LPW	○				
VKB			○	○	
LVS	○	○	○	○	○
LVSS	○	○	○		○
VKN	○		○	○	
LPSE			○	○	

Pumps are very influenced by the state of their piping (piping length, kinds of coupling joints, their numbers, etc.). Therefore please make the piping as short as possible, and make bends, such as elbows, joints, and valves as few as possible. When you select pumps, specifications including usage, processed liquid, flow rate, and total lifespan need to be fully considered. Calculation of the total head is shown below. Please use it as a reference.

● How to calculate Total Head

Figure 1



Necessary total head is calculated assuming the flow rate of 50 L/min in the piping state shown in Figure 1.

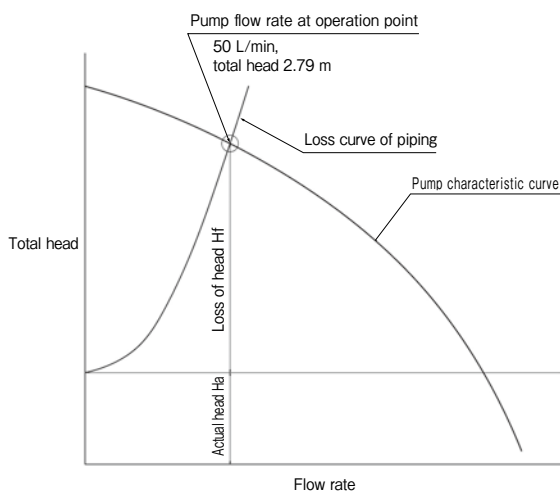
Total head is computed as follows:  
 Total Head  $H_t[m] = \text{Actual Head } H_a[m] + \text{Loss of Head } H_f[m]$

In the case shown in Figure 1:  
**Actual head  $H_a$ : 2 m, Loss of Head  $H_f$ : 0.79 m** ※1  
 From the above formula,  
**Total head is 2 m + 0.79 m = 2.79 m.**

Therefore, pumps that satisfy total head 2.79 m or above should be selected. (Figure 2)

[Note]  
 The above calculation is for a case of water-soluble coolant (kinematic viscosity 1 mm<sup>2</sup>/s). There are some cases that the loss of head is very different, depending on type and viscosity of liquid used, piping conditions, etc.

Figure 2 Pump characteristic curve



※1 How to compute loss of head

Loss of head is calculated as follows:  
 Loss of head  $H_f[m] = f \times (L/d) \times V^2/2g [m]$   
 L: equivalent length of straight pipes [m] V: flow velocity [m/s]  
 d: internal diameter of the pipe [m] g: gravitational acceleration 9.8 [m/s<sup>2</sup>]  
 f: coefficient of loss

In the case shown in Figure 1:  
**Equivalent length of straight pipes, L: 11.1 m** ※2  
**Flow velocity, V: 1.18 m/s**  
**Internal diameter of the pipe, d: 0.03 m**  
 From the above formula,  
**Loss of head  $H_f = 0.03 \times (11.1/0.03) \times 1.18^2 / (2 \times 9.8) = 0.79 m$**

[Note]  
 Coefficient of loss is the value assuming that the aqueous solution is 0.03. Please note that the coefficient differs greatly for oily liquids.

Table 1 Table of approximate equivalent length of straight pipes for elbows, etc. [m]

Nominal diameter	Inlet part	Outlet part	90-degree elbow	Ball valve
8A (1/4B)	0.3	0.6	0.7	6.4
10A (3/8B)	0.4	0.8	0.9	6.7
15A (1/2B)	0.6	1.2	1.1	6.7
20A (3/4B)	0.8	1.6	1.3	7.3
25A (1B)	1.1	2.2	1.6	8.8
40A (1 1/2B)	1.9	3.2	2.3	12.8

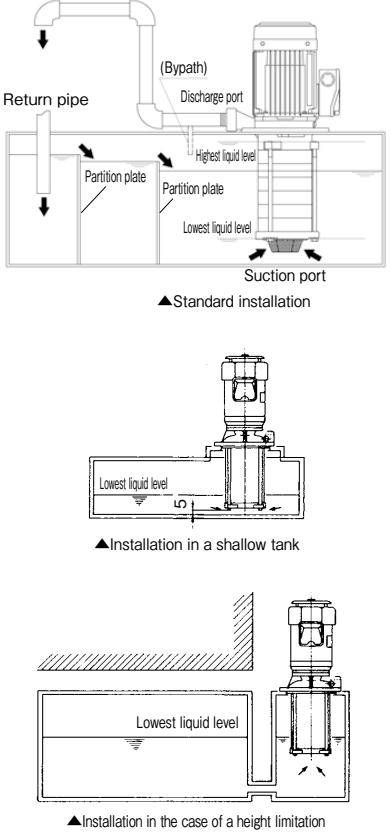
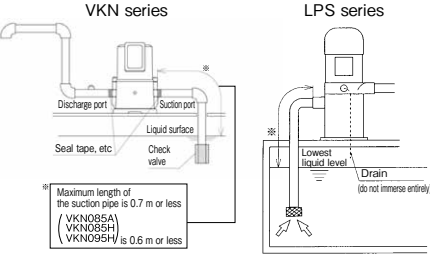
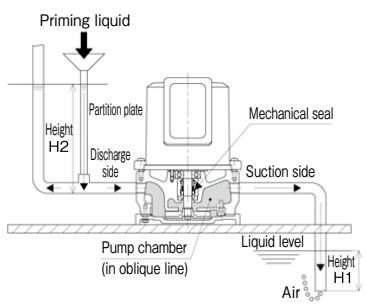
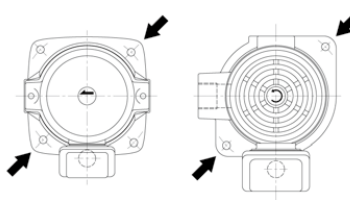
※2 How to calculate equivalent length of straight pipes

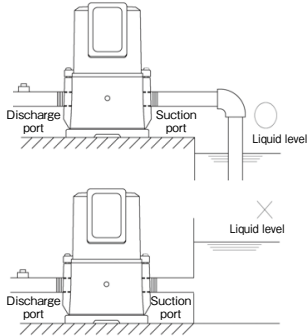
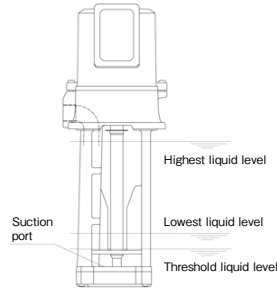
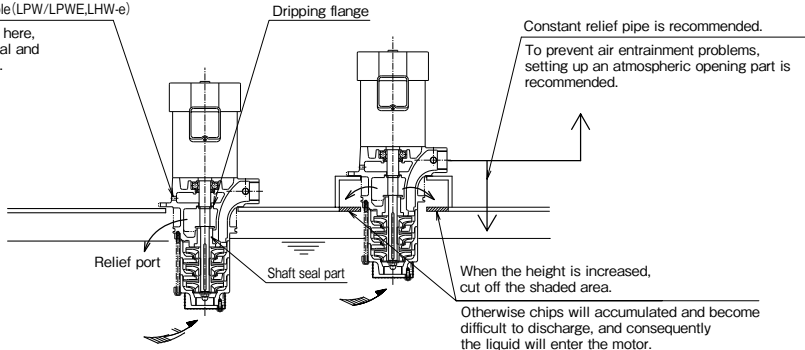
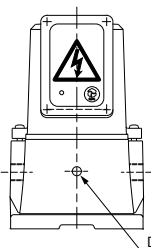
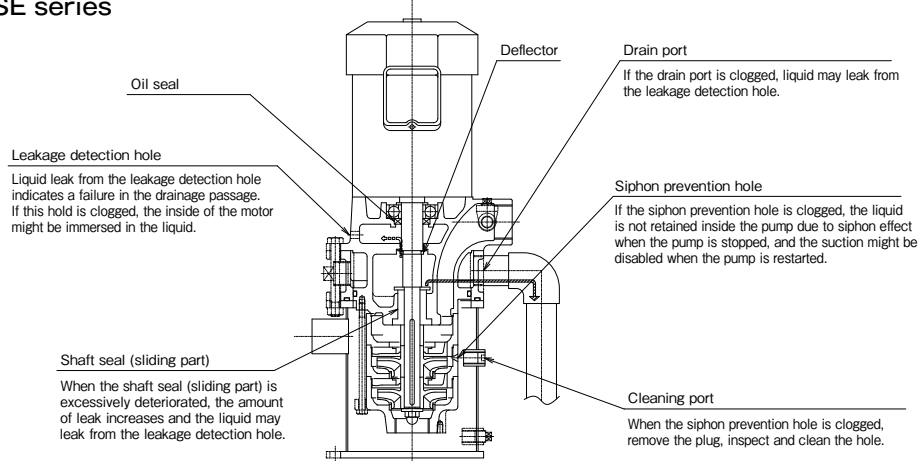
"Equivalent length of straight pipes" is the measurement of loss generated by elbows, valves, etc., expressed by the length of a straight pipe with the same diameter causing the same amount of pressure loss.

In the case shown in Figure 1:  
**Straight part: 1 m + 1 m + 1 m**  
**Elbow: 1.6 m × 3 = 4.8 m**  
**Inlet: 1.1 m, outlet: 2.2 m**  
**Equivalent length of straight pipes, L = 3 m + 4.8 m + 1.1 m + 2.2 m = 11.1 m**

[Note]  
 Please refer to Table 1 for gross equivalent length of straight pipes of elbow, etc.



Item	Model	Content	
Installation	Immersion type	 <p>Return pipe (Bypass) Discharge port Highest liquid level Partition plate Lowest liquid level Suction port</p> <p>▲Standard installation</p> <p>▲Installation in a shallow tank</p> <p>▲Installation in the case of a height limitation</p>	<ul style="list-style-type: none"> <li>● Make the piping as short as possible, and make the corners like elbow, joints, and valves, etc., as few as possible. Additionally, please use pipes with standard diameter. Please note that sometimes discharge becomes low if the pipe is thin or there are many corners.</li> <li>● Support the piping sufficiently so that the pump does not take the load of pipes.</li> <li>● Do not screw pipes into pumps forcefully. Joint may be damaged.</li> <li>● Roll on the screw thread of pipes with seal tape, etc., so that liquid or gas does not leak. Additionally, roll the seal tape securely so that the tape does not block the pipe.</li> <li>● Tank (oil tank) should be as large as possible.                     <ul style="list-style-type: none"> <li>※Recommended capacity is 3 times as much as the quantity of discharge per minute. If the capacity is too small, there can be some faults, such as a rise in liquid temperature, early clogging of strainer with chip powder, etc., and the reduction of discharge caused by air bubbles.</li> <li>※When the liquid is poured into pumps, pour calmly so that they do not catch air bubbles.</li> </ul> </li> <li>● Be careful that chip powder or dust does not enter inside the pumps.                     <ul style="list-style-type: none"> <li>※Filter the liquid with mesh cages, chip conveyors, magnet separators, etc., before pumping the liquid. The number of necessary processes differs by type.</li> </ul> </li> <li>● Take appropriate measures, such as setting up a bypass after the discharge outlet of the pump, if there can be a water hammer.</li> <li>● If the liquid level is too low, discharge will be reduced or sometimes it becomes unable to lift liquid because of air inside. The liquid level shall be higher than the lowest liquid level shown in the assembly drawing. Note that the lowest liquid level differs by kinematic viscosity or the state of the surface. Please give a sufficient margin of height for safety. Additionally, if the liquid level is too high, liquid might enter inside the motor from the drain hole, consequently causing the motor to be out of order. Make the liquid level lower than the highest liquid level shown in the assembly drawing.</li> </ul>
	Self-priming type	 <p>VKN series LPS series</p> <p>Discharge port Suction port Seal tape, etc. Check valve Liquid surface Lowest liquid level Drain (do not immerse entirely)</p> <p>Maximum length of the suction pipe is 0.7 m or less (VKN085A, VKN085H, VKN095H) is 0.6 m or less</p>	<ul style="list-style-type: none"> <li>● Install them close to the tank (oil tank) so that the suction pipe may be as short as possible. Maximum length of the suction pipe shall be 0.7 m (0.6 m for VKN085A, VKN085H, VKN095H) or less. If a suction pipe must be longer for some reason, install a check valve in the pipe on the suction side. Additionally, seal on the screw thread of the pipe with seal tape, etc., to avoid leak of liquid or air. Especially if there is an air leak, the flow rate will be reduced or it will run short of lift liquid.</li> </ul>
Priming liquid	Self-priming type	 <p>Priming liquid Height H2 Partition plate Mechanical seal Discharge side Suction side Pump chamber (in oblique line) Liquid level Air Height H1</p>	<ul style="list-style-type: none"> <li>● In the first operation after the installation, or long after the last operation, the pump chamber (oblique line in the figure below) might be filled with air. Because of this, venting the air with priming liquid is necessary. Air in the pump chamber can cause the pump to suck insufficiently/have pump characteristics insufficiently exerted (short of flow rate or pressure). Additionally, if the pump is operated for long time in a state of insufficient capacity, it might damage the mechanical seal, etc.</li> </ul> <p>[How to prime]</p> <p>VKN series</p> <ul style="list-style-type: none"> <li>● Priming liquid should be poured until the air in the pump chamber is entirely exhausted (until air stops bubbling from the tip of the suction pipe) from the discharge. If the height from the outlet to the inlet of the priming H2 is lower than the length of the suction pipe below the surface H1, priming may not sufficiently fill the pump. In this case, install an air vent in the suction pipe or make the inlet for the priming sufficiently high.</li> </ul> <p>LPS-e series</p> <ul style="list-style-type: none"> <li>● Pour the priming liquid in the priming inlet in the pump discharge until water comes out from the suction pipe.</li> </ul>
Installation	VKN VKP	 <p>Mounting hole for VKN/VKP series Arrows point at the dimension in JEM standard.</p>	<ul style="list-style-type: none"> <li>● The VKN/VKP series have four mounting holes (excluding some types), but they are for enlarging the range of usage. Two diagonal holes are enough for actual mounting. (Two holes comply with the dimensions of the JEM standard, the other two holes are proprietary.)</li> </ul>

Item	Model	Content
Level of the liquid surface	VKN	 <p>● Make the liquid level of VKN series lower than the suction port of the pump. If the surface is higher than the suction inlet, liquid can leak from mechanical seal.</p>
	VKP	 <p>● Figures of upper suction type VKP series machines are shown at "lowest liquid level," "highest liquid level," and "threshold liquid level" in the outline drawing.</p> <p>"Lowest liquid level" It shows the range where the amount of discharge is about the same as the rated value, and there is no air biting.</p> <p>"Threshold liquid level" It shows the range where the amount of discharge becomes about half of the rated value and there is air biting.</p> <p>"Highest liquid level" Make it a distance from the pump flange surface by at least 20 mm.</p>
Prevention of problems for immersion type		 <p>Leakage detection hole (LPW/LPWE,LHW-e) If liquid leaks from here, check the shaft seal and the dripping flange.</p> <p>Dripping flange</p> <p>Constant relief pipe is recommended. To prevent air entrainment problems, setting up an atmospheric opening part is recommended.</p> <p>Relief port</p> <p>Shaft seal part</p> <p>When the height is increased, cut off the shaded area. Otherwise chips will accumulated and become difficult to discharge, and consequently the liquid will enter the motor.</p>
Prevention of problems in the suction type	VKN	 <p>Drain</p> <p>A leak from the drain is caused by problems with the mechanical seal</p>
	LPS/LPSE	<p><b>LPS/LPSE series</b></p>  <p>Oil seal</p> <p>Leakage detection hole Liquid leak from the leakage detection hole indicates a failure in the drainage passage. If this hold is clogged, the inside of the motor might be immersed in the liquid.</p> <p>Shaft seal (sliding part) When the shaft seal (sliding part) is excessively deteriorated, the amount of leak increases and the liquid may leak from the leakage detection hole.</p> <p>Deflector</p> <p>Drain port If the drain port is clogged, liquid may leak from the leakage detection hole.</p> <p>Siphon prevention hole If the siphon prevention hole is clogged, the liquid is not retained inside the pump due to siphon effect when the pump is stopped, and the suction might be disabled when the pump is restarted.</p> <p>Cleaning port When the siphon prevention hole is clogged, remove the plug, inspect and clean the hole.</p> <p>Note) Although the structure of LPS65-e is different from the above figure, notes about shaft seal (sliding portion), drain port, siphon prevention hole, and cleaning connection are applicable.</p>

Item	Content
<b>General</b>	<ul style="list-style-type: none"> <li>● Before using (installing, carrying, maintaining, etc.) the product, be sure to read the manual thoroughly. Be sure to use the machine after completely understanding the information on machines, safety, and cautions. Appropriate handling in each step from beginning to actual operation, as well as maintenance after the initial operation, is necessary to make the most out of the coolant pump, preventing accidents, and continuing good operation for long time.</li> <li>● Do not handle the machine when it is operating. Be sure to turn off the power before handing it.</li> <li>● In the case of a power outage, be sure to turn off the power switch.</li> <li>● If there is any problem, please stop operations and turn off the power switch.</li> <li>● Bury the earth terminal securely.</li> <li>● The piping and cable lining shall comply with electronic facility standards and internal line standards.</li> <li>● A protection device is not included in the package. It is required by law to install an overcurrent protective device. It is highly recommended to install other protection devices (earth leakage circuit breaker, etc.).</li> <li>● Take sufficient measures for dust proofing and dew proofing in order to prevent cut powder or coolant entering from lining hole into terminal box. Additionally, do not remove grommets from unused terminal holes.</li> <li>● Note that motor might be burned or thermal relay might trip if the voltage is volatile.</li> <li>● Do not use the products in an explosive atmosphere.</li> <li>● Never place any combustibles near the product.</li> <li>● We cannot produce machinery with increased safety or explosion proof.</li> <li>● Volatile liquids, such as kerosene or gasoline, cannot be used.</li> <li>● While operating, never touch or get close to rotating parts (external fan, impellers, etc.).</li> <li>● Do not put any material or fingers into the aperture of the product (fan cover, discharge opening, suction opening, drain hole, etc.).</li> <li>● Never climb the machinery.</li> <li>● Products become considerably hot while operating. Do not touch with your hand or any part of the body.</li> <li>● Do not restrict ventilation around the product.</li> <li>● Put it in a convenient location for maintenance operation (avoid narrow spaces).</li> <li>● Place it on a flat surface and anchor it so that it will not shake.</li> <li>● Select a rigid surface to install the product on so that vibrations will not be amplified in operation.</li> <li>● When it is run with inverters, the frequency shall not exceed 60 Hz. Avoid a frequency with which resonance occurs. Otherwise resonance may occur depending on installation conditions.</li> <li>● If the kinematic viscosity of the liquid is too high, the life of the motors might be shortened, or burn out. Be sure to use the liquid within the threshold kinematic viscosity [mm<sup>2</sup>/s] shown in the specifications.</li> <li>● They are designed as pumps for liquid containing fine powder or fine chips. But for the pumps using the mechanical seal (VKN), the life of the mechanical seal might be shortened if hard sludge, such as polishing powder, abrasive grain, or diamond powder, are contained in the liquid, the life of the mechanical seal might be shortened. Then install filters (magnetic filter or paper filter, etc.). Additionally, please note that special liquids, such as printing liquid or acid liquid cannot be used. Please inquire about other special liquids (e.g. ceramics).</li> <li>● Check the direction of rotation before connecting the machine.</li> <li>● For pumps with air fled valves, half open the valve and check if liquid is discharged when starting the operation. After it is confirmed, close the air fled valve securely.</li> <li>● Because it is a centrifugal pump, flow rate can be adjusted by adjusting the valve on the discharge side. Additionally, the motor will not be overloaded even if the valve is closed. Since the temperature of the liquid becomes high if it is operated with the valve closed, keep some flow rate, or stop the pump if it is not in use.</li> <li>● Repair, dismantling, or modification shall be done by experts.</li> <li>● If the product is modified by customers, it is not our responsibility. Then we cannot assume any responsibility.</li> <li>● If it is disposed of, treat it as an industrial waste.</li> <li>● Other than the products listed in the catalog, products for different voltages, etc. are also produced. Please inquire about them with us.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Because a product with motors of Top Runner Efficiency (corresponding to IE3) tends to consume more current than the ones with standard motors (IE1), it requires installation of earth leakage circuit breaker and overload protecting device when the pump is changed from the ones with standard motor.</p> </div>

**Notes on ordering**

Specification must be discussed thoroughly to produce a reliable product which perfectly satisfies your requirements. Things to confirm when submitting a quote and placing an order are as follows:

- (1) Usage** : If the machine is used for special purposes
- (2) Liquid** : Type, kinematic viscosity, temperature, acidity, inclusion of sediments
- (3) Pump specification** : Total head, amount of discharge, suction head (self-priming height)
- (4) Motor specification** : Power, voltage, frequency, number of phases
- (5) Use circumstances** : Ventilation, circumstance temperature, humidity
- (6) Terminal** : Terminal marking, number of terminals, structure of the terminal box, etc.
- (7) Piping** : Piping diagram
- (8) Installation method** : Self-priming / Immersion type
- (9) Type** : LBK4-60/1-e, etc.
- (10) Standards for compliance**
- (11) Others** : Specification on noise, vibration, or letters on the plate, etc.

Features

- ① Non-seal (mechanical-seal-less) structure is adopted.
  - ② There are 3 types to choose for the immersion depth.
  - ③ The lineup including the models complying with global standards by supporting efficiency and other regulations.
    - Japan : Top Runner efficiency
    - Europe : IE3 efficiency, CE marking (EU Directive)
      - RoHS Directive (2011/65/EU) , 10 substances restricted\*\*
    - USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
    - China : GB3 (GB18613-2020)
  - ④ With the lineup of VKP-A type (flow type) and VKP-H type (pressure type), a wide range of choices of head and flow rate is available. The VKP-H model offers approximately 30% more pressure than the VKP-A type.
- ※ Excluding the types that end with "L."



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Description of types

VKP 08 5 A F

- ①
- ②
- ③
- ④
- ⑤
- ⑥

- ① Model
- ② Output 03: 20W, 04: 40W, 05: 60W, 06: 100W, 07: 180W, 08: 250W, 09: 400W, 11: 750W
- ③ Series No.
- ④ Phase, Features (L: 3-phase (cable type used), A, J<sup>NOTE</sup>: 3-phase, flow type, H: 3-phase, pressure type)
  - Note) VKP□□□□J and VKP115A(-□) are bottom suction type.
- ⑤ Immersion depth F : 180mm  
H : 250mm  
K : 350mm
- ⑥ Motor efficiency/voltage
  - None : Standard efficiency (equivalent to IE1) / Standard voltage
  - e : Top Runner efficiency (equivalent to IE3) / Standard voltage
  - 4Z : Standard efficiency (equivalent to IE1) / Different voltage
  - 4Z-e : Top Runner efficiency (equivalent to IE3) / Different voltage
  - 7W : UL approved motor (750W is NEMA Premium efficiency)

Global standards

Type	Standards/Regulations	Output		
		20W-250W	400W	750W
VKP	IE1 equivalent	●	●	●
	CE Marking	● <sup>※1</sup>	●	●
	EU energy efficiency	—	●	●
	GB3(GB18613-2020)	—	●	—
VKP-e	Top Runner efficiency (IE3 equivalent)	X		
	CE Marking			
	EU energy efficiency			
	GB3(GB18613-2020)			
VKP-7W	NEMA Premium efficiency	—	—	●
	UL Standards (safety)	●	●	●

※1 Excluding the types that end with "L."      ● : Compliant  
 ※2 GB certification label is attached as exclusive for GB standard.      — : Ineligible

Standard Specification

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc <sup>※1</sup> .
	Temperature	40°C or below (no frozen liquid)
	Allowable kinematic viscosity	VKP-A 50Hz: 300mm <sup>2</sup> /s 60Hz: 150mm <sup>2</sup> /s VKP-H 50/60Hz: 37.5mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: -20 to 40 °C, RH 85% or below (no condensation), Height above sea level: 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Pump legs Casing	FC150
	Impeller	CAC407 or special resins Refer to the table of impeller materials
	Main shaft	S45C
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Power source	3-phase 50/60/60 Hz, 200/200/220 V <sup>※2</sup>
	Type	Output 0.25kW or less: Totally enclosed self-cooled type Output 0.4kW or more: Totally enclosed fan-cooled indoor type
	Protection method	Refer to specification table
	Thermal class	Refer to specification table
	Rating	Continuous
	Number of poles	2P
Standard		IEC60034-1 CE Marking <sup>※3</sup>
Paint color		Munsell N1

※1 Take note that special liquid such as water, printing liquid or acid liquid cannot be used. Contact us for other special liquid (ceramic, etc.).  
 ※2 (Standard specification) different voltage: 50/50/50/60/60Hz 380/400/415/400/440V, NEMA Premium efficiency (IE3), UL Standards (safety): 60Hz 208/230/460V, GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V  
 ※3 Excluding -7W type and the types that end with "L."

Table of Consumable Parts

Type	Bearing	
	Load side	Unload side
VKP035L	6200ZZ	6200ZZ
VKP045A(L/-4Z/7W)	6200ZZ	6200ZZ
VKP055A(-4Z/7W)	6200ZZ	6200ZZ
VKP065A(-4Z/7W)	6200ZZ	6200ZZ
VKP075A(-4Z/7W)	6202ZZ	6200ZZ
VKP075AH(-7W)	6204ZZ	6200ZZ
VKP075AK(-7W)	6206ZZ	6200ZZAC
VKP075J(-7W)	6202ZZ	6200ZZ
VKP085A(-4Z/7W)	6204ZZ	6200ZZ
VKP085AF(-7W)	6204ZZ	6200ZZ
VKP085AK(-7W)	6206ZZ	6200ZZAC
VKP085J(-7W)	6202ZZ	6200ZZ
VKP095A(-4Z/7W)	6204ZZ	6202ZZ
VKP095AF(-7W)	6204ZZ	6202ZZ
VKP095AK(-7W)	6206ZZ	6202ZZAC
VKP095J(-7W)	6204ZZ	6202ZZ
VKP115A(-4Z/-7W)	6305ZZ	6203ZZ
VKP115A(-e/4Z/7W/-4Z-e)	6305ZZ	6203ZZ
VKP055H	6200ZZ	6200ZZ
VKP065H(-7W)	6200ZZ	6200ZZ
VKP075H(-7W)	6303ZZ	6200ZZ
VKP085H	6204ZZ	6200ZZ
VKP095H(-7W)	6204ZZ	6202ZZ

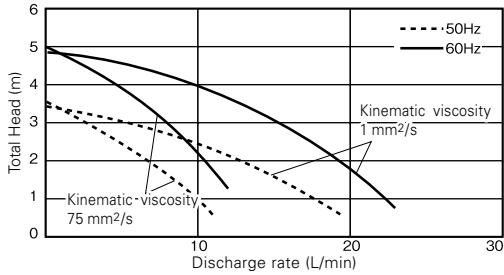
Selection chart

VKP-A type

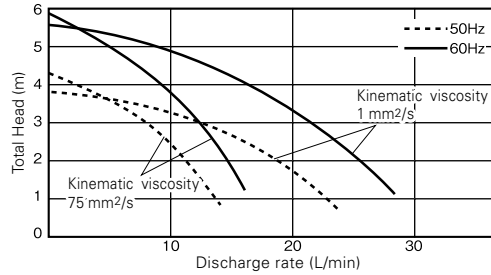
(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)  
 (Values at kinematic viscosity 75mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
 60Hz : 3600min<sup>-1</sup>

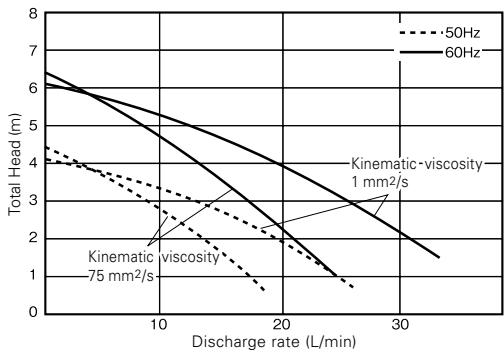
●VKP035L



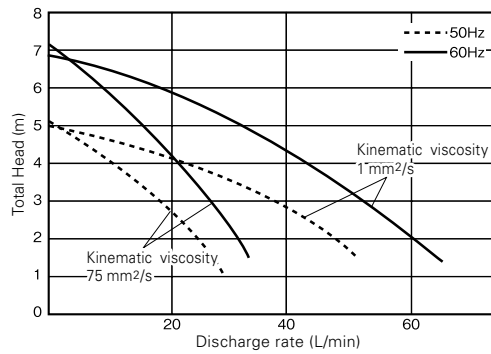
●VKP045A (L)



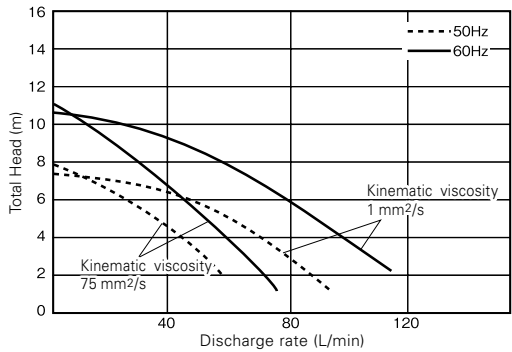
●VKP055A



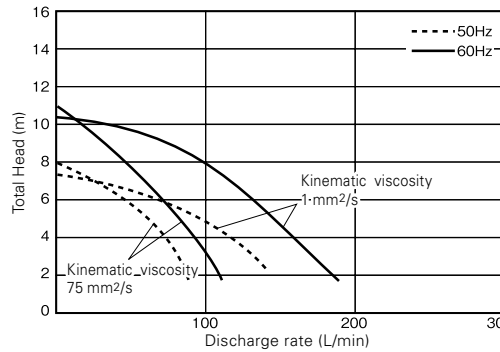
●VKP065A



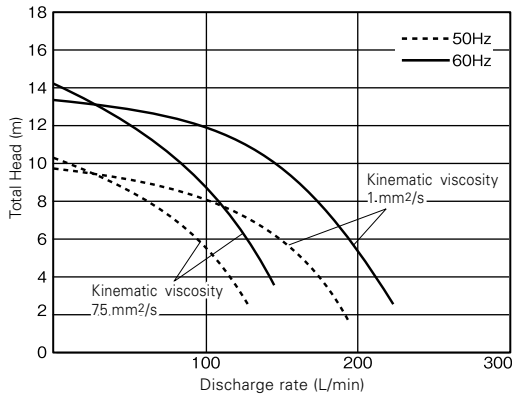
●VKP075A (AH/AK/J)



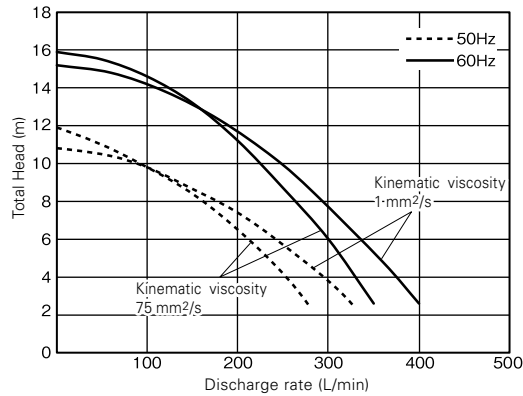
●VKP085A (AF/AK/J)



●VKP095A (AF/AK/J)



●VKP115A



※ Above selection chart is also available for -e/-4Z/-7W type.

Note 1) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

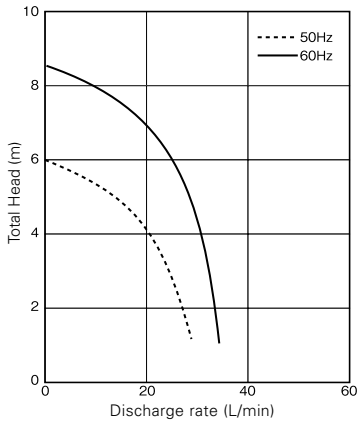
Note 2) There is virtually no change in characteristics according to leg length (LH130 to 350mm).

VKP-H type

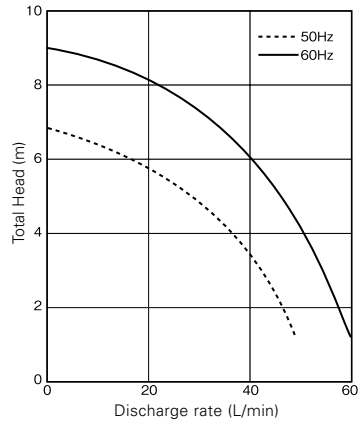
(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
60Hz : 3600min<sup>-1</sup>

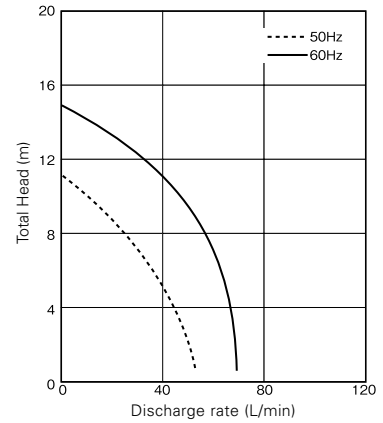
●VKP055H



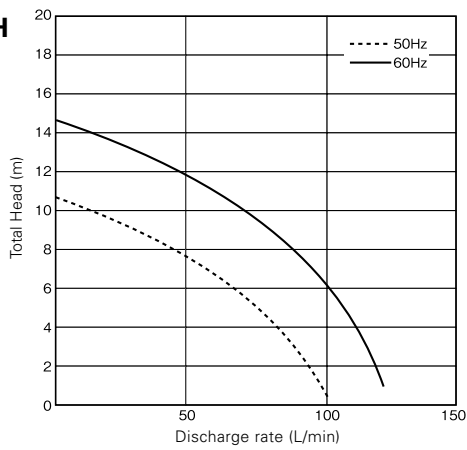
●VKP065H



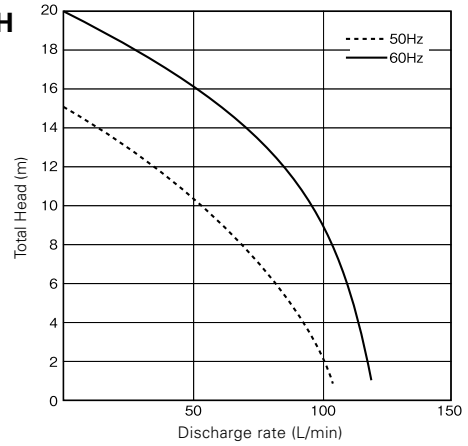
●VKP075H



●VKP085H



●VKP095H



※ Above selection chart is also available for -7W type.

Note 1) Please note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Specification table

VKP-A type

Bore diameter (Rp)	Type	Output (W)	50Hz					60Hz					Protection method	Thermal class	
			Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge (L/min)	Total head (m)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge (L/min)	Total head (m)			
1/4	VKP035L*	20	200	0.18	0.67	13	2	200/220	0.2/0.2	0.62/0.68	19	2	IP23	B	
	VKP045L*	40	200	0.32	1.38	19	1.5	200/220	0.31/0.31	1.24/1.36	25	1.5			
	VKP045A														
	VKP045A-4Z														
VKP045A-7W							208/230/460	0.28/0.29/0.15	1.3/1.5/0.75						
3/8	VKP055A	60	200	0.4	1.73	20	2	200/220	0.35/0.35	1.52/1.67	30	2	IP54	B	
	VKP055A-4Z		380/400/415	0.19/0.20/0.22	0.8/0.9/0.9			400/440	0.18/0.18	0.7/0.8					
	VKP055A-7W					208/230/460	0.39/0.38/0.19	1.8/2.0/1.0							
	VKP065A	100	200	0.55	2.67	45	2	200/220	0.5/0.5	2.33/2.56	60	2			
VKP065A-4Z	380/400/415		0.28/0.28/0.29	1.2/1.3/1.3	400/440			0.25/0.25	1.1/1.3						
VKP065A-7W								208/230/460	0.56/0.55/0.28	3/3.3/1.7					
1/2	VKP075A	180	200	0.85	5.86	75	3	200/220	1.0/1.0	5.52/6.08	100	3	IP54	B	
	VKP075AH														
	VKP075AK														
	VKP075J		200	0.85	5.86			200/220	1.0/1.0	5.52/6.08					95
VKP075A-4Z	380/400/415	0.44/0.43/0.42	2.0/2.1/2.1	400/440	0.5/0.5	1.9/2.1	100								
VKP075A-7W					208/230/460	1.0/0.95/0.48	5.4/6/3								
3/4	VKP085A	250	200	1.2	8.79	110	4	200/220	1.5/1.5	8.26/9.09	160	4	IP54	B	
	VKP085AF														
	VKP085AK		200	1.2	8.79			200/220	1.5/1.5	8.26/9.09					145
	VKP085J		380/400/415	0.65/0.6/0.6	2.9/3.1/3.2			400/440	0.75/0.75	2.9/3.2					160
VKP085A-4Z					208/230/460	1.4/1.3/0.65	10.1/10.7/5.4								
VKP085A-7W															
1	VKP095A	400	200	2.4	11.0	140	5	200/220	2.5/2.4	10.0/11.0	200	5	IP54	B	
	VKP095AF														
	VKP095AK		200	2.4	11.0			155	200/220	2.5/2.4					10.0/11.0
	VKP095J		380/400/415	1.2/1.2/1.2	5.2/5.5/5.7			140	400/440	1.3/1.2					5.0/5.5
VKP095A-4Z					208/230/460	2.3/2.2/1.1	13.4/15.2/7.6								
VKP095A-7W															
2	VKP115A	750	200	3.3	25.7	165	7	200/220	3.7/3.6	23.3/25.7	285	7	IP54	B	
	VKP115A-e		200	3.3	29.0			200/220	3.7/3.6	28.0/30.0					
	VKP115A-4Z		380/400/415	1.7/1.7/1.7	11.1/11.7/12.1			400/440	1.9/1.8	10.6/11.6					
	VKP115A-4Z-e		380/400/415	1.7/1.7/1.7	13.5/14.5/15.3			400/440	1.9/1.9	14.0/15.0					
	VKP115A-7W								208/230/460	3.7/3.6/1.9					28.8/32.0/16.0

Note 1) Since VKP035L and VKP045L have cable type, they do not comply with CE Marking. In addition they do not comply with RoHS Directive (2011/65/EU), which restricting 10 substances. The protection method is IP23.

Note 2) Discharge rate and total head are the values obtained in the tests with a liquid kinematic viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature). Take note that the pump cannot be used with water.

Note 3) VKP □□□ J, VKP115A(-□) are bottom suction type.

Note 4) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for the protection device.

VKP-H type

Bore diameter (Rp)	Type	Output (W)	50Hz					60Hz					Protection method	Thermal class
			Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)		
3/8	VKP055H	60	200	0.42	1.73	10	5	200/220	0.55/0.52	1.52/1.67	10	7.5	IP54	B
	VKP065H	100	200	0.55	2.67	10	5.5	200/220	0.6/0.6	2.33/2.56		8		
	VKP065H-7W							208/230/460	0.56/0.55/0.28	3/3.3/1.7				
1/2	VKP075H	180	200	0.9	5.86	20	9	200/220	1.2/1.1	5.52/6.08	20	13	IP54	B
	VKP075H-7W													
3/4	VKP085H	250	200	1.2	8.79	20	9	200/220	1.5/1.5	8.26/9.09	20	8	IP54	B
1	VKP095H	400	200	2.4	11.0	20	13	200/220	2.5/2.4	10.0/11.0				
VKP095H-7W									208/230/460	2.3/2.2/1.1	13.4/15.2/7.6			F

Note 1) Discharge rate and total head are the values obtained in the tests with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature). Please note that the pump cannot use water.

Note 2) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing

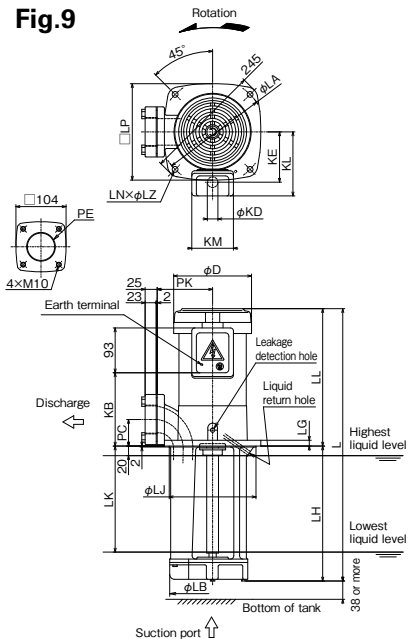
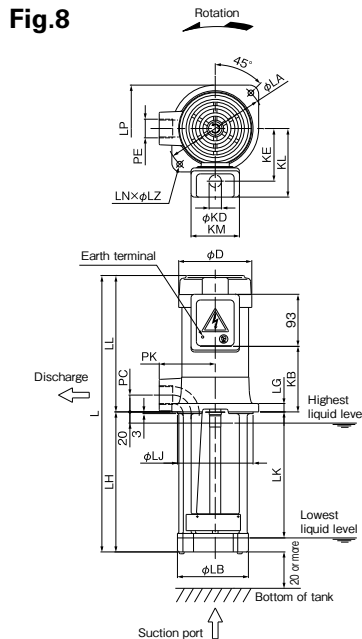
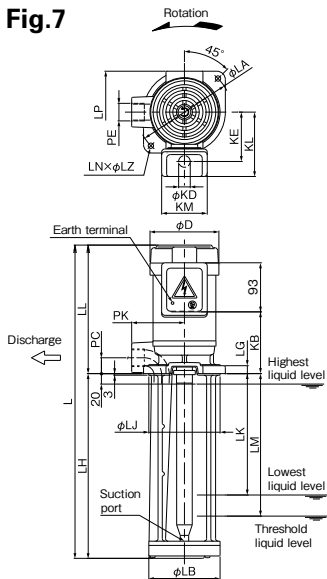
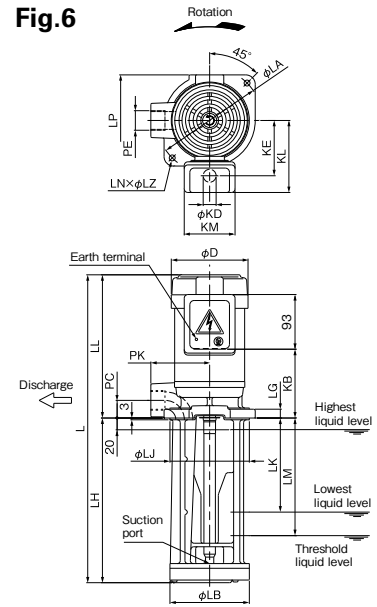
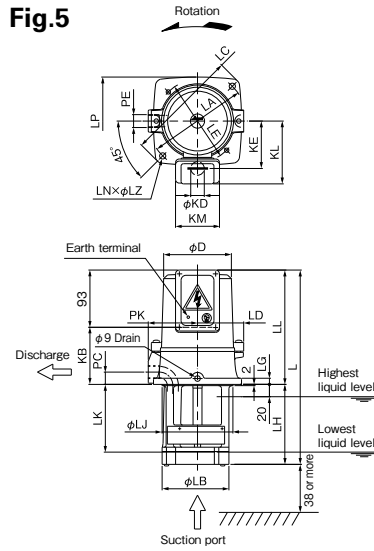
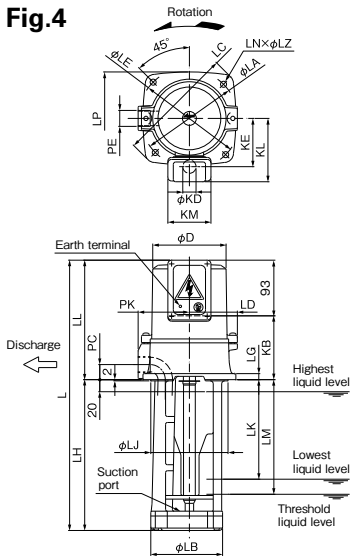
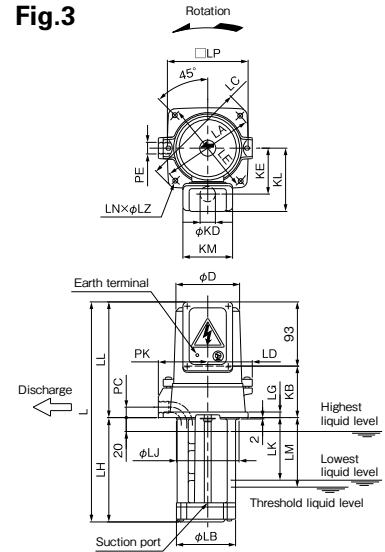
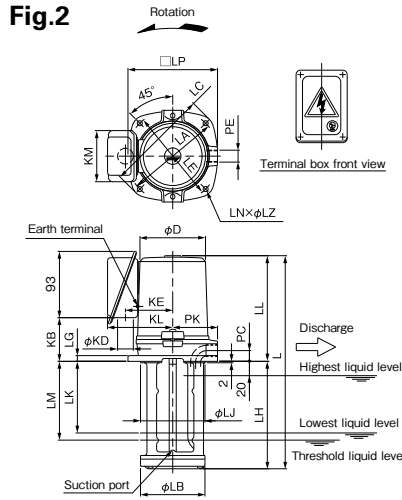
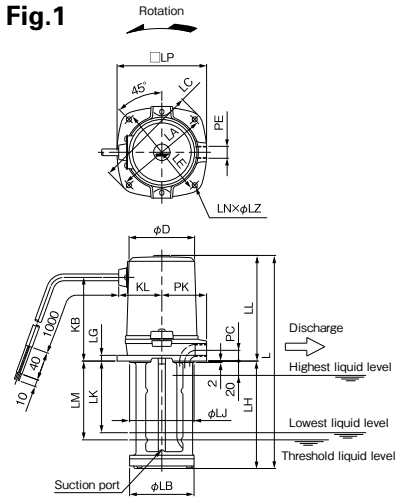




Fig.10

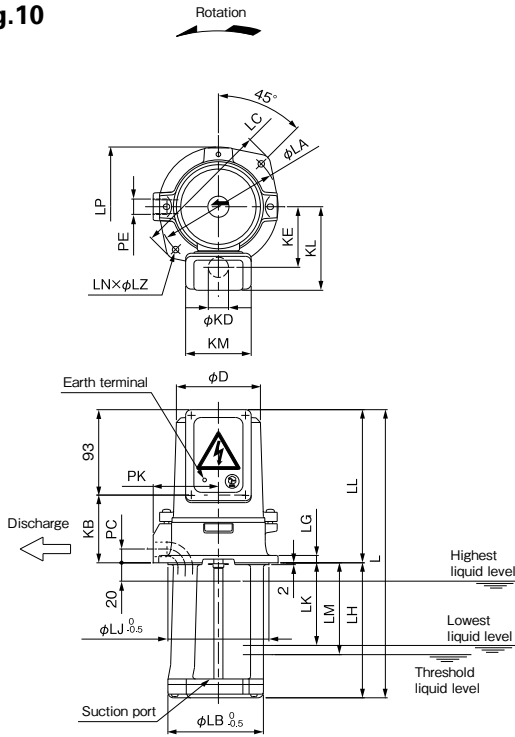
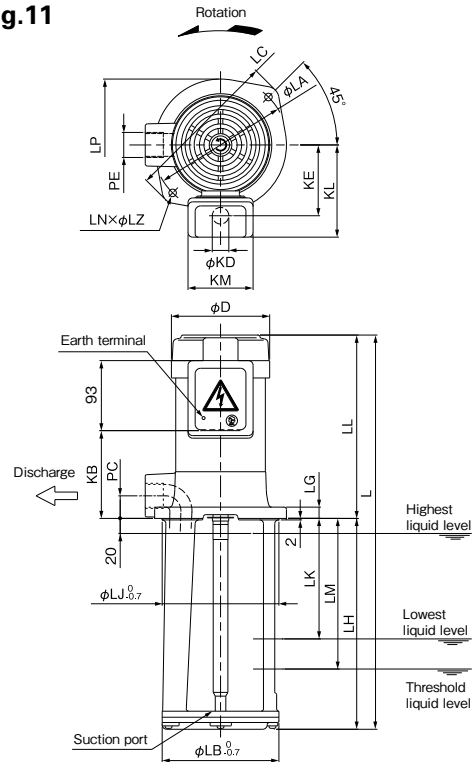


Fig.11



Dimensions

VKP-A type

(Unit : mm)

Type	Fig.	D	KB	KD	KE	KL	KM	L	LA	LB	LC	LD	LE	LG	LH	LJ	LK	LL	LM	LN	LP	LZ	PC	PE	PK	Approx. mass (kg)
VKP035L	1	92	115.5	—	—	61	—	296	130	90 <sup>0</sup> <sub>0.5</sub>	143	—	130	8	148	90 <sup>0</sup> <sub>0.5</sub>	105	148	115	4	125	7	15	Rp 1/4	62.5	5.3
VKP045L	1	92	115.5	—	—	61	—	298	130	90 <sup>0</sup> <sub>0.5</sub>	143	—	130	8	150	90 <sup>0</sup> <sub>0.5</sub>	100	148	110	4	125	7	15	Rp 1/4	62.5	5.3
VKP045A (-4Z/7W)	2	92	60.5	22	67	93	73	298*	130	90 <sup>0</sup> <sub>0.5</sub>	145	—	130	8	150	90 <sup>0</sup> <sub>0.5</sub>	100	148*	110	4	125	7	15	Rp 1/4	62.5	5.5
VKP055A (-4Z/7W)	3	92	74	22	67	93	73	317	132	90 <sup>0</sup> <sub>0.5</sub>	152	64	130	8	150	90 <sup>0</sup> <sub>0.5</sub>	100	167	110	4	116	7	15	Rp 3/8	71	6.0
VKP065A (-4Z/7W)	3	92	74	22	67	93	73	317	132	90 <sup>0</sup> <sub>0.5</sub>	152	64	134	8	150	90 <sup>0</sup> <sub>0.5</sub>	90	167	100	4	116	7	15	Rp 3/8	71	6.5
VKP075A (-4Z/7W)	3	111	94	22	78	104	73	367	160	115 <sup>0</sup> <sub>0.5</sub>	184	75	134	10	180	115 <sup>0</sup> <sub>0.5</sub>	105	187	130	2	143	19	20	Rp 1/2	80	10.0
VKP075J (-7W)	5	111	94	22	78	104	73	317	160	115 <sup>0</sup> <sub>0.5</sub>	184	75	134	10	130	115 <sup>0</sup> <sub>0.5</sub>	110	187	110	2	143	19	20	Rp 1/2	80	11.0
VKP075AH (-7W)	3	111	94	22	78	104	73	437	160	115 <sup>0</sup> <sub>0.5</sub>	184	75	134	10	250	115 <sup>0</sup> <sub>0.5</sub>	175	187	200	2	143	19	20	Rp 1/2	80	10.0
VKP075AK (-7W)	3	111	107	22	78	104	73	550	160	115 <sup>0</sup> <sub>0.5</sub>	184	75	134	10	350	115 <sup>0</sup> <sub>0.5</sub>	275	200	300	2	143	19	20	Rp 1/2	80	11.0
VKP085A (-4Z/7W)	4	122	106	22	81	107	73	449	160	128 <sup>0</sup> <sub>0.5</sub>	194	80	170	10	250	128 <sup>0</sup> <sub>0.5</sub>	165	199	190	4	154	10	25	Rp 3/4	85	15.0
VKP085J (-7W)	5	122	106	22	81	107	73	329	160	128 <sup>0</sup> <sub>0.5</sub>	194	80	170	10	130	128 <sup>0</sup> <sub>0.5</sub>	105	199	—	4	154	10	25	Rp 3/4	85	16.0
VKP085AF (-7W)	3	122	106	22	81	107	73	379	160	128 <sup>0</sup> <sub>0.5</sub>	194	80	170	10	180	128 <sup>0</sup> <sub>0.5</sub>	95	199	120	4	154	10	25	Rp 3/4	85	15.0
VKP085AK (-7W)	3	122	116	22	81	107	73	559	160	128 <sup>0</sup> <sub>0.5</sub>	194	80	170	10	350	128 <sup>0</sup> <sub>0.5</sub>	265	209	290	4	154	10	25	Rp 3/4	85	16.0
VKP095A (-4Z/7W)	6	131	117	22	94	122	87	524	180	135 <sup>0</sup> <sub>0.7</sub>	—	—	—	15	280	135 <sup>0</sup> <sub>0.7</sub>	160	244	200	2	155	10	30	Rp1	100	16.5
VKP095J (-7W)	8	131	117	22	94	122	87	494	180	135 <sup>0</sup> <sub>0.7</sub>	—	—	—	15	250	135 <sup>0</sup> <sub>0.7</sub>	225	244	—	2	155	10	30	Rp1	100	17.0
VKP095AF (-7W)	7	131	117	22	94	122	87	424	180	135 <sup>0</sup> <sub>0.7</sub>	—	—	—	15	180	135 <sup>0</sup> <sub>0.7</sub>	60	244	100	2	155	10	30	Rp1	100	17.0
VKP095AK (-7W)	7	131	117	22	94	122	87	594	180	135 <sup>0</sup> <sub>0.7</sub>	—	—	—	15	350	135 <sup>0</sup> <sub>0.7</sub>	230	244	270	2	155	10	30	Rp1	100	18.0
VKP115A (-4Z)	9	162	152	22	105	133	87	565	220	180 <sup>0</sup> <sub>0.7</sub>	—	—	—	12	280	180 <sup>0</sup> <sub>0.7</sub>	220	285	—	4	200	12	55	Rp2	115	27.0
VKP115A-e (-4Z/7W)	9	162	152	22	105	133	87	565	220	180 <sup>0</sup> <sub>0.7</sub>	—	—	—	12	280	180 <sup>0</sup> <sub>0.7</sub>	220	285	—	4	200	12	55	Rp2	115	28.0

\*-7W type: L:296 LL:146

VKP-H type

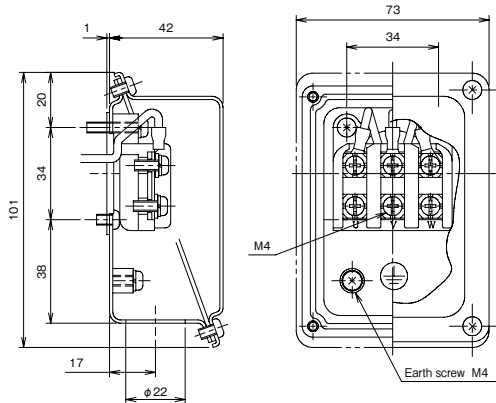
(Unit : mm)

Type	Fig.	D	KB	KD	KE	KL	KM	L	LA	LB	LC	LG	LH	LJ	LK	LL	LM	LN	LP	LZ	PC	PE	PK	Approx. mass (kg)
VKP055H	10	92	74	22	67	93	73	312	132	110	152	8	145	110	100	167	110	2	130	7	15	Rp 3/8	71	6.0
VKP065H (-7W)		92	74	22	67	93	73	317	132	110	152	8	150	110	90	167	100	2	130	7	15	Rp 3/8	71	6.5
VKP075H (-7W)		111	94	22	78	104	73	367	160	135	180	10	180	135	105	187	130	2	154	10	20	Rp 1/2	80	10.0
VKP085H		122	106	22	81	107	73	449	160	135	180	10	250	135	165	199	190	2	154	10	25	Rp 3/4	85	15.0
VKP095H (-7W)	11	131	117	22	94	122	87	524	180	155	206	15	280	155	160	244	200	2	175	10	30	Rp1	—	16.5

Detailed drawing of the terminal box

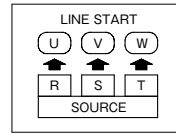
●VKP045A-085A (-4Z)  
VKP055H-085H

Assembly drawing



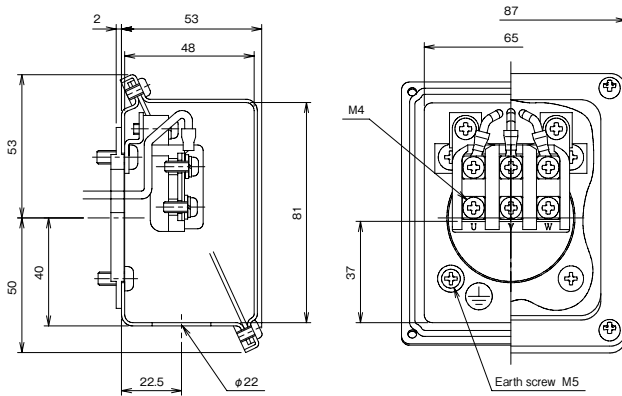
※ For the types that end with "L," cabtyre cable is used.

Connection diagram

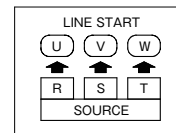


●VKP095 (-4Z), 115A (-e/4Z)

Assembly drawing

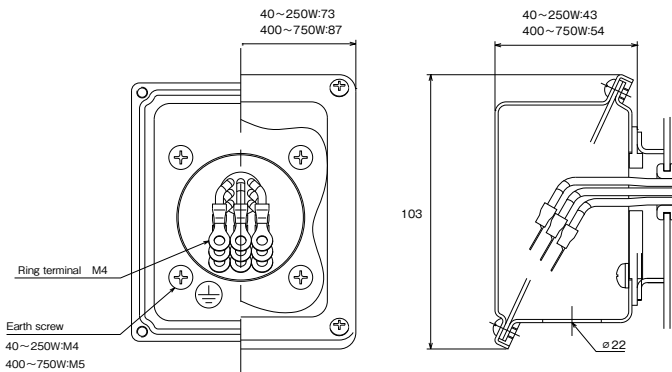


Connection diagram

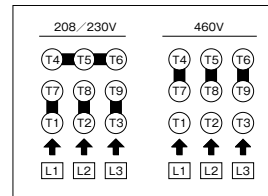


●VKP-7W

Assembly drawing

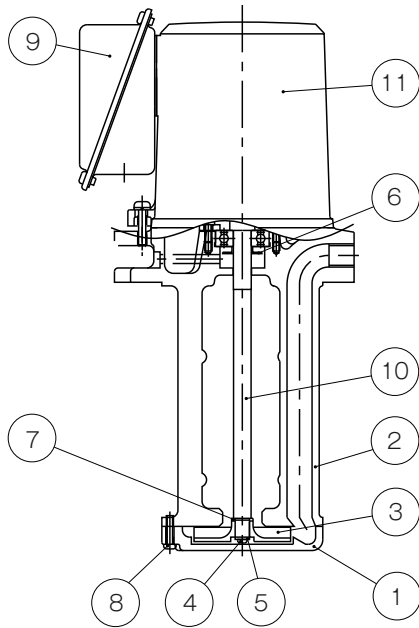


Connection diagram



Sectional drawing

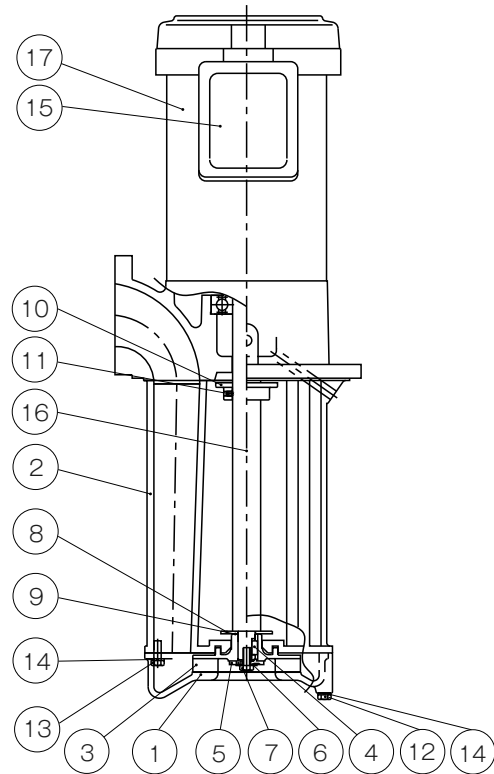
● VKP035A(L)-085A □ (-4Z/7W)  
VKP065H-085H



No.	Part name	Material	No.	Part name	Material
1	Inner casing	FC150	7	Adjust seal	BsP3-1/2H
2	Pump leg	FC150	8	Small pan head screw	SU1S302
3	Impeller	Refer to the table below	9	Terminal box	SPCC
4	Small pan head screw	SS	10	Main shaft	S45C
5	Toothed washer	SK5	11	Motor	-
6	Oil thrower	SPCC			

Note 1) For the types that end with "L," cabtype cable is used.  
Note 2) The materials in the table above are equivalents.  
Note 3) Structure and other details are subject to change without notice.

● VKP115A (-e/4Z/7W)



No.	Part name	Material	No.	Part name	Material
1	Inner casing	FC150	10	Collar	FC150
2	Pump leg	FC150	11	Hexagon socket set screw	SS
3	Impeller	CAC407	12	Hexagon head bolt	SUS302
4	Key	S45C	13	Hexagon head bolt	SUS302
5	Press washer	SPCC	14	Spring washer	SUS302
6	Clawed washer	SPCC	15	Terminal box	SPCC
7	Impeller fixing bolt	SS	16	Main shaft	S45C
8	Oil thrower	SPHC	17	Motor	-
9	Adjust seal	BsP3-1/2H Phosphor bronze			

Note 1) The materials in the table above are equivalents.  
Note 2) Structure and other details are subject to change without notice.

Table of impeller materials

VKP-A type

Type	Impeller material
VKP035L	CAC407
VKP045L	CAC407
VKP045A(-4Z/7W)	CAC407
VKP055A(-4Z/7W)	CAC407
VKP065A(-4Z/7W)	CAC407
VKP075A(-4Z/7W)	Special resins
VKP075AH(-7W)	Special resins
VKP075AK(-7W)	Special resins
VKP075J(-7W)	CAC407
VKP085A(-4Z/7W)	Special resins
VKP085AF(-7W)	Special resins
VKP085AK(-7W)	Special resins
VKP085J(-7W)	CAC407
VKP095A(-4Z/7W)	Special resins
VKP095AF(-7W)	Special resins
VKP095AK(-7W)	Special resins
VKP095J(-7W)	CAC407
VKP115A(-e/4Z/7W)	CAC407

VKP-H type

Type	Impeller material
VKP055H	CAC407
VKP065H(-7W)	CAC407
VKP075H(-7W)	CAC407
VKP085H	CAC407
VKP095H(-7W)	CAC407

Features

- ① The LFE-e model is an energy-saving pump with a Top Runner (equivalent to IE3) motor.  
(The mounting dimension is compatible with conventional models.)
- ② High-efficiency pumps designed for energy-saving coolant piping
- ③ Non-seal (mechanical seal-less) structure is adopted for excellent durability.

Description of types

**LFE 32 A - 0.25 - 300 -e**

- ① ② ③ ④ ⑤ ⑥

- ① Model
- ② Bore diameter
- ③ Viscosity of liquid:  
A: for low viscosity liquid
- ④ Output
- ⑤ Immersion depth
- ⑥ Motor efficiency  
None: Standard efficiency (equivalent to IE1)  
-e : Top Runner efficiency (equivalent to IE3)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Standard Specification

Model		LFE	LFE-e
Used liquid	Property of liquid	Water-soluble coolant	
	Temperature	0-60 °C (No frozen liquid)	
	Allowable kinematic viscosity	1mm <sup>2</sup> /s	
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.	
Material	Section/Discharge casing	FC200	
	Impeller	FCD450	
	Main shaft	S35C	
Shaft seal structure		Non-seal (mechanical seal-less)	
Motor	Power source	3-phase 60Hz 200/220V	
	Output	0.25~0.4kW	0.6~0.75kW
	Type	Totally enclosed self-cooling motor	Totally enclosed fan-cooled indoor type
	Protection method	IP43	IP44
	Thermal class	F	
	Rating	Continuous	
	Number of poles	2P	
Paint color		Munsell N1.5	

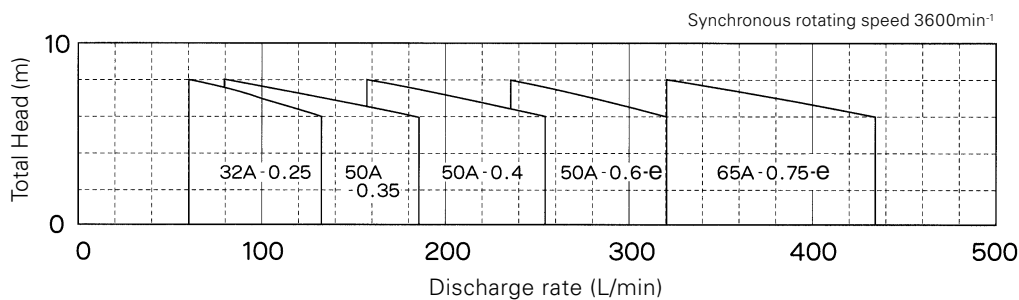
Table of Consumable Parts

Type	O-ring			Bearing		Oil seal
	For discharge bushing	For liner ring	For companion flange	Load side	Unload side	
LFE32A-0.25-300	G35	G65	G50	6205ZZC3	6203ZZC3	G25355
LFE50A-0.35-300						
LFE50A-0.4-300						
LFE50A-0.6-300-e						
LFE65A-0.75-300-e		G80	G90			

Selection chart

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

60Hz only

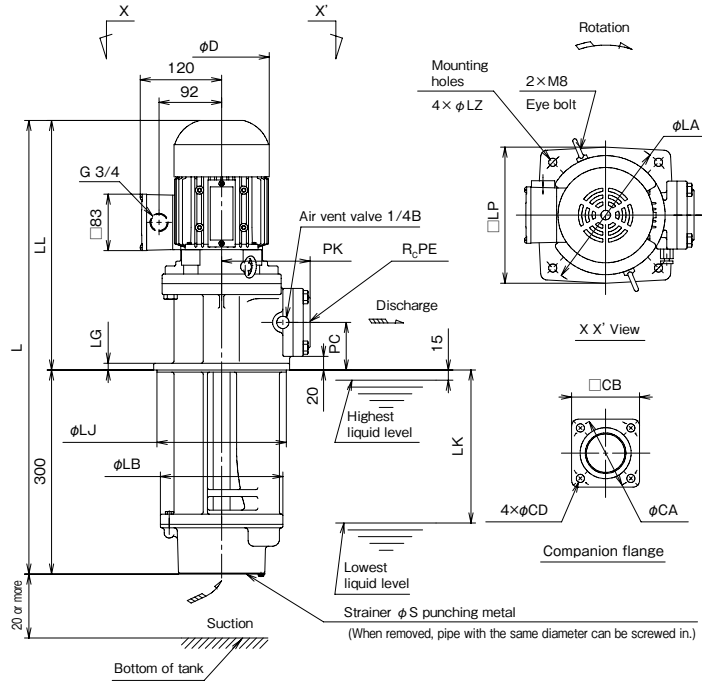


Specification table

Bore diameter (mm)	Frequency (Hz)	Type	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
32	60	LFE32A-0.25-300	200/220	0.25	1.16/1.10	7.2/7.9	60-130	8-6
		LFE50A-0.35-300		0.35	1.90/1.82	13.0/14.0	80-185	
LFE50A-0.4-300		0.4		1.90/1.82	13.0/14.0	160-255		
LFE50A-0.6-300-e		0.6		3.5/3.5	29.0/32.0	235-320		
65		LFE65A-0.75-300-e		0.75	3.5/3.5	29.0/32.0	320-430	

※ The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing

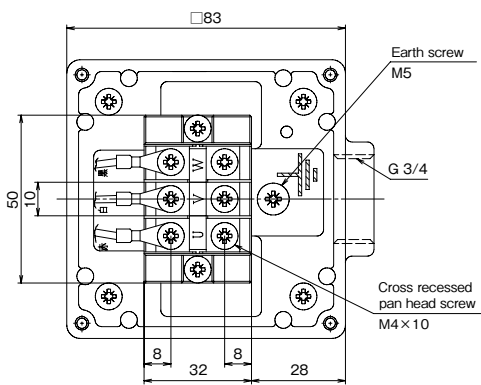


Dimensions

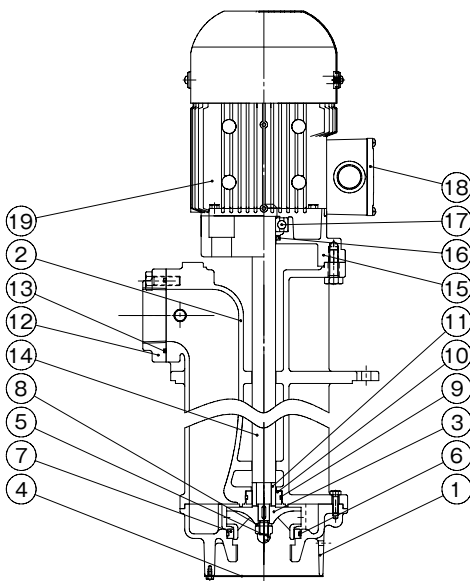
(Unit : mm)

Bore diameter	Type	PE	D	L	LL	LK	LJ	LB	LG	PK	PC	LP	LZ	LA	S	CA	CB	CD	Approx. mass(kg)
32	LFE32A-0.25-300	1 1/4	157	625.5	325.5	240	160	150	10	120	55	180	10	200	7	70	70	10	29
50	LFE50A-0.35-300	2	157	659.5	359.5	225	190	180	10	130	70	200	12	220	7	105	100	12	34
	LFE50A-0.4-300	2	157	659.5	359.5	225	190	180	10	130	70	200	12	220	7	105	100	12	34
	LFE50A-0.6-300-e	2	140	667	367	225	190	180	10	130	70	200	12	220	7	105	100	12	35
65	LFE65A-0.75-300-e	2 1/2	140	692	392	200	220	210	12	150	80	230	15	250	8	125	120	15	42

Detailed drawing of terminal box



Sectional drawing



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Impeller	1	FCD450
4	Strainer	1	SUS304*
5	Impeller nut	1	SUS304
6	O-ring	1	NBR
7	Liner ring	1	PTFE
8	Washer	1	SUS304
9	O-ring	1	NBR
10	Discharge bushing	1	PTFE
11	Shaft sleeve	1	SUS304
12	Companion flange	1	FC200
13	O-ring	1	NBR
14	Main shaft	1	S35C
15	Motor bracket	1	FC200
16	Oil seal	1	NBR
17	Load-side bearing	1	SUJ2
18	Terminal box	1	ADC
19	Motor	1	

\* SS400 for LFE65-e.

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

Features

- ① Energy-saving pump with a Top Runner (equivalent to IE3) motor.
- ② Though it is small, it is specified for high-pressure.
- ③ Non-seal structure (mechanical seal-less) is adopted for excellent durability.
- ④ Special reliable resin is used in the main part of the pump.
- ⑤ The mounting dimension is compatible with conventional models.

Description of types

**LHW 20 3 A 0.75 T -e**

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦

- ① Model
- ② Bore diameter
- ③ Number of impellers
- ④ Viscosity of the liquid  
A : for low viscosity liquid
- ⑤ Output
- ⑥ ID code
- ⑦ Top Runner efficiency(equivalent to IE3)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Standard Specification

Used liquid	Property of liquid	Water-soluble coolant, cleaning liquid (weak alkaline)
	Temperature	0-60 °C (No frozen liquid)
	Allowable kinematic viscosity	1mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Suction cover/ Discharge casing	FC200
	Intermediate casing	ARLS (Special polyamide resin reinforced with glass fiber, etc.)
	Impeller	
Main shaft		equivalent to SUS420J2
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Power source	3-phase 50/60/60Hz 200/200/220V
	Type	Totally enclosed fan-cooled indoor type
	Protection method	IP44
	Thermal class	B
	Rating	Continuous
Number of poles		2P
Paint color		Munsell N1 or N1.5

Table of Consumable Parts

Output (kW)	Bearing		Oil seal	V ring	O-ring (for outer cylinder)	O-ring (for discharge casing)
	Load side	Unload side				
0.75	6205ZCC3	6203CXZCC3	D20387	VR20A	G115	G110
1.1						

\* A set of replacement parts is available. Please contact the nearest sales office.

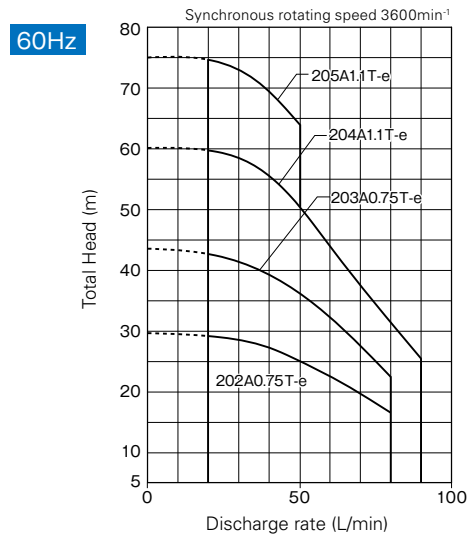
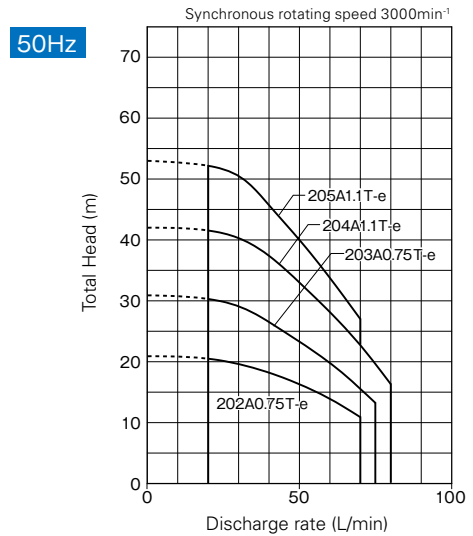
Specification table

Frequency (Hz)	Bore diameter (A)	Type	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
50	20	LHW202A0.75T-e	200	0.75	3.2	24.6	20-70	20.4-10.8
		LHW203A0.75T-e		0.75	3.2	24.6	20-70	30.2-15.3
		LHW204A1.1T-e		1.1	4.4	38.4	20-80	40.7-14.3
		LHW205A1.1T-e		1.1	4.4	38.4	20-70	50.2-25.6
60	20	LHW202A0.75T-e	200/220	0.75	3.3/3.1	23.4/28.3	20-80	29.1-16.5
		LHW203A0.75T-e		0.75	3.3/3.1	23.4/28.3	20-80	42.6-22.4
		LHW204A1.1T-e		1.1	5.1/4.8	36.8/40.6	20-90	57.6-23.4
		LHW205A1.1T-e		1.1	5.1/4.8	36.8/40.6	20-50	70.8-59.7

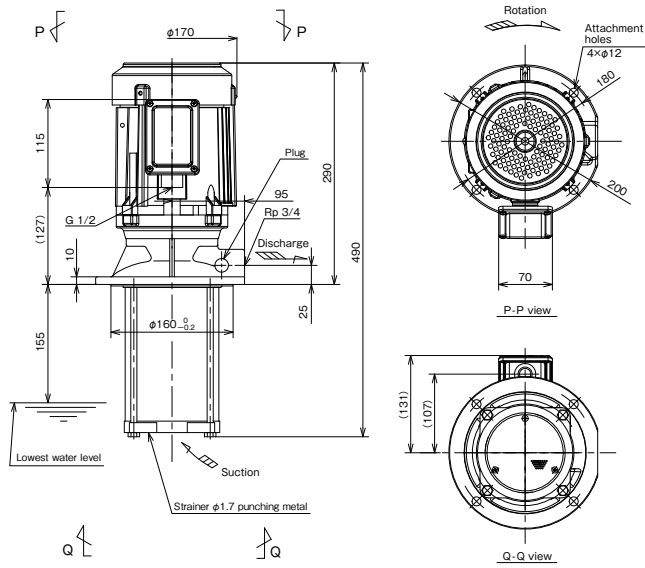
\* The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Selection chart

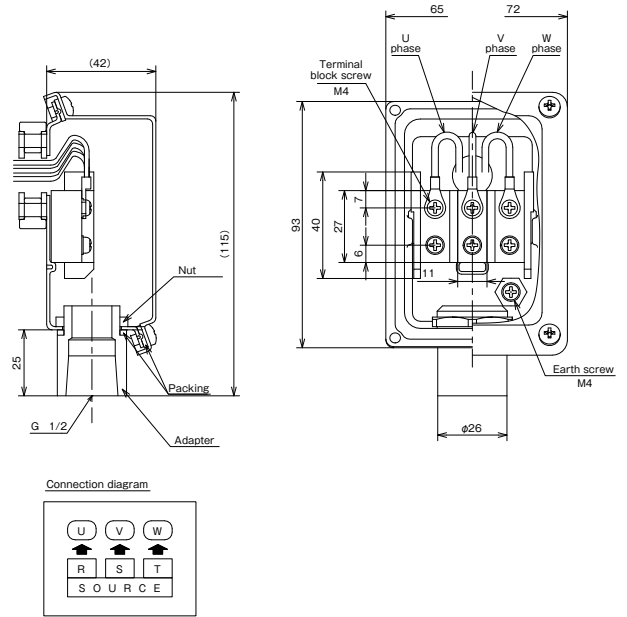
(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)  
(Based on JIS B 8301:2018 Grade 3B)



### Assembly drawing



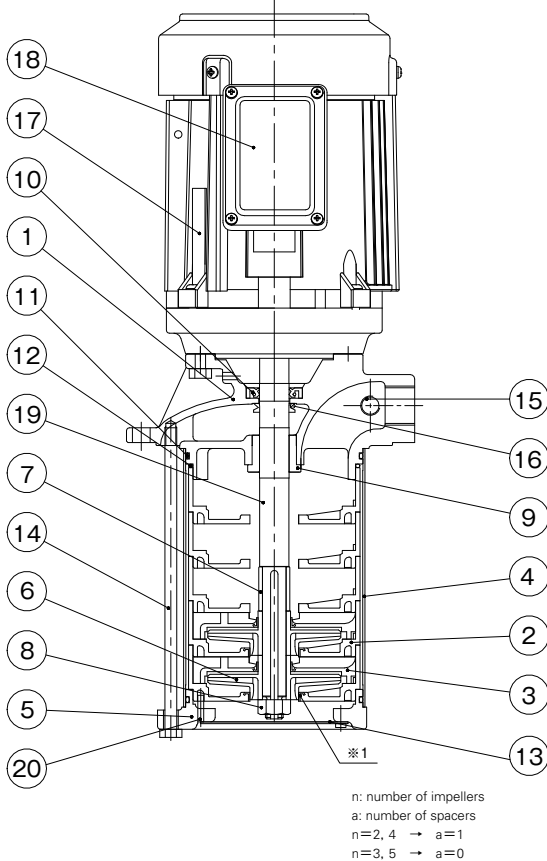
### Detailed drawing of the Terminal Box



### Dimensions

Bore diameter	Type	Approx. mass(kg)
20	LHW202A0.75T-e	21
	LHW203A0.75T-e	21
	LHW204A1.1T-e	22
	LHW205A1.1T-e	22

### Sectional drawing



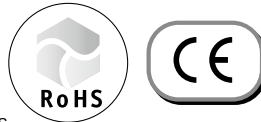
No.	Part name	Qty	Material
1	Discharge casing	1	FC200
2	Intermediate casing	5	ARLS
3	Guide vane	n	ARLS
4	External cylinder	1	SUS304
5	Suction cover	1	FC200
6	Impeller	n	ARLS
7	Spacer	a	SUS304
8	Impeller nut	1	SUS304
9	Discharge bushing	1	FCD450
10	Oil seal	1	NBR
11	O-ring	2	NBR
12	O-ring	1	NBR
13	Strainer	1	SUS304
14	Through bolt	4	SS400
15	Plug	1	SWCH
16	V ring	1	NBR
17	Motor	1	
18	Terminal box	1	
19	Motor shaft	1	S35C + SUS420J2
20	Spring pin	1	

$\ast 1$  The intermediate casing without an impeller does not come with a stainless steel ring.  
 Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.

n: number of impellers  
 a: number of spacers  
 n=2, 4 → a=1  
 n=3, 5 → a=0

Features

- ① Strong and tough with high wear resistant structure and material.
- ② Non-seal (mechanical seal-less) structure is adopted.
- ③ High-pressure, large-capacity (Max. 500 L/min) pump allows expanded selection of head and discharge rate.
- ④ The lineup including the models complying with global standards by supporting efficiency and other regulations.
  - Japan : Top Runner efficiency
  - Europe : IE3 efficiency, CE marking (EU Directive)  
RoHS Directive (2011/65/EU) , 10 substances restricted
  - USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
  - China : GB3 (GB18613-2020)
  - Korea : Energy Efficiency Label and Standard Program (IE3)
- ⑤ 2 options for immersion length are available (excluding VKD111AA- □ ).



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Description of types

**VKD 15 2 A D -e**

- ①
- ②
- ③
- ④
- ⑤
- ⑥

- ① Model
- ② Output 11:0.75kW, 13:1.5kW, 14:2.2kW, 15:3.0kW
- ③ Series number 1 : Standard leg, long leg  
2 : Standard leg (shaft seal structure changed)
- ④ Phase A : 3-phase
- ⑤ Number of impellers, immersion length [standard leg: 260mm (2.2kW or less) /300 mm(3.0kW), Long leg: 400mm]  
A: 1 impeller/standard leg, B: 2 impellers/standard leg,  
C: 3 impellers/standard leg, D: 4 impellers/standard leg,  
G: 3 impellers/long leg, H: 4 impellers/long leg
- ⑥ Motor efficiency/ voltage  
None : Standard efficiency (equivalent to IE1) / Standard voltage  
-e : Top Runner efficiency (equivalent to IE3) / Standard voltage  
-4Z : Standard efficiency (equivalent to IE1) / Different voltage  
-4Z-e : Top Runner efficiency (equivalent to IE3) / Different voltage  
-7W : UL approved motor (NEMA Premium efficiency)  
-KS : Equipped with Korea Efficiency Label and Standard Program compliant motor (equivalent to IE3)

Global standards

Type	Standards/Regulations	Output
		0.75kW-3.0kW
VKD	IE1 equivalent	●
	CE Marking EU energy efficiency	●
VKD-e	Top Runner Efficiency (IE3 equivalent)	●
	CE Marking EU energy efficiency	●
	GB3(GB18613-2020)	●*1
VKD-7W	UL Standards (safety) NEMA Premium efficiency	●
VKD-KS	Energy Efficiency Label and Standard Program (IE3)	●

\*1 GB certification label is attached as exclusive for GB standard. ● : Compliant

Standard Specification

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc., after primary treatment *1
	Temperature	-20 to 40°C (No frozen liquid)
	Allowable kinematic viscosity	75mm <sup>2</sup> /s *2
Installation location		Indoor Ambient temperature: -20 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Pump leg	FC200
	Casing	FC200
	Impeller	FC200
	Main shaft	S45C
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Power source	3-phase 50/60/60Hz 200/200/220V *3
	Type	Totally enclosed fan-cooled indoor type
	Protection method	IP54
	Thermal class	F *4
	Rating	Continuous
	Number of poles	2P
Standard		IEC60034-1 CE Marking *5
Paint color		Munsell N1

\*1 Take note that special liquid such as water, printing liquid or acid liquid cannot be used. Contact us for other special liquid (ceramic, etc.).  
 \*2 -7W type is 1mm<sup>2</sup>/s. In case of using the liquid with kinematic viscosity exceeding 1mm<sup>2</sup>/s, please contact us separately.  
 \*3 NEMA Premium efficiency (IE3), UL Standards (safety): 60Hz 208/230/460V Korea Energy Efficiency Label and Standard Program (IE3): 60Hz 220/380V, GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V  
 \*4 Thermal class of -7W type is class A. VKD111AA(equivalent to IE1) and VKD132AB(131AF) is class B.  
 \*5 Excluding -7W and -KS types.

Table of Consumable Parts

Type	Bearing		Oil seal		O-ring oil thrower		
	Load side	Unload side	Load side	Unload side			
VKD111AA- □	6305ZZ	6203ZZ			P25		
VKD132AB- □	6306ZZ				SC30457	HM25385	P30
VKD142AC- □							
VKD152AD- □	6307ZZ	6205ZZ					
VKD131AF- □							
VKD141AG- □							
VKD151AH- □							

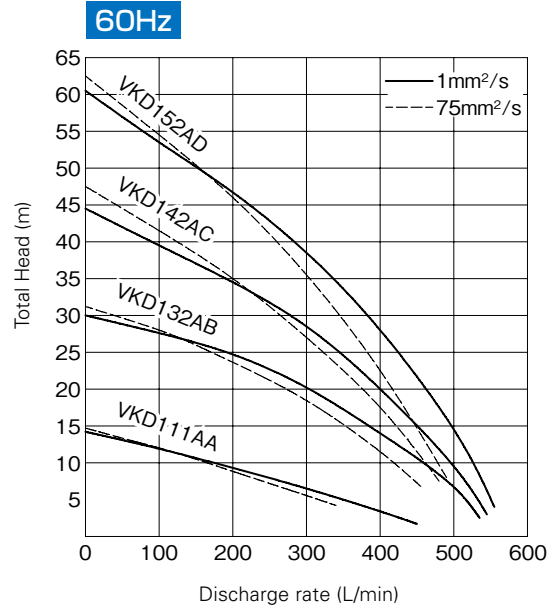
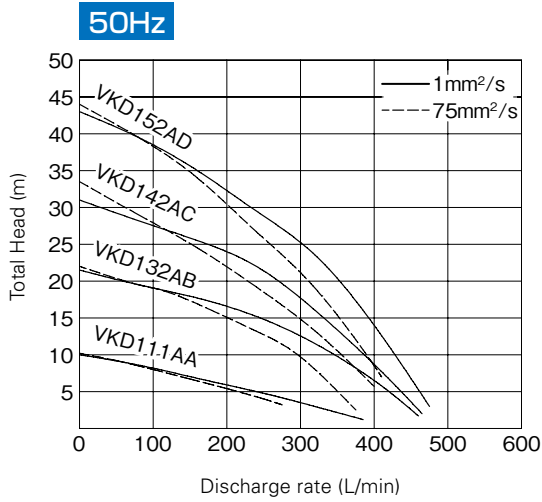


**Selection chart**

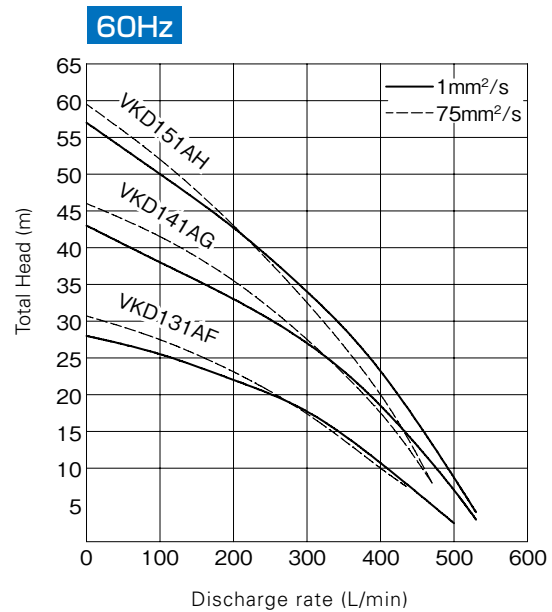
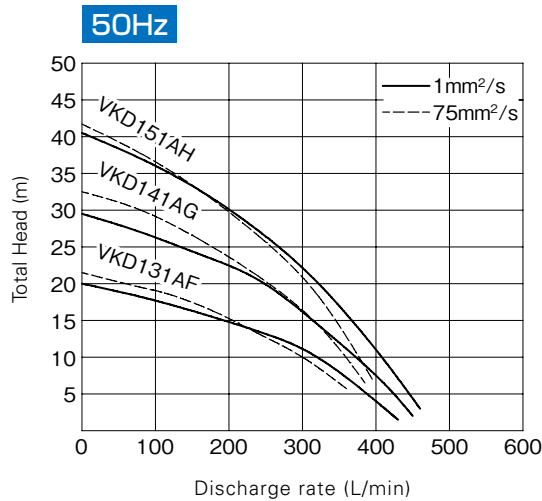
(Values at kinematic viscosity  $1\text{mm}^2/\text{s}$ , specific gravity 1)  
 (Values at kinematic viscosity  $75\text{mm}^2/\text{s}$ , specific gravity 1)

Synchronous rotating speed 50Hz :  $3000\text{min}^{-1}$   
 60Hz :  $3600\text{min}^{-1}$

● **Standard leg**



● **Long leg**



※ Above selection chart is also available for -e/-7W/-KS type, but the allowable kinematic viscosity for -7W type is  $1\text{mm}^2/\text{s}$ .  
 In case of using the liquid with kinematic viscosity exceeding  $1\text{mm}^2/\text{s}$ , please contact us.  
 Note) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

## Specification table

Immersion depth	Type	Output (kW)	50Hz					60Hz						
			Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)		
Standard leg	VKD111AA	0.75	200	4.7	33.8	80-300	8-4	200/220	5.0/4.9	31.1/34.1	100-400	12-4		
	VKD111AA-4Z		380/400/415	2.5/2.4/2.4	18.0/17.3/17.3			400/440	2.5/2.5	15.6/17.4				
	VKD111AA-e		200	4.7	34.0			200/220	5.0/4.9	32.5/36.0				
	VKD111AA-4Z-e		380/400/415	2.4/2.4/2.4	16.0/17.0/17.5			400/440	2.5/2.5	16.3/18.0				
	VKD111AA-7W							208/230/460	4.3/4.0/2.0	33.9/38.0/19.0				
	VKD111AA-KS							220/380	5.2/3.0	31.5/18.2				
	VKD132AB	1.5	200	7.6	51.4	80-400	20-7	200/220	10/9.2	45/49.6	100-500	28-7		
	VKD132AB-4Z		380/400/415	4.0/3.8/3.7	27.1/25.7/25.0			400/440	5.0/4.6	22.5/24.8				
	VKD132AB-e		200	7.6	49.0			200/220	9.1/7.9	45.5/50.0				
	VKD132AB-4Z-e		380/400/415	3.8/3.8/3.8	23.0/24.5/25.0			400/440	4.6/4.6	22.8/25.0				
	VKD132AB-7W							208/230/460	8.7/8.0/4.0	47.3/52.0/26.0				
	VKD132AB-KS							220/380	9.0/5.2	45.7/26.4				
	VKD142AC	2.2	200	13.7	92.6	80-400	29-9	200/220	13.6/13.2	80.7/88.8	100-500	40-9		
	VKD142AC-4Z		380/400/415	7.3/6.9/6.7	49.3/46.6/45.3			400/440	6.8/6.6	40.4/44.4				
	VKD142AC-e		200	12.0	78.0			200/220	12.1/10.7	72.0/79.0				
	VKD142AC-4Z-e		380/400/415	6.0/6.0/6.0	37.5/39.0/40.5			400/440	6.1/6.1	36.0/39.5				
	VKD142AC-7W							208/230/460	11.7/10.7/5.3	74.8/83.0/41.5				
	VKD142AC-KS							220/380	12/6.9	75/43.3				
	VKD152AD	3.0	200	16	92.5	80-400	40-14	200/220	17.3/16	80.7/88.9	100-500	54-14		
	VKD152AD-4Z		380/400/415	8.3/8.0/7.9	48.0/46.3/45.7			400/440	8.7/8.0	40.6/44.5				
	VKD152AD-e		200	14.5	120			200/220	16.2/14.6	115/126				
	VKD152AD-4Z-e		380/400/415	7.3/7.3/7.3	58.0/60.0/62.0			400/440	8.1/8.1	57.5/63.0				
	VKD152AD-7W							208/230/460	15.3/14.0/7.0	119/130/65.0				
	VKD152AD-KS							220/380	16/9.2	117/67.3				
Long leg	VKD131AF	1.5	200	7.6	51.4	80-400	18-4	200/220	10/9.2	45/49.6	100-500	25-2		
	VKD131AF-4Z		380/400/415	4.0/3.8/3.7	27.1/25.7/25.0			400/440	5.0/4.6	22.5/24.8				
	VKD131AF-e		200	7.6	49.0			200/220	9.1/7.9	45.5/50				
	VKD131AF-4Z-e		380/400/415	3.8/3.8/3.8	23.0/24.5/25.0			400/440	4.6/4.6	22.8/25.0				
	VKD131AF-7W							208/230/460	8.7/8.0/4.0	47.3/52.0/26.0				
	VKD131AF-KS							220/380	9.0/5.2	45.7/26.4				
	VKD141AG	2.2	200	13.7	92.6	80-400	27-7	200/220	13.6/13.2	80.7/88.8	100-500	38-7		
	VKD141AG-4Z		380/400/415	7.3/6.9/6.7	49.3/46.6/45.3			400/440	6.8/6.6	40.4/44.4				
	VKD141AG-e		200	12	78.0			200/220	12.1/10.7	72.0/79.0				
	VKD141AG-4Z-e		380/400/415	6.0/6.0/6.0	37.5/39.0/40.5			400/440	6.1/6.1	36.0/39.5				
	VKD141AG-7W							208/230/460	11.7/10.7/5.3	74.8/83.0/41.5				
	VKD141AG-KS							220/380	12/6.9	75.0/43.3				
	VKD151AH	3.0	200	16	92.5	80-400	37-11	200/220	17.3/16	80.7/88.9	100-500	50-8		
	VKD151AH-4Z		380/400/415	8.3/8.0/7.9	48.0/46.3/45.7			400/440	8.7/8.0	40.6/44.5				
	VKD151AH-e		200	14.5	120			200/220	16.2/14.6	115/126				
	VKD151AH-4Z-e		380/400/415	7.3/7.3/7.3	58.0/60.0/62.0			400/440	8.1/8.1	57.5/63.0				
	VKD151AH-7W							208/230/460	15.3/14.0/7.0	119/130/65.0				
	VKD151AH-KS							220/380	16/9.2	117/67.3				

Note 1) Discharge rate and total head are the values obtained in the tests with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature). Note that the pumps cannot be used with water.

Note 2) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing

Standard leg

Fig.1

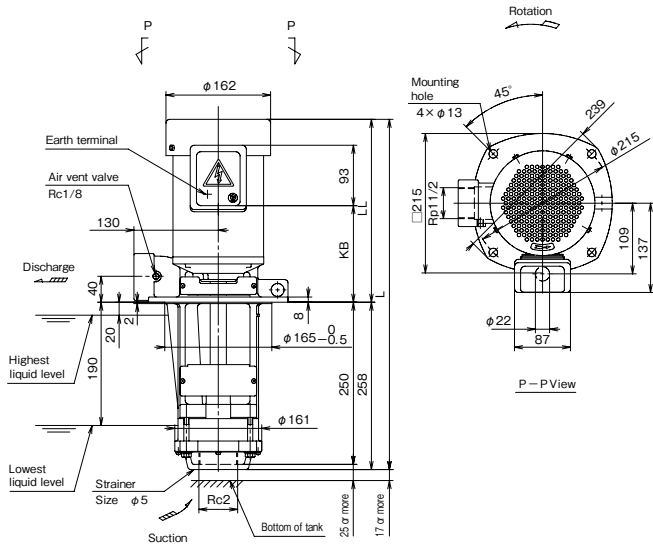
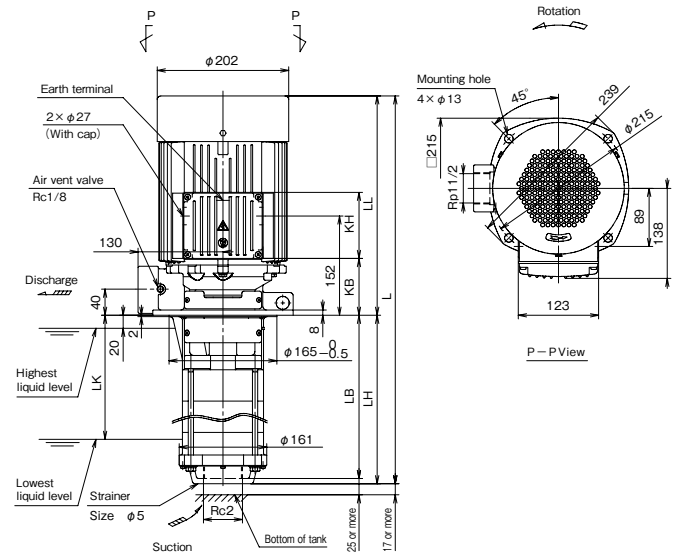
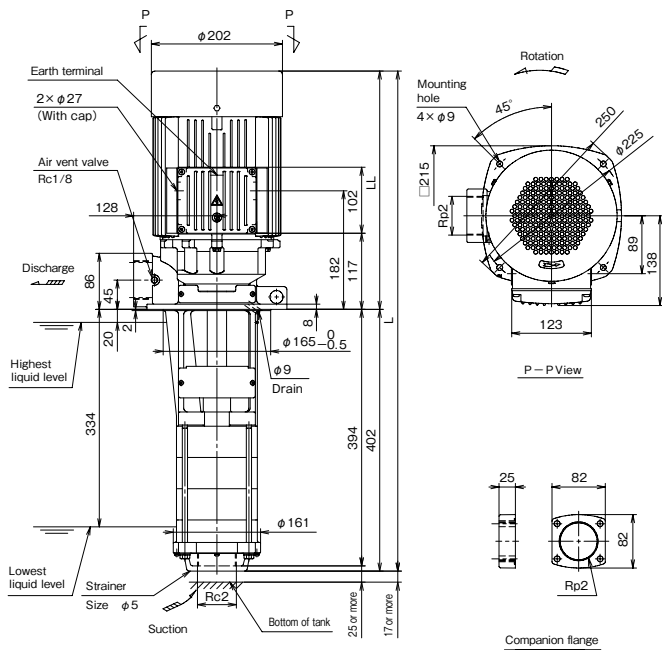


Fig.2



Long leg

Fig.3



Dimensions

●Standard leg

(Unit : mm)

Type	Fig.	KB	KH	LB	LH	LK	LL	L	Approx. mass(kg)
VKD111AA	1	139					272	530	24
VKD111AA-e(-7W/-KS)	1	149					282	540	25
VKD132AB	2	87	102	250	258	190	336	594	34
VKD132AB-e(-7W/-KS)	2	87	102	250	258	190	336	594	35
VKD142AC	2	87	102	250	258	190	336	594	36
VKD142AC-e(-7W/-KS)	2	87	102	250	258	190	336	594	37
VKD152AD	2	87	102	298	306	238	336	642	39
VKD152AD-e(-7W/-KS)	2	87	102	298	306	238	356	662	45

※ Above specification is also available for different specification.

●Long leg

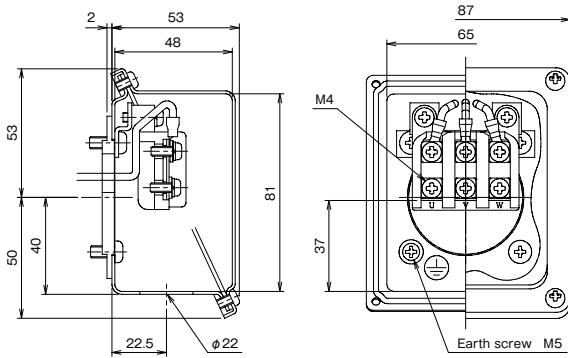
(Unit : mm)

Type	Fig.	LL	L	Approx. mass(kg)
VKD131AF	3	366	768	40
VKD131AF-e(-7W/-KS)	3	366	768	41
VKD141AG	3	366	768	43
VKD141AG-e(-7W/-KS)	3	366	768	44
VKD151AH	3	366	768	44
VKD151AH-e(-7W/-KS)	3	386	788	50

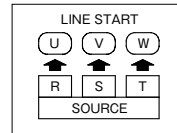
Detailed drawing of terminal box

●VKD111AA(-e)

■Assembly drawing



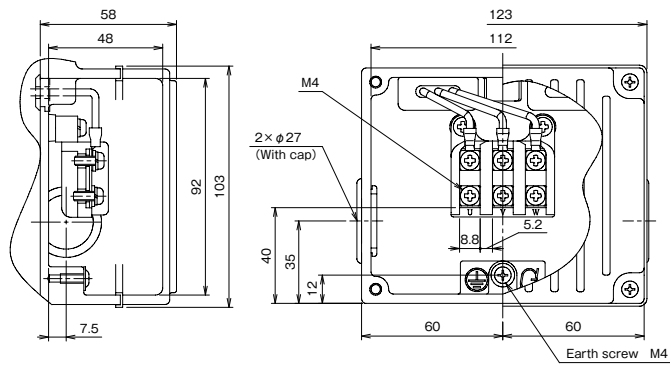
■Connection diagram



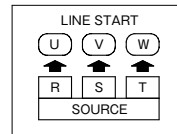
●VKD132AB(-e)/142AC(-e)/152AD(-e)

●VKD131AF(-e)/141AG(-e)/151AH(-e)

■Assembly drawing



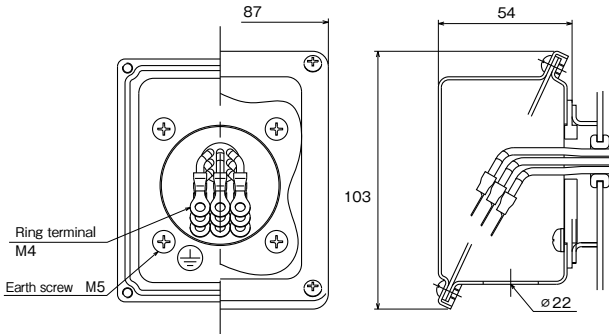
■Connection diagram



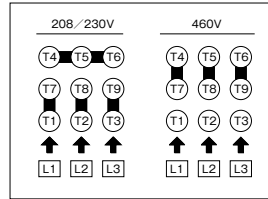
Detailed drawing of terminal box

●VKD-7W 0.75kW

■Assembly drawing

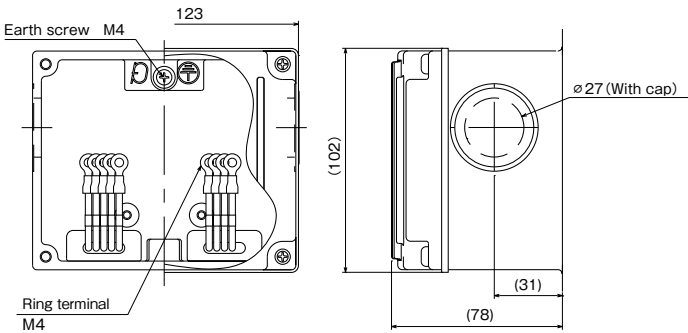


■Connection diagram

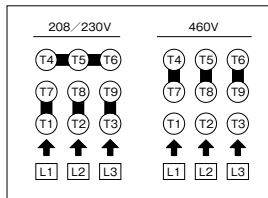


●VKD-7W 1.5kW and above

■Assembly drawing

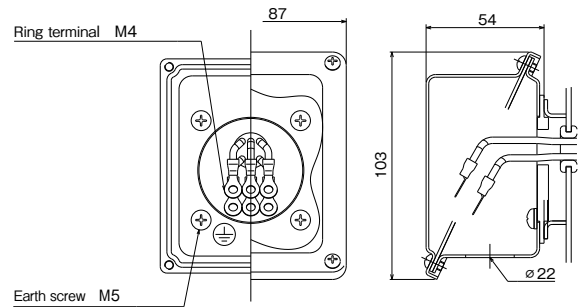


■Connection diagram

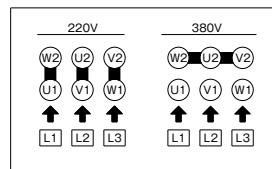


●VKD-KS 0.75kW

■Assembly drawing

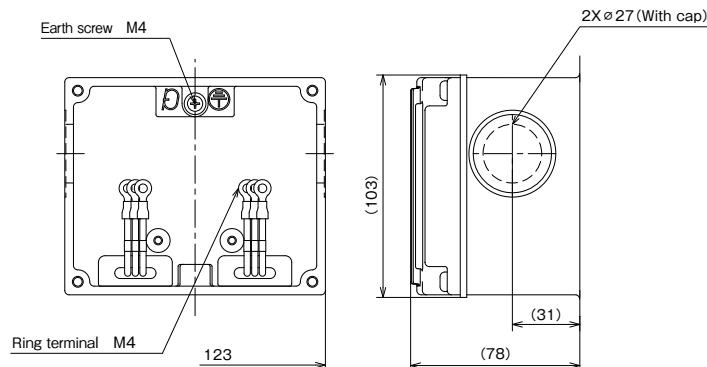


■Connection diagram

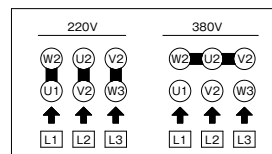


●VKD-7W 1.5kW and above

■Assembly drawing

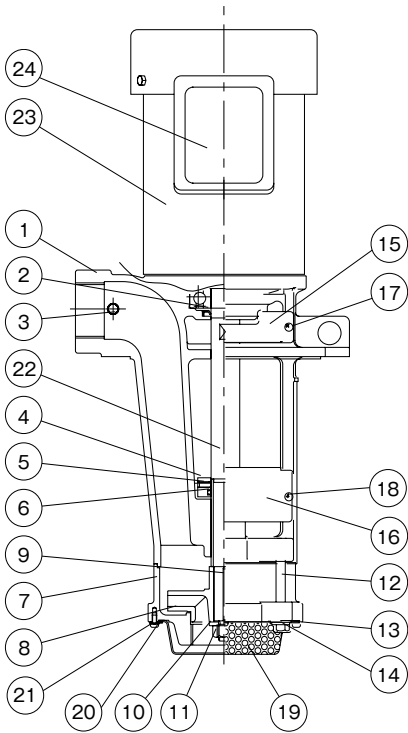


■Connection diagram



Sectional drawing

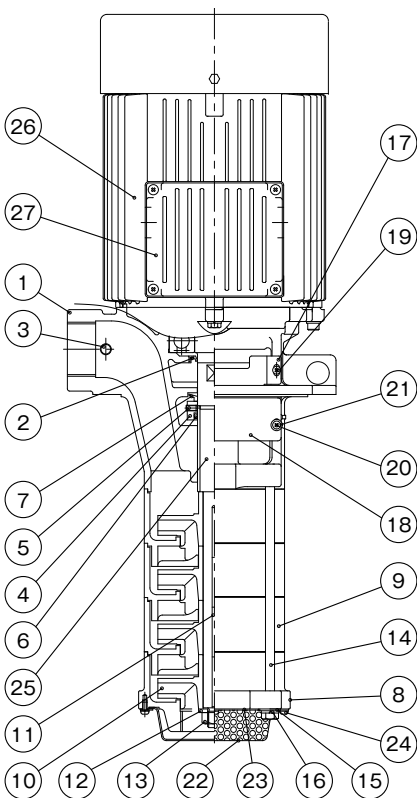
●VKD111AA (-□)



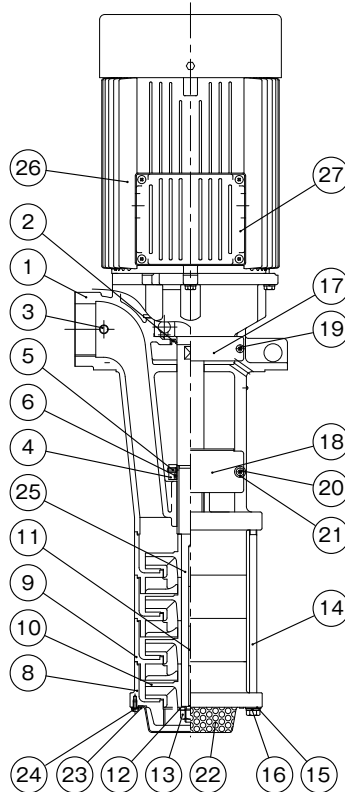
No.	Part name	Material
1	Pump leg	FC200
2	Oil seal	NBR
3	Air vent valve	SUS
4	Oil thrower	SUS304
5	Hexagon socket set screw	SCM435
6	O-ring	FPM
7	Casing	FC200
8	Impeller	FC200
9	Key	S45C-D
10	Plain washer	SPCC
11	Hexagon nut	SS
12	Fastening bolt	SS
13	Plain washer	SPCC
14	Spring washer	SWRH62
15	Side plate	SPCC
16	Side plate	SPCC
17	Pan head screw	SS
18	Pan head screw	SS
19	Strainer	SPCC
20	Holding metal	SPCC
21	Pan head screw with captive washer	SS
22	Main shaft	S45C
23	Motor	—
24	Terminal box	SPCC

Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.

●VKD132AB (-□) / VKD142AC (-□) / VKD152AD (-□)



●VKD131AF (-□) / VKD141AG (-□) / VKD151AH (-□)



No.	Part name	Material
1	Pump leg	FC200
2	Oil seal	NBR
3	Air vent valve	SUS
4	Oil thrower	SUS304
5	Hexagon socket set screw	SCM435
6	O-ring	FPM
7	Deflector <sup>Note 1</sup>	NBR
8	Casing	FC200
9	Casing	FC200
10	Impeller	FC200
11	Key	S45C-D
12	Plain washer	SPCC
13	Hexagon nut	SS
14	Fastening bolt	SS
15	Plain washer	SPCC
16	Spring washer	SWRH62
17	Side plate	SPCC
18	Side plate	SPCC
19	Pan head screw	SS
20	Pan head screw	SS
21	Plain washer	SPCC
22	Strainer	SPCC
23	Holding metal	SPCC
24	Pan head screw with captive washer	SS
25	Main shaft	S45C-D
26	Motor	—
27	Terminal box	ADC12

Note 1) VKD132AB(-□), VKD142AC(-□), and VKD152AD(-□) only.  
 Note 2) The materials in the table above are equivalents.  
 Note 3) Structure and other details are subject to change without notice.

### Features

- ① An energy-saving pump with a Top Runner (equivalent to IE3) motor.
- ② Strong and tough enough to resist dirty coolants.
- ③ The impeller is made of FCD and is highly durable.
- ④ Long and short types of immersion depth are available to suit various tank depths.
- ⑤ Can be used for high viscosity coolants (LFO□□B-e model).
- ⑥ Non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ⑦ The lineup including the models complying with global standards by supporting efficiency and other regulations.  
 Japan : Top Runner efficiency  
 China : GB3 (GB18613-2020)
- ⑧ Mounting dimensions are compatible with conventional pumps.

### Description of types

## LFO 50 A - 0.75 - 35 -e

① ② ③ ④ ⑤ ⑥

- ① Model
- ② Bore diameter
- ③ Viscosity of the liquid A : for low viscosity liquid B : for high viscosity liquid
- ④ Output
- ⑤ Immersion depth 35:350mm 50:500mm
- ⑥ Motor efficiency Top Runner efficiency (equivalent to IE3)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

### Standard Specification

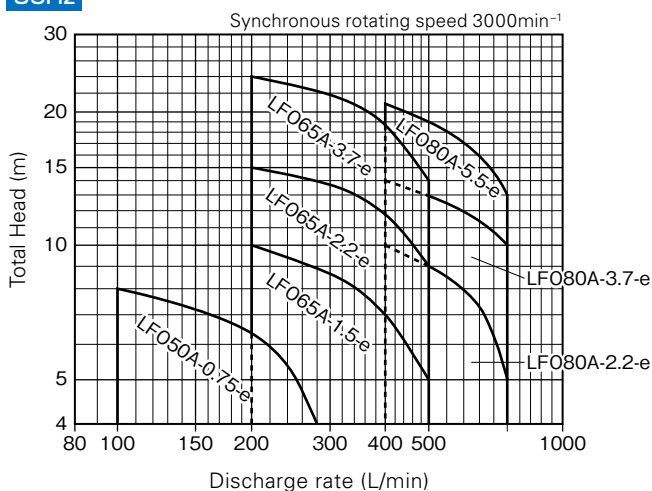
Used liquid	Property of liquid	Liquids containing additives (anticorrosive, etc.), for water-soluble and water-insoluble coolants*	
	Temperature	0 to 60°C (No frozen liquid)	
	Allowable kinematic viscosity	LFO-A : 32mm <sup>2</sup> /s LFO-B : 150mm <sup>2</sup> /s	
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.	
Material	Casing	FC200	
	Discharge pipe	SGP + SS	
	Impeller	FCD450	
	Main shaft	2.2 kW or less : S35C 3.7 kW or more : S45C	
Shaft seal structure		Non-seal (mechanical seal-less)	
Motor	Power source	3-phase 50/60/60Hz	200/200/220V 0.75~2.2kW
		3-phase 50/60/60Hz	200/200/220V 3.7~5.5kW
		3-phase 50/60/60Hz	400/400/440V 3.7~5.5kW
	Type	Totally enclosed fan-cooled indoor type	
	Protection method	IP44	
	Thermal class	F	
Rating	Continuous		
Number of poles	2P		
Paint color	Munsell N1.5		

\*Do not use with freshwater.

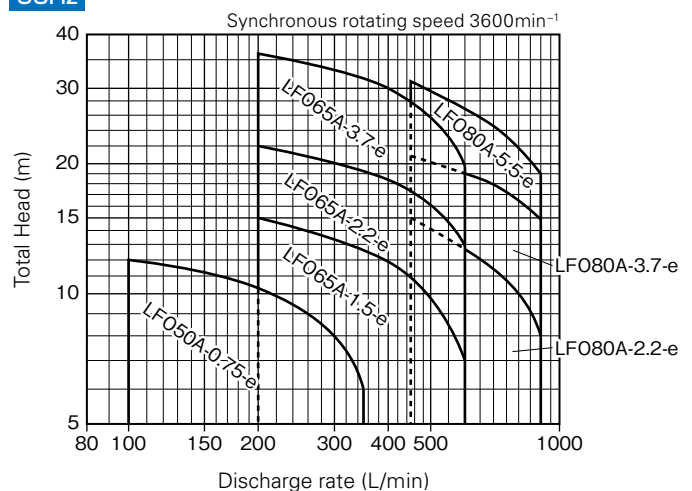
### Selection chart

● For low viscosity liquid (Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

#### 50Hz



#### 60Hz



\*Above selection chart may not be used depending on the kinematic viscosity and specific gravity of the liquid.  
 \*Use pumps within the selection range. Do not operate with flow rate below the selection range.

### Global standards

Type	Standards/Regulations	Output
		0.75kW-5.5kW
LFO-e	Top Runner efficiency (IE3 equivalent)	●
	GB3(GB18613-2020)	●*1

\*1 GB certification label is attached as exclusive for GB standard.

● : Compliant

### Table of Consumable Parts

Output (kW)	Bore diameter (mm)	Bearing		Oil seal	O-ring (for discharge pipes)
		Load side	Unload side		
0.75	50	6205ZZC3	6203ZZC3	G25355	G60
	65	6306ZZC3	6303ZZC3	G30456	
1.5	65	6306ZZC3	6303ZZC3	G30456	G75
	80	6306ZZC3	6303ZZC3	G30456	G90
2.2	65	6306ZZC3	6303ZZC3	G30456	G75
	80	6208ZZC3	6205ZZC3	VC40586	G90
3.7	65	6208ZZC3	6205ZZC3	VC40586	G90
	80	6210ZZC3	6206ZZC3	VC50687	G90
5.5	80	6210ZZC3	6206ZZC3	VC50687	G90

Specification table

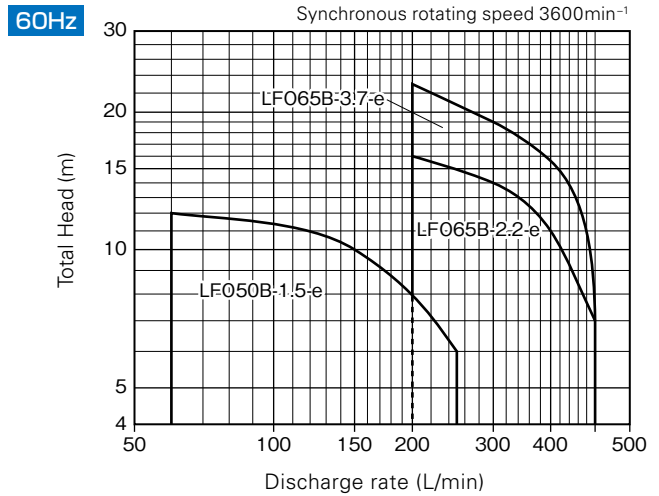
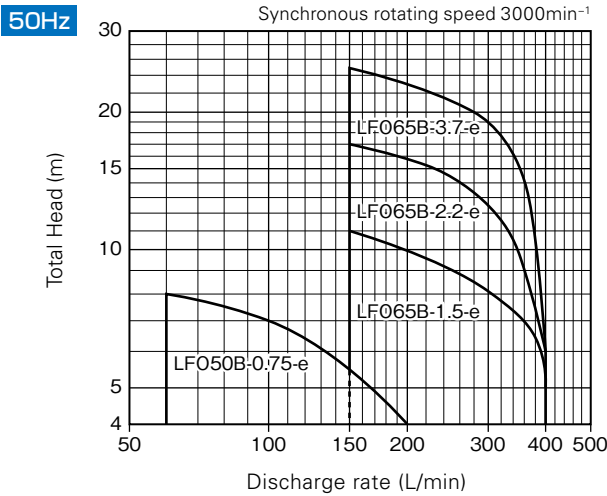
For low viscosity liquid

Bore diameter (mm)	Frequency (Hz)	Type	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)		
50	50	LFO50A-0.75-35(50)-e	200	0.75	4.0	30	100-280	8-4		
65		LFO65A-1.5-35(50)-e		1.5	6.5	66		10-5		
		LFO65A-2.2-35(50)-e		2.2	9.3	84		15-9		
80		LFO65A-3.7-35(50)-e	200/400	3.7	14.7/7.3	134/67	200-500	24-14		
		LFO80A-2.2-35(50)-e	200	2.2	9.3	84		10-5		
		LFO80A-3.7-35(50)-e	200/400	3.7	14.7/7.3	134/67		14-10		
LFO80A-5.5-35(50)-e		5.5		22.0/11.5	155/77	21-13				
50		60	LFO50A-0.75-35(50)-e	200/220	0.75	3.5/3.5	29/32	100-350	12-6	
65			LFO65A-1.5-35(50)-e		1.5	6.3/5.8	64/70		200-600	15-7
			LFO65A-2.2-35(50)-e		2.2	8.4/7.9	73/80			22-13
80			LFO65A-3.7-35(50)-e	200/220 400/440	3.7	13.7/12.9 6.8/6.5	116/130 58/65	200-600	36-20	
			LFO80A-2.2-35(50)-e	200/220	2.2	8.4/7.9	73/80		15-8	
	LFO80A-3.7-35(50)-e		200/220 400/440	3.7	13.7/12.9 6.8/6.5	116/130 58/65	450-900		21-15	
LFO80A-5.5-35(50)-e	5.5			21.0/19.6 10.5/9.8	128/144 64/72	31-19				

Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.  
 ※Please inquire separately for China GB3 (GB18613-2020) compliant products.

Selection chart

For high-viscosity liquid (Value at 150 mm<sup>2</sup>/s kinematic viscosity, specific gravity 1)



※Use pumps within the selection range. Do not operate with flow rate below the selection range.

Specification table

For high-viscosity liquid

Bore diameter (mm)	Frequency (Hz)	Type	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
50	50	LFO50B-0.75-35(50)-e	200	0.75	4.0	30	60-200	8-4
65		LFO65B-1.5-35(50)-e		1.5	6.5	66		11-5
		LFO65B-2.2-35(50)-e		2.2	9.3	84		17-6
		LFO65B-3.7-35(50)-e	200/400	3.7	14.7/7.3	134/67	25-6	
50	60	LFO50B-1.5-35(50)-e	200/220	1.5	6.3/5.8	64/70	60-250	12-6
65		LFO65B-2.2-35(50)-e		2.2	8.4/7.9	73/80		16-7
		LFO65B-3.7-35(50)-e	200/220 400/440	3.7	13.7/12.9 6.8/6.5	116/130 58/65	200-500	23-8

Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.  
 ※Please inquire separately for China GB3 (GB18613-2020) compliant products.



Assembly drawing

Note 1) 3.7/5.5 kW motor wiring holes are shown in Figure 2.  
 Note 2) For 80 mm bore diameter, the outlet is a square flange (to be screwed-in) as shown in Figure 2 and 3.

Fig.1

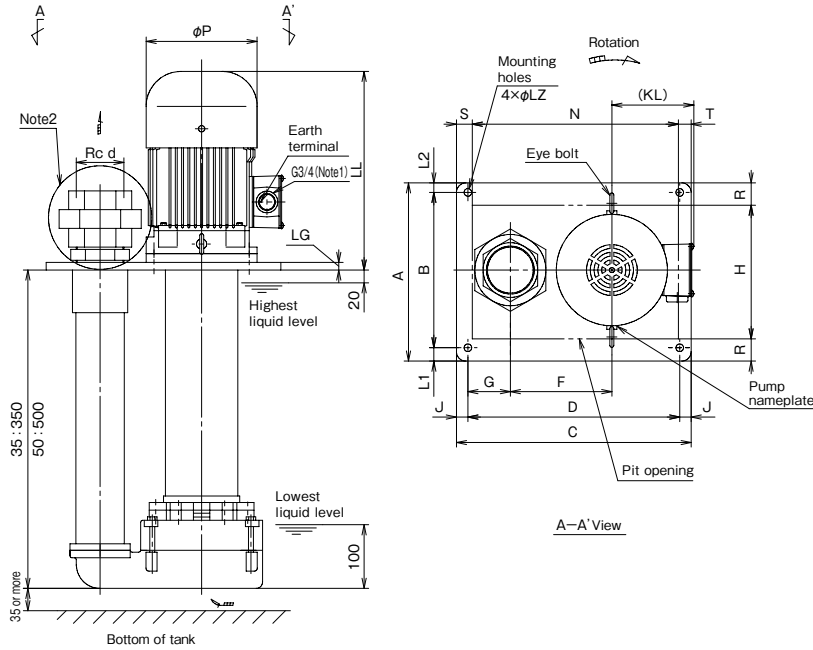


Fig.2

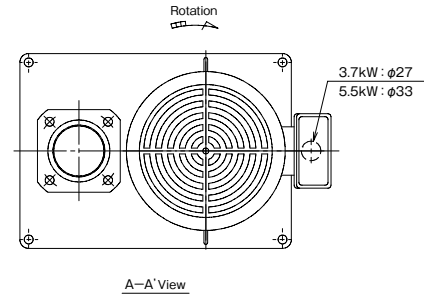
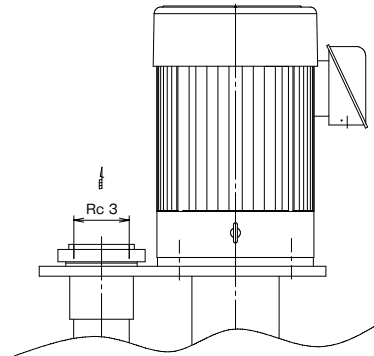


Fig.3



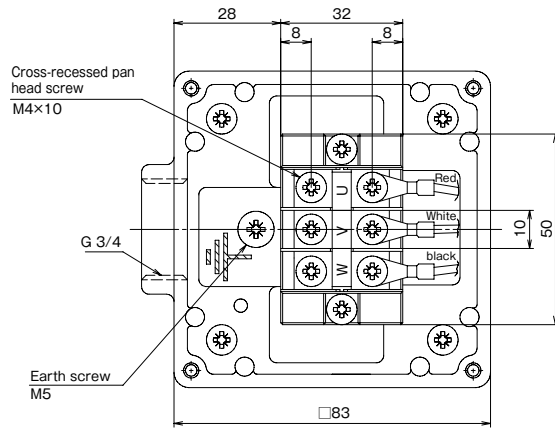
Dimensions

(Unit : mm)

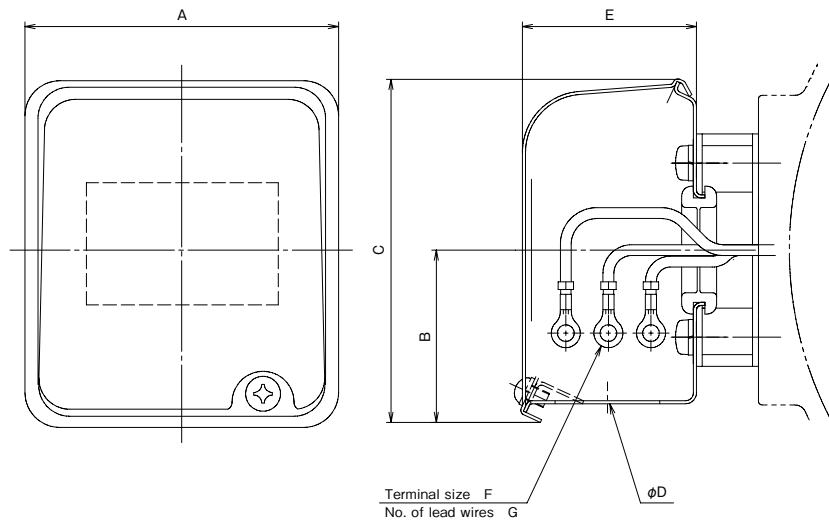
Viscosity	Frequency (Hz)	Bore diameter	Type	d	A	B	C	D	F	G	H	L1	L2	J	LG	LL	KL	N	P	LZ	R	S	T	Approx. mass(kg)	
For low viscosity	50/60	50	LFO50A-0.75-	35	2	260	224	300	264	145	37	170	18	18	18	12	252	115	270	140	12	45	10	20	34
			50	35																					
			50	50																					
		65	LFO65A-1.5-	35	2 1/2	280	244	370	334	160	67	210	18	18	18	12	312	130	325	175	12	35	25	20	50
			50	52																					
			50	56																					
	80	LFO80A-2.2-	35	2 1/2	310	280	420	390	180	85	250	15	15	15	12	312	130	360	175	15	30	30	30	58	
		50	81																						
		50	83																						
60	LFO80A-3.7-	35	2 1/2	310	280	420	390	180	85	250	15	15	15	12	377	165	360	235	15	30	30	30	81		
	50	83																							
	50	88																							
For high viscosity	50	50	LFO80A-2.2-	35	3	310	280	430	400	190	85	250	15	15	15	12	312	130	370	175	15	30	30	30	56
			50	58																					
			50	82																					
	60	LFO80A-3.7-	35	3	310	280	430	400	190	85	250	15	15	15	12	377	165	370	235	15	30	30	30	84	
		50	82																						
		50	88																						
50	65	50	LFO80A-5.5-	35	3	330	300	460	430	215	85	270	15	15	15	16	434	212	400	264	15	30	30	30	109
			50	112																					
			50	118																					
For high viscosity	50	50	LFO50B-0.75-	35	2	260	224	300	264	145	37	170	18	18	18	12	252	115	270	140	12	45	10	20	34
			50	35																					
			50	40																					
	60	LFO50B-1.5-	35	2	260	224	300	264	145	37	170	18	18	18	12	312	130	270	175	12	45	10	22	42	
		50	42																						
		50	50																						
50	65	50	LFO65B-1.5-	35	2 1/2	280	244	370	334	160	67	210	18	18	18	12	312	130	325	175	12	35	25	20	50
			50	52																					
			50	56																					
60	65	50	LFO65B-2.2-	35	2 1/2	310	280	420	390	180	85	250	15	15	15	12	312	130	360	175	15	30	30	30	58
			50	58																					
			50	51																					
50/60	65	50	LFO65B-2.2-	35	2 1/2	280	244	370	334	160	67	210	18	18	18	12	312	130	325	175	12	35	25	20	53
			50	53																					
			50	51																					
50/60	65	50	LFO65B-3.7-	35	2 1/2	310	280	420	390	180	85	250	15	15	15	12	377	165	360	235	15	30	30	30	81
			50	83																					

Detailed drawing of the terminal box

● Output 2.2 kW or less



● Output 3.7 kW or more

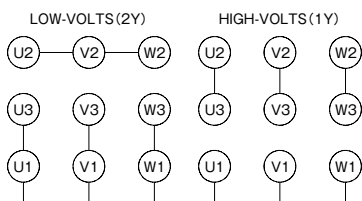


Terminal box

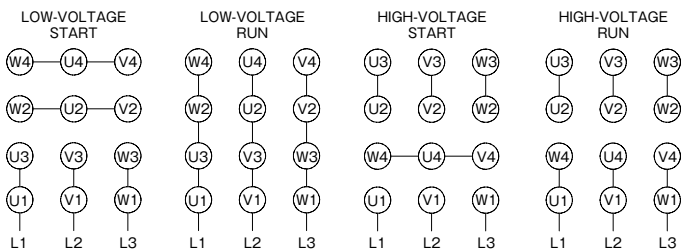
Output (kW)	A	B	C	D	E	F	G
3.7	82	45	89	27	46	1.25-4	9
5.5	126	68	133	33	60	2-5	12

Connection diagram

● Output 3.7 kW

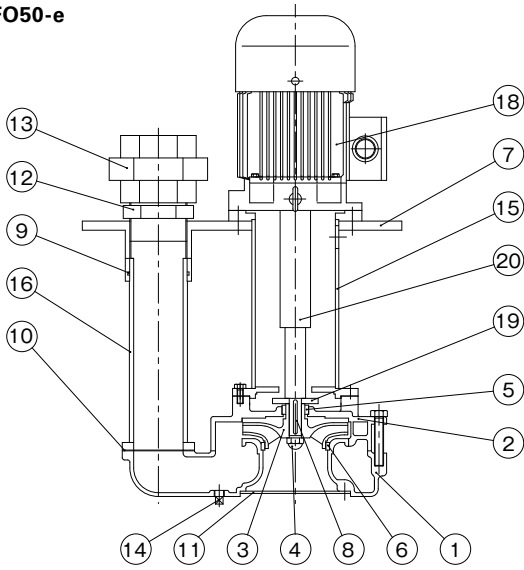


● Output 5.5 kW

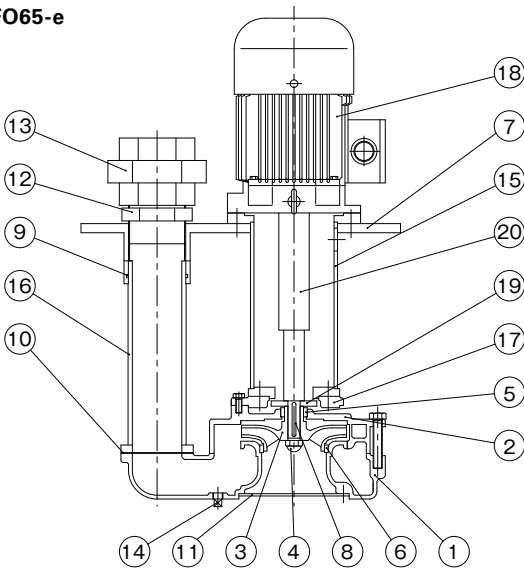


#### Sectional drawing

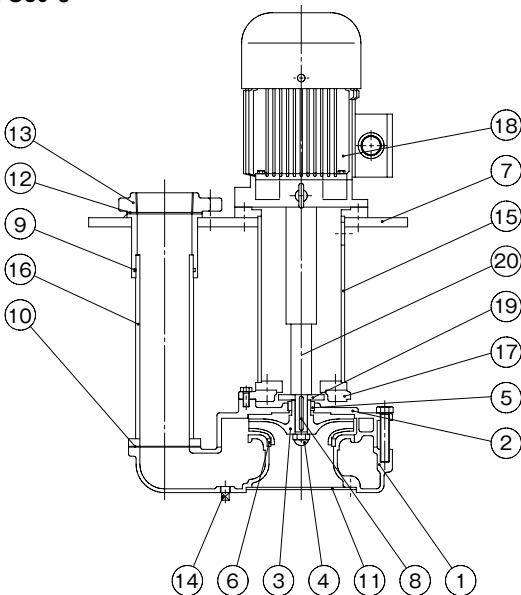
●LFO50-e



●LFO65-e



●LFO80-e



●LFO50-e/65-e

No.	Part name	Qty	Material
1	Casing	1	FC200
2	Casing cover	1	FC200
3	Impeller	1	FCD450
4	Impeller nut	1	SUS304
5	Discharge bushing	1	SUS304
6	Liner ring	1	SUS304
7	Common bed	1	SS400
8	Key	1	S35C
9	O-ring	1	NBR
10	Sheet packing	1	Three sheet
11	Strainer	1	SS400
12	Nipple	1	FC
13	Union	1	FC
14	Plug	1	SS400
15	Protection pipe	1	SGP + SS
16	Discharge pipe	1	SGP + SS
17	Connection flange <sup>Note 1</sup>	1	FC200
18	Motor	1	
19	Deflector	1	SS400
20	Main shaft	1	S35C(2.2kW or less)/ S45C(3.7kW or more)

Note 1) LFO-65-e only.

Note 2) The materials in the table above are equivalents.

Note 3) Structure and other details are subject to change without notice.

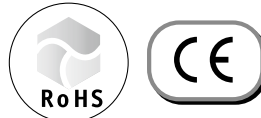
●LFO80-e

No.	Part name	Qty	Material
1	Casing	1	FC200
2	Casing cover	1	FC200
3	Impeller	1	FCD450
4	Impeller nut	1	SUS304
5	Discharge bushing	1	SUS304
6	Liner ring	1	SUS304
7	Common bed	1	SS400
8	Key	1	S35C
9	O-ring	1	NBR
10	Sheet packing	1	Three sheet
11	Strainer	1	SS400
12	Sheet packing	1	Three sheet
13	Companion flange	1	FC200
14	Plug	1	SS400
15	Protection pipe	1	SGP + SS
16	Discharge pipe	1	SGP + SS
17	Connection flange	1	FC200
18	Motor	1	
19	Deflector	1	SS400
20	Main shaft	1	S35C(2.2kW or less)/ S45C(3.7kW or more)

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

**Features**



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

- ① With a non-seal (mechanical seal-less) structure, it is easy to maintain.
- ② A motor is highly compact and light weight!!! (Compared with our product: height of the motor is reduced by 20 mm).
- ③ The lineup including the models complying with global standards by supporting efficiency and other regulations.
  - Japan : Top Runner efficiency
  - Europe : IE3 efficiency, CE marking (EU Directive)  
RoHS Directive (2011/65/EU), 10 restricted substances.
  - USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
  - Korea : Energy Efficiency Label and Standard Program (KC Standards, IE3)
  - Canada : CSA standard (efficiency), CSA standard (safety)
  - China : GB3 (GB18613-2020)
- ④ These are energy saving pumps with high efficiency impellers and IE3 efficiency motors.
- ⑤ Highly abrasion-resistant SiC bearings are adopted in the pump bearings.
- ⑥ Measures against air suction into the pump are taken when the liquid level lowers.
- ⑦ Energy-saving operation by inverter control (flow rate adjustment etc.,) is possible.

**Non-seal structure**

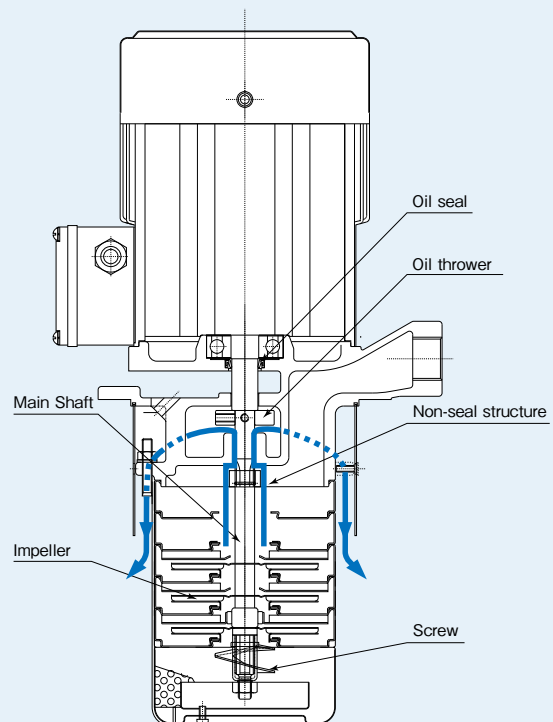
TERAL's original "non-seal" structure allows coolant to flow from a narrow clearance without using a seal between the pump section and the motor section.

**The advantages of a non-seal pump**

- 1 No trouble such as coolant leaks.**  
Helps cut down on running costs.
- 2 Prevents air entrainment.**  
Reduces initial problems.
- 3 Not easily affected by a small quantity of liquid or shut-off operations.**  
Enables a flexible operation system.

**※What is non-seal structure?**

This structure inwardly releases coolant by depressurizing through a narrow clearance without the use of a mechanical seal.



**Description of types**

**LBK 2 - 60 / 3 -F -e**

① ② ③ ④ ⑤ ⑥

- ① Model
- ② Nominal flow rate [m<sup>3</sup>/h]
- ③ Number of casings×10
- ④ Number of impellers
- ⑤ ID code H: available for high viscous liquid (models with 8 impellers only)  
 (\*Other models than the above can be used for high viscous liquid as standard.)  
 F: exclusive for 50Hz  
 None: Models other than the above
- ⑥ Motor efficiency
  - e : Top Runner efficiency (equivalent to IE3)
  - 7W: Equipped with NEMA Premium efficiency, UL/CSA certified motor (Output less than 0.75kW complies to safety standards only)
  - KS : Equipped with Korea Energy Efficiency Label and Standard Program compliant motor (IE3)

**Global standards**

Type	Standards/Regulations	Output			
		50Hz		60Hz	
		0.35kW -0.55kW	0.8kW -1.8kW	0.55kW	0.75kW -2.2kW
LBK-e	Top Runner efficiency (IE3 equivalent)	-	●	-	●
	CE Marking	●	●	●	●
	GB3(GB18613-2020)	●	●*1	X	
LBK-7W	NEMA Premium efficiency	X		-	●
	UL Standards (safety)	X		●	●
	Canada CSA standard (efficiency)	X		-	●
	Canada CSA standard (safety)	X		●	●
LBK-KS	Energy Efficiency Label and Standard Program (IE3)	X		-	●

\*1 GB certification label is attached as exclusive for GB standard. ● : Compliant  
 - : Ineligible

**Standard Specification**

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc. after secondary treatment *1
	Temperature	-10 to 90 °C (no frozen liquid)
Allowable kinematic viscosity *2		75mm <sup>2</sup> /S
Installation location		Indoor Ambient temperature: -20 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Discharge casing	FC200
	Casing Outer sleeve	SUS304
	Suction casing	SUS304
	Impeller	SUS304
	Main shaft (motor side+pump side)	S45C+SUS431
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Type	Totally enclosed fan-cooled indoor type
	Protection method	IP54
	Power source	3-phase 50/60/60Hz 200/200/230V *3
	Thermal class	F *4
	Number of poles	2P
Paint color	Pump	Munsell N1
	Motor	Black

- \*1 If the liquid contains hard sludge, such as abrasive powder, ground powder, or ground diamond grains, the service life might be shortened. Please set up a filter (magnet filter or paper filter, etc.). Take note that special liquid such as water, printing liquid or acid liquid cannot be used. Contact us for other special liquid (pure water, alkali-acid liquid, ceramic, etc.).
- \*2 Allowable kinematic viscosity for LBK2-□/8-e is 1mm<sup>2</sup>/s.  
 Allowable kinematic viscosity of -7W type is 1mm<sup>2</sup>/s.
- \*3 Korea Energy Efficiency Label and Standard Program / NEMA Premium efficiency (IE3), UL Standards (safety) : 3-phase 60Hz 200V-230V  
 GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V
- \*4 Thermal class of -7W type is class A.

**Table of Consumable Parts**

●-e type

Frequency [Hz]	Output [kW]	Bearing		Oil seal	
		Load side	Unload side	Load side	Unload side
50/60	0.35/0.55	6303ZZC3	6201ZZC3	SC16286	-
50/60	0.55/0.75				
50/60	0.8/1.1				
50	1.1				
50/60	1.2/1.5	6205ZZC3	6304ZZC3	VC20407	
50/60	1.8/2.2				

●-7W type

Frequency [Hz]	Output [kW]	Bearing		Oil seal	
		Load side	Unload side	Load side	Unload side
60	0.55	6303ZZC3	6201ZZC3	SC16286	-
60	0.75				
60	1.1				
60	1.5	6205ZZC3	6304ZZC3		
60	2.2				

●-KS type

Frequency [Hz]	Output [kW]	Bearing		Oil seal	
		Load side	Unload side	Load side	Unload side
60	0.75	6303ZZC3	6201ZZC3	SC16286	-
60	1.1				
60	1.5				
60	2.2	6205ZZC3	6304ZZC3		

**Special specification**

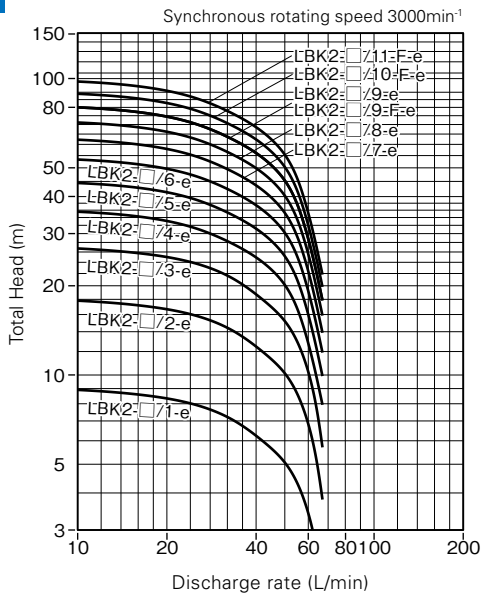
Motor modifications	Change of terminal box position
---------------------	---------------------------------

**Selection chart**

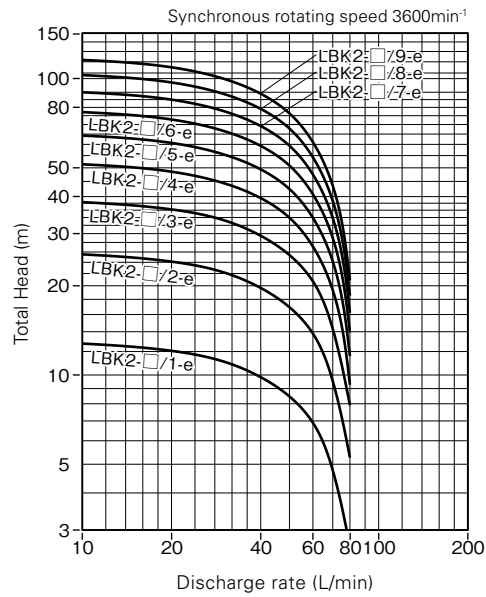
(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

● **Pressure type LBK2**

**50Hz**

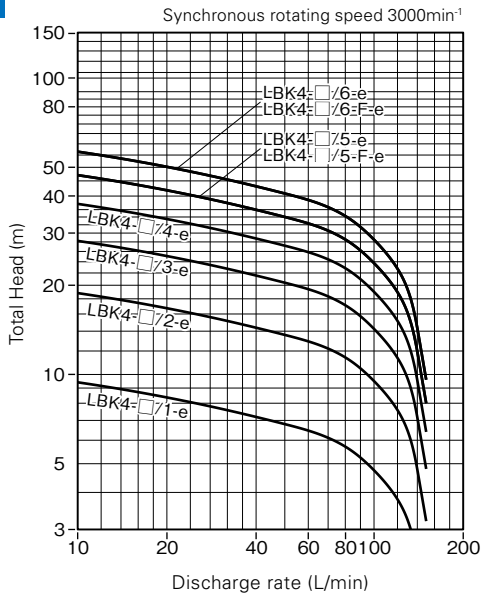


**60Hz**

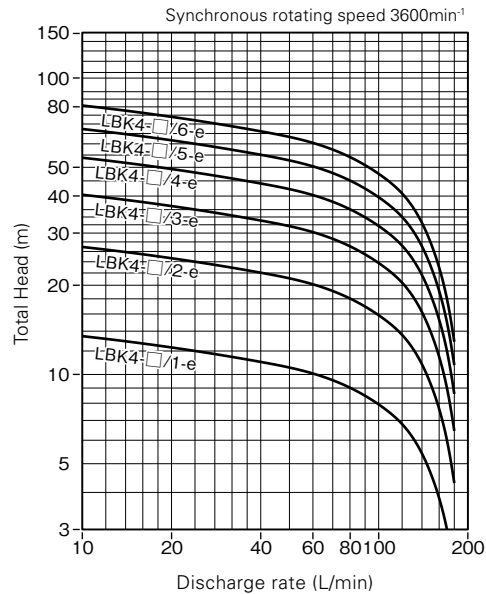


● **Flow type LBK4**

**50Hz**



**60Hz**



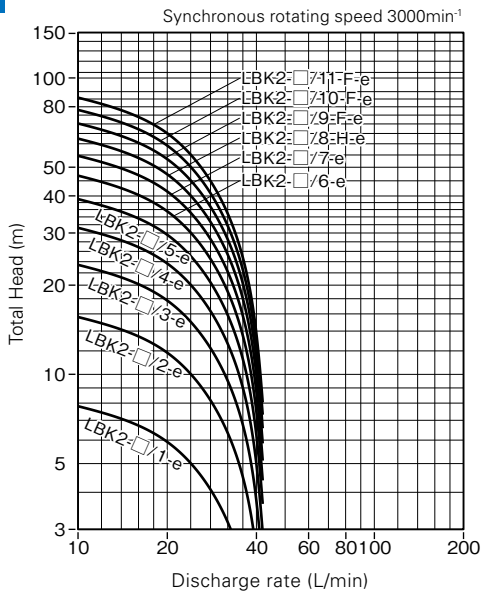
※ The specified flow may not be achieved in the large water volume range depending on the discharge pipe diameter.  
 ※ Above selection chart (-e) is also available for -KS/-7W type.

**Selection chart**

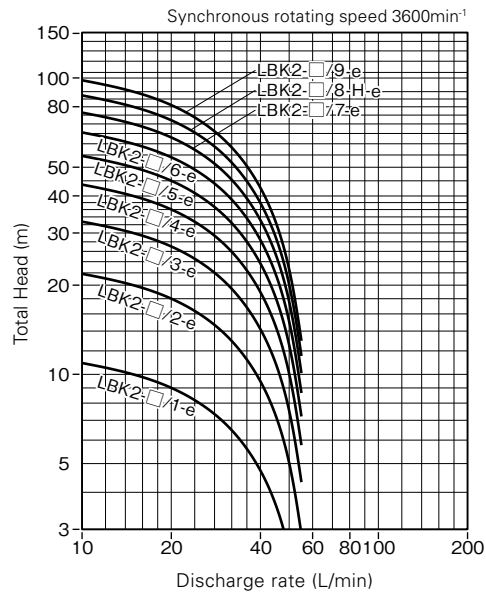
(Values at kinematic viscosity 75mm<sup>2</sup>/s, specific gravity 0.86)

**● Pressure type LBK2**

**50Hz**

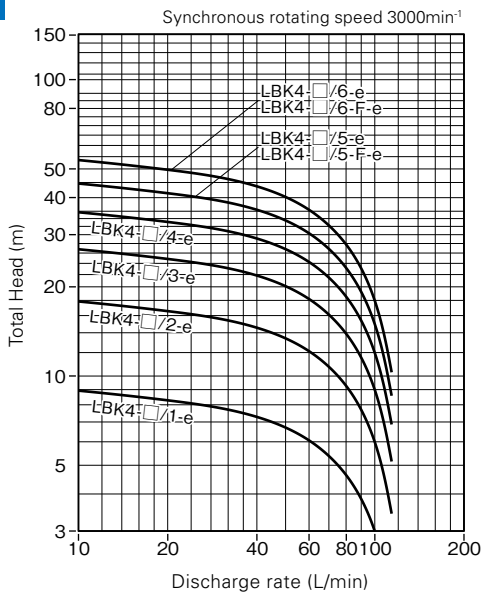


**60Hz**

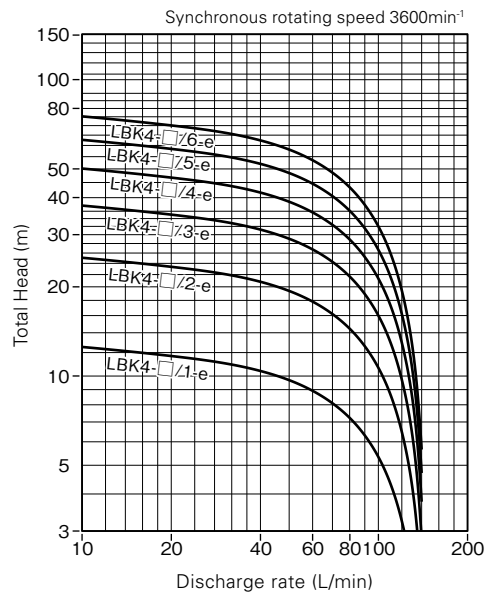


**● Flow type LBK4**

**50Hz**



**60Hz**



※ The specified flow may not be achieved in the large water volume range depending on the discharge pipe diameter.  
 ※ Above selection chart (-e) is also available for -KS/-7W type.

## Specification table

### ●-e type

Type	50Hz						60Hz					
	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
LBK2-□/1-e	200	0.35	3.5	16.4	42	6	200/230	0.55	3.5/3.5	15.5/17.9	50	8.4
LBK2-□/2-e	200	0.35	3.5	16.4	42	12	200/230	0.55	3.5/3.5	15.5/17.9	50	16.9
LBK2-□/3-e	200	0.35	3.5	16.4	42	18	200/230	0.55	3.5/3.5	15.5/17.9	50	25.4
LBK2-□/4-e	200	0.55	3.9	26	42	24	200/230	0.75	4.1/4.1	25.0/28.5	50	33.9
LBK2-□/5-e	200	0.55	3.9	26	42	30	200/230	0.75	4.1/4.1	25.0/28.5	50	42.4
LBK2-□/6-e	200	0.8	6.3	37.9	42	36	200/230	1.1	6.0/6.0	35.3/40.6	50	50.9
LBK2-□/7-e	200	0.8	6.3	37.9	42	42	200/230	1.1	6.0/6.0	35.3/40.6	50	59.3
LBK2-□/8-e	200	0.8	6.3	37.9	25	62.5	200/230	1.1	6.0/6.0	35.3/40.6	30	88.9
LBK2-□/8-H-e	200	1.2	6.2	47	42	48	200/230	1.5	7.8/7.0	41.0/47.6	50	67.8
LBK2-□/9-e	200	1.2	6.2	47	42	54	200/230	1.5	7.8/7.0	41.0/47.6	50	76.3
LBK2-□/9-F-e	200	1.1	6.2	35	42	54	-	-	-	-	-	-
LBK2-□/10-F-e	200	1.1	6.2	35	42	60	-	-	-	-	-	-
LBK2-□/11-F-e	200	1.1	6.2	35	42	66	-	-	-	-	-	-
LBK4-□/1-e	200	0.35	3.5	16.4	85	5.5	200/230	0.55	3.5/3.5	15.5/17.9	100	7.9
LBK4-□/2-e	200	0.35	3.5	16.4	85	11	200/230	0.55	3.5/3.5	15.5/17.9	100	15.9
LBK4-□/3-e	200	0.55	3.9	26	85	16.5	200/230	0.75	4.1/4.1	25.0/28.5	100	23.8
LBK4-□/4-e	200	0.8	6.3	37.9	85	21.9	200/230	1.1	6.0/6.0	35.3/40.6	100	31.7
LBK4-□/5-e	200	1.2	6.2	47	85	27.4	200/230	1.5	7.8/7.0	41.0/47.6	100	39.6
LBK4-□/6-e	200	1.8	7.4	83	85	32.9	200/230	2.2	10.5/9.7	78.0/82.6	100	47.6
LBK4-□/5-F-e	200	1.1	6.2	35	85	27.4	-	-	-	-	-	-
LBK4-□/6-F-e	200	1.1	6.2	35	85	32.9	-	-	-	-	-	-

Note 1) Discharge rate and total head are the values obtained in the test with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature).

Note 2) The pump's current (current value listed on the pump nameplate) is the recommended current setting for protection device.

### ●-e (50Hz 380V)

Type	50Hz					
	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
LBK2-□/1-e	380	0.35	1.7	9.1	42	6
LBK2-□/2-e	380	0.35	1.7	9.1	42	12
LBK2-□/3-e	380	0.35	1.7	9.1	42	18
LBK2-□/4-e	380	0.55	2.2	14	42	24
LBK2-□/5-e	380	0.55	2.2	14	42	30
LBK2-□/6-e	380	0.8	2.9	17.2	42	36
LBK2-□/7-e	380	0.8	2.9	17.2	42	42
LBK2-□/8-e	380	0.8	2.9	17.2	25	62.5
LBK2-□/8-H-e	380	1.2	3.6	31.9	42	48
LBK2-□/9-e	380	1.2	3.6	31.9	42	54
LBK2-□/9-F-e	380	1.1	3.6	19.6	42	54
LBK2-□/10-F-e	380	1.1	3.6	19.6	42	60
LBK2-□/11-F-e	380	1.1	3.6	19.6	42	66
LBK4-□/1-e	380	0.35	1.7	9.1	85	5.5
LBK4-□/2-e	380	0.35	1.7	9.1	85	11
LBK4-□/3-e	380	0.55	2.2	14	85	16.5
LBK4-□/4-e	380	0.8	2.9	17.2	85	21.9
LBK4-□/5-e	380	1.2	3.6	31.9	85	27.4
LBK4-□/6-e	380	1.8	4.1	42.7	85	32.9
LBK4-□/5-F-e	380	1.1	3.6	19.6	85	27.4
LBK4-□/6-F-e	380	1.1	3.6	19.6	85	32.9

Note 1) Discharge rate and total head are the values obtained in the test with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature).

Note 2) The pump's current (current value listed on the pump nameplate) is the recommended current setting for protection device.



**●-7W type**

Type	60Hz					
	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L-min)	Total head (m)
LBK2- □ -1-7W	200-230	0.55	3.1-3.1	15.5-17.9	50	8.4
LBK2- □ -2-7W	200-230	0.55	3.1-3.1	15.5-17.9	50	16.9
LBK2- □ -3-7W	200-230	0.55	3.1-3.1	15.5-17.9	50	25.4
LBK2- □ -4-7W	200-230	0.75	4.0-4.0	25.0/28.5	50	33.9
LBK2- □ -5-7W	200-230	0.75	4.0-4.0	25.0/28.5	50	42.4
LBK2- □ -6-7W	200-230	1.1	5.9-5.9	35.3/40.6	50	50.9
LBK2- □ -7-7W	200-230	1.1	5.9-5.9	35.3/40.6	50	59.3
LBK2- □ -8-7W	200-230	1.1	5.9-5.9	35.3/40.6	30	88.9
LBK2- □ -8-H-7W	200-230	1.5	6.4-5.8	41.0-47.6	50	67.8
LBK2- □ -9-7W	200-230	1.5	6.4-5.8	41.0-47.6	50	76.3
LBK4- □ -1-7W	200-230	0.55	3.1-3.1	15.5-17.9	100	7.9
LBK4- □ -2-7W	200-230	0.55	3.1-3.1	15.5-17.9	100	15.9
LBK4- □ -3-7W	200-230	0.75	4.0-4.0	25.0/28.5	100	23.8
LBK4- □ -4-7W	200-230	1.1	5.9-5.9	35.3/40.6	100	31.7
LBK4- □ -5-7W	200-230	1.5	6.4-5.8	41.0-47.6	100	39.6
LBK4- □ -6-7W	200-230	2.2	9.1-8.5	78.0-82.6	100	47.6

Note 1) Discharge rate and total head are the values obtained in the test with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature).

Note 2) The pump's current (current value listed on the pump nameplate) is the recommended current setting for protection device.

**●-KS type**

Type	60Hz					
	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L-min)	Total head (m)
LBK2- □ -4-KS	200-230	0.75	4.1-4.1	25.0-28.5	50	33.9
LBK2- □ -5-KS	200-230	0.75	4.1-4.1	25.0-28.5	50	42.4
LBK2- □ -6-KS	200-230	1.1	6.0-6.0	35.3-40.6	50	50.9
LBK2- □ -7-KS	200-230	1.1	6.0-6.0	35.3-40.6	50	59.3
LBK2- □ -8-KS	200-230	1.1	6.0-6.0	35.3-40.6	30	88.9
LBK2- □ -8-H-KS	200-230	1.5	7.8-7.0	41.0-47.6	50	67.8
LBK2- □ -9-KS	200-230	1.5	7.8-7.0	41.0-47.6	50	76.3
LBK4- □ -3-KS	200-230	0.75	4.1-4.1	25.0-28.5	100	23.8
LBK4- □ -4-KS	200-230	1.1	6.0-6.0	35.3-40.6	100	31.7
LBK4- □ -5-KS	200-230	1.5	7.8-7.0	41.0-47.6	100	39.6
LBK4- □ -6-KS	200-230	2.2	10.5-9.7	78.0-82.6	100	47.6

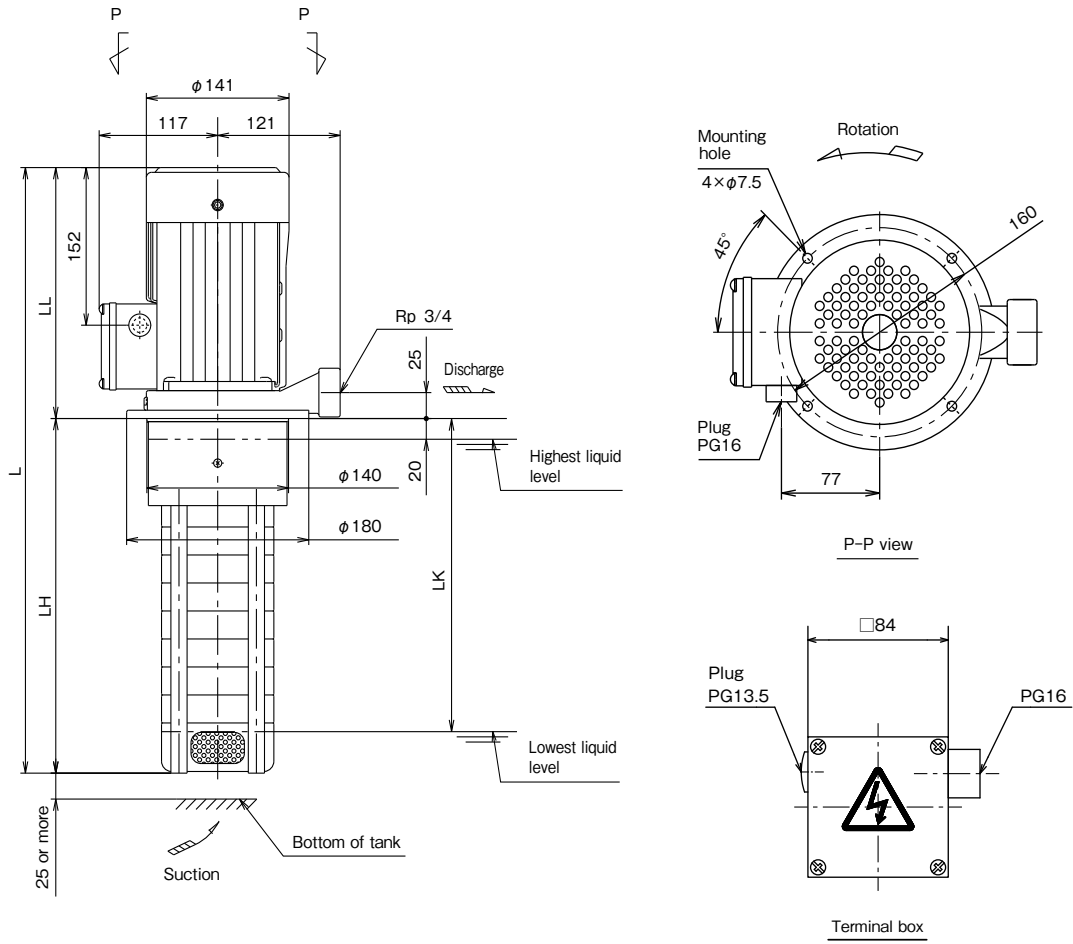
Note 1) Discharge rate and total head are the values obtained in the test with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature).

Note 2) The pump's current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing

Fig.1

●Output: 1.1kW (50/60Hz) or less



**■ Dimensions**

(Unit : mm)

Type	Fig.	L	LL	LH	LK	Approx. mass (kg)
LBK2-30/1- □	1	354	201	153	113	15
LBK2-40/1- □	1	372	201	171	131	15
LBK2-50/1- □	1	390	201	189	149	15
LBK2-60/1- □	1	408	201	207	167	15
LBK2-30/2- □	1	354	201	153	113	15
LBK2-40/2- □	1	372	201	171	131	15
LBK2-50/2- □	1	390	201	189	149	15
LBK2-60/2- □	1	408	201	207	167	15
LBK2-70/2- □	1	426	201	225	185	15
LBK2-80/2- □	1	444	201	243	203	16
LBK2-90/2- □	1	462	201	261	221	16
LBK2-100/2- □	1	480	201	279	239	16
LBK2-110/2- □	1	498	201	297	257	16
LBK2-30/3- □	1	354	201	153	113	15
LBK2-40/3- □	1	372	201	171	131	15
LBK2-50/3- □	1	390	201	189	149	15
LBK2-60/3- □	1	408	201	207	167	15
LBK2-70/3- □	1	426	201	225	185	15
LBK2-80/3- □	1	444	201	243	203	16
LBK2-90/3- □	1	462	201	261	221	16
LBK2-100/3- □	1	480	201	279	239	16
LBK2-110/3- □	1	498	201	297	257	16
LBK2-40/4- ■	1	412	241	171	131	15
LBK2-50/4- ■	1	430	241	189	149	15
LBK2-60/4- ■	1	448	241	207	167	15
LBK2-70/4- ■	1	466	241	225	185	15
LBK2-80/4- ■	1	484	241	243	203	16
LBK2-90/4- ■	1	502	241	261	221	16
LBK2-100/4- ■	1	520	241	279	239	16
LBK2-110/4- ■	1	538	241	297	257	16
LBK2-50/5- ■	1	430	241	189	149	15
LBK2-60/5- ■	1	448	241	207	167	15
LBK2-70/5- ■	1	466	241	225	185	16
LBK2-80/5- ■	1	484	241	243	203	16
LBK2-90/5- ■	1	502	241	261	221	16
LBK2-100/5- ■	1	520	241	279	239	16
LBK2-110/5- ■	1	538	241	297	257	16
LBK2-60/6- ■	1	448	241	207	167	15
LBK2-70/6- ■	1	466	241	225	185	16
LBK2-80/6- ■	1	484	241	243	203	16
LBK2-90/6- ■	1	502	241	261	221	16
LBK2-100/6- ■	1	520	241	279	239	16
LBK2-110/6- ■	1	538	241	297	257	16
LBK2-70/7- ■	1	466	241	225	185	16
LBK2-80/7- ■	1	484	241	243	203	16
LBK2-90/7- ■	1	502	241	261	221	16
LBK2-100/7- ■	1	520	241	279	239	16
LBK2-110/7- ■	1	538	241	297	257	16
LBK2-80/8- ■	1	484	241	243	203	16
LBK2-90/8- ■	1	502	241	261	221	16
LBK2-100/8- ■	1	520	241	279	239	16
LBK2-110/8- ■	1	538	241	297	257	16
LBK2-90/9-F-e	1	502	241	261	221	16
LBK2-100/9-F-e	1	520	241	279	239	16
LBK2-110/9-F-e	1	538	241	297	257	17
LBK2-100/10-F-e	1	520	241	279	239	16
LBK2-110/10-F-e	1	538	241	297	257	17
LBK2-110/11-F-e	1	538	241	297	257	17

(Unit : mm)

Type	Fig.	L	LL	LH	LK	Approx. mass (kg)
LBK4-20/1- □	1	354	201	153	113	14
LBK4-30/1- □	1	381	201	180	140	14
LBK4-40/1- □	1	408	201	207	167	14
LBK4-50/1- □	1	435	201	234	194	15
LBK4-60/1- □	1	462	201	261	221	15
LBK4-20/2- □	1	354	201	153	113	14
LBK4-30/2- □	1	381	201	180	140	14
LBK4-40/2- □	1	408	201	207	167	15
LBK4-50/2- □	1	435	201	234	194	15
LBK4-60/2- □	1	462	201	261	221	15
LBK4-70/2- □	1	489	201	288	248	15
LBK4-80/2- □	1	516	201	315	275	15
LBK4-90/2- □	1	543	201	342	302	16
LBK4-30/3- ■	1	421	241	180	140	14
LBK4-40/3- ■	1	448	241	207	167	15
LBK4-50/3- ■	1	475	241	234	194	15
LBK4-60/3- ■	1	502	241	261	221	15
LBK4-70/3- ■	1	529	241	288	248	15
LBK4-80/3- ■	1	556	241	315	275	16
LBK4-40/4- ■	1	448	241	207	167	15
LBK4-50/4- ■	1	475	241	234	194	15
LBK4-60/4- ■	1	502	241	261	221	15
LBK4-70/4- ■	1	529	241	288	248	15
LBK4-80/4- ■	1	556	241	315	275	16
LBK4-90/4- ■	1	583	241	342	302	16
LBK4-50/5-F-e	1	475	241	234	194	15
LBK4-60/5-F-e	1	502	241	261	221	15
LBK4-70/5-F-e	1	529	241	288	248	16
LBK4-80/5-F-e	1	556	241	315	275	16
LBK4-60/6-F-e	1	502	241	261	221	15
LBK4-70/6-F-e	1	529	241	288	248	16
LBK4-80/6-F-e	1	556	241	315	275	16

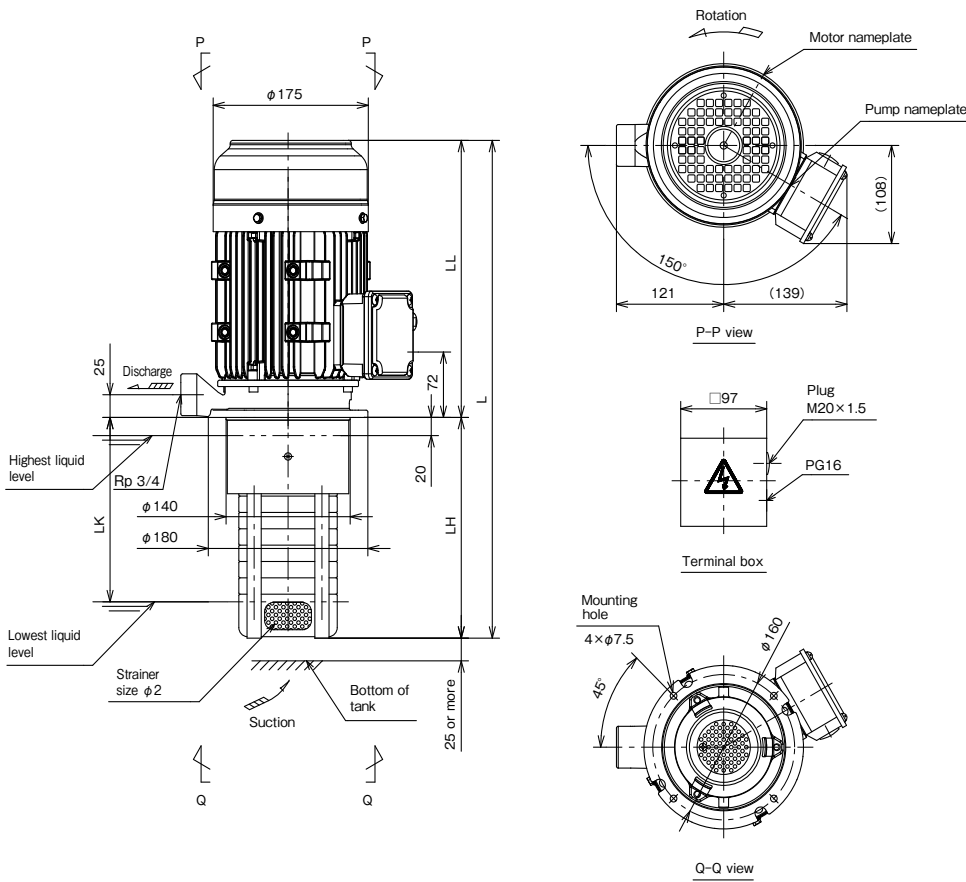
Note 1) "□" in pump type can be -e/-7W.

Note 2) "■" in pump type can be -e/-KS/-7W.

Assembly drawing

Fig.2

●Output: 1.2kW (50Hz), 1.5kW (60Hz) or more



Dimensions

(Unit : mm)

Type	Fig.	L	LL	LH	LK	Approx. mass (kg)
LBK2-80/8-H-■	2	548	305	243	203	23
LBK2-90/8-H-■	2	566	305	261	221	23
LBK2-90/9-■	2	566	305	261	221	23

(Unit : mm)

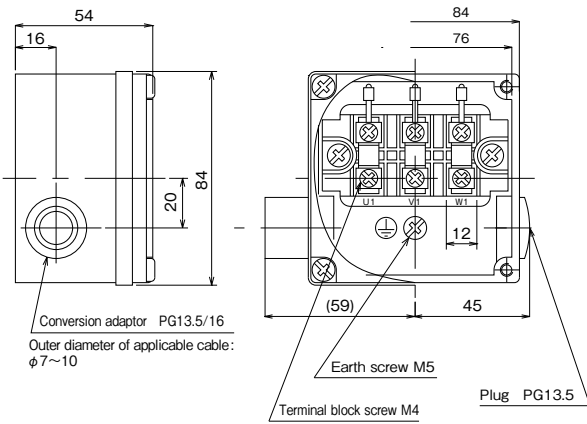
Type	Fig.	L	LL	LH	LK	Approx. mass (kg)
LBK4-50/5-■	2	539	305	234	194	22
LBK4-60/5-■	2	566	305	261	221	22
LBK4-60/6-■	2	566	305	261	221	25
LBK4-70/6-■	2	593	305	288	248	26
LBK4-80/6-■	2	620	305	315	275	26
LBK4-90/6-■	2	647	305	342	302	26

Note 1) "■" in pump type can be any one of -e/-KS/-7W.

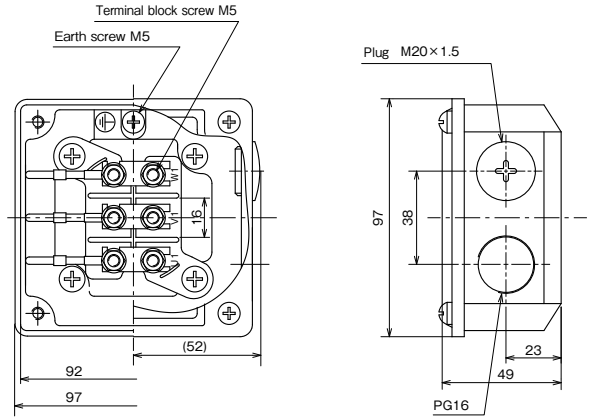
Detailed drawing of the terminal box

Assembly drawing (-e/-KS type)

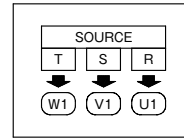
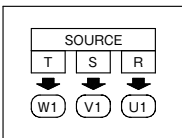
●Output: 1.1kW (50/60Hz) or less



●Output: 1.2kW (50Hz), 1.5kW (60Hz) or more

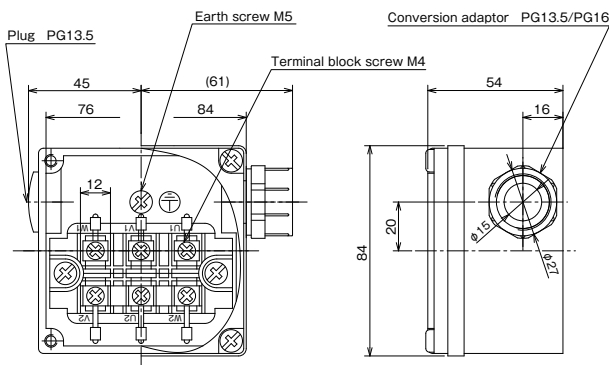


Connection diagram

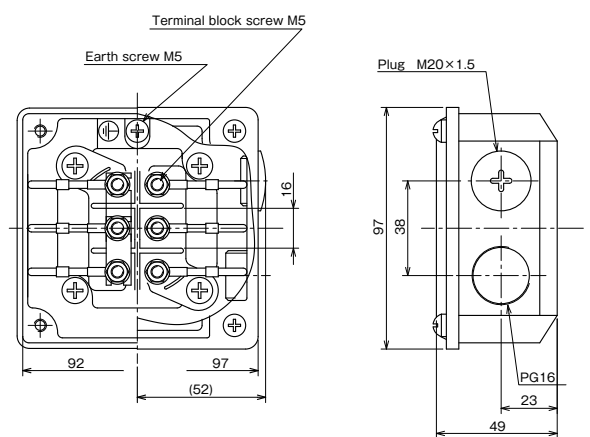


Assembly drawing -e (50Hz 380V)

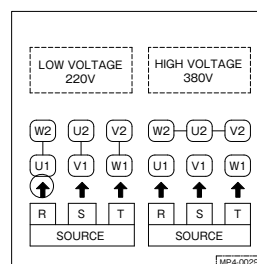
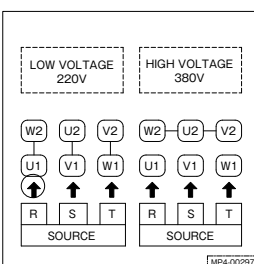
●Output: 1.1kW or less



●1.2kW or more

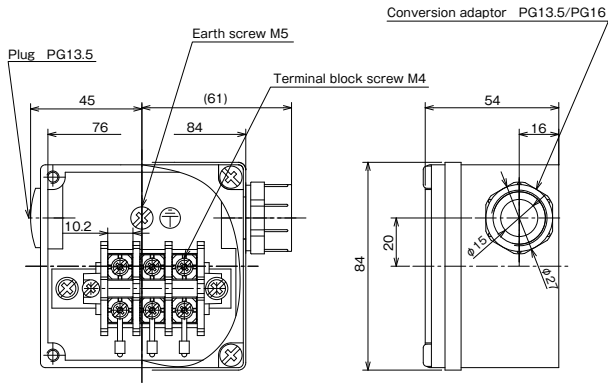


Connectin diagram

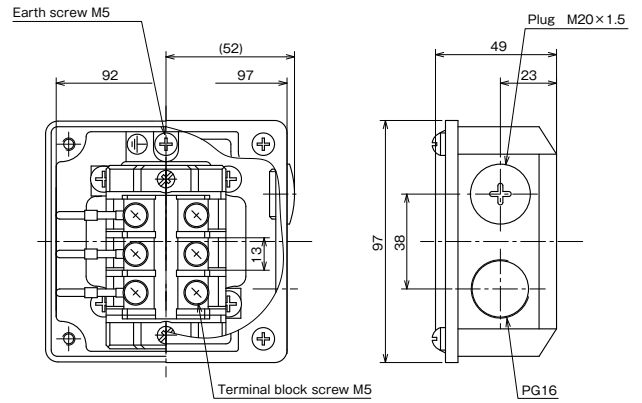


Assembly drawing (-7W type)

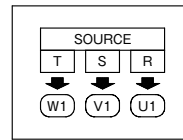
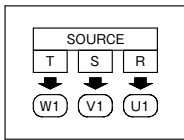
●Output: 1.1kW or less



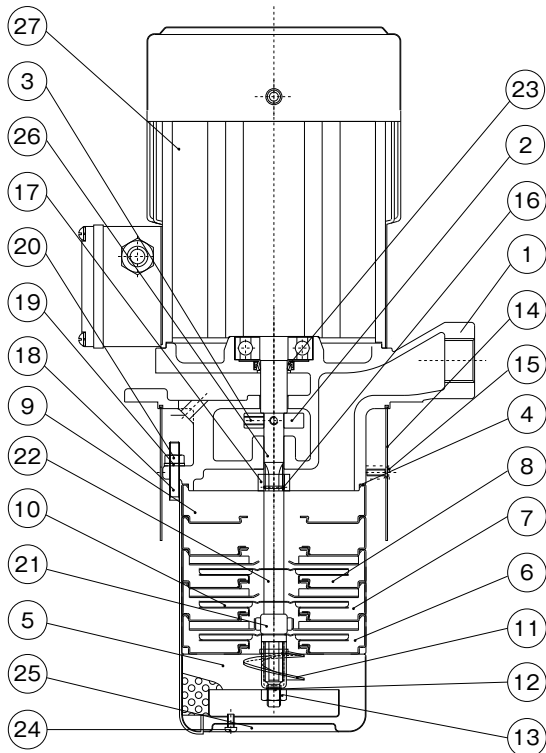
●1.5kW or more



Connection diagram



Sectional drawing



No.	Part name	Material
1	Discharge casing	FC200
2	Oil thrower	SUS304
3	Set screw	SCM435
4	Gasket	—
5	Suction casing	SUS304
6	Intermediate casing (First stage)	SUS304
7	Bearing casing	SUS304+SIC
8	Intermediate casing	SUS304
9	Intermediate casing (Last stage)	SUS304
10	Impeller	SUS304
11	Screw	SUS304
12	Washer	SUS304
13	Impeller nut	SUS304
14	Outer sleeve	SUS304
15	Cross recessed flat head screw	SUS304
16	Shaft ring	SUS316
17	Shaft pushing	SUS304
18	Bolt for fastening plate	SUS304
19	Washer	SUS304
20	Hexagon nut	SUS304
21	Bearing	SIC
22	Sleeve	SUS304
23	Oil seal	NBR
24	Cross recessed pan head screw	SUS304
25	Strainer	SUS304
26	Main shaft (motor side+pump side)	S45C+SUS431
27	Motor	—

Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.

### Features

- ① Strong and tough enough to resist dirty coolants.
- ② The impeller made of FCD material and non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ③ Mounting the inlet piping allows you to freely set the operating water level.
- ④ Can be used for high viscosity coolants.
- ⑤ The lineup including the models complying with global standards by supporting efficiency and other regulations.

Japan : Top Runner efficiency  
 Europe : IE3 efficiency, CE marking (EU Directive)  
 RoHS Directive (2011/65/EU) , 10 substances restricted  
 China : GB3 (GB18613-2020 GB3)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

### Description of types

## LPWE 40 4 A - 3.0 -e

①      ②      ③      ④      ⑤      ⑥

- ① Model
- ② Bore diameter
- ③ Number of casings
- ④ Viscosity of liquid  
 A : for low viscosity liquid  
 B : for high viscosity liquid
- ⑤ Output
- ⑥ Motor efficiency  
 -e : Top Runner efficiency (equivalent to IE3)

### Standard Specification

Bore diameter [A]		40
Used liquid	Property of liquid	Water soluble coolant, liquids of similar viscosity to water containing additives (anti-rust agents) and the like <sup>※1</sup>
	Temperature	0 to 60°C (No frozen liquid is allowed.)
Allowable kinematic viscosity		40A: 32 mm <sup>2</sup> /s or less 40B: 150 mm <sup>2</sup> /s or less
Installation location		Indoors
		Ambient temperature: 0 to 40°C; humidity:85% RH or less (no condensation)
		Height above sea level: 1,000 m or less; place not exposed to direct sunlight
Place without any corrosive gas, explosive gas, or vapor in the atmosphere		
Material	Casing (suction/discharge/middle)	FC200
	Impeller	FCD450
	Main shaft	S45C
Shaft sealig structure		Sealless structure (without mechanical seal)
Motor	Type	Totally-enclosed fan-cooled indoor type
	Protection method	IP44
	Power source <sup>※2</sup>	3-phase 50/60Hz 200/200-220V
	Thermal class	B
	Rating	Continuous (S1)
	Number of poles	2P
	Terminal box position	90°with the discharge port facing the front
Wiring inlet direction	Bottom	
Paint color		Munsell N1.5

※1 Note that the product cannot be used for water. If the liquid contains hard foreign matters or large amount of foreign matters (cutting chips), contact TERAL.

※2 GB18613-2020 : 3-phase 50Hz 200V, 50Hz 380V

### Global standards

Type	Standards/Regulations	Output	
		0.75kW-3.0kW	
LPWE-e	Top Runner efficiency (IE3 equivalent)		●
	CE Marking EU energy efficiency		●
	GB3(GB18613-2020)		● <sup>※1</sup>

※1 GB certification label is attached as exclusive for GB standard.

● : Compliant

### Special specification

Voltage change<sup>※1</sup>, change of terminal box position<sup>※2</sup>, change of terminal box direction<sup>※3</sup>, With cable inlet adapter for terminal box<sup>※4</sup>

※1 50Hz : 210V/220V/380V/400V/415V,60Hz 400V/440V

※2 Terminal box position change(Every 90°with the discharge port facing the front)

※3 Terminal box orientation (with the terminal box facing the front): wire inlet port is right or left.

※4 G3/4 conduit can be attached

### Special accessories

Companion flange ..... With O-ring, bolts and nuts  
 Eye bolt ..... 2 pcs  
 Strainer for extension pipe<sup>※1</sup>

※1 Extension pipe is not included. Available pipe diameter : 50A.

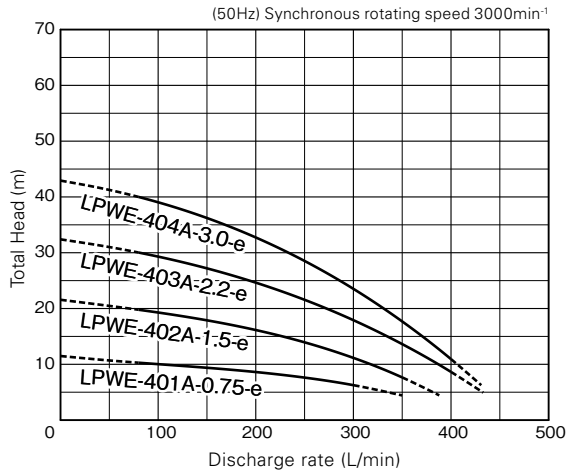
### Table of Consumable Parts

Output (kW)	Bearing		Oil seal
	Load side	Unload side	
0.75	6306ZZC3	6203CXZZC3 (Anti-creep)	AG1705E
1.5		6204CXZZC3 (Anti-creep)	
2.2			
3.0			

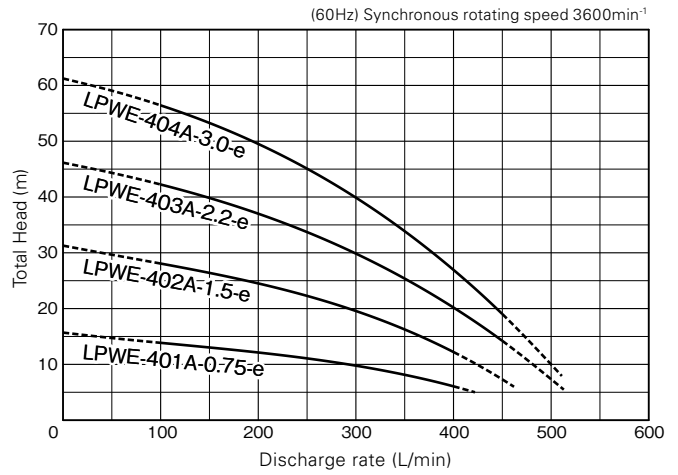
Selection chart

● For low viscosity liquid (Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

50Hz

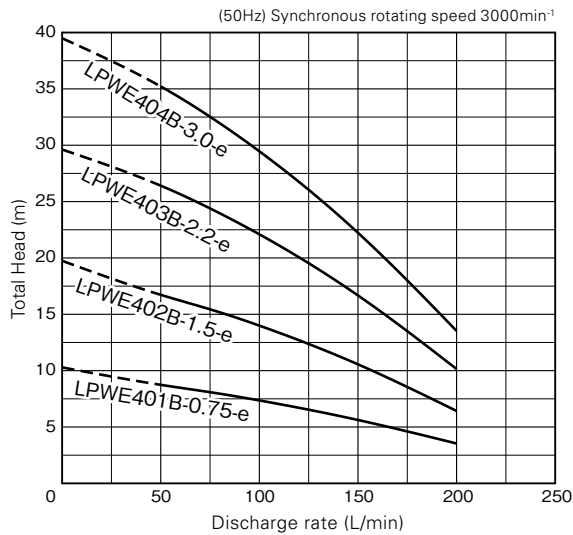


60Hz

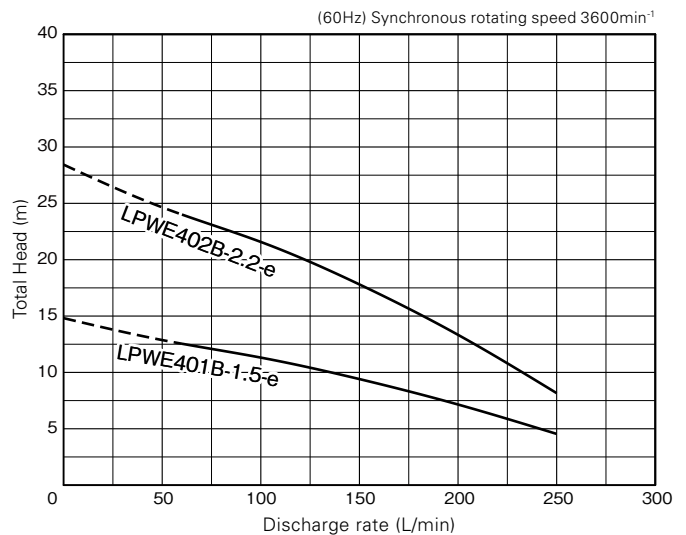


● For high-viscosity liquid (Value at 150 mm<sup>2</sup>/s kinematic viscosity, specific gravity 1)

50Hz



60Hz





Specification table

● LPWE-e

Bore diameter (mm)	Frequency (Hz)	Used liquid	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Standard specification	
								Applied flow rate range L/min	Total head (m)
40	50	For low viscosity liquid	0.75	LPWE401A-0.75-e	200	3.6	28	80-300	10.3-6.3
			1.5	LPWE402A-1.5-e	200	6.1	64	80-350	19.8-7.6
			2.2	LPWE403A-2.2-e	200	8.6	86	80-400	30.0-8.6
			3	LPWE404A-3.0-e	200	12.6	164		40.0-10.9
		For high-viscosity liquid	0.75	LPWE401B-0.75-e	200	3.5	28	50-200	8.7-3.5
			1.5	LPWE402B-1.5-e	200	6.2	64		16.7-6.4
			2.2	LPWE403B-2.2-e	200	9.0	86		26.4-10.1
			3	LPWE404B-3.0-e	200	12.5	164		35.2-13.5
	60	For low viscosity liquid	0.75	LPWE401A-0.75-e	200/220	4.0	27/29	100-400	13.9-6.1
			1.5	LPWE402A-1.5-e	200/220	7.5	61/68		28.1-12.2
			2.2	LPWE403A-2.2-e	200/220	10.0	79/87	100-450	42.2-14.2
			3	LPWE404A-3.0-e	200/220	14.0	129/144		56.4-19.0
		For high-viscosity liquid	1.5	LPWE401B-1.5-e	200/220	6.0	61/68	50-250	12.5-4.5
			2.2	LPWE402B-2.2-e	200/220	8.4	79/87		24.0-8.2

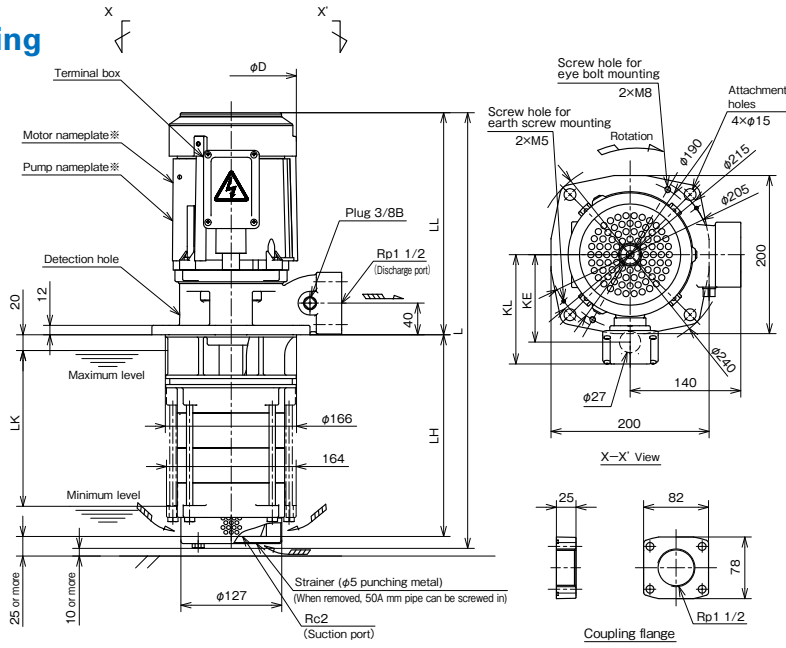
Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

● LPWE-e (50Hz 380V)

Bore diameter (mm)	Frequency (Hz)	Used liquid	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Standard specification	
								Applied flow rate range L/min	Total head (m)
40	50	For low viscosity liquid	0.75	LPWE401A-0.75-e	380	2.0	13	80-300	10.3-6.3
			1.5	LPWE402A-1.5-e	380	3.1	33	80-350	19.8-7.6
			2.2	LPWE403A-2.2-e	380	5.0	43	80-400	30.0-8.6
			3	LPWE404A-3.0-e	380	6.0	73		40.0-10.9
		For high-viscosity liquid	0.75	LPWE401B-0.75-e	380	2.0	13	50-200	8.7-3.5
			1.5	LPWE402B-1.5-e	380	3.1	33		16.7-6.4
			2.2	LPWE403B-2.2-e	380	5.0	43		26.4-10.1
			3	LPWE404B-3.0-e	380	6.2	73		35.2-13.5

Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing



※ The product with GB3 motor has an additional certification nameplate and the nameplate position is different.

Dimensions

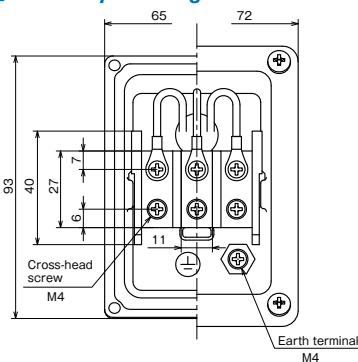
(Unit : mm)

Bore diameter (mm)	Frequency (Hz)	Used liquid	Type	φ D	KL	KE	L	LH	LK	LL	Approx. mass (kg)
40	50	For low viscosity liquid	LPWE401A-0.75-e	170	139	111	551	255	197	281	31
			LPWE402A-1.5-e	195	145	117	584	255	197	314	38
			LPWE403A-2.2-e	195	145	117	594	255	197	324	48
		LPWE404A-3.0-e	195	145	117	668	299	241	354	52	
		For high-viscosity liquid	LPWE401B-0.75-e	170	139	111	551	255	197	281	31
			LPWE402B-1.5-e	195	145	117	584	255	197	314	38
	LPWE403B-2.2-e		195	145	117	594	255	197	324	48	
	60	For low viscosity liquid	LPWE404B-3.0-e	195	145	117	668	299	241	354	52
			LPWE401A-0.75-e	170	139	111	551	255	197	281	31
			LPWE402A-1.5-e	195	145	117	584	255	197	314	38
LPWE403A-2.2-e			195	145	117	594	255	197	324	48	
For high-viscosity liquid		LPWE404A-3.0-e	195	145	117	668	299	241	354	52	
		LPWE401B-1.5-e	195	145	117	584	255	197	314	37	
			LPWE402B-2.2-e	195	145	117	594	255	197	324	47

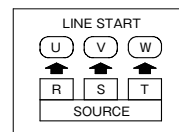
※ Above specification is also available for different voltage specification.

Detailed drawing of the terminal box

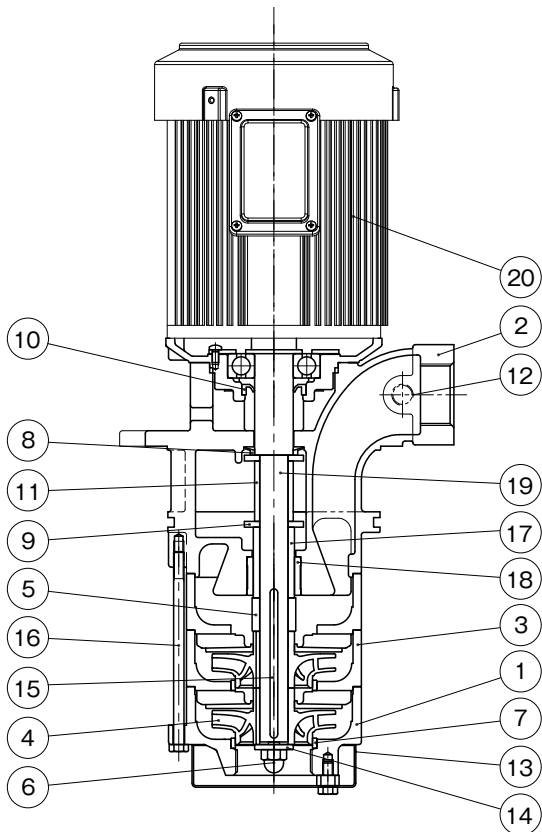
Assembly drawing



Connection diagram



Sectional drawing



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Impeller	2	FCD450
5	Shaft spacer	1	STKM
6	Impeller nut	1	SUS304
7	Liner ring	2	SUS304
8	Deflector	1	NBR
9	Deflector	2	SPHC
10	Oil seal	1	NBR
11	Collar	1	STKM
12	Plug	1	SWCH
13	Strainer	1	SS400
14	Washer	1	SUS304
15	Key	1	SUS403
16	Through bolt	4	SS400
17	Shaft sleeve	1	SUS440C
18	Discharge bushing	1	SKD11
19	Motor shaft	1	S45C
20	Motor	1	—

Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.  
 Applicable models : LPWE402A(B)-1.5-e · LPWE402B-2.2-e

Features

- ① Strong and tough enough to resist dirty coolants.
- ② The impeller made of FCD material and non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ③ Mounting the inlet piping allows you to freely set the operating water level (LPW65-e).
- ④ Can be used for high viscosity coolants (LPW40-7W/LPW65-e).
- ⑤ The lineup including the models complying with global standards by supporting efficiency and other regulations.

Japan : Top Runner efficiency

USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Description of types

Bore diameter 40mm **LPW 40 1 C - 0.75 -7W**

① ② ③ ⑤ ⑦ ⑨

Bore diameter 50/65mm **LPW 65 3 /2 A - 6 5.5 L -e**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ① Model
- ② Bore diameter
- ③ Number of casings
- ④ Number of impellers  
(blank if number is equal to number of casings)
- ⑤ Viscosity of liquid  
A,C : for low viscosity liquid  
D : for high viscosity liquid
- ⑥ Frequency 5:50Hz 6:60Hz
- ⑦ Output
- ⑧ ID code
- ⑨ Motor efficiency  
-e : Top Runner efficiency (equivalent to IE3)  
-7W : UL approved motor (3.0kW or less is NEMA Premium efficiency)

Standard Specification

<b>Bore diameter</b>		40mm	50mm	65mm
<b>Used liquid</b>	<b>Property of liquid</b>	Coolants of the kinematic viscosity equivalent to that of water-soluble coolants or water containing an additive (anticorrosive, etc.) <sup>*1</sup>		Water-soluble coolant liquid <sup>*1</sup>
	<b>Temperature</b>	0 to 60°C (No frozen liquid)		
	<b>Allowable kinematic viscosity</b>	40C : 32mm <sup>2</sup> /s 40D : 150mm <sup>2</sup> /s	1mm <sup>2</sup> /s	
<b>Installation location</b>		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.		
<b>Material</b>	<b>Casing Suction • Discharge • Intermediate</b>	FC200		
	<b>Impeller</b>	FCD450		
	<b>Shaft</b>	S35C	S45C	
<b>Shaft seal structure</b>		Non-seal (mechanical seal-less)		
<b>Motor</b>	<b>Power source</b>	3-phase 50/60/60Hz 200/200/220V <sup>*2*</sup>		
	<b>Type</b>	Totally enclosed fan-cooled indoor type	Totally enclosed fan-cooled outdoor type <sup>*4</sup>	
	<b>Protection method</b>	IP54	IP44	IP55
	<b>Thermal class</b>	F		
	<b>Rating</b>	Continuous		
	<b>Number of poles</b>	2P		
<b>Paint color</b>		Munsell N1.5		

\*1 Avoid using the pump with water. Contact us when using the unit for coolant containing foreign substances with high hardness or a large amount of foreign substances including chips.

\*2 NEMA Premium efficiency (IE3), UL Standards (safety) : 60Hz 208/230/460V

\*3 LPW65-e: 3-phase 50/60/60Hz 200/200/230V

\*4 The pump cannot be used outdoors.

Special specification

Shaft seal structure change (wear resistance improvement)
---

Table of Consumable Parts

Output (kW)	Specification	Bearing		Oil seal	
		Load side	Unload side	Load side	Unload side
1.5	-e	6306ZZC3	6303ZZC3	VC30508	—
5.5		6309ZZC3	6306ZZC3	VC45628	VC30528
7.5		6309ZZC3	6306ZZC3		
0.75	-7W	6306ZZC3	6203ZZCM	SC30457	HM25385
1.5		6306ZZC3	6205ZZCM		
2.2		6306ZZC3	6205ZZCM		
3.0		6307ZZC3	6205ZZCM		

Bore diameter (mm)	O-ring (for companion flange)	O-ring (for water seal plate)
50	S67	—
65	—	S56

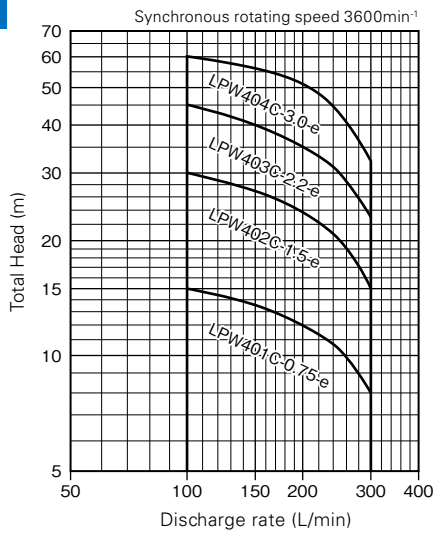
Selection chart

● LPW40-7W

● For low viscosity liquid

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

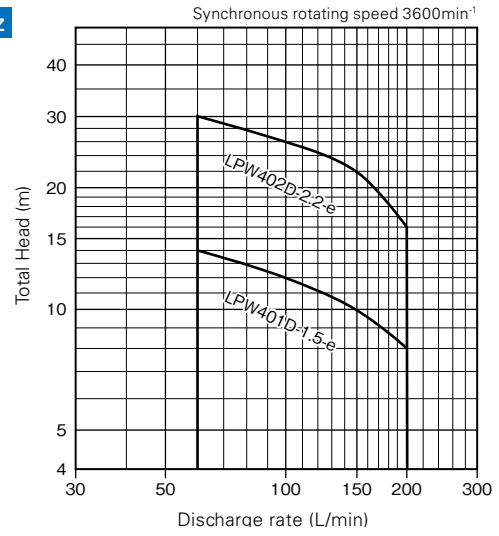
60Hz



● For high-viscosity liquid

(Value at 150 mm<sup>2</sup>/s kinematic viscosity, specific gravity 1)

60Hz



Specification table

● LPW40-7W

Bore diameter (mm)	Frequency (Hz)	Used liquid	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
40	60	For low viscosity liquid	0.75	LPW401C-0.75-7W	208/230/460	4.0/3.9/2.0	33.9/38.0/19.0	100-300	15-8
			1.5	LPW402C-1.5-7W	208/230/460	6.5/6.0/3.1	47.3/52.0/26.0		30-15
			2.2	LPW403C-2.2-7W	208/230/460	8.9/8.5/4.3	74.8/83.0/41.5		45-23
			3.0	LPW404C-3.0-7W	208/230/460	12.5/11.8/6.0	119.4/130/65.0		64-32
		For high-viscosity liquid	1.5	LPW401D-1.5-7W	208/230/460	6.5/6.0/3.1	47.3/52.0/26.0	60-200	14-8
			2.2	LPW402D-2.2-7W	208/230/460	8.9/8.5/4.3	74.8/83.0/41.5		30-16

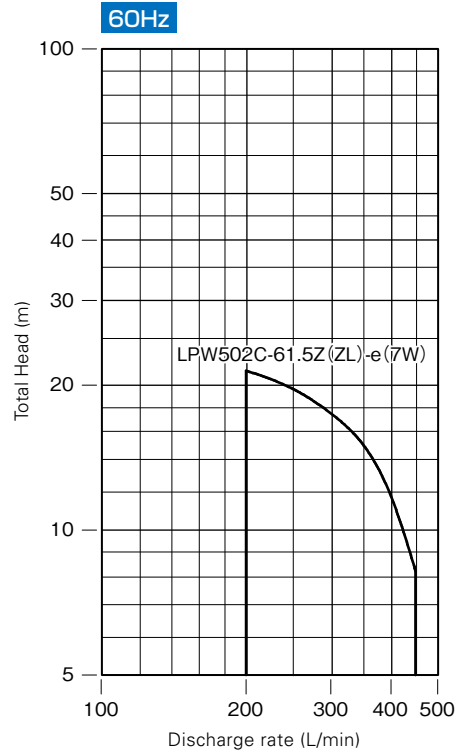
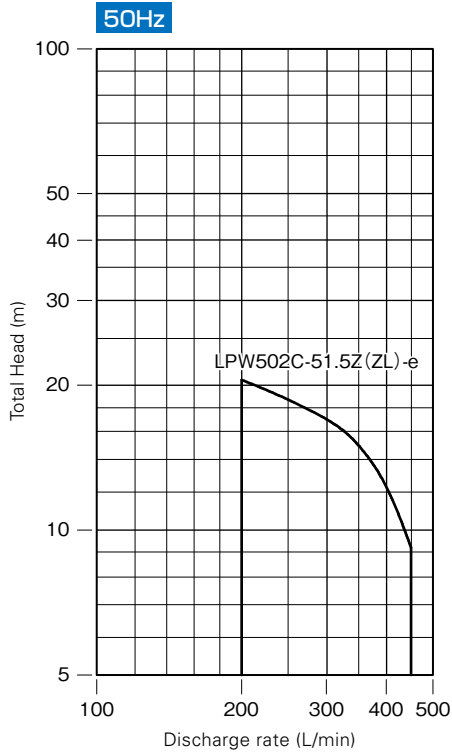
Note 1) Discharge rate and total head are the values obtained in the tests with a liquid viscosity of 1mm<sup>2</sup>/s (same as fresh water at normal temperature).

Note 2) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Selection chart

● LPW50

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)



Specification table

● LPW50

Bore diameter (mm)	Frequency (Hz)	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
50	50	1.5	LPW502C-51.5Z-e	200	6.6	66.0	200-450	20.5-9
			LPW502C-51.5ZL-e					
	60		LPW502C-61.5Z-e	200/220	6.5/6.0	64.0/70.0		21-8
			LPW502C-61.5ZL-e					
			LPW502C-61.5ZL-7W					

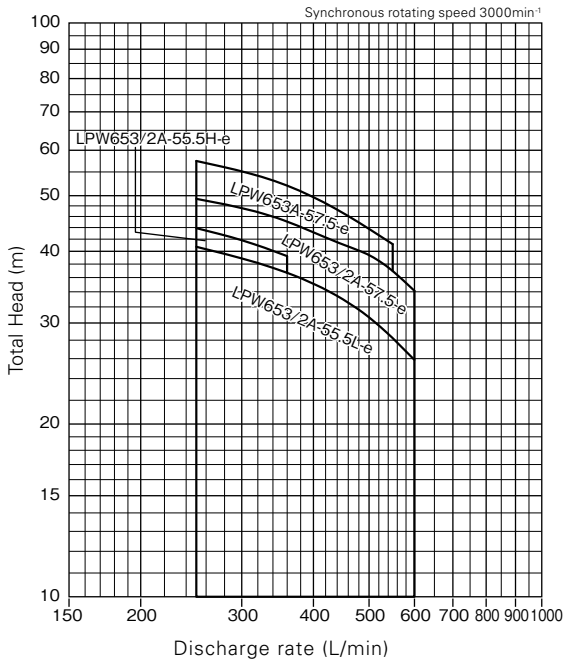
Note) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Selection chart

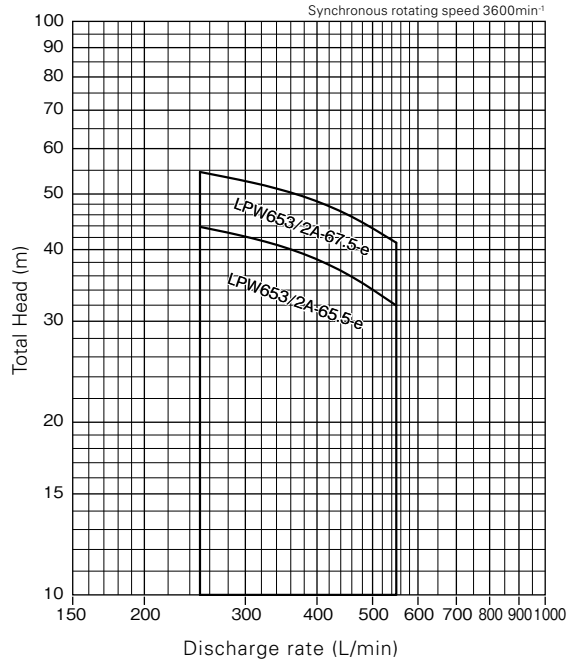
● LPW65

● For low viscosity liquid (Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

50Hz



60Hz



Specification table

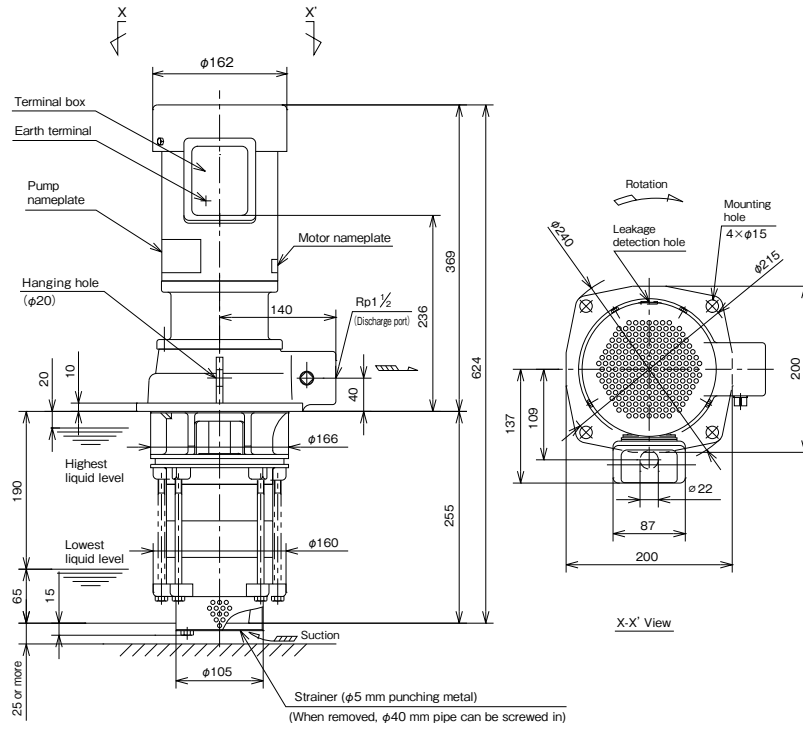
● LPW65

Bore diameter (mm)	Frequency (Hz)	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
65	50	5.5	LPW653/2A-55.5L-e	200	20.3	204	250-600	40.7-25.9
		5.5	LPW653/2A-55.5H-e		20.3	204	250-360	43.9-39.2
		7.5	LPW653/2A-57.5-e		27.2	288	250-600	49.4-34.1
		7.5	LPW653A-57.5-e		27.2	288	250-550	57.5-41.2
	60	5.5	LPW653/2A-65.5-e	200/230	19.8/17.8	178/206	250-550	43.8-32.0
		7.5	LPW653/2A-67.5-e		26.5/23.7	254/295	250-550	54.6-41.1

Note) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

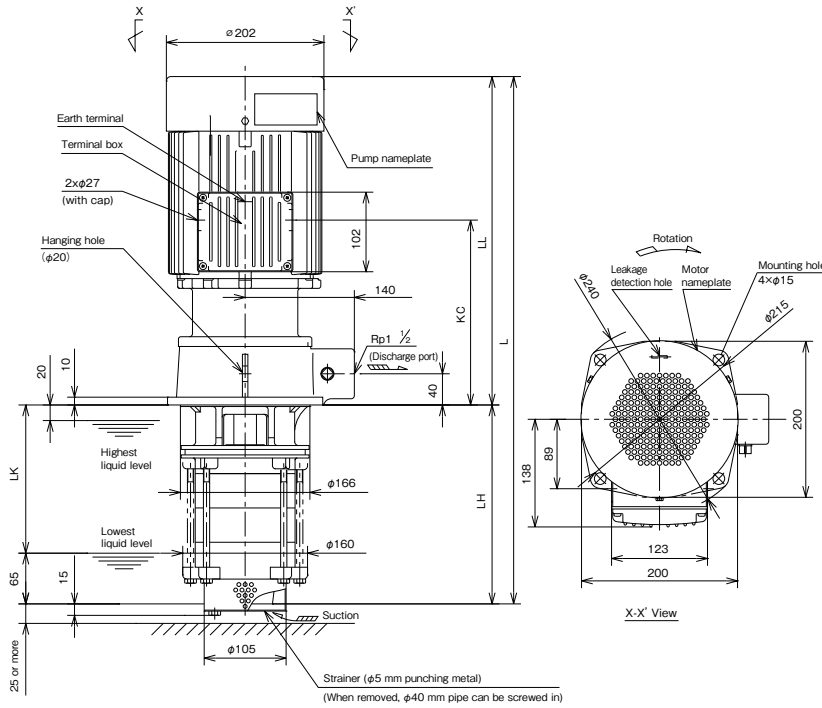
Assembly drawing

●LPW40-7W 0.75kW



Approx.mass 35Kg

●LPW40-7W 1.5kW or more



Dimensions

●LPW40-7W 1.5kW or more

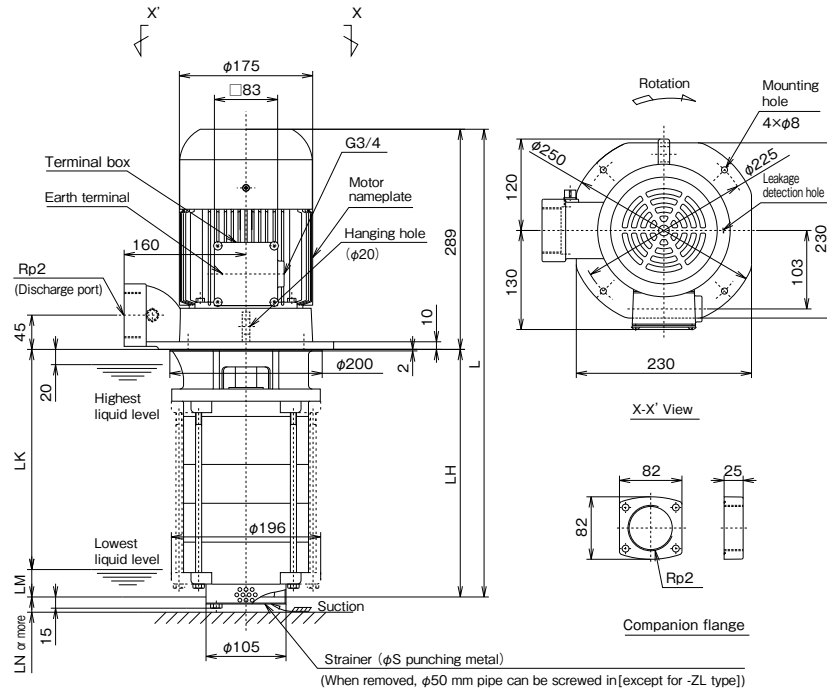
(Unit : mm)

Bore diameter	Frequency (Hz)	Used liquid	Type	KC	L	LH	LK	LL	Approx. mass(kg)
40	60	For low viscosity	LPW402C-1.5-7W	237	676	255	190	421	45
			LPW403C-2.2-7W	237	676	255	190	421	52
			LPW404C-3.0-7W	240	743	299	234	444	59
		For high viscosity	LPW401D-1.5-7W	237	676	255	190	421	44
			LPW402D-2.2-7W	237	676	255	190	421	51



Assembly drawing

●LPW50-e



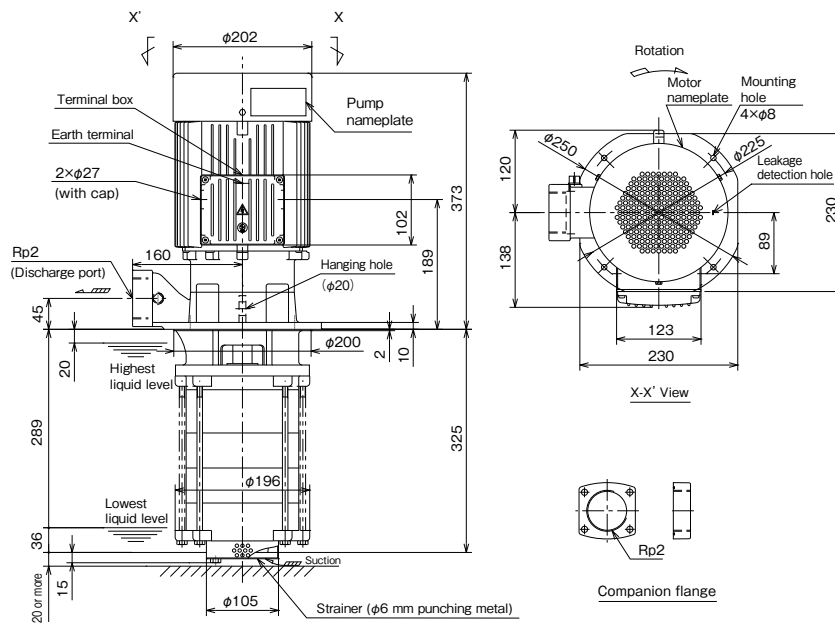
Dimensions

●LPW50-e

(Unit : mm)

Bore diameter	Frequency (Hz)	Type	LH	LK	LM	LN	L	S	Approx. mass(kg)
50	50	LPW502C-51.5Z-e	219	168	51	25	508	6	40
	60	LPW502C-61.5Z-e							
	50	LPW502C-51.5ZL-e	325	289	36	20	614	6	45
	60	LPW502C-61.5ZL-e							

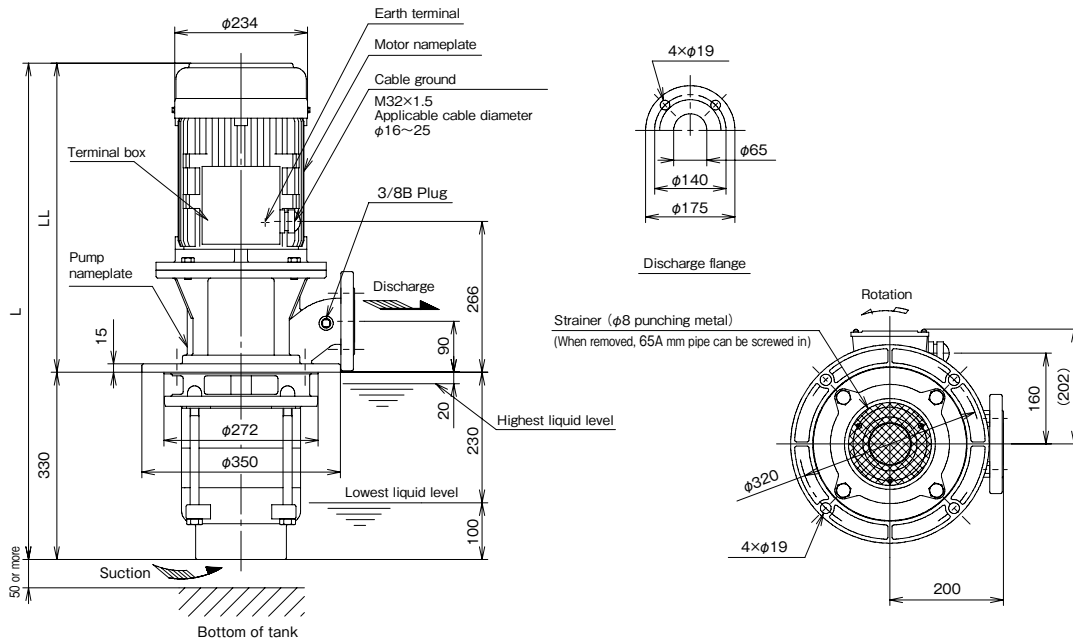
●LPW502C-61.5ZL-7W



Approx.mass 55Kg

Assembly drawing

●LPW65-e



Dimensions

●LPW65-e

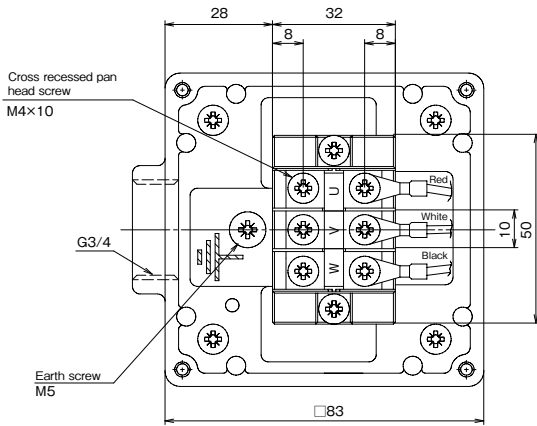
(Unit : mm)

Bore diameter	Frequency (Hz)	Type	LL	L	Approx. mass(kg)
65	50	LPW653/2A-55.5L-e	545	875	97
		LPW653/2A-55.5H-e			97
		LPW653/2A-57.5-e	585	915	100
		LPW653A-57.5-e			102
	60	LPW653/2A-65.5-e	545	875	97
		LPW653/2A-67.5-e	585	915	100

Detailed drawing of the terminal box

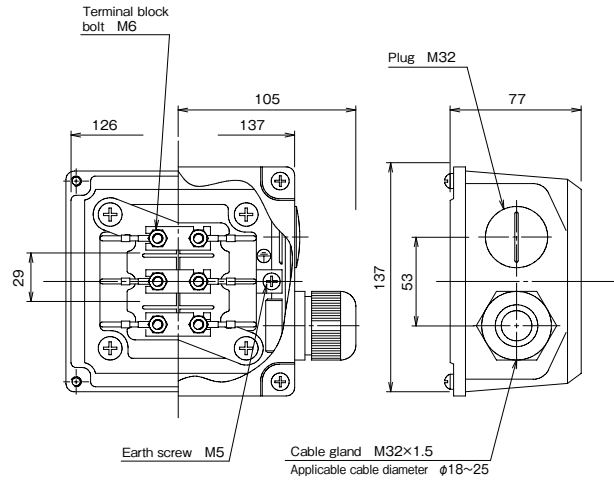
● LPW50-e

■ Assembly drawing



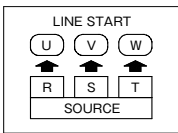
● LPW65-e

■ Assembly drawing



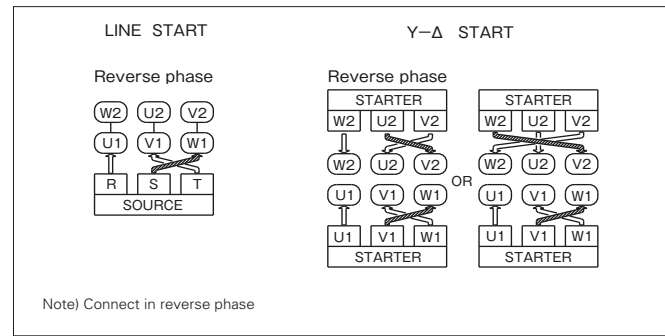
● LPW50-e

■ Connection diagram



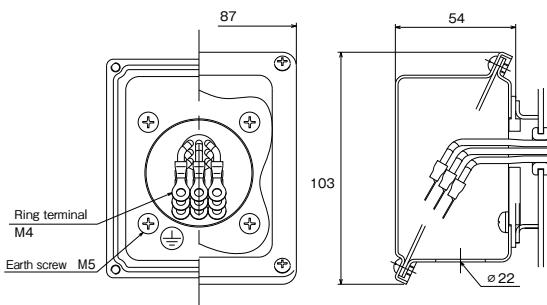
● LPW65-e

■ Connection diagram



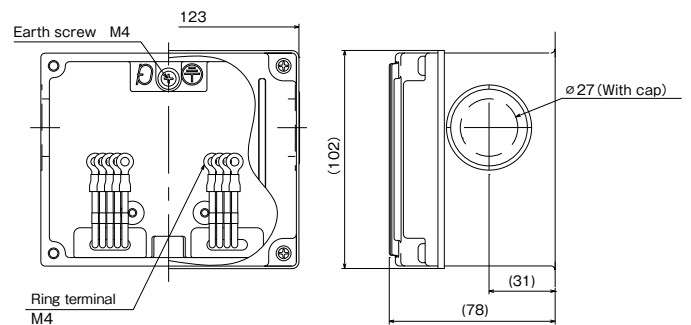
● LPW-7W 0.75kW

■ Assembly drawing



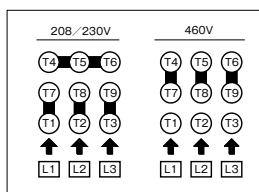
● LPW-7W 1.5kW or more

■ Assembly drawing



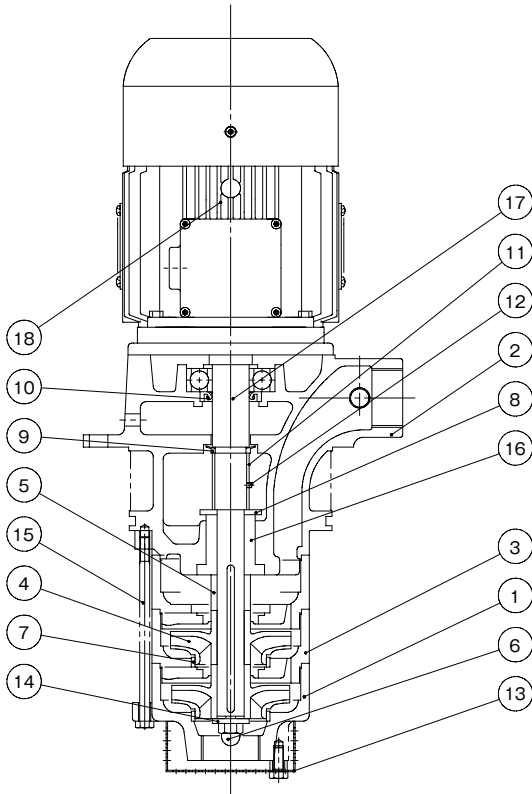
● LPW-7W Full output

■ Connection diagram



Sectional drawing

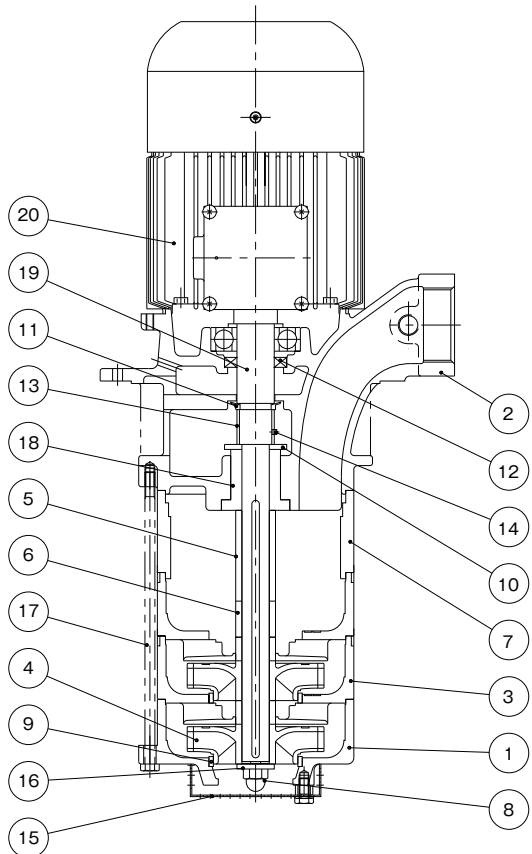
●LPW40-7W



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Impeller	2	FCD450
5	Shaft spacer	1	STKM
6	Impeller nut	1	SUS304
7	Liner ring	2	SUS304
8	Deflector	1	SS400
9	Deflector	1	NBR
10	Oil seal	1	NBR
11	Collar	1	STKM
12	Hexagon socket set screw	1	SCM435
13	Strainer	1	SPCC
14	Washer	1	SUS420J1
15	Through bolt	4	SS400
16	Shaft sleeve	1	FCD450
17	Main shaft	1	S35C
18	Motor	1	

Note 1) The materials in the table above are equivalents.  
Note 2) Structure and other details are subject to change without notice.

●LPW50-ZL

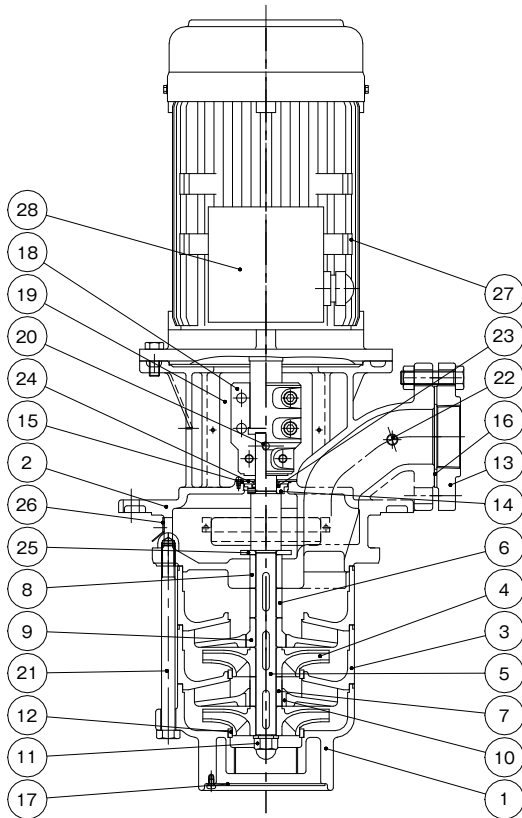


No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Impeller	2	FCD450
5	Shaft spacer	1	STKM
6	Shaft spacer	1	STKM
7	Intermediate spacer	1	STKM
8	Impeller nut	1	SUS304
9	Liner ring	2	SUS304
10	Deflector	1	SS400
11	Deflector	1	NBR
12	Oil seal	1	NBR
13	Collar	1	STKM
14	Hexagon socket set screw	1	SCM435
15	Strainer	1	SS400
16	Washer	1	SUS420J1
17	Through bolt	4	SS400
18	Shaft sleeve	1	FCD450
19	Main shaft	1	S35C
20	Motor	1	

Note 1) The materials in the table above are equivalents.  
Note 2) Structure and other details are subject to change without notice.

Sectional drawing

●LPW65



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Impeller	2	FCD450
5	Main shaft	1	S45C
6	Shaft sleeve A	1	SUS304
7	Shaft sleeve B	1	SiC
8	Shaft sleeve C	1	SUS304
9	Shaft sleeve D	1	SUS304
10	Intermediate bushing	1	SiC
11	Impeller nut	1	SUS304
12	Liner ring	2	SUS304
13	Companion flange	1	FC200
14	Deflector	1	C3604B
15	O-ring	1	NBR
16	Sheet packing	1	NBR
17	Strainer	1	SPCC
18	Coupling	1	FC200
19	Coupling cover	2	SUS304
20	Hexagon socket set screw	1	SCM435
21	Through bolt	4	SS400
22	Plug	1	SS400
23	V-ring	1	FKM
24	Coolant sealing plate	1	SUS304
25	Deflector	1	SUS304
26	Cover	3	SUS304
27	Motor	1	
28	Terminal box	1	ADC12

Applicable models : 50Hz LPW653/2A-55.5L-□, LPW653/2A-55.5H-□, LPW653/2A-57.5-□  
60Hz LPW653/2A-65.5-□, LPW653/2A-67.5-□

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

**Features**

- ① Energy-saving pump equipped with a Top Runner (equivalent to IE3) motor.
- ② As the immersion length is as short as 330mm in all models, tank depths can be reduced.
- ③ Serial operation allows generating up to 3.92 MPa.\*
- ④ The fluid level during operation can be adjusted as preferred by connecting the intake piping.
- ⑤ Non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ⑥ Stainless steel and special resin with high reliability are used in the pump's main unit.
- ⑦ The mounting dimension is compatible with conventional models.

\*The value is for reference only.



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

**Description of types**

**LKW 20 09 -6 3.0 D -e**

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦

- ① Model
- ② Bore diameter
- ③ Number of impellers
- ④ Frequency 5: 50Hz 6: 60Hz
- ⑤ Output
- ⑥ Operating method  
None: single operation  
D : series operation
- ⑦ Motor efficiency Top Runner (equivalent to IE3)

**Standard Specification**

Used liquid	Property of liquid	Water-soluble coolant liquid
	Temperature	0 to 60°C (No frozen liquid)
	Allowable kinematic viscosity	1mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Suction cover - Discharge casing	FC200
	Intermediate casing	ARLS* +SUS304
	Impeller	ARLS*
	Shaft	S35C
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Power source	3-phase 50/60/60 Hz, 200/200/220 V
	Type	Totally enclosed fan-cooled indoor type
	Protection method	IP44
	Thermal class	F
	Rating	Continuous
	Number of poles	2P
Paint color		Munsell N1.5

\* Special polyamide resin reinforced with glass fiber, etc.

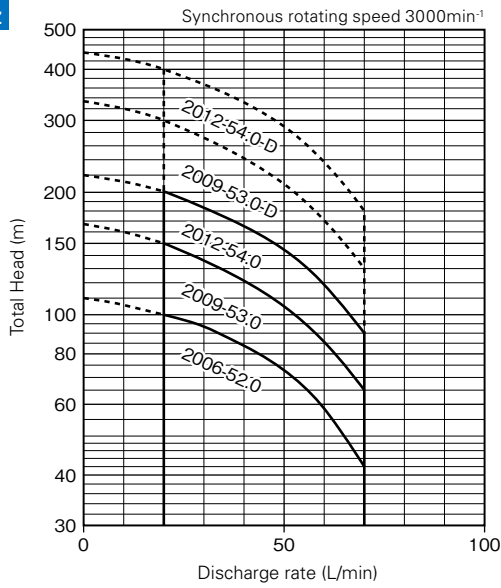
**Table of Consumable Parts**

Output (kW)	Bearing		Oil seal	O-ring (For intermediate casing and spacer.)
	Load side	Unload side		
2.2	6306ZZC3	6303ZZC3	VC30456	G135
3.0	6308ZZC3	6205ZZC3	VC40586	
4.0	6308ZZC3	6205ZZC3	VC40586	

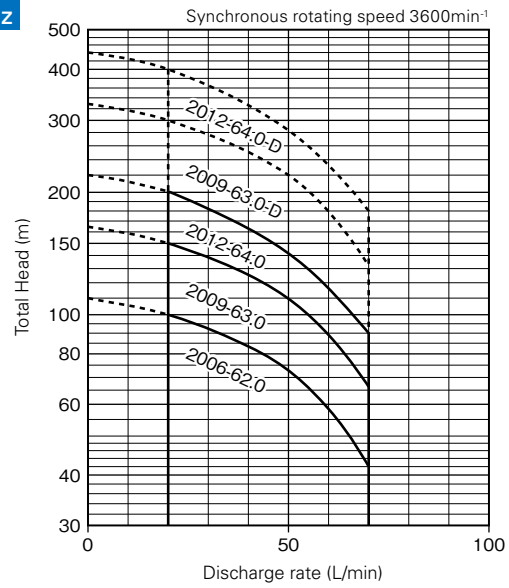
**Selection chart**

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

**50Hz**



**60Hz**



— Single operation  
- - - Series operation

**Specification table**

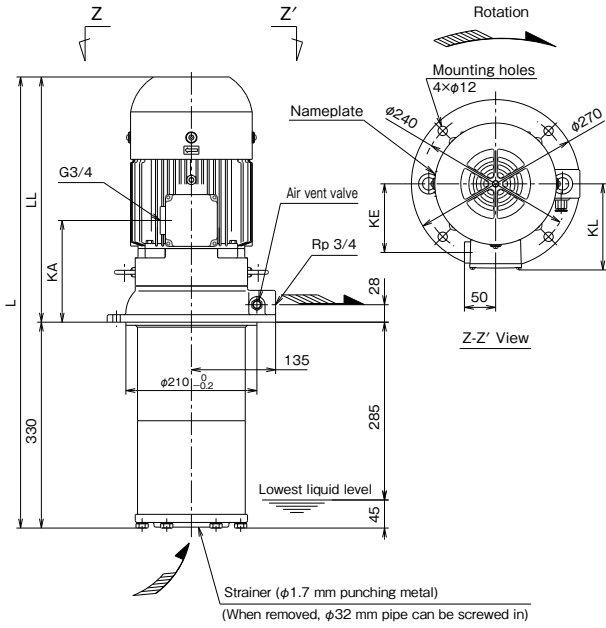
Bore diameter (mm)	Frequency (Hz)	Type	Rated voltage (V)	Output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
20	50	LKW2006-52.0-e	200	2.2	9.3	84	20-70	100-42
		LKW2009-53.0-e		3.0	14.8	180	20-70	150-65
		LKW2012-54.0-e		4.0	16.0	179	20-70	200-90
		LKW2009-53.0-D-e		3.0	14.8	180	20-70	300-130
		LKW2012-54.0-D-e		4.0	16.0	179	20-70	400-180
	60	LKW2006-62.0-e	200/220	2.2	8.4/7.9	73/80	20-70	100-43
		LKW2009-63.0-e		3.0	12.0/12.1	152/167	20-70	150-67
		LKW2012-64.0-e		4.0	15.0/14.0	152/173	20-70	200-90
		LKW2009-63.0-D-e		3.0	12.0/12.1	152/167	20-70	300-134
		LKW2012-64.0-D-e		4.0	15.0/14.0	152/173	20-70	400-180

Notes 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

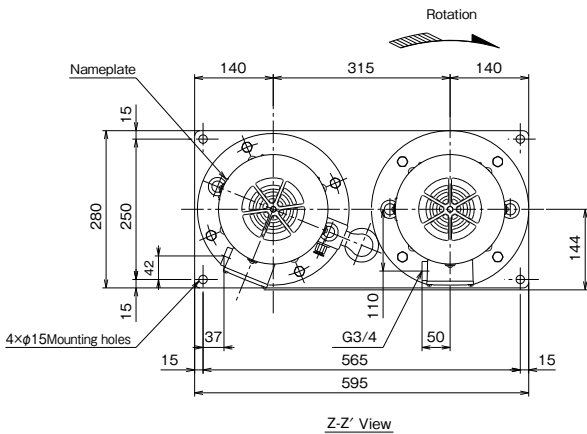
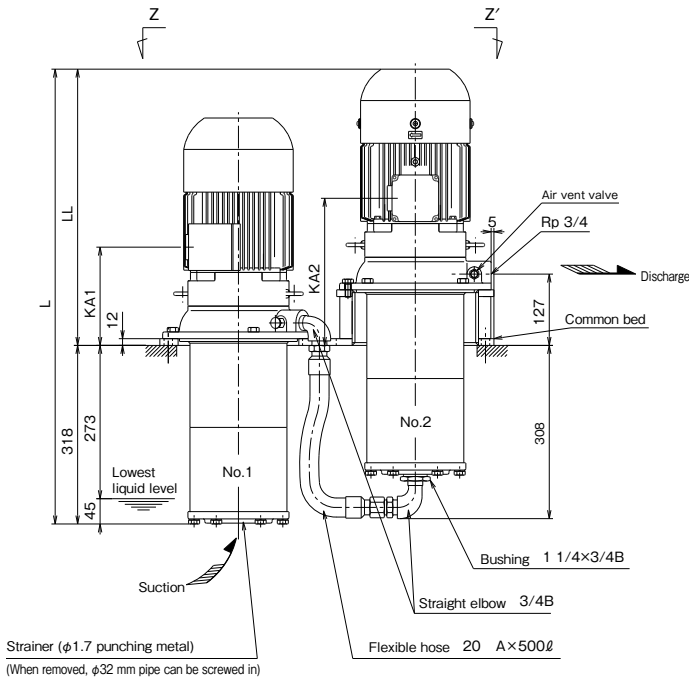
Notes 2) The rated current and the starting current value in the table above are the values per unit.

Assembly drawing

Single operation



Series operation



Dimensions

Single operation

(Unit : mm)

Bore diameter	Frequency (Hz)	Type	L	LL	KA	KE	KL	Approx. mass(kg)
20	50	LKW2006-52.0-e	693	363	158	100	128	47
		LKW2009-53.0-e	723	393	163	110	138	55
		LKW2012-54.0-e	736	406	176	110	138	68
	60	LKW2006-62.0-e	693	363	158	100	128	47
		LKW2009-63.0-e	723	393	163	110	138	55
		LKW2012-64.0-e	736	406	176	110	138	68

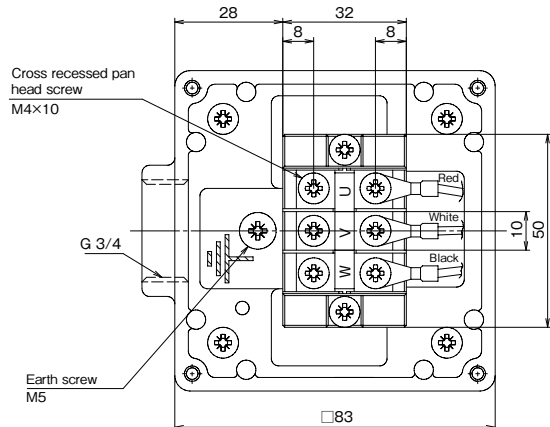
Series operation

(Unit : mm)

Bore diameter	Frequency (Hz)	Type	KA1	KA2	LL	L	Approx. mass(kg)
20	50	LKW2009-53.0-D-e	175	188	492	810	128
		LKW2012-54.0-D-e	262	275	505	823	152
	60	LKW2009-63.0-D-e	175	188	492	810	128
		LKW2012-64.0-D-e	262	275	505	823	152

In the case of series operation, we ship the pumps and the accompanying components in separate packages. Please assemble them at your site.

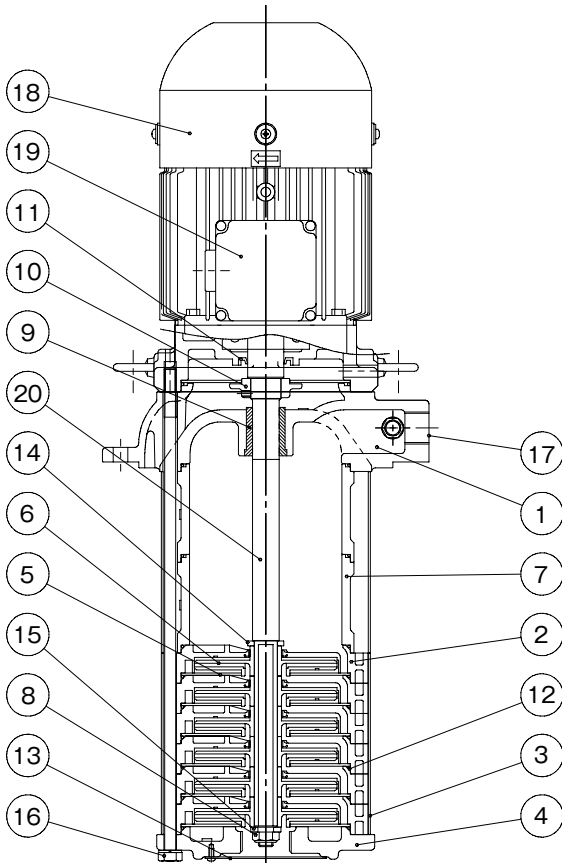
Detailed drawing of the terminal box





Sectional drawing

n: Number of stages



No.	Part name	Qty	Material
1	Discharge casing	1	FC200
2	Intermediate casing	n	ARLS <sup>SM</sup> + (SUS304)
3	Outer casing	2	SUS304
4	Suction cover	1	FC200
5	Casing cover	n +1	SUS304
6	Impeller	n	ARLS
7	Intermediate spacer	※2	FC200
8	Impeller nut	1	SUS304
9	Discharge bushing	1	SUS420J2
10	Deflector	1	FC200
11	Oil seal	1	NBR
12	O-ring	※3	NBR
13	Strainer	1	SUS304
14	Supporter ring	1	SUS403
15	Washer	1	SUS403
16	Through bolt	6	SS400
17	Air vent valve	1	C3604BD
18	Motor	1	ADC
19	Terminal box	1	ADC (※4)
20	Main shaft	1	S35C

※1 Special polyamide resin reinforced with glass fiber, etc.

※2 2.2kW: 2, 3.0kW: 1, 4.0kW: 0

※3 2.2kW: 10, 3.0kW: 12, 4.0kW: 14

※4 Terminal box cover is SECE.

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

**Features**

- ① Non-seal (mechanical seal-less) structure is adopted.
- ② Energy-saving pump with a Top Runner (equivalent to IE3) motor.
- ③ Stainless steel is used in the pump's main liquid contact part.
- ④ Measures against air suction into the pump are taken when the fluid level lowers.
- ⑤ The lineup that includes both VKB-H type (pressure type) and VKB-Q type (flow type) broadens the scope of choices of heads and flow rates.
- ⑥ The lineup including the models complying with global standards by supporting efficiency and other regulations.

Japan : Top Runner efficiency  
 Europe : IE3 efficiency, CE marking (EU Directive)  
 RoHS Directive (2011/65/EU) , 10 substances restricted  
 China : GB3 (GB18613-2020)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

**Description of types**

**VKB 19 26 2 A H -e**

- ① Model
- ② Number of impellers
- ③ Number of stages
- ④ Series number
- ⑤ Frequency A: 50/60Hz  
F: 50Hz
- ⑥ Characteristics H: Pressure type  
Q: Flow type
- ⑦ Motor efficiency Top Runner efficiency equivalent to IE3

**Global standards**

Type	Standards/Regulations	Output
VKB-e	Top Runner efficiency (IE3 equivalent)	●
	CE Marking EU energy efficiency	●
	GB3(GB18613-2020)	● <sup>*1</sup>

\*1 GB certification label is attached as exclusive for GB standard. ● : Compliant

**Standard Specification**

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc., after secondary treatment *1		
	Temperature	-20 to 90°C (No frozen liquid)		
	Allowable kinematic viscosity	Model type	At 50 Hz	At 60 Hz
		VKB07□□2AH-e,VKB04□□2AQ-e VKB06□□2AQ-e,VKB12□□2AQ-e	75mm <sup>2</sup> /s	37.5mm <sup>2</sup> /s
VKB □□□□2F □ -e (50 Hz exclusive unit)		1mm <sup>2</sup> /s	—	
Models other than the above	75mm <sup>2</sup> /s	75mm <sup>2</sup> /s		
Installation location		Indoor Ambient temperature: -20 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.		
Material	Pump leg	FC200		
	Casing·Outer casing	SUS304		
	Suction chamber	FC150		
	Impeller	SUS304		
	Main shaft (motor side + pump side)	S35C+SUS316		
Shaft seal structure		Non-seal (mechanical seal-less)		
Motor	Type	Totally enclosed fan-cooled indoor type		
	Protection method	IP54		
	Power source	A: 3-phase 50/60/60Hz 200/200/220V F: 3-phase 50Hz 200V		
	Thermal class	F		
	Number of poles	2P		
	Standard	IEC60034-1 CE Marking		
Paint color	Pump	Munsell N1		
	Motor	Black		

\*1 Take note that special liquid such as water, printing liquid or acid liquid cannot be used. Contact us for other special liquid (ceramic, etc.).

**Special specification**

Motor modifications	Voltage change, change of terminal box position, change of terminal box direction
Change of structure	Stainless steel suction chamber *1

\*1 The pump is not 100% made of stainless steel. Pump legs and companion flanges are made of cast iron. \*-SU\* is added to the model type as a suffix.

**Table of Consumable Parts**

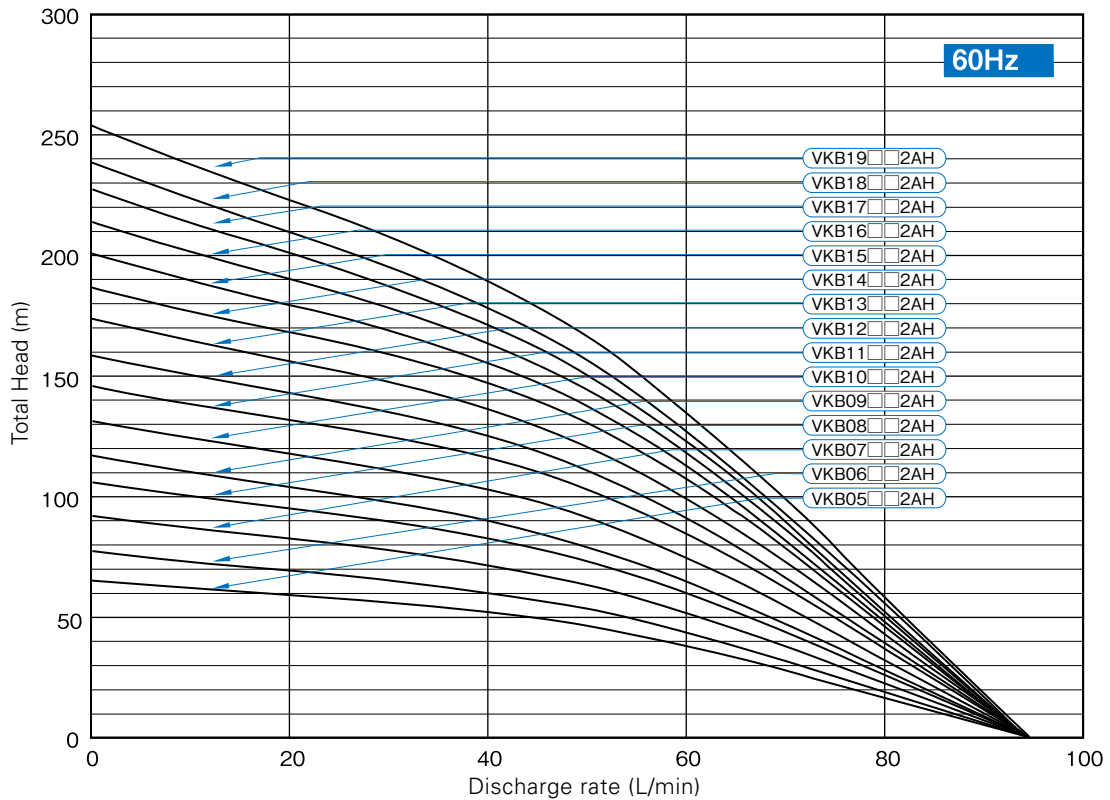
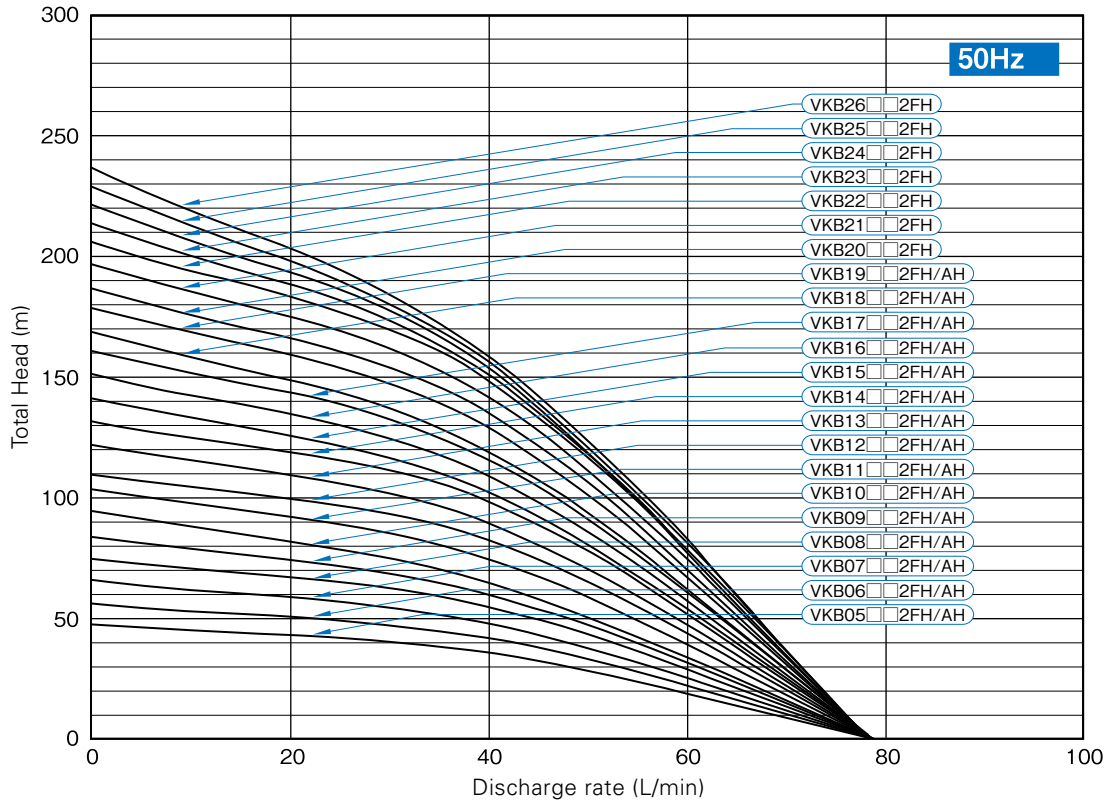
Type	Bearings		Oil seal			O-ring (Companion flange) Material: FKM
	Load side	Unload side	Load side (Pump part)	Load side (Bearing part)	Unload side	
VKB05□□2FH-e ~ VKB07□□2FH-e	6305ZZC3	6203ZZC3	IS12257	DS17355	VC24406	G50
VKB04□□2FQ-e						
VKB05□□2AH-e ~ VKB09□□2AH-e						
VKB08□□2FH-e ~ VKB19□□2FH-e	6307ZZC3	6303ZZC3				
VKB04□□2AQ-e ~ VKB06□□2AQ-e						
VKB05□□2FQ-e ~ VKB10□□2FQ-e						
VKB10□□2AH-e ~ VKB19□□2AH-e						
VKB20□□2FH-e ~ VKB26□□2FH-e	6309ZZC3	6205ZZC3		VC25455	VC24406	
VKB07□□2AQ-e ~ VKB12□□2AQ-e						
VKB13□□2FQ-e ~ VKB22□□2FQ-e						

Selection chart

●VKB-H

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
60Hz : 3600min<sup>-1</sup>



Note 1) The above characteristic curves reflect the full impeller condition of the units. The total head may be decreased depending on the flow rate if empty casings are involved because of pressure loss at the empty casings.

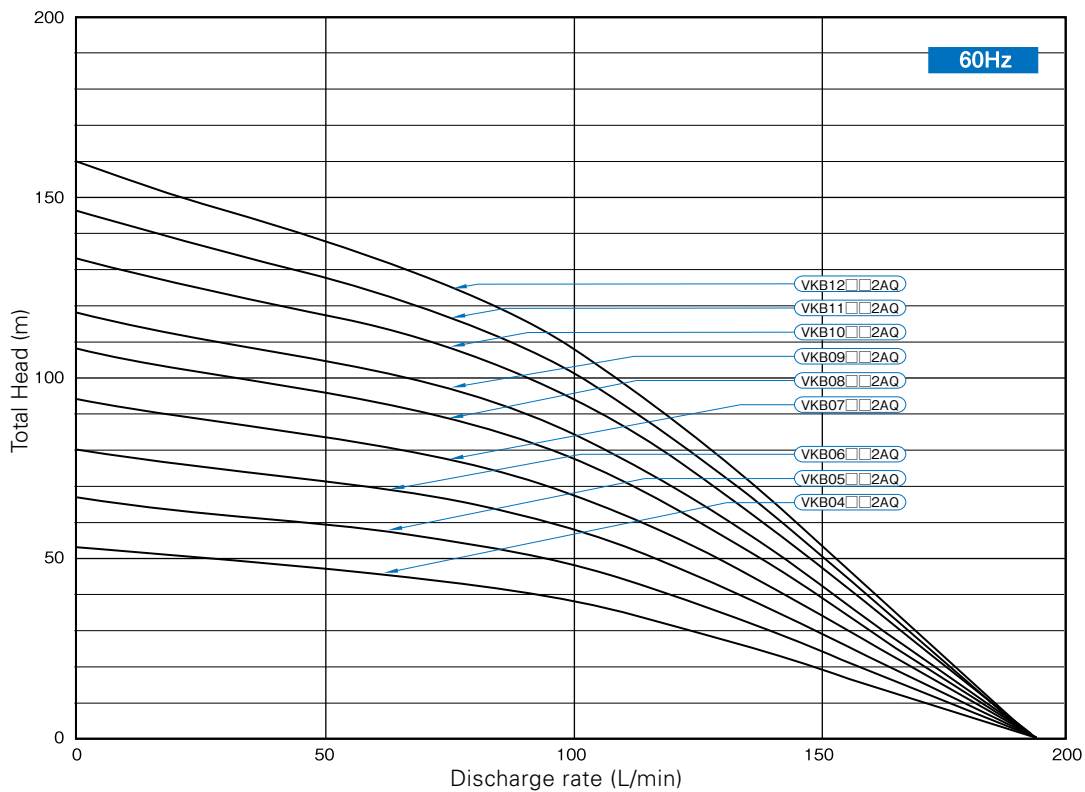
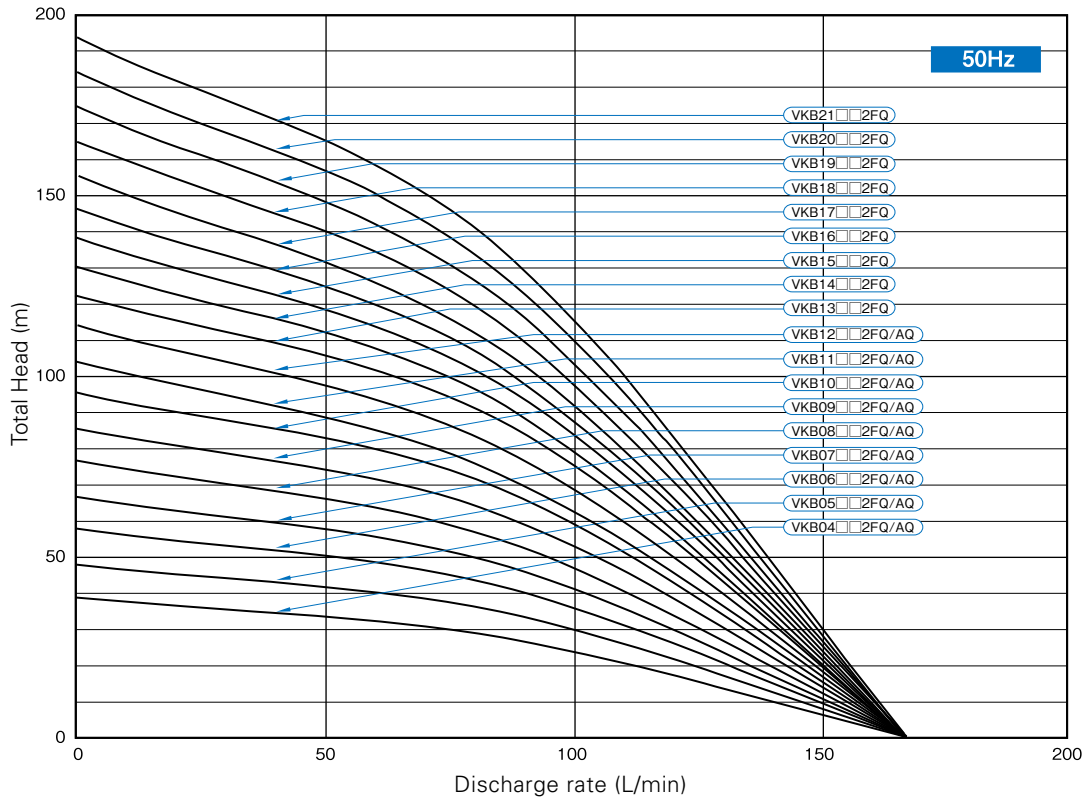
Note 2) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid. Above selection chart may not be used depending on the kinematic viscosity and specific gravity of the liquid.

Selection chart

●VKB-Q

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
60Hz : 3600min<sup>-1</sup>



Note 1) The above characteristic curves reflect the full impeller condition of the units. The total head may be decreased depending on the flow rate if empty casings are involved because of pressure loss in the empty casings.

Note 2) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Above selection chart may not be used depending on the kinematic viscosity and specific gravity of the liquid.

Specification table

● VKB-H

• VKB-AH-e

Type	50Hz							60Hz						
	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)
VKB05□□2AH-e	200	0.5	5.4	56	40	30	75	200/220	0.85	5.8/5.6	55/60	50	40	75
VKB06□□2AH-e		0.6	5.9	56	40	36			1.02	6.0/5.8	55/60	50	48	
VKB07□□2AH-e		0.7	6.2	56	40	42			1.19	6.0/5.8	55/60	50	56	
VKB08□□2AH-e		0.8	6.9	84	40	48			1.36	8.8/8.3	73/80	50	64	75
VKB09□□2AH-e		0.9	7.4	84	40	54			1.53	10.0/9.1	73/80	50	72	
VKB10□□2AH-e		1	12.0	180	40	60			1.7	10.3/10.6	152/167	50	80	
VKB11□□2AH-e		1.1	12.3	180	40	66			1.87	11.1/11.3	152/167	50	88	
VKB12□□2AH-e		1.2	12.5	180	40	72			2.04	11.7/11.8	152/167	50	96	
VKB13□□2AH-e		1.3	12.9	180	40	78			2.21	12.7/12.6	152/167	50	104	
VKB14□□2AH-e		1.4	13.1	180	40	84			2.38	13.5/13.2	152/167	50	112	
VKB15□□2AH-e		1.5	13.6	180	40	90			2.55	14.4/13.9	152/167	50	120	
VKB16□□2AH-e		1.6	14.0	180	40	96			2.72	15.3/14.6	152/167	50	128	
VKB17□□2AH-e		1.7	14.5	180	40	102			2.89	16.2/15.3	152/167	50	136	
VKB18□□2AH-e		1.8	15.2	180	40	108			3.06	16.2/15.3	152/167	50	144	
VKB19□□2AH-e		1.9	15.7	180	40	114			3.23	16.2/15.3	152/167	50	152	

Note) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

• VKB-FH-e

Type	50H						
	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)
VKB05□□2FH-e	200	0.5	3.6	30	40	30	1
VKB06□□2FH-e		0.6	4.0	30	40	36	
VKB07□□2FH-e		0.7	4.4	30	40	42	
VKB08□□2FH-e		0.8	5.8	56	40	48	
VKB09□□2FH-e		0.9	6.3	56	40	54	
VKB10□□2FH-e		1	6.4	56	40	60	
VKB11□□2FH-e		1.1	6.9	84	40	66	
VKB12□□2FH-e		1.2	7.2	84	40	72	
VKB13□□2FH-e		1.3	7.6	84	40	78	
VKB14□□2FH-e		1.4	8.0	84	40	84	
VKB15□□2FH-e		1.5	8.5	84	40	90	
VKB16□□2FH-e		1.6	9.0	84	40	96	
VKB17□□2FH-e		1.7	9.4	84	40	102	
VKB18□□2FH-e		1.8	10.0	84	40	108	
VKB19□□2FH-e		1.9	10.5	84	40	114	
VKB20□□2FH-e		2	13.3	180	40	120	
VKB21□□2FH-e		2.1	13.5	180	40	126	
VKB22□□2FH-e		2.2	13.8	180	40	132	
VKB23□□2FH-e		2.3	14.1	180	40	138	
VKB24□□2FH-e		2.4	14.5	180	40	144	
VKB25□□2FH-e		2.5	14.9	180	40	150	
VKB26□□2FH-e		2.6	15.4	180	40	156	

Note 1) The 50 Hz exclusive units are for use with water-soluble coolant liquids (1mm<sup>2</sup>/s kinematic viscosity) only. Contact us when your applications involve oil-based coolant liquids.

Note 2) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

※ Please inquire separately for China GB3 (GB18613-2020) compliant products.

● **VKB-Q**  
 · VKB-AQ-e

Type	50Hz							60Hz						
	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)
VKB04□□2AQ-e	200	0.72	6.0	56	85	26	75	200/220	1.2	6.0/5.8	55/60	100	36	37.5
VKB05□□2AQ-e		0.9	7.0	84	85	33			1.5	8.8/8.3	73/80	100	46	75
VKB06□□2AQ-e		1.08	7.8	84	85	39			1.8	10.0/9.1	73/80	100	54	37.5
VKB07□□2AQ-e		1.26	12.4	180	85	45			2.1	11.3/11.4	152/167	100	63	75
VKB08□□2AQ-e		1.44	12.9	180	85	52			2.4	12.7/12.6	152/167	100	72	
VKB09□□2AQ-e		1.62	13.6	180	85	58			2.7	14.0/13.5	152/167	100	81	
VKB10□□2AQ-e		1.8	14.3	180	85	65			3	15.5/14.8	152/167	100	90	
VKB11□□2AQ-e		1.98	15.3	180	85	71			3.3	16.2/15.3	152/167	100	99	37.5
VKB12□□2AQ-e		2.16	16.3	180	85	78			3.6	16.2/15.3	152/167	100	108	

Note) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

· **VKB-FQ-e**

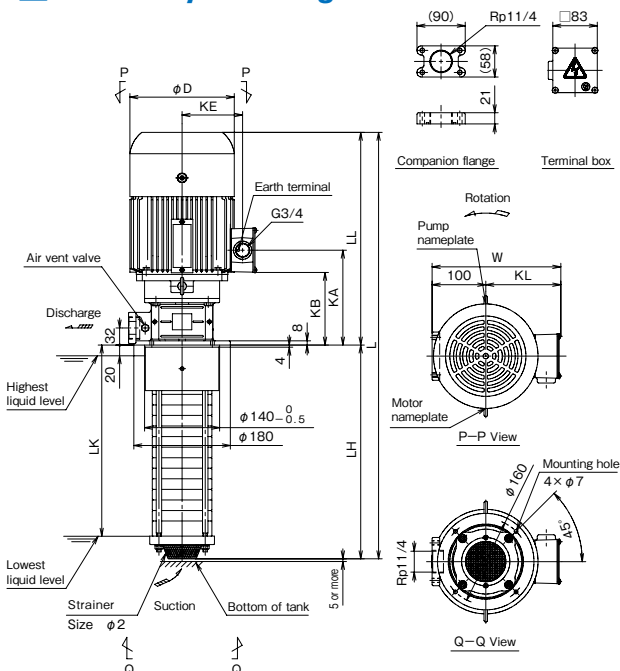
Type	50Hz						
	Rated voltage (V)	Nominal output (kW)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)	Allowable kinematic viscosity (mm <sup>2</sup> /s)
VKB04□□2FQ-e	200	0.72	4.4	30	85	26	1
VKB05□□2FQ-e		0.9	6.0	56	85	33	
VKB06□□2FQ-e		1.08	6.4	56	85	39	
VKB07□□2FQ-e		1.26	6.8	84	85	45	
VKB08□□2FQ-e		1.44	7.6	84	85	52	
VKB09□□2FQ-e		1.62	8.4	84	85	58	
VKB10□□2FQ-e		1.8	9.2	84	85	65	
VKB13□□2FQ-e		2.34	13.7	180	85	84	
VKB14□□2FQ-e		2.52	14.2	180	85	91	
VKB15□□2FQ-e		2.7	14.8	180	85	97	
VKB16□□2FQ-e		2.88	15.6	180	85	104	
VKB17□□2FQ-e		3.06	16.3	180	85	110	
VKB18□□2FQ-e		3.24	16.9	180	85	117	
VKB19□□2FQ-e		3.42	17.4	180	85	123	
VKB20□□2FQ-e		3.6	17.4	180	85	130	
VKB21□□2FQ-e		3.78	17.4	180	85	136	

Note 1) The 50Hz exclusive units are for use with water-soluble coolant liquids (1mm<sup>2</sup>/s kinematic viscosity) only. Contact us when your applications involve oil-based coolant liquids.

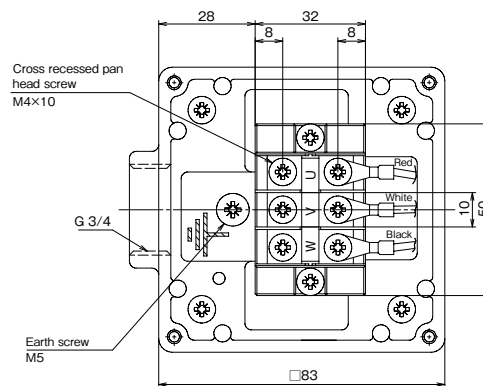
Note 2) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

※ Please inquire separately for China GB3 (GB18613-2020) compliant products.

## Assembly drawing



## Detailed drawing of the terminal box



■ Dimensions

● VKB-H

• VKB-AH-e

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB05102AH-e	632	300	258	25
VKB05112AH-e	652	320	278	25
VKB05132AH-e	692	360	318	25
VKB05152AH-e	731	399	357	26
VKB05172AH-e	770	438	396	26
VKB05182AH-e	790	458	416	26
VKB06102AH-e	632	300	258	25
VKB06112AH-e	652	320	278	25
VKB06132AH-e	692	360	318	25
VKB06152AH-e	731	399	357	26
VKB06172AH-e	770	438	396	26
VKB06182AH-e	790	458	416	26
VKB07102AH-e	632	300	258	25
VKB07112AH-e	652	320	278	25
VKB07132AH-e	692	360	318	25
VKB07152AH-e	731	399	357	26
VKB07172AH-e	770	438	396	26
VKB07182AH-e	790	458	416	26
VKB08102AH-e	657	300	258	30
VKB08112AH-e	677	320	278	30
VKB08132AH-e	717	360	318	30
VKB08152AH-e	756	399	357	31
VKB08172AH-e	795	438	396	31
VKB08182AH-e	815	458	416	31
VKB08212AH-e	874	517	475	32
VKB08222AH-e	894	537	495	32
VKB08262AH-e	973	616	574	33
VKB09102AH-e	657	300	258	30
VKB09112AH-e	677	320	278	30
VKB09132AH-e	717	360	318	30
VKB09152AH-e	756	399	357	31
VKB09172AH-e	795	438	396	31
VKB09182AH-e	815	458	416	32
VKB09212AH-e	874	517	475	32
VKB09222AH-e	894	537	495	32
VKB09262AH-e	973	616	574	33
VKB10102AH-e	697	300	258	37
VKB10112AH-e	717	320	278	37
VKB10132AH-e	757	360	318	38
VKB10152AH-e	796	399	357	38
VKB10172AH-e	835	438	396	39
VKB10182AH-e	855	458	416	39
VKB10212AH-e	914	517	475	39
VKB10222AH-e	934	537	495	40
VKB10262AH-e	1013	616	574	41
VKB11112AH-e	717	320	278	37
VKB11132AH-e	757	360	318	38
VKB11152AH-e	796	399	357	38
VKB11172AH-e	835	438	396	39
VKB11182AH-e	855	458	416	39
VKB11212AH-e	914	517	475	39
VKB11222AH-e	934	537	495	40
VKB11262AH-e	1013	616	574	41

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB12122AH-e	737	340	298	38
VKB12132AH-e	757	360	318	38
VKB12152AH-e	796	399	357	38
VKB12172AH-e	835	438	396	39
VKB12182AH-e	855	458	416	39
VKB12202AH-e	894	497	455	39
VKB12222AH-e	934	537	495	40
VKB12262AH-e	1013	616	574	41
VKB13132AH-e	757	360	318	38
VKB13152AH-e	796	399	357	38
VKB13182AH-e	855	458	416	39
VKB13202AH-e	894	497	455	39
VKB13222AH-e	934	537	495	40
VKB13262AH-e	1013	616	574	41
VKB14142AH-e	776	379	337	38
VKB14152AH-e	796	399	357	38
VKB14182AH-e	855	458	416	39
VKB14192AH-e	875	478	436	39
VKB14202AH-e	894	497	455	39
VKB14222AH-e	934	537	495	40
VKB14262AH-e	1013	616	574	41
VKB15152AH-e	796	399	357	38
VKB15182AH-e	855	458	416	39
VKB15202AH-e	894	497	455	40
VKB15222AH-e	934	537	495	40
VKB15262AH-e	1013	616	574	41
VKB16162AH-e	816	419	377	39
VKB16182AH-e	855	458	416	39
VKB16202AH-e	894	497	455	40
VKB16222AH-e	934	537	495	40
VKB16262AH-e	1013	616	574	41
VKB17172AH-e	835	438	396	39
VKB17182AH-e	855	458	416	39
VKB17202AH-e	894	497	455	40
VKB17212AH-e	914	517	475	40
VKB17222AH-e	934	537	495	40
VKB17262AH-e	1013	616	574	41
VKB18182AH-e	855	458	416	39
VKB18202AH-e	894	497	455	40
VKB18212AH-e	914	517	475	40
VKB18222AH-e	934	537	495	40
VKB18242AH-e	973	576	534	41
VKB18252AH-e	993	596	554	41
VKB18262AH-e	1013	616	574	41
VKB19212AH-e	914	517	475	40
VKB19262AH-e	1013	616	574	41

(Unit : mm)

Number of impellers	D	KA	KB	KE	KL	LL	W
05~07	157	167	125	95	122	332	222
08~09	175	167	125	103	130	357	230
10~19	195	177	135	113	140	397	240

· VKB-FH-e

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB05102FH-e	612	300	258	21
VKB05112FH-e	632	320	278	20
VKB05132FH-e	672	360	318	21
VKB05152FH-e	711	399	357	21
VKB05182FH-e	770	458	416	22
VKB06102FH-e	612	300	258	21
VKB06112FH-e	632	320	278	21
VKB06132FH-e	672	360	318	21
VKB06152FH-e	711	399	357	21
VKB06182FH-e	770	458	416	22
VKB07102FH-e	612	300	258	21
VKB07112FH-e	632	320	278	21
VKB07132FH-e	672	360	318	21
VKB07152FH-e	711	399	357	22
VKB07172FH-e	750	438	396	22
VKB07182FH-e	770	458	416	22
VKB07222FH-e	849	537	495	23
VKB07262FH-e	928	616	574	24
VKB08102FH-e	632	300	258	25
VKB08112FH-e	652	320	278	25
VKB08132FH-e	692	360	318	25
VKB08152FH-e	731	399	357	26
VKB08172FH-e	770	438	396	26
VKB08182FH-e	790	458	416	27
VKB08212FH-e	849	517	475	27
VKB08222FH-e	869	537	495	27
VKB08262FH-e	948	616	574	28
VKB09102FH-e	632	300	258	25
VKB09112FH-e	652	320	278	25
VKB09132FH-e	692	360	318	26
VKB09152FH-e	731	399	357	26
VKB09172FH-e	770	438	396	26
VKB09182FH-e	790	458	416	27
VKB09212FH-e	849	517	475	27
VKB09222FH-e	869	537	495	28
VKB09262FH-e	948	616	574	28
VKB10102FH-e	632	300	258	25
VKB10112FH-e	652	320	278	25
VKB10132FH-e	692	360	318	26
VKB10152FH-e	731	399	357	26
VKB10172FH-e	770	438	396	26
VKB10182FH-e	790	458	416	27
VKB10212FH-e	849	517	475	27
VKB10222FH-e	869	537	495	28
VKB10262FH-e	948	616	574	28
VKB11112FH-e	677	320	278	30
VKB11132FH-e	717	360	318	31
VKB11152FH-e	756	399	357	31
VKB11172FH-e	795	438	396	31
VKB11182FH-e	815	458	416	32
VKB11212FH-e	874	517	475	32
VKB11222FH-e	894	537	495	33
VKB11262FH-e	973	616	574	33
VKB12122FH-e	697	340	298	30
VKB12132FH-e	717	360	318	31
VKB12152FH-e	756	399	357	31
VKB12172FH-e	795	438	396	32
VKB12182FH-e	815	458	416	32
VKB12212FH-e	854	497	455	32
VKB12222FH-e	894	537	495	33
VKB12262FH-e	973	616	574	34

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB13132FH-e	717	360	318	31
VKB13152FH-e	756	399	357	31
VKB13172FH-e	795	438	396	32
VKB13182FH-e	815	458	416	32
VKB13212FH-e	854	497	455	32
VKB13222FH-e	894	537	495	33
VKB13262FH-e	973	616	574	34
VKB14142FH-e	736	379	337	31
VKB14152FH-e	756	399	357	31
VKB14182FH-e	815	458	416	32
VKB14212FH-e	854	497	455	33
VKB14222FH-e	894	537	495	33
VKB14262FH-e	973	616	574	34
VKB15152FH-e	756	399	357	31
VKB15162FH-e	776	419	377	32
VKB15172FH-e	795	438	396	32
VKB15182FH-e	815	458	416	32
VKB15212FH-e	854	497	455	33
VKB15222FH-e	894	537	495	33
VKB15262FH-e	973	616	574	34
VKB16162FH-e	776	419	377	32
VKB16172FH-e	795	438	396	32
VKB16182FH-e	815	458	416	32
VKB16212FH-e	854	497	455	33
VKB16222FH-e	894	537	495	33
VKB16262FH-e	973	616	574	34
VKB17172FH-e	795	438	396	32
VKB17182FH-e	815	458	416	32
VKB17212FH-e	874	517	475	33
VKB17222FH-e	894	537	495	33
VKB17262FH-e	973	616	574	34
VKB18182FH-e	815	458	416	32
VKB18212FH-e	874	517	475	33
VKB18222FH-e	894	537	495	33
VKB18232FH-e	933	576	534	33
VKB18262FH-e	973	616	574	34
VKB19192FH-e	835	478	436	33
VKB19212FH-e	874	517	475	33
VKB19222FH-e	894	537	495	33
VKB19262FH-e	973	616	574	34
VKB20202FH-e	894	497	455	40
VKB20212FH-e	914	517	475	40
VKB20222FH-e	934	537	495	40
VKB20262FH-e	1013	616	574	41
VKB21212FH-e	914	517	475	40
VKB21222FH-e	934	537	495	41
VKB21262FH-e	1013	616	574	41
VKB22222FH-e	934	537	495	41
VKB22242FH-e	973	576	534	41
VKB22262FH-e	1013	616	574	41
VKB23232FH-e	953	556	514	41
VKB23262FH-e	1013	616	574	42
VKB24242FH-e	973	576	534	41
VKB24262FH-e	1013	616	574	42
VKB25252FH-e	993	596	554	41
VKB25262FH-e	1013	616	574	42
VKB26262FH-e	1013	616	574	42

(Unit : mm)

Number of impellers	D	KA	KB	KE	KL	LL	W
05~07	140	167	125	88	115	312	215
08~10	157	167	125	95	122	332	222
11~19	175	167	125	103	130	357	230
20~26	195	177	135	113	140	397	240



●VKB-Q

・VKB-AQ-e

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB04072AQ-e	623	291	249	24
VKB04082AQ-e	651	319	277	24
VKB04092AQ-e	679	347	305	24
VKB04102AQ-e	707	375	333	25
VKB04122AQ-e	763	431	389	25
VKB04142AQ-e	819	487	445	26
VKB04152AQ-e	847	515	473	26
VKB04162AQ-e	875	543	501	26
VKB04192AQ-e	959	627	585	27
VKB04222AQ-e	1043	711	669	28
VKB05072AQ-e	648	291	249	29
VKB05082AQ-e	676	319	277	29
VKB05092AQ-e	704	347	305	29
VKB05102AQ-e	732	375	333	30
VKB05122AQ-e	788	431	389	30
VKB05142AQ-e	844	487	445	31
VKB05152AQ-e	872	515	473	31
VKB05162AQ-e	900	543	501	31
VKB05192AQ-e	984	627	585	32
VKB05222AQ-e	1068	711	669	33
VKB06072AQ-e	648	291	249	29
VKB06082AQ-e	676	319	277	29
VKB06092AQ-e	704	347	305	30
VKB06102AQ-e	732	375	333	30
VKB06122AQ-e	788	431	389	30
VKB06142AQ-e	844	487	445	31
VKB06152AQ-e	872	515	473	31
VKB06162AQ-e	900	543	501	31
VKB06192AQ-e	984	627	585	32
VKB06222AQ-e	1068	711	669	33
VKB07072AQ-e	688	291	249	36
VKB07082AQ-e	716	319	277	37
VKB07092AQ-e	744	347	305	37
VKB07102AQ-e	772	375	333	37
VKB07122AQ-e	828	431	389	37
VKB07142AQ-e	884	487	445	38
VKB07152AQ-e	912	515	473	38
VKB07162AQ-e	940	543	501	38
VKB07192AQ-e	1024	627	585	39

(Unit : mm)

Number of impellers	D	KA	KB	KE	KL	LL	W
04	157	167	125	95	122	332	222
05~06	175	167	125	103	130	357	230
07~12	195	177	135	113	140	397	240

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB07222AQ-e	1108	711	669	40
VKB08082AQ-e	716	319	277	37
VKB08092AQ-e	744	347	305	37
VKB08102AQ-e	772	375	333	37
VKB08122AQ-e	828	431	389	38
VKB08142AQ-e	884	487	445	38
VKB08152AQ-e	912	515	473	38
VKB08162AQ-e	940	543	501	39
VKB08192AQ-e	1024	627	585	39
VKB08222AQ-e	1108	711	669	40
VKB09092AQ-e	744	347	305	37
VKB09102AQ-e	772	375	333	37
VKB09122AQ-e	828	431	389	38
VKB09142AQ-e	884	487	445	38
VKB09152AQ-e	912	515	473	38
VKB09162AQ-e	940	543	501	39
VKB09192AQ-e	1024	627	585	39
VKB09222AQ-e	1108	711	669	40
VKB10102AQ-e	772	375	333	37
VKB10122AQ-e	828	431	389	38
VKB10142AQ-e	884	487	445	38
VKB10152AQ-e	912	515	473	39
VKB10162AQ-e	940	543	501	39
VKB10192AQ-e	1024	627	585	39
VKB10222AQ-e	1108	711	669	40
VKB11112AQ-e	800	403	361	38
VKB11122AQ-e	828	431	389	38
VKB11142AQ-e	884	487	445	38
VKB11152AQ-e	912	515	473	39
VKB11162AQ-e	940	543	501	39
VKB11192AQ-e	1024	627	585	40
VKB11222AQ-e	1108	711	669	40
VKB12122AQ-e	828	431	389	38
VKB12142AQ-e	884	487	445	38
VKB12152AQ-e	912	515	473	39
VKB12162AQ-e	940	543	501	39
VKB12192AQ-e	1024	627	585	40
VKB12222AQ-e	1108	711	669	40

· VKB-FQ-e

(Unit : mm)

Type	L	LH	LK	Approx.mass (kg)
VKB04072FQ-e	603	291	249	20
VKB04082FQ-e	631	319	277	20
VKB04102FQ-e	687	375	333	20
VKB04122FQ-e	743	431	389	21
VKB04142FQ-e	799	487	445	21
VKB04162FQ-e	855	543	501	22
VKB04192FQ-e	939	627	585	23
VKB04222FQ-e	1023	711	669	23
VKB05072FQ-e	623	291	249	24
VKB05082FQ-e	651	319	277	24
VKB05102FQ-e	707	375	333	25
VKB05122FQ-e	763	431	389	25
VKB05142FQ-e	819	487	445	26
VKB05162FQ-e	875	543	501	26
VKB05192FQ-e	959	627	585	27
VKB05222FQ-e	1043	711	669	28
VKB06072FQ-e	623	291	249	24
VKB06082FQ-e	651	319	277	24
VKB06102FQ-e	707	375	333	25
VKB06122FQ-e	763	431	389	25
VKB06142FQ-e	819	487	445	26
VKB06162FQ-e	875	543	501	26
VKB06192FQ-e	959	627	585	27
VKB06222FQ-e	1043	711	669	28
VKB07072FQ-e	648	291	249	29
VKB07082FQ-e	676	319	277	29
VKB07102FQ-e	732	375	333	30
VKB07122FQ-e	788	431	389	30
VKB07142FQ-e	844	487	445	31
VKB07162FQ-e	900	543	501	31
VKB07192FQ-e	984	627	585	32
VKB07222FQ-e	1068	711	669	33
VKB08082FQ-e	676	319	277	30
VKB08102FQ-e	732	375	333	30
VKB08122FQ-e	788	431	389	30
VKB08142FQ-e	844	487	445	31
VKB08162FQ-e	900	543	501	31
VKB08192FQ-e	984	627	585	32
VKB08222FQ-e	1068	711	669	33
VKB09092FQ-e	704	347	305	30
VKB09102FQ-e	732	375	333	30

(Unit : mm)

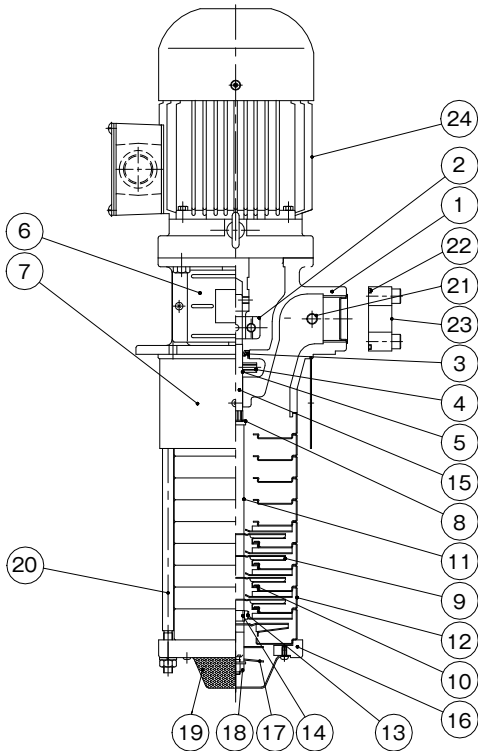
Type	L	LH	LK	Approx.mass (kg)
VKB09122FQ-e	788	431	389	31
VKB09142FQ-e	844	487	445	31
VKB09162FQ-e	900	543	501	32
VKB09192FQ-e	984	627	585	32
VKB09222FQ-e	1068	711	669	33
VKB10102FQ-e	732	375	333	30
VKB10122FQ-e	788	431	389	31
VKB10142FQ-e	844	487	445	31
VKB10162FQ-e	900	543	501	32
VKB10192FQ-e	1012	655	613	32
VKB10222FQ-e	1068	711	669	33
VKB13132FQ-e	856	459	417	38
VKB13142FQ-e	884	487	445	39
VKB13162FQ-e	940	543	501	39
VKB13192FQ-e	1024	627	585	40
VKB13202FQ-e	1052	655	613	40
VKB13222FQ-e	1108	711	669	41
VKB14142FQ-e	884	487	445	39
VKB14162FQ-e	940	543	501	39
VKB14192FQ-e	1024	627	585	40
VKB14222FQ-e	1108	711	669	41
VKB15152FQ-e	912	515	473	39
VKB15162FQ-e	940	543	501	39
VKB15192FQ-e	1024	627	585	40
VKB15222FQ-e	1108	711	669	41
VKB16162FQ-e	940	543	501	39
VKB16192FQ-e	1024	627	585	40
VKB16222FQ-e	1108	711	669	41
VKB17172FQ-e	968	571	529	40
VKB17192FQ-e	1024	627	585	40
VKB17222FQ-e	1108	711	669	41
VKB18182FQ-e	996	599	557	40
VKB18192FQ-e	1024	627	585	40
VKB18222FQ-e	1108	711	669	41
VKB19192FQ-e	1024	627	585	40
VKB19222FQ-e	1108	711	669	41
VKB20202FQ-e	1052	655	613	41
VKB20222FQ-e	1108	711	669	41
VKB21212FQ-e	1080	683	641	41
VKB21222FQ-e	1108	711	669	41

(Unit : mm)

Number of impellers	D	KA	KB	KE	KL	LL	W
04	140	167	125	88	115	312	215
05~06	157	167	125	95	122	332	222
07~10	175	167	125	103	130	357	230
13~21	195	177	135	113	140	397	240

Sectional drawing

●VKB-H

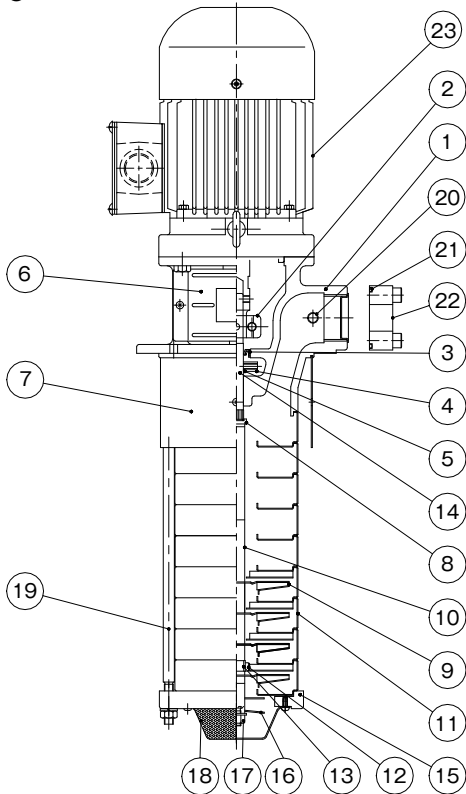


No.	Part name	Material
1	Pump leg	FC200
2	Coupling	S45C
3	Oil seal	NBR
4	Oil thrower	SUS304
5	O-ring	FKM
6	Coupling guard	SUS304
7	Outer casing	SUS304
8	Washer	SUS403
9	Impeller	SUS304
10	Seal ring	PTFE
11	Collar	SUS304
12	Casing	SUS304
13	Bearing ring	CERAMIC
14	Sleeve	WC
15	Main shaft (motor side+pump side)	S35C+SUS316
16	Suction chamber	FC200
17	Screw	SUS304
18	U-nut	SUS304
19	Wide strainer	SUS304
20	Fastening bolt	SUS304
21	Air vent valve	BRASS
22	O-ring	FKM
23	Companion flange	FC150
24	Motor	—

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

●VKB-Q



No.	Part name	Material
1	Pump leg	FC200
2	Coupling	S45C
3	Oil seal	NBR
4	Oil thrower	SUS304
5	O-ring	FKM
6	Coupling guard	SUS304
7	Outer casing	SUS304
8	Washer	SUS403
9	Impeller	SUS304
10	Collar	SUS304
11	Casing	SUS304
12	Bearing ring	CERAMIC
13	Sleeve	WC
14	Main shaft (motor side+pump side)	S35C+SUS316
15	Suction chamber	FC200
16	Screw	SUS304
17	U-nut	SUS304
18	Wide strainer	SUS304
19	Fastening bolt	SUS304
20	Air vent valve	BRASS
21	O-ring	FKM
22	Companion flange	FC150
23	Motor	—

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

Features

- ① Non-seal (mechanical seal-less) structure is adopted.
- ② Stainless steel is used in the pump's main liquid contact part and SIC bearings with increased wear resistance are adopted.
- ③ Measures against air suction into the pump are taken when the fluid level lowers.
- ④ Energy saving by high efficiency impeller!  
Power consumption decreases by 20% compared to conventional models!
- ⑤ The lineup including the models complying with global standards by supporting efficiency and other regulations.  
 Japan : Top Runner efficiency  
 Europe : IE3 efficiency, CE marking(EU Directive)  
 RoHS Directive (2011/65/EU), 10 restricted substances  
 USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)  
 Korea : Energy Efficiency Label and Standard Program (IE3)  
 Canada : CSA standard (efficiency), CSA standard (safety)  
 China : GB3 (GB18613-2020)
- ⑥ The mounting dimension is compatible with conventional models.



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Non-seal structure

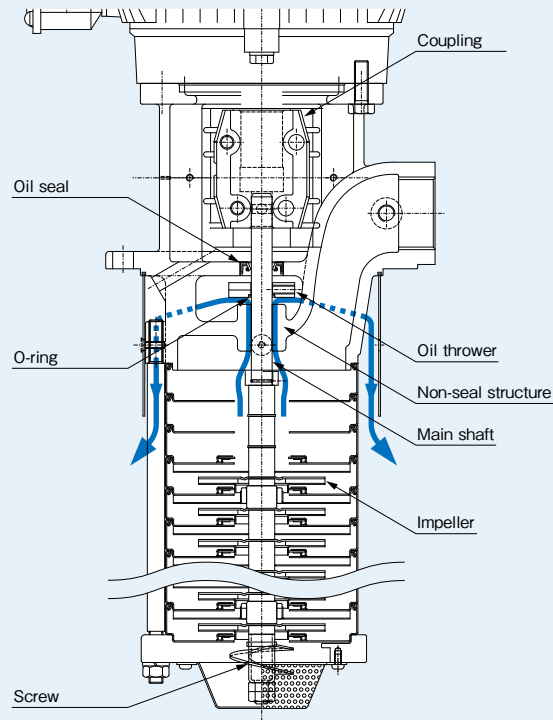
TERAL's original "non-seal" structure allows coolant to flow from a narrow clearance without using a seal between the pump section and the motor section.

The advantages of a non-seal pump

- 1 No trouble such as coolant leaks.**  
Helps cut down on running costs.
- 2 Prevents air entrainment.**  
Reduces initial problems.
- 3 Not easily affected by a small quantity of liquid or shut-off operations.**  
Enables a flexible operation system.

※What is non-seal structure?

This structure inwardly releases coolant by depressurizing through a narrow clearance without the use of a mechanical seal.



Description of types

**50 LVS 10 - 20 / 12 - 6 7.5 -e**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Discharge diameter
- ② Model
- ③ Nominal flow rate (m<sup>3</sup>/h)
- ④ Number of casings
- ⑤ Number of impellers
- ⑥ Frequency 5 : 50Hz 6 : 60Hz
- ⑦ Output
- ⑧ Motor efficiency
- e : Top Runner efficiency (equivalent to IE3)
- 7W : Equipped with NEMA Premium efficiency, UL/CSA certified motor (Output less than 0.75kW complies to safety standards only)
- KS : Equipped with Korea Energy Efficiency Label and Standard Program compliant motor (IE3)

Global standards

Type	Standards/Regulations	Output	
		0.75kW-7.5kW	11kW-18.5kW
LVS-e	Top Runner efficiency (IE3 equivalent)	●	●
	CE Marking EU energy efficiency	●	
	GB3(GB18613-2020)	● <sup>※1</sup>	
LVS-7W	UL Standards (safety) NEMA Premium efficiency	●	
	Canada CSA standard (efficiency, safety)	●	
LVS-KS	Energy Efficiency Label and Standard Program (IE3)	●	

※1 GB certification label is attached as exclusive for GB standard. ● : Compliant

**Standard Specification**

Used liquid	Property of liquid	Water soluble coolants (e.g. grinding liquid, cutting liquid after secondary treatment) <sup>※1</sup>
	Temperature	0 to 90°C (No frozen liquid)
	Allowable kinematic viscosity	1mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40°C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Suction/Discharge casing	FC200
	Intermediate casing	SUS304
	Impeller	SUS304
	Main shaft	SUS420J2
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Type	Totally enclosed fan-cooled outdoor type <sup>※2</sup>
	Protection method	IP55
	Power source	3-phase 50/60/60Hz, 200/200/230V 0.75~7.5kW <sup>※3</sup> 3-phase 50/60/60Hz, 200/200/220V 11~18.5kW
	Thermal class	F <sup>※4</sup>
	Number of poles	2P
	Standard	IEC60034-1
Paint color	Pump	Munsell N1
	Motor	Black

※1 If the liquid contains hard sludge, such as abrasive powder, ground powder, or ground diamond grains, the service life might be shortened. Please set up a filter (magnet filter or paper filter, etc.). Take note that water cannot be used. Contact us for other special liquid (pure water, alkali-acid liquid, ceramic, etc.).

※2 The pump cannot be installed outside.

※3 Korea Energy Efficiency Label and Standard Program (IE3)/NEMA Premium efficiency (IE3), UL Standards (safety) : 3-phase 60Hz 200V-230V GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V

※4 Thermal class of -7W type is class A.

**Special specification**

Motor modifications	Voltage change <sup>※1</sup> , change of terminal box position <sup>※2</sup> , change of terminal box direction <sup>※3</sup>
Change of structure	Stainless steel suction casing <sup>※4</sup>

※1 7.5kW or less (50Hz/380V,400V 60Hz/400V 460V)  
11kW or more(50Hz/380V,400V,415V,420V,440V 60Hz/400V,440V,460V,480V)

※2 Change of terminal box position (every 90° when viewed from above)

※3 Terminal box direction (every 90° when viewed from front), Applicable: 1.5 kW to 18.5 kW

※4 \*-SU\* is appended to the end of model type.

Note: The pump is not 100% made of stainless steel. Discharge casings and companion flanges are made of cast iron.

**Special accessory**

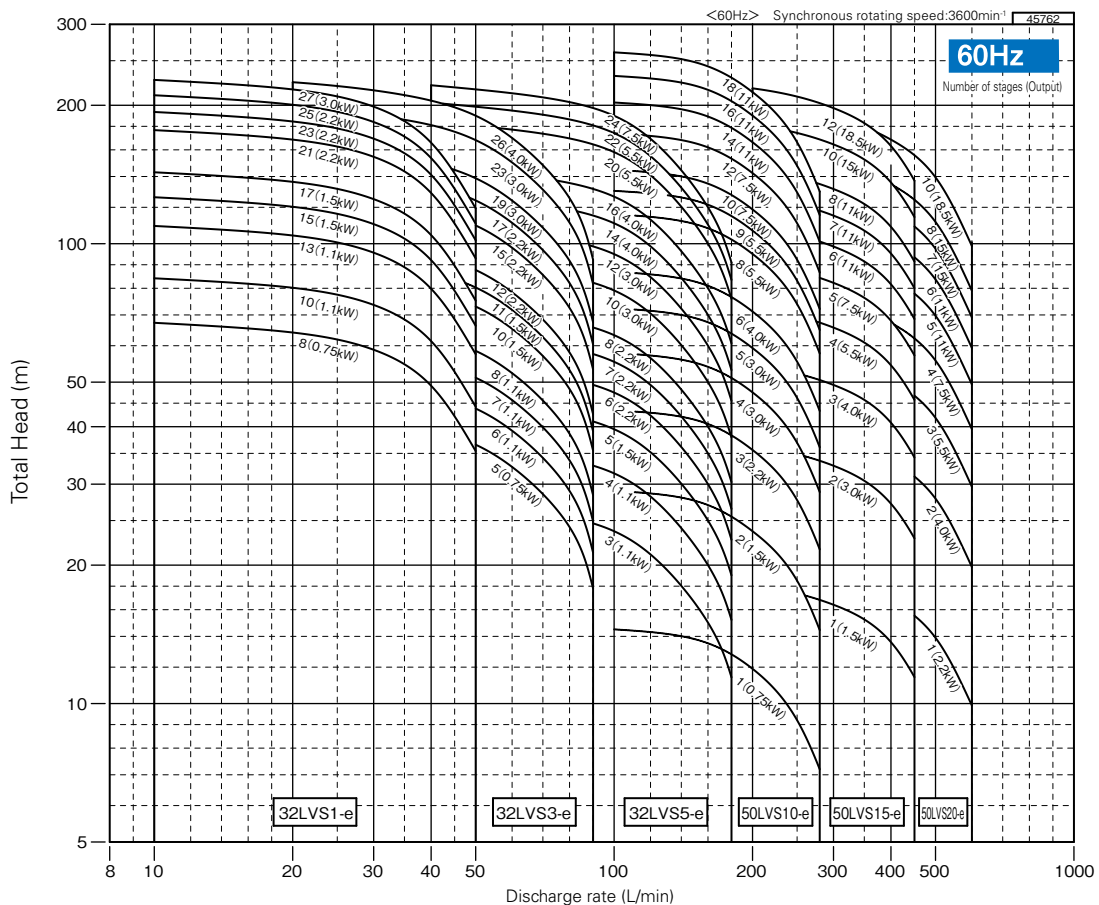
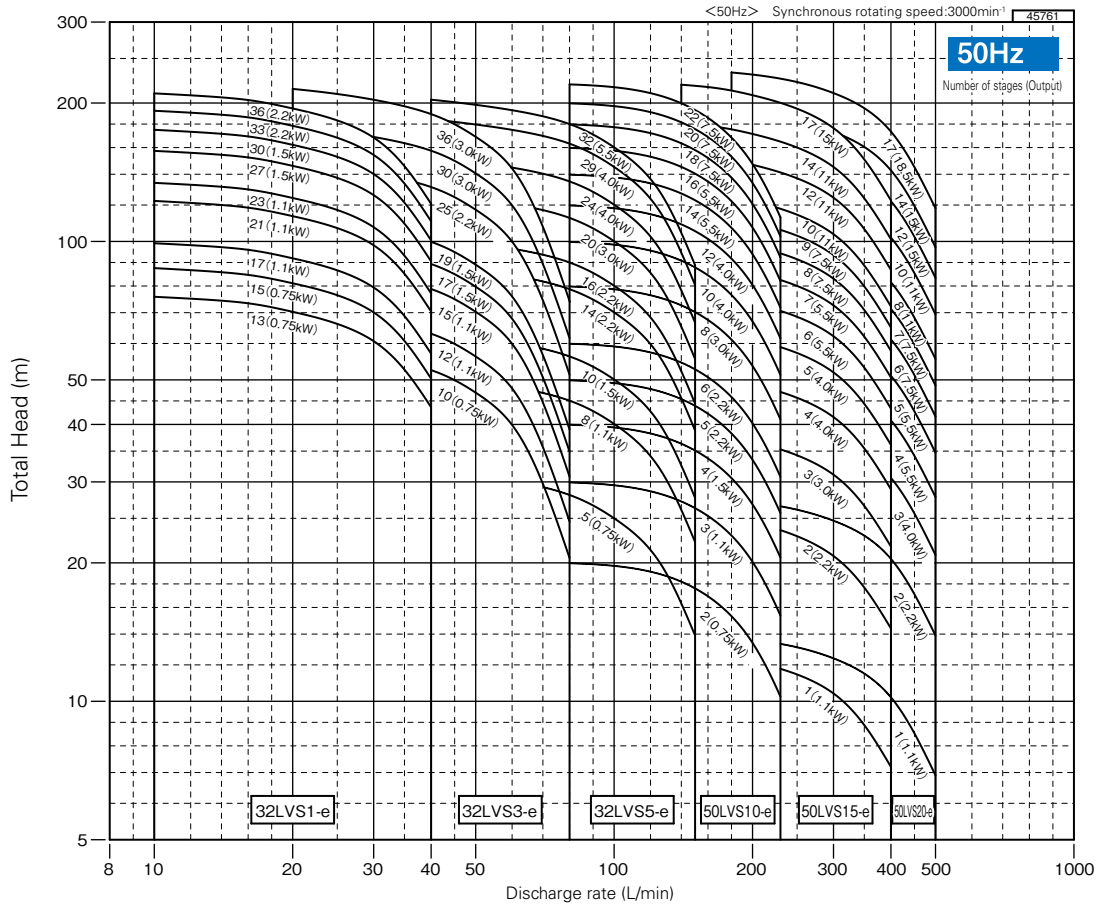
Companion flange (discharge diameter 32 mm)
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**Table of Consumable Parts**

Output (kW)	Bearing		Oil seal				O-ring (For oil thrower) Material: FKM		
	Load side	Unload side	Motor		Discharge casing		Bore diameter 32	Bore diameter 50	
			Load side (Bearing side)	Unload side	Bore diameter 32	Bore diameter 50			
0.75	6204ZZC3	6201ZZC3	—	—	IS12257	SC16328	S12	S16	
1.1		6304ZZC3	—	VC20407					
1.5	VC25407		VC25477						
2.2	VC35557			VC25407					
3.0	6307ZZC3		6305ZZC3						VC35527
4.0	6309ZZC3		6306ZZC3	VC45628					VC30528
5.5			7309B	Please contact us					
7.5		Please contact us							
11	7309B	6309ZZC3	Please contact us						
15			Please contact us						
18.5			Please contact us						

Selection chart

(Values at kinematic viscosity  $1\text{mm}^2/\text{s}$ , specific gravity 1)



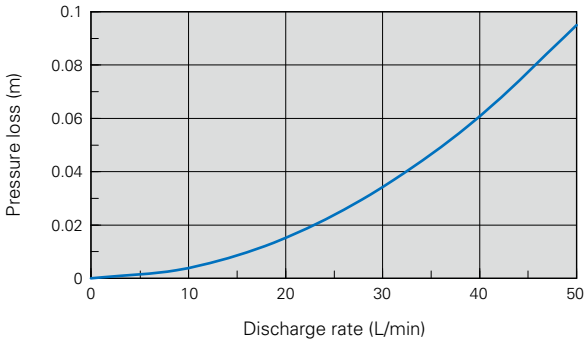
Note 1) The selection chart reflects the full impeller condition of the units. The total head may be decreased depending on the flow rate if empty casings are involved because of pressure loss in the empty casings.

※ Above selection chart (-e) is also available for -KS-7W type.

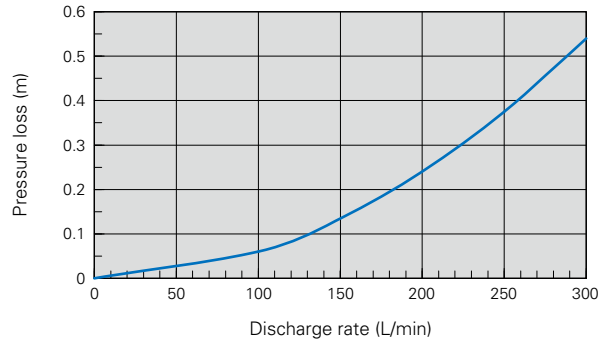
■ Pressure loss in the empty casings (50 Hz/60 Hz)

Pressure loss for 1 stage of empty casing is as follows:

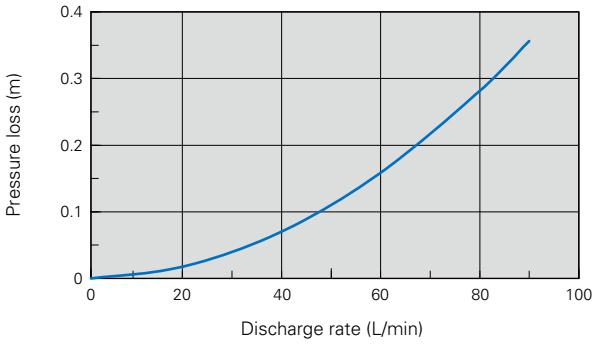
LVS1



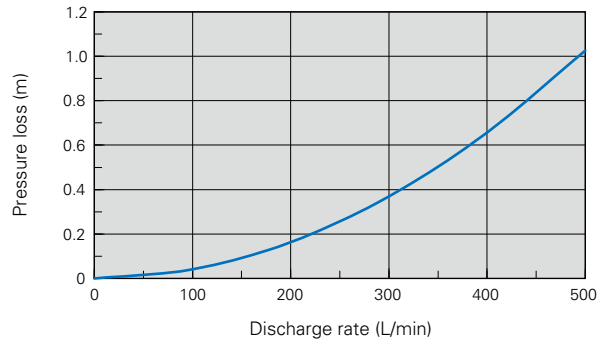
LVS10



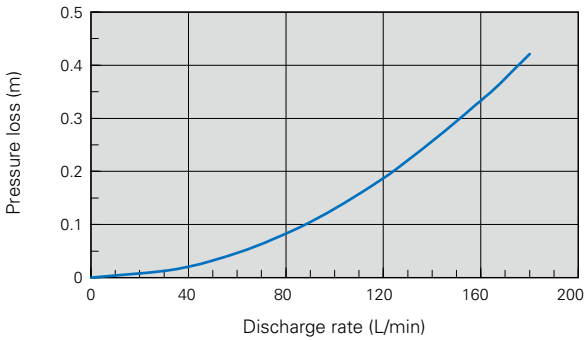
LVS3



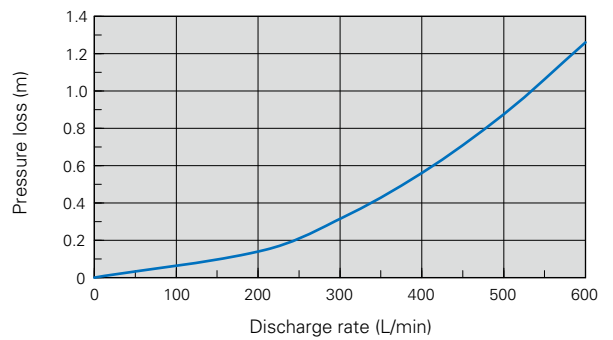
LVS15



LVS5



LVS20



The selection chart is a performance chart of the full-impeller model (all casings are equipped with impeller). A pump with empty casings (without impeller) will have some influence on the total head of the pump depending on the flow rate due to its pressure loss. The pressure loss per 1 stage of empty casing of each model is as shown in the graph above. In the case of a pump with many stages of empty casings, the maximum flow rate may slightly decrease. For details, refer to the characteristic curve chart.

● Calculation example of total pump head in consideration of pressure loss of empty casing

- Pump type : 32LVS5-20/5-5.75-e
- Specification flow rate: 100L/min
- Specification total head: 20m
- The number of stages: 20
- Number of impellers: 5

From the graph above, the pressure loss per 1 stage of empty casing is 0.13 m for a flow rate of 100L/min

The number of stages of the empty casing is 20 - 5 = 15 stages.

Total pressure loss = 0.13 × 15 ≒ 2.0m

From the selection chart, the total head is 25 m for a flow rate of 100L/min.

The pressure loss is subtracted from the total head.

Total head = 25 - 2.0 = 23.0m

Therefore, the total head of 32LVS5-20/5-5.75-e is 23.0 m for a flow rate of 100 L/min.

Specification table

●-e type

50Hz

Bore diameter (mm)	Nominal flow rate (m³/h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)		
32	1	32LVS1-□ /13-5.75-e	0.75	200	3.4	26	10-40	75.5 - 43.5		
		32LVS1-□ /15-5.75-e						87 - 50		
		32LVS1-□ /17-51.1-e	1.1					4.7	34	99 - 56.5
		32LVS1-□ /21-51.1-e								122 - 70
		32LVS1-□ /23-51.1-e	1.5					6.2	47	134 - 77
		32LVS1-□ /27-51.5-e								157 - 90
		32LVS1-□ /30-51.5-e	2.2					8.7	83	174.5 - 100.5
		32LVS1-□ /33-52.2-e								192 - 110.5
	32LVS1-36/36-52.2-e					209.5 - 120.5				
	3	3	32LVS3-□ /10-5.75-e		0.75	3.4	26	20-80	59.5 - 20.5	
			32LVS3-□ /12-51.1-e		1.1	4.7	34		71.5 - 24.5	
			32LVS3-□ /15-51.1-e		1.5	6.2	47		89 - 30.5	
			32LVS3-□ /17-51.5-e						101 - 34.5	
			32LVS3-□ /19-51.5-e		2.2	8.7	83		113 - 38.5	
			32LVS3-□ /25-52.2-e						149 - 51	
			32LVS3-□ /30-53.0-e		3.0	12.2	129		178.5 - 61.5	
			32LVS3-36/36-53.0-e						214.5 - 73.5	
	5	5	32LVS5-□ /5-5.75-e		0.75	3.4	26	40-150	31.5 - 13.5	
			32LVS5-□ /8-51.1-e		1.1	4.7	34		50.5 - 22	
			32LVS5-□ /10-51.5-e		1.5	6.2	47		63 - 27.5	
			32LVS5-□ /14-52.2-e		2.2	8.7	83		88.5 - 38.5	
			32LVS5-□ /16-52.2-e						101 - 44	
			32LVS5-□ /20-53.0-e		3.0	12.2	129		126.5 - 55	
			32LVS5-□ /24-54.0-e						152 - 66.5	
			32LVS5-□ /29-54.0-e		4.0	14.7	145		183.5 - 80	
	32LVS5-32/32-55.5-e	5.5	20.3		204	202.5 - 88.5				
	50	10	50LVS10-□ /2-5.75-e		0.75	3.4	26	80-230	19.5 - 9	
			50LVS10-□ /3-51.1-e		1.1	4.7	34		29.5 - 15	
50LVS10-□ /4-51.5-e			1.5	6.2	47	39.5 - 20.5				
50LVS10-□ /5-52.2-e			2.2	8.7	83	49.5 - 26				
50LVS10-□ /6-52.2-e						59.5 - 31				
50LVS10-□ /8-53.0-e			3.0	12.2	129	79.5 - 41.5				
50LVS10-□ /10-54.0-e			4.0	14.7	145	99.5 - 52				
50LVS10-□ /12-54.0-e						119.5 - 62.5				
50LVS10-□ /14-55.5-e			5.5	20.3	204	139.5 - 73				
50LVS10-□ /16-55.5-e						159.5 - 83.5				
50LVS10-□ /18-57.5-e			7.5	27.2	290	179.5 - 94				
50LVS10-□ /20-57.5-e						199.5 - 104.5				
50LVS10-22/22-57.5-e					219 - 114.5					
15		15	50LVS15-□ /1-51.1-e	1.1	4.7	34	140-400	12.5 - 5.5		
			50LVS15-□ /2-52.2-e	2.2	8.7	83		25.5 - 13.5		
			50LVS15-□ /3-53.0-e	3.0	12.2	129		38.5 - 21.5		
			50LVS15-□ /4-54.0-e	4.0	14.7	145		51.5 - 28.5		
			50LVS15-□ /5-54.0-e					64.5 - 36		
			50LVS15-□ /6-55.5-e	5.5	20.3	204		77 - 43		
			50LVS15-□ /7-55.5-e					90 - 50.5		
			50LVS15-□ /8-57.5-e	7.5	27.2	290		103 - 57.5		
			50LVS15-□ /9-57.5-e					116 - 65		
			50LVS15-□ /10-511-e	11	40.5	361		129 - 72		
			50LVS15-□ /12-511-e					154.5 - 86.5		
			50LVS15-□ /14-511-e					180.5 - 101		
50LVS15-17/17-515-e		15	54.0	484	219 - 122.5					
20		20	50LVS20-□ /1-51.1-e	1.1	4.7	34	180-500	13 - 5		
			50LVS20-□ /2-52.2-e	2.2	8.7	83		27 - 13		
			50LVS20-□ /3-54.0-e	4.0	14.7	145		41 - 20.5		
			50LVS20-□ /4-55.5-e	5.5	20.3	204		54.5 - 27.5		
			50LVS20-□ /5-55.5-e					68.5 - 34.5		
			50LVS20-□ /6-57.5-e	7.5	27.2	290		82 - 41.5		
	50LVS20-□ /7-57.5-e		95.9 - 48.5							
	50LVS20-□ /8-511-e		11	40.5	361	109.5 - 55.5				
	50LVS20-□ /10-511-e					137 - 69				
	50LVS20-□ /12-515-e		15	54.0	484	163 - 83				
50LVS20-□ /14-515-e	191.5 - 97									
50LVS20-17/17-518-e	18.5	66.0	563	232.5 - 117.5						

Note) The rated current in the table above is the recommended setting for the current value of the protective device.



●-e (380V)

50Hz

Bore diameter (mm)	Nominal flow rate (m³/h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)		
32	1	32LVS1-□/13-5.75-e	0.75	380	1.7	12.5	10-40	75.5 - 43.5		
		32LVS1-□/15-5.75-e						87 - 50		
		32LVS1-□/17-5.1.1-e	1.1		2.4	16.3		99 - 56.5		
		32LVS1-□/21-5.1.1-e						122 - 70		
		32LVS1-□/23-5.1.1-e	1.5		3.2	22.4		134 - 77		
		32LVS1-□/27-5.1.5-e						157 - 90		
		32LVS1-□/30-5.1.5-e	2.2		4.5	38		174.5 - 100.5		
		32LVS1-□/33-52.2-e						192 - 110.5		
	32LVS1-36/36-52.2-e					209.5 - 120.5				
	3	32LVS3-□/10-5.75-e	0.75		1.7	12.5	20-80	59.5 - 20.5		
								32LVS3-□/12-5.1.1-e	71.5 - 24.5	
		32LVS3-□/15-5.1.1-e	1.1		2.4	16.3		89 - 30.5		
		32LVS3-□/17-5.1.5-e						101 - 34.5		
		32LVS3-□/19-5.1.5-e	1.5		3.2	22.4		113 - 38.5		
		32LVS3-□/25-52.2-e						149 - 51		
		32LVS3-□/30-53.0-e	2.2		4.5	38		178.5 - 61.5		
		32LVS3-36/36-53.0-e						214.5 - 73.5		
	5	32LVS5-□/5-5.75-e	0.75		1.7	12.5	40-150	31.5 - 13.5		
								32LVS5-□/8-5.1.1-e	50.5 - 22	
		32LVS5-□/10-5.1.5-e	1.1		2.4	16.3		63 - 27.5		
		32LVS5-□/14-52.2-e						88.5 - 38.5		
		32LVS5-□/16-52.2-e	1.5		3.2	22.4		101 - 44		
		32LVS5-□/20-53.0-e						126.5 - 55		
		32LVS5-□/24-54.0-e	2.2		4.5	38		152 - 66.5		
		32LVS5-□/29-54.0-e						183.5 - 80		
	32LVS5-32/32-55.5-e	5.5	10.6		96.5	202.5 - 88.5				
	50	10	50LVS10-□/2-5.75-e		0.75	380	1.7	12.5	80-230	19.5 - 9
			50LVS10-□/3-5.1.1-e		1.1					29.5 - 15
50LVS10-□/4-5.1.5-e			1.5	2.4	16.3		39.5 - 20.5			
50LVS10-□/5-52.2-e			2.2				3.2	22.4		49.5 - 26
50LVS10-□/6-52.2-e				3.0	4.5					38
50LVS10-□/8-53.0-e			4.0				6.3	60.5		
50LVS10-□/10-54.0-e				5.5	7.7					69
50LVS10-□/12-54.0-e			7.5				10.6	96.5		
50LVS10-□/14-55.5-e				14.2	137					139.5 - 73
50LVS10-□/16-55.5-e			75				14.2	137		159.5 - 83.5
50LVS10-□/18-57.5-e				219 - 114.5	14.2					137
50LVS10-□/20-57.5-e			7.5				14.2	137		
50LVS10-22/22-57.5-e									219 - 114.5	
15		50LVS15-□/1-5.1.1-e	1.1	2.4	16.3		140-400	12.5 - 5.5		
								50LVS15-□/2-52.2-e	25.5 - 13.5	
		50LVS15-□/3-53.0-e	2.2	4.5	38			38.5 - 21.5		
		50LVS15-□/4-54.0-e						51.5 - 28.5		
		50LVS15-□/5-54.0-e	4.0	7.7	69			64.5 - 36		
		50LVS15-□/6-55.5-e						77 - 43		
		50LVS15-□/7-55.5-e	5.5	10.6	96.5			90 - 50.5		
		50LVS15-□/8-57.5-e						103 - 57.5		
50LVS15-□/9-57.5-e		75	14.2	137	116 - 65					
20		50LVS20-□/1-5.1.1-e	1.1	2.4	16.3		180-500	13 - 5		
								50LVS20-□/2-52.2-e	27 - 13	
		50LVS20-□/3-54.0-e	2.2	4.5	38			41 - 20.5		
		50LVS20-□/4-55.5-e						54.5 - 27.5		
		50LVS20-□/5-55.5-e	4.0	7.7	69			68.5 - 34.5		
		50LVS20-□/6-57.5-e						82 - 41.5		
	50LVS20-□/7-57.5-e	5.5	10.6	96.5	95.5 - 48.5					
	50LVS20-□/7-57.5-e									

Note 1) Contact us when your applications involve oil-based coolant liquid or special liquid (e.g. pure water, alkaline/acidic liquids).  
 Note 2) The rated current is the recommended current setting for the protection device.

●-e type

60Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)								
32	1	32LVS1-□/8-6.75-e	0.75	200/230	3.2/3.1	25.0/28.5	10-50	67 - 35								
		32LVS1-□/10-61.1-e	1.1		4.4/4.1	32.5/37.0		84 - 44								
		32LVS1-□/13-61.1-e			2.2	5.9/5.4		41.0/47.6	109 - 57							
		32LVS1-□/15-61.5-e	1.5			8.4/7.6		78.0/82.6	126 - 66							
		32LVS1-□/17-61.5-e							2.2	115/135	142.5 - 75					
		32LVS1-□/21-62.2-e	3.0			11.5/10.8		115/135			176.5 - 92.5					
		32LVS1-□/23-62.2-e							2.2	8.4/7.6	78.0/82.6	193 - 101.5				
		32LVS1-□/25-62.2-e	3.0			11.5/10.8		115/135				210 - 110.5				
	32LVS1-□/27-63.0-e	3.0			14.3/12.8		132/151		227 - 119							
	3		32LVS3-□/5-6.75-e			0.75		3.2/3.1	25.0/28.5	20-90	43 - 17.5					
			32LVS3-□/6-61.1-e			1.1		4.4/4.1	32.5/37.0		51.5 - 21					
			32LVS3-□/7-61.1-e								1.5	5.9/5.4	41.0/47.6	60 - 24.5		
			32LVS3-□/8-61.1-e			2.2		8.4/7.6	78.0/82.6					69 - 28		
			32LVS3-□/10-61.5-e											1.5	11.5/10.8	115/135
			32LVS3-□/11-61.5-e			2.2		14.3/12.8	132/151							
			32LVS3-□/12-62.2-e											3.0	11.5/10.8	115/135
		32LVS3-□/15-62.2-e	4.0		14.3/12.8	132/151	129.5 - 53									
	32LVS3-□/17-62.2-e	3.0					11.5/10.8	115/135	146.5 - 60							
	32LVS3-□/19-63.0-e		4.0		14.3/12.8	132/151			164 - 67							
	32LVS3-□/23-63.0-e	4.0					19.8/17.8	178/206	198.5 - 81.5							
	32LVS3-□/26-64.0-e		5.5		26.5/23.7	254/295			224.5 - 92							
	5								32LVS5-□/3-61.1-e	1.1	4.4/4.1	32.5/37.0	40-180	27.5 - 11		
									32LVS5-□/4-61.1-e	1.5	5.9/5.4	41.0/47.6		36.5 - 15		
									32LVS5-□/5-61.5-e					2.2	8.4/7.6	78.0/82.6
									32LVS5-□/6-62.2-e	3.0	11.5/10.8	115/135				
									32LVS5-□/7-62.2-e					4.0	14.3/12.8	132/151
									32LVS5-□/8-62.2-e	5.5	19.8/17.8	178/206				
		32LVS5-□/10-63.0-e					7.5	26.5/23.7	254/295					92 - 37.5		
		32LVS5-□/12-63.0-e	4.0		14.3/12.8	132/151				110.5 - 45						
	32LVS5-□/14-64.0-e	5.5					19.8/17.8	178/206	128.5 - 53							
	32LVS5-□/16-64.0-e		7.5		26.5/23.7	254/295			147 - 60.5							
	32LVS5-□/20-65.5-e	7.5					38.3/34.8	296/333	184 - 75.5							
32LVS5-□/22-65.5-e	11		53.0/49.0	397/447	202.5 - 83											
32LVS5-□/24-67.5-e					18.5	65.0/59.0			456/515	221 - 90.5						
50										10	50LVS10-□/1-6.75-e	0.75	3.2/3.1	25.0/28.5	100-280	14 - 5
											50LVS10-□/2-61.5-e	1.5	5.9/5.4	41.0/47.6		28.5 - 13
											50LVS10-□/3-62.2-e	2.2	8.4/7.6	78.0/82.6		43 - 21
											50LVS10-□/4-63.0-e	3.0	11.5/10.8	115/135		57.5 - 28.5
											50LVS10-□/5-63.0-e					4.0
		50LVS10-□/6-64.0-e					5.5	19.8/17.8			178/206	86.5 - 44				
	50LVS10-□/8-65.5-e	7.5	26.5/23.7	254/295								115.5 - 58.5				
	50LVS10-□/9-65.5-e				11	38.3/34.8	296/333	130 - 66								
	50LVS10-□/10-67.5-e	11	53.0/49.0	397/447				144.5 - 73								
	50LVS10-□/12-67.5-e				18.5	65.0/59.0	456/515	173.5 - 88								
50LVS10-□/14-611-e	11	38.3/34.8	296/333	202.5 - 102.5												
50LVS10-□/16-611-e				11	53.0/49.0	397/447	231.5 - 117									
50LVS10-□/18-611-e	18.5	65.0/59.0	456/515				260.5 - 132									
50				15	50LVS15-□/1-61.5-e	1.5	5.9/5.4	41.0/47.6	160-450	18 - 9.5						
	50LVS15-□/2-63.0-e	3.0	11.5/10.8		115/135	37 - 22										
	50LVS15-□/3-64.0-e	4.0	14.3/12.8		132/151	55.5 - 34.5										
	50LVS15-□/4-65.5-e	5.5	19.8/17.8		178/206	74 - 46										
	50LVS15-□/5-67.5-e	7.5	26.5/23.7		254/295	92.5 - 57.5										
	50LVS15-□/6-611-e	11	38.3/34.8	296/333	111 - 69											
	50LVS15-□/7-611-e				15	53.0/49.0	397/447	130 - 81								
	50LVS15-□/8-611-e	18.5	65.0/59.0	456/515				148.5 - 92.5								
	50LVS15-□/10-615-e				18.5	65.0/59.0	456/515	185.5 - 115.5								
	50LVS15-□/12-618-e	2.2	8.4/7.6	78.0/82.6				222.5 - 138.5								
20	20				50LVS20-□/1-62.2-e	2.2	8.4/7.6	78.0/82.6	220-600	19 - 7						
		50LVS20-□/2-64.0-e	4.0	14.3/12.8	132/151	39 - 18										
	50LVS20-□/3-65.5-e	5.5	19.8/17.8	178/206	58.5 - 29.5											
	50LVS20-□/4-67.5-e	7.5	26.5/23.7	254/295	78 - 39.5											
	50LVS20-□/5-611-e	11	38.3/34.8	296/333	98 - 49											
	50LVS20-□/6-611-e				15	53.0/49.0	397/447	117.5 - 59								
	50LVS20-□/7-615-e	18.5	65.0/59.0	456/515				137 - 69								
	50LVS20-□/8-615-e				18.5	65.0/59.0	456/515	156.5 - 79								
50LVS20-□/10-618-e	18.5	65.0/59.0	456/515	196 - 98.5												

Note) The rated current in the table above is the recommended setting for the current value of the protective device.

●-7W type

60Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)	
32	1	32LVS1-□/8-6.75-7W	0.75	200-230	3.2-3.1	25.0-28.5	10-50	67 - 35	
		32LVS1-□/10-61.1-7W	1.1		4.4-4.1	32.5-37.0		84 - 44	
		32LVS1-□/13-61.1-7W			1.5	5.9-5.4		41.0-47.6	109 - 57
		32LVS1-□/15-61.5-7W	2.2			8.4-7.6		78.0-82.6	126 - 66
		32LVS1-□/17-61.5-7W			3.0				11.5-10.8
		32LVS1-□/21-62.2-7W	2.2			8.4-7.6		78.0-82.6	
		32LVS1-□/23-62.2-7W			3.0				11.5-10.8
		32LVS1-□/25-62.2-7W	4.0			14.3-12.8		132-151	
	32LVS1-□/27-63.0-7W	3			32LVS3-□/5-6.75-7W		0.75		3.2-3.1
	32LVS3-□/6-61.1-7W		1.1		4.4-4.1	32.5-37.0	43 - 17.5		
	32LVS3-□/7-61.1-7W						1.5	5.9-5.4	41.0-47.6
	32LVS3-□/8-61.1-7W		2.2		8.4-7.6	78.0-82.6			
	32LVS3-□/10-61.5-7W						3.0	11.5-10.8	115-135
	32LVS3-□/11-61.5-7W		4.0		14.3-12.8	132-151			
	32LVS3-□/12-62.2-7W						2.2	8.4-7.6	78.0-82.6
	32LVS3-□/15-62.2-7W		3.0		11.5-10.8	115-135			
	32LVS3-□/17-62.2-7W						4.0	14.3-12.8	132-151
	32LVS3-□/19-63.0-7W		1.1		4.4-4.1	32.5-37.0			
	32LVS3-□/23-63.0-7W						1.5	5.9-5.4	41.0-47.6
	32LVS3-□/26-64.0-7W		2.2		8.4-7.6	78.0-82.6			
	32LVS5-□/3-61.1-7W	3.0					11.5-10.8	115-135	224.5 - 92
	32LVS5-□/4-61.1-7W		4.0		14.3-12.8	132-151			27.5 - 11
	32LVS5-□/5-61.5-7W	1.1					4.4-4.1	32.5-37.0	36.5 - 15
	32LVS5-□/6-62.2-7W		1.5		5.9-5.4	41.0-47.6			46 - 18.5
	32LVS5-□/7-62.2-7W	2.2					8.4-7.6	78.0-82.6	55 - 22.5
	32LVS5-□/8-62.2-7W		3.0		11.5-10.8	115-135			64 - 26.5
	32LVS5-□/10-63.0-7W	4.0					14.3-12.8	132-151	73.5 - 30
	32LVS5-□/12-63.0-7W		5.5		19.8-17.8	178-206			92 - 37.5
	32LVS5-□/14-64.0-7W	7.5					26.5-23.7	254-295	110.5 - 45
	32LVS5-□/16-64.0-7W		1.1		4.4-4.1	32.5-37.0			128.5 - 53
	32LVS5-□/20-65.5-7W	1.5					5.9-5.4	41.0-47.6	147 - 60.5
	32LVS5-□/22-65.5-7W		2.2		8.4-7.6	78.0-82.6			184 - 75.5
32LVS5-□/24-67.5-7W	3.0	11.5-10.8		115-135			202.5 - 83		
50			10		50LVS10-□/1-6.75-7W	0.75	3.2-3.1	25.0-28.5	100-280
	50LVS10-□/2-61.5-7W	1.5		5.9-5.4	41.0-47.6	28.5 - 13			
	50LVS10-□/3-62.2-7W	2.2		8.4-7.6	78.0-82.6	43 - 21			
	50LVS10-□/4-63.0-7W	3.0		11.5-10.8	115-135	57.5 - 28.5			
	50LVS10-□/5-63.0-7W					4.0	14.3-12.8	132-151	
	50LVS10-□/6-64.0-7W	5.5		19.8-17.8	178-206				
	50LVS10-□/8-65.5-7W					7.5	26.5-23.7	254-295	
	50LVS10-□/9-65.5-7W	1.5		5.9-5.4	41.0-47.6				
	50LVS10-□/10-67.5-7W					3.0	11.5-10.8	115-135	
	50LVS10-□/12-67.5-7W	4.0		14.3-12.8	132-151				
	15		50LVS15-□/1-61.5-7W			1.5	5.9-5.4	41.0-47.6	160-450
		50LVS15-□/2-63.0-7W	3.0	11.5-10.8	115-135	37 - 22			
		50LVS15-□/3-64.0-7W	4.0	14.3-12.8	132-151	55.5 - 34.5			
		50LVS15-□/4-65.5-7W	5.5	19.8-17.8	178-206	74 - 46			
		50LVS15-□/5-67.5-7W	7.5	26.5-23.7	254-295	92.5 - 57.5			
	20	50LVS20-□/1-62.2-7W	2.2	8.4-7.6	78.0-82.6	220-600	19 - 7		
		50LVS20-□/2-64.0-7W	4.0	14.3-12.8	132-151		39 - 18		
		50LVS20-□/3-65.5-7W	5.5	19.8-17.8	178-206		58.5 - 29.5		
		50LVS20-□/4-67.5-7W	7.5	26.5-23.7	254-295		78 - 39.5		

Note 1) Contact us when your applications involve oil-based coolant liquid or special liquid (e.g. pure water, alkaline/acidic liquids).

Note 2) The rated current is the recommended current setting for the protection device.

## ●-KS type

60Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)	
32	1	32LVS1-□/8-6.75-KS	0.75	200-230	3.2-3.1	25.0-28.5	10-50	67 - 35	
		32LVS1-□/10-61.1-KS	1.1		4.4-4.1	32.5-37.0		84 - 44	
		32LVS1-□/13-61.1-KS			1.5	5.9-5.4		41.0-47.6	109 - 57
		32LVS1-□/15-61.5-KS	2.2			8.4-7.6		78.0-82.6	126 - 66
		32LVS1-□/17-61.5-KS			3.0				11.5-10.8
		32LVS1-□/21-62.2-KS	2.2			8.4-7.6		78.0-82.6	
		32LVS1-□/23-62.2-KS			3.0				11.5-10.8
		32LVS1-□/25-62.2-KS	4.0			14.3-12.8		132-151	
	32LVS1-□/27-63.0-KS	3			32LVS3-□/5-6.75-KS		0.75		3.2-3.1
	32LVS3-□/6-61.1-KS		1.1		4.4-4.1	32.5-37.0	43 - 17.5		
	32LVS3-□/7-61.1-KS						1.5	5.9-5.4	41.0-47.6
	32LVS3-□/8-61.1-KS		2.2		8.4-7.6	78.0-82.6			
	32LVS3-□/10-61.5-KS						3.0	11.5-10.8	115-135
	32LVS3-□/11-61.5-KS		4.0		14.3-12.8	132-151			
	32LVS3-□/12-62.2-KS						3.0	11.5-10.8	115-135
	32LVS3-□/15-62.2-KS		4.0		14.3-12.8	132-151			
	32LVS3-□/17-62.2-KS	5.5					19.8-17.8	178-206	129.5 - 53
	32LVS3-□/19-63.0-KS		7.5		26.5-23.7	254-295			146.5 - 60
	32LVS3-□/23-63.0-KS	1.1					4.4-4.1	32.5-37.0	164 - 67
	32LVS3-□/26-64.0-KS		1.5		5.9-5.4	41.0-47.6			198.5 - 81.5
	32LVS5-□/3-61.1-KS	2.2					8.4-7.6	78.0-82.6	224.5 - 92
	32LVS5-□/4-61.1-KS		3.0		11.5-10.8	115-135			275 - 11
	32LVS5-□/5-61.5-KS	4.0					14.3-12.8	132-151	36.5 - 15
	32LVS5-□/6-62.2-KS		5.5		19.8-17.8	178-206			46 - 18.5
	32LVS5-□/7-62.2-KS	7.5					26.5-23.7	254-295	55 - 22.5
	32LVS5-□/8-62.2-KS		1.1		4.4-4.1	32.5-37.0			64 - 26.5
	32LVS5-□/10-63.0-KS	1.5					5.9-5.4	41.0-47.6	73.5 - 30
	32LVS5-□/12-63.0-KS		2.2		8.4-7.6	78.0-82.6			92 - 37.5
	32LVS5-□/14-64.0-KS	3.0					11.5-10.8	115-135	110.5 - 45
	32LVS5-□/16-64.0-KS		4.0		14.3-12.8	132-151			128.5 - 53
	32LVS5-□/20-65.5-KS	5.5					19.8-17.8	178-206	147 - 60.5
	32LVS5-□/22-65.5-KS		7.5		26.5-23.7	254-295			184 - 75.5
32LVS5-□/24-67.5-KS	1.1	4.4-4.1		32.5-37.0			202.5 - 83		
50LVS10-□/1-6.75-KS			1.5		5.9-5.4	41.0-47.6	221 - 90.5		
50LVS10-□/2-61.5-KS	3.0	11.5-10.8		115-135			14 - 5		
50LVS10-□/3-62.2-KS			4.0		14.3-12.8	132-151	28.5 - 13		
50LVS10-□/4-63.0-KS	5.5	19.8-17.8		178-206			43 - 21		
50LVS10-□/5-63.0-KS			7.5		26.5-23.7	254-295	57.5 - 28.5		
50LVS10-□/6-64.0-KS	1.5	5.9-5.4		41.0-47.6			72 - 36.5		
50LVS10-□/8-65.5-KS			3.0		11.5-10.8	115-135	86.5 - 44		
50LVS10-□/9-65.5-KS	4.0	14.3-12.8		132-151			115.5 - 58.5		
50LVS10-□/10-67.5-KS			5.5		19.8-17.8	178-206	130 - 66		
50LVS10-□/12-67.5-KS	7.5	26.5-23.7		254-295			144.5 - 73		
50LVS15-□/1-61.5-KS			2.2		8.4-7.6	78.0-82.6	173.5 - 88		
50LVS15-□/2-63.0-KS	4.0	14.3-12.8		132-151			18 - 9.5		
50LVS15-□/3-64.0-KS			5.5		19.8-17.8	178-206	37 - 22		
50LVS15-□/4-65.5-KS	7.5	26.5-23.7		254-295			55.5 - 34.5		
50LVS15-□/5-67.5-KS			2.2		8.4-7.6	78.0-82.6	74 - 46		
50LVS20-□/1-62.2-KS	4.0	14.3-12.8		132-151			92.5 - 57.5		
50LVS20-□/2-64.0-KS			5.5		19.8-17.8	178-206	19 - 7		
50LVS20-□/3-65.5-KS	7.5	26.5-23.7		254-295			39 - 18		
50LVS20-□/4-67.5-KS			1.5		5.9-5.4	41.0-47.6	58.5 - 29.5		
	3.0	11.5-10.8		115-135			78 - 39.5		
			4.0		14.3-12.8	132-151			
	5.5	19.8-17.8		178-206					
			7.5		26.5-23.7	254-295			

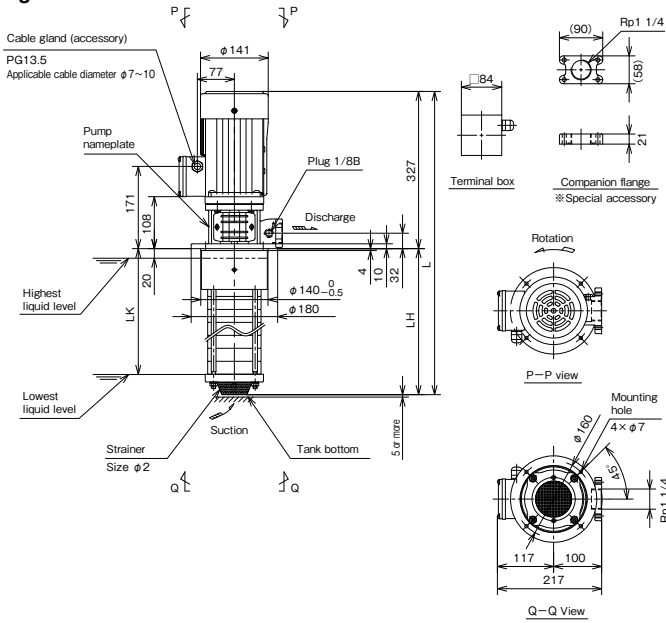
Note 1) Contact us when your applications involve oil-based coolant liquid or special liquid (e.g. pure water, alkaline/acidic liquids).

Note 2) The rated current is the recommended current setting for the protection device.

Assembly drawing

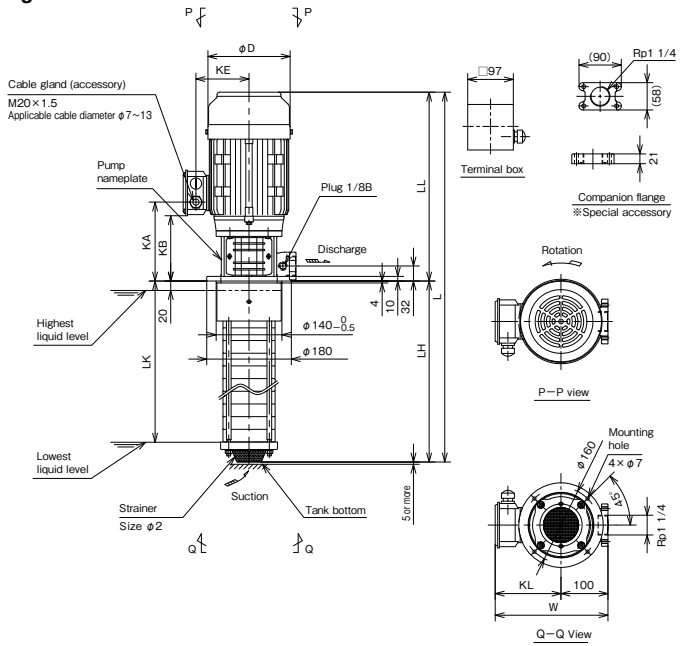
● Discharge diameter : 32mm

Fig.1



※ Output 0.75kW

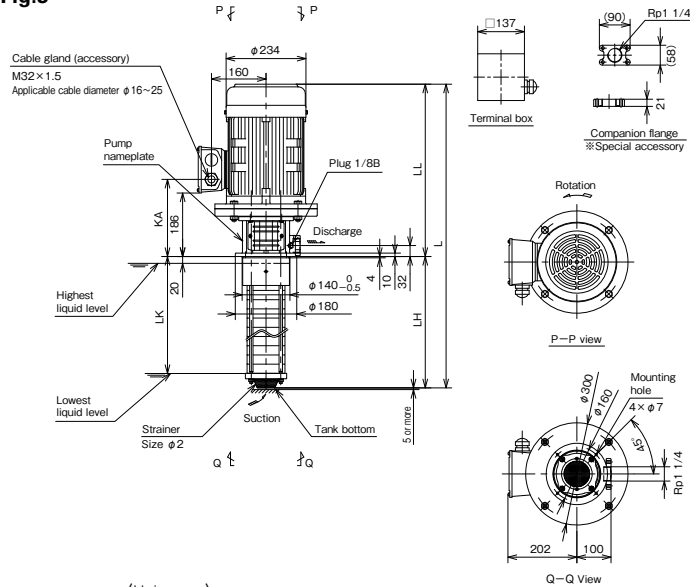
Fig.2



(Unit : mm)

Output kW	D	KA	KB	KE	KL	LL	W
1.1	175	147	118	113	140	381	240
1.5/2.2	175	168	139	113	140	402	240
3.0	196	179	149	125	152	435	252
4.0	219	183	154	134	161	442	—

Fig.3



(Unit : mm)

Output kW	LL	KA
5.5	505	226
7.5	545	227

## Dimensions

● Discharge diameter : 32mm, Nominal flow rate : 1m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVS1-13/13-5.75-e	1	676	349	307	21
32LVS1-15/13-5.75-e		712	385	343	22
32LVS1-17/13-5.75-e		748	421	379	22
32LVS1-21/13-5.75-e		820	493	451	23
32LVS1-25/13-5.75-e		892	565	523	24
32LVS1-15/15-5.75-e		712	385	343	22
32LVS1-17/15-5.75-e		748	421	379	22
32LVS1-21/15-5.75-e		820	493	451	23
32LVS1-25/15-5.75-e		892	565	523	24
32LVS1-17/17-51.1-e		2	802	421	379
32LVS1-21/17-51.1-e	874		493	451	27
32LVS1-25/17-51.1-e	946		565	523	28
32LVS1-30/17-51.1-e	1036		655	613	30
32LVS1-21/21-51.1-e	874		493	451	28
32LVS1-25/21-51.1-e	946		565	523	29
32LVS1-30/21-51.1-e	1036		655	613	30
32LVS1-33/21-51.1-e	1090		709	667	30
32LVS1-23/23-51.1-e	910		529	487	28
32LVS1-25/23-51.1-e	946		565	523	29
32LVS1-30/23-51.1-e	1036		655	613	30
32LVS1-33/23-51.1-e	1090		709	667	31
32LVS1-36/23-51.1-e	1144		763	721	31
32LVS1-27/27-51.5-e	1003		601	559	34
32LVS1-33/27-51.5-e	1111		709	667	35
32LVS1-36/27-51.5-e	1165		763	721	36
32LVS1-30/30-51.5-e	1057		655	613	34
32LVS1-33/30-51.5-e	1111		709	667	35
32LVS1-36/30-51.5-e	1165		763	721	36
32LVS1-33/33-52.2-e	1111		709	667	39
32LVS1-36/33-52.2-e	1165		763	721	39
32LVS1-36/36-52.2-e	1165		763	721	39

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
32LVS1-8/8-6.75-□	1	586	259	217	20	
32LVS1-10/8-6.75-□		622	295	253	20	
32LVS1-13/8-6.75-□		676	349	307	21	
32LVS1-15/8-6.75-□		712	385	343	22	
32LVS1-17/8-6.75-□		748	421	379	22	
32LVS1-21/8-6.75-□		820	493	451	23	
32LVS1-25/8-6.75-□		892	565	523	24	
32LVS1-10/10-61.1-□		2	676	295	253	25
32LVS1-13/10-61.1-□			730	349	307	25
32LVS1-15/10-61.1-□			766	385	343	26
32LVS1-17/10-61.1-□	802		421	379	26	
32LVS1-21/10-61.1-□	874		493	451	27	
32LVS1-25/10-61.1-□	946		565	523	28	
32LVS1-13/13-61.1-□	730		349	307	25	
32LVS1-15/13-61.1-□	766		385	343	26	
32LVS1-17/13-61.1-□	802		421	379	26	
32LVS1-21/13-61.1-□	874		493	451	27	
32LVS1-25/13-61.1-□	946		565	523	28	
32LVS1-15/15-61.5-□	787		385	343	30	
32LVS1-17/15-61.5-□	823		421	379	31	
32LVS1-21/15-61.5-□	895		493	451	31	
32LVS1-25/15-61.5-□	967		565	523	32	
32LVS1-30/15-61.5-□	1057		655	613	34	
32LVS1-17/17-61.5-□	823		421	379	31	
32LVS1-21/17-61.5-□	895		493	451	32	
32LVS1-25/17-61.5-□	967		565	523	33	
32LVS1-30/17-61.5-□	1057		655	613	34	
32LVS1-33/17-61.5-□	1111	709	667	34		
32LVS1-21/21-62.2-□	895	493	451	35		
32LVS1-25/21-62.2-□	967	565	523	36		
32LVS1-30/21-62.2-□	1057	655	613	37		
32LVS1-33/21-62.2-□	1111	709	667	38		
32LVS1-36/21-62.2-□	1165	763	721	39		
32LVS1-23/23-62.2-□	931	529	487	36		
32LVS1-27/23-62.2-□	1003	601	559	37		
32LVS1-30/23-62.2-□	1057	655	613	37		
32LVS1-33/23-62.2-□	1111	709	667	38		
32LVS1-36/23-62.2-□	1165	763	721	39		
32LVS1-25/25-62.2-□	967	565	523	36		
32LVS1-27/25-62.2-□	1003	601	559	37		
32LVS1-30/25-62.2-□	1057	655	613	38		
32LVS1-33/25-62.2-□	1111	709	667	38		
32LVS1-36/25-62.2-□	1165	763	721	39		
32LVS1-27/27-63.0-□	1036	601	559	45		
32LVS1-30/27-63.0-□	1090	655	613	46		
32LVS1-33/27-63.0-□	1144	709	667	46		
32LVS1-36/27-63.0-□	1198	763	721	47		

Note 1) "□" in pump type can be any one of -e/-KS/-7W.

●Discharge diameter : 32mm, Nominal flow rate : 3m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVS3-10/10-5.75-e	1	622	295	253	20
32LVS3-12/10-5.75-e		658	331	289	21
32LVS3-15/10-5.75-e		712	385	343	22
32LVS3-19/10-5.75-e		784	457	415	23
32LVS3-23/10-5.75-e		856	529	487	23
32LVS3-12/12-51.1-e	2	712	331	289	25
32LVS3-15/12-51.1-e		766	385	343	26
32LVS3-19/12-51.1-e		838	457	415	27
32LVS3-23/12-51.1-e		910	529	487	28
32LVS3-15/15-51.1-e		766	385	343	26
32LVS3-19/15-51.1-e		838	457	415	27
32LVS3-23/15-51.1-e		910	529	487	28
32LVS3-17/17-51.5-e		823	421	379	31
32LVS3-23/17-51.5-e		931	529	487	32
32LVS3-26/17-51.5-e		985	583	541	33
32LVS3-19/19-51.5-e		859	457	415	31
32LVS3-23/19-51.5-e		931	529	487	32
32LVS3-26/19-51.5-e		985	583	541	33
32LVS3-30/19-51.5-e		1057	655	613	34
32LVS3-25/25-52.2-e		967	565	523	36
32LVS3-30/25-52.2-e		1057	655	613	38
32LVS3-36/25-52.2-e		1165	763	721	39
32LVS3-30/30-53.0-e		1090	655	613	46
32LVS3-36/30-53.0-e		1198	763	721	47
32LVS3-36/36-53.0-e		1198	763	721	47

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVS3-5/5-6.75-□	1	532	205	163	19
32LVS3-7/5-6.75-□		568	241	199	19
32LVS3-10/5-6.75-□		622	295	253	20
32LVS3-12/5-6.75-□		658	331	289	21
32LVS3-15/5-6.75-□		712	385	343	21
32LVS3-19/5-6.75-□		784	457	415	22
32LVS3-23/5-6.75-□		856	529	487	23
32LVS3-6/6-61.1-□		604	223	181	23
32LVS3-10/6-61.1-□		676	295	253	24
32LVS3-12/6-61.1-□		712	331	289	25
32LVS3-15/6-61.1-□	766	385	343	26	
32LVS3-19/6-61.1-□	838	457	415	26	
32LVS3-23/6-61.1-□	910	529	487	27	
32LVS3-7/7-61.1-□	622	241	199	24	
32LVS3-10/7-61.1-□	676	295	253	24	
32LVS3-12/7-61.1-□	712	331	289	25	
32LVS3-15/7-61.1-□	766	385	343	26	
32LVS3-19/7-61.1-□	838	457	415	26	
32LVS3-23/7-61.1-□	910	529	487	27	
32LVS3-8/8-61.1-□	640	259	217	24	
32LVS3-10/8-61.1-□	676	295	253	24	
32LVS3-12/8-61.1-□	712	331	289	25	
32LVS3-15/8-61.1-□	766	385	343	26	
32LVS3-19/8-61.1-□	838	457	415	27	
32LVS3-23/8-61.1-□	910	529	487	27	
32LVS3-10/10-61.5-□	697	295	253	29	
32LVS3-12/10-61.5-□	733	331	289	29	
32LVS3-15/10-61.5-□	787	385	343	30	
32LVS3-19/10-61.5-□	859	457	415	31	
32LVS3-23/10-61.5-□	931	529	487	32	
32LVS3-11/11-61.5-□	715	313	271	29	
32LVS3-15/11-61.5-□	787	385	343	30	
32LVS3-19/11-61.5-□	859	457	415	31	
32LVS3-23/11-61.5-□	931	529	487	32	
32LVS3-12/12-62.2-□	733	331	289	33	
32LVS3-15/12-62.2-□	787	385	343	33	
32LVS3-19/12-62.2-□	859	457	415	34	
32LVS3-23/12-62.2-□	931	529	487	35	
32LVS3-15/15-62.2-□	787	385	343	34	
32LVS3-19/15-62.2-□	859	457	415	34	
32LVS3-23/15-62.2-□	931	529	487	35	
32LVS3-26/15-62.2-□	985	583	541	36	
32LVS3-17/17-62.2-□	823	421	379	34	
32LVS3-23/17-62.2-□	931	529	487	35	
32LVS3-26/17-62.2-□	985	583	541	36	
32LVS3-30/17-62.2-□	1057	655	613	37	
32LVS3-19/19-63.0-□	892	457	415	43	
32LVS3-23/19-63.0-□	964	529	487	43	
32LVS3-26/19-63.0-□	1018	583	541	44	
32LVS3-30/19-63.0-□	1090	655	613	45	
32LVS3-36/19-63.0-□	1198	763	721	46	
32LVS3-23/23-63.0-□	964	529	487	44	
32LVS3-26/23-63.0-□	1018	583	541	44	
32LVS3-30/23-63.0-□	1090	655	613	45	
32LVS3-36/23-63.0-□	1198	763	721	47	
32LVS3-26/26-64.0-□	1025	583	541	50	
32LVS3-30/26-64.0-□	1097	655	613	51	
32LVS3-36/26-64.0-□	1205	763	721	52	

Note 1) "□" in pump type can be any one of -e/-KS/-7W.

●Discharge diameter : 32mm, Nominal flow rate : 5m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
32LVS5-5/5-5.75-e	1	577	250	208	20	
32LVS5-7/5-5.75-e		631	304	262	20	
32LVS5-10/5-5.75-e		712	385	343	21	
32LVS5-14/5-5.75-e		820	493	451	22	
32LVS5-16/5-5.75-e		874	547	505	23	
32LVS5-20/5-5.75-e		982	655	613	24	
32LVS5-8/8-51.1-e		2	652	331	289	25
32LVS5-10/8-51.1-e			766	385	343	25
32LVS5-14/8-51.1-e			874	493	451	27
32LVS5-16/8-51.1-e			928	547	505	27
32LVS5-20/8-51.1-e	1036		655	613	29	
32LVS5-10/10-51.5-e	787		385	343	30	
32LVS5-14/10-51.5-e	895		493	451	31	
32LVS5-16/10-51.5-e	949		547	505	32	
32LVS5-20/10-51.5-e	1057		655	613	33	
32LVS5-14/14-52.2-e	895		493	451	35	
32LVS5-16/14-52.2-e	949		547	505	35	
32LVS5-20/14-52.2-e	1057		655	613	37	
32LVS5-24/14-52.2-e	1165		763	721	38	
32LVS5-16/16-52.2-e	949		547	505	35	
32LVS5-20/16-52.2-e	1057		655	613	37	
32LVS5-24/16-52.2-e	1165		763	721	38	
32LVS5-29/16-52.2-e	1300		898	856	39	
32LVS5-20/20-53.0-e	1090		655	613	45	
32LVS5-24/20-53.0-e	1198		763	721	46	
32LVS5-29/20-53.0-e	1333		898	856	48	
32LVS5-32/20-53.0-e	1414	979	937	49		
32LVS5-24/24-54.0-e	1205	763	721	52		
32LVS5-29/24-54.0-e	1340	898	856	53		
32LVS5-32/24-54.0-e	1421	979	937	54		
32LVS5-29/29-54.0-e	1340	898	856	53		
32LVS5-32/29-54.0-e	1421	979	937	54		
32LVS5-32/32-55.5-e	3	1484	979	937	82	

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVS5-3/3-61.1-□	1	577	196	154	23
32LVS5-5/3-61.1-□		631	250	208	24
32LVS5-7/3-61.1-□		685	304	262	24
32LVS5-10/3-61.1-□		766	385	343	25
32LVS5-14/3-61.1-□		874	493	451	26
32LVS5-16/3-61.1-□		928	547	505	27
32LVS5-20/3-61.1-□		1036	655	613	28
32LVS5-4/4-61.1-□		604	223	181	23
32LVS5-6/4-61.1-□		658	277	235	24
32LVS5-8/4-61.1-□		712	331	289	24
32LVS5-10/4-61.1-□		766	385	343	25
32LVS5-14/4-61.1-□		874	493	451	27
32LVS5-16/4-61.1-□		928	547	505	28
32LVS5-20/4-61.1-□		1036	655	613	29
32LVS5-5/5-61.5-□		652	250	208	28
32LVS5-7/5-61.5-□		706	304	262	28
32LVS5-10/5-61.5-□		787	385	343	29
32LVS5-14/5-61.5-□		895	493	451	31
32LVS5-16/5-61.5-□		949	547	505	31
32LVS5-20/5-61.5-□		1057	655	613	33
32LVS5-6/6-62.2-□	2	679	277	235	32
32LVS5-8/6-62.2-□		733	331	289	32
32LVS5-10/6-62.2-□		787	385	343	33
32LVS5-14/6-62.2-□		895	493	451	34
32LVS5-16/6-62.2-□		949	547	505	35
32LVS5-20/6-62.2-□		1057	655	613	36
32LVS5-8/8-62.2-□		733	331	289	32
32LVS5-10/8-62.2-□		787	385	343	33
32LVS5-14/8-62.2-□		895	493	451	34
32LVS5-16/8-62.2-□		949	547	505	35
32LVS5-20/8-62.2-□		1057	655	613	36
32LVS5-10/10-63.0-□		820	385	343	41
32LVS5-14/10-63.0-□		928	493	451	42
32LVS5-16/10-63.0-□		982	547	505	43
32LVS5-20/10-63.0-□		1090	655	613	44
32LVS5-12/12-63.0-□		874	439	397	42
32LVS5-14/12-63.0-□		928	493	451	42
32LVS5-16/12-63.0-□		982	547	505	43
32LVS5-20/12-63.0-□		1090	655	613	44
32LVS5-24/12-63.0-□		1198	763	721	45
32LVS5-14/14-64.0-□	935	493	451	48	
32LVS5-16/14-64.0-□	989	547	505	49	
32LVS5-20/14-64.0-□	1097	655	613	50	
32LVS5-24/14-64.0-□	1205	763	721	51	
32LVS5-29/14-64.0-□	1340	898	856	53	
32LVS5-16/16-64.0-□	989	547	505	49	
32LVS5-20/16-64.0-□	1097	655	613	50	
32LVS5-24/16-64.0-□	1205	763	721	51	
32LVS5-29/16-64.0-□	1340	898	856	53	
32LVS5-32/16-64.0-□	1421	979	937	54	
32LVS5-20/20-65.5-□	3	1160	655	613	78
32LVS5-24/20-65.5-□		1268	763	721	79
32LVS5-29/20-65.5-□		1403	898	856	80
32LVS5-32/20-65.5-□		1484	979	937	81
32LVS5-22/22-65.5-□		1214	709	667	78
32LVS5-24/22-65.5-□		1268	763	721	79
32LVS5-29/22-65.5-□		1403	898	856	80
32LVS5-32/22-65.5-□		1484	979	937	81
32LVS5-24/24-67.5-□		1308	763	721	86
32LVS5-29/24-67.5-□		1443	898	856	87
32LVS5-32/24-67.5-□		1524	979	937	88

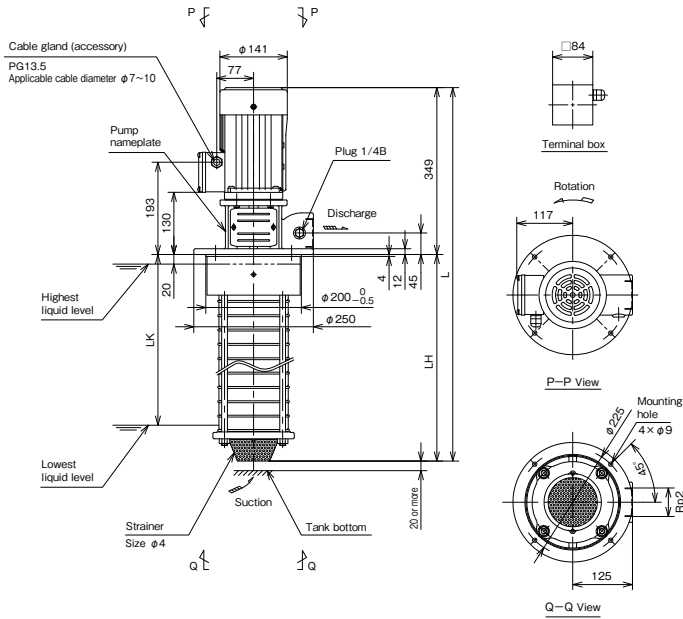
Note 1) "□" in pump type can be any one of -e/-KS/-7W.



Assembly drawing

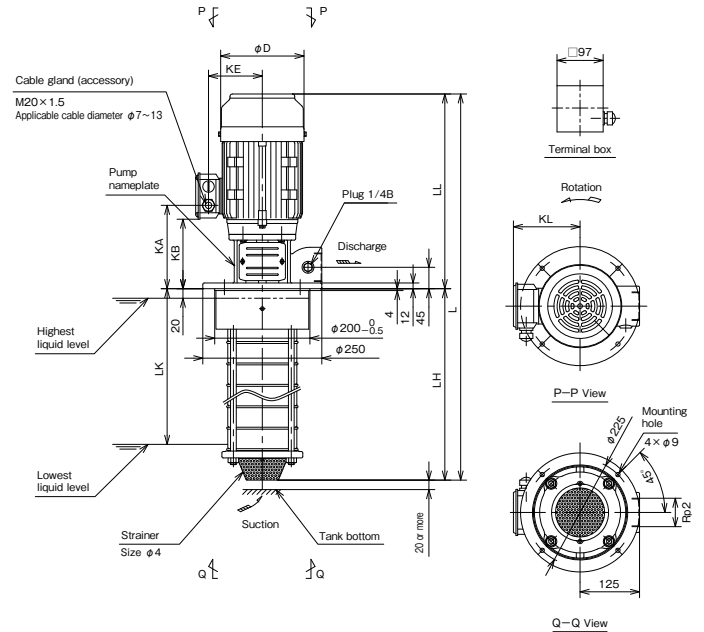
● Discharge diameter : 50mm

Fig.1



※ Output 0.75kW

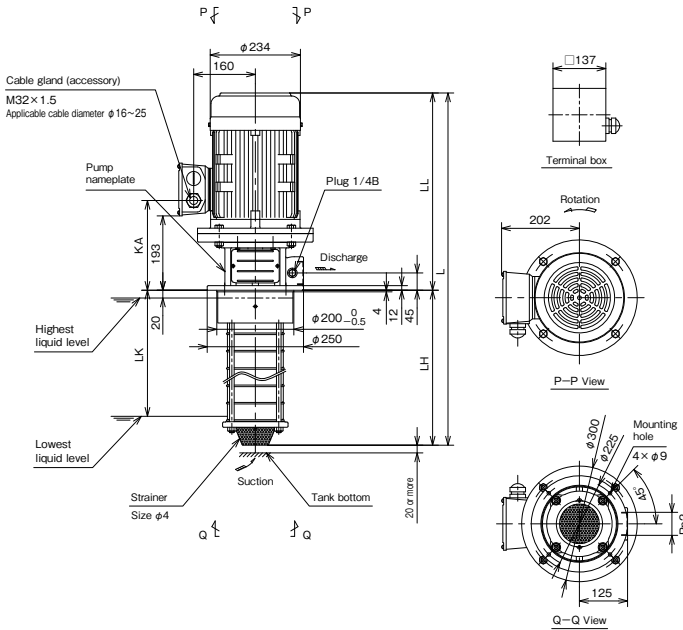
Fig.2



(Unit : mm)

Output kW	D	KA	KB	KE	KL	LL
1.1	175	169	140	113	140	403
1.5/2.2	175	175	146	113	140	409
3.0	196	186	156	125	152	442
4.0	219	190	161	134	161	449

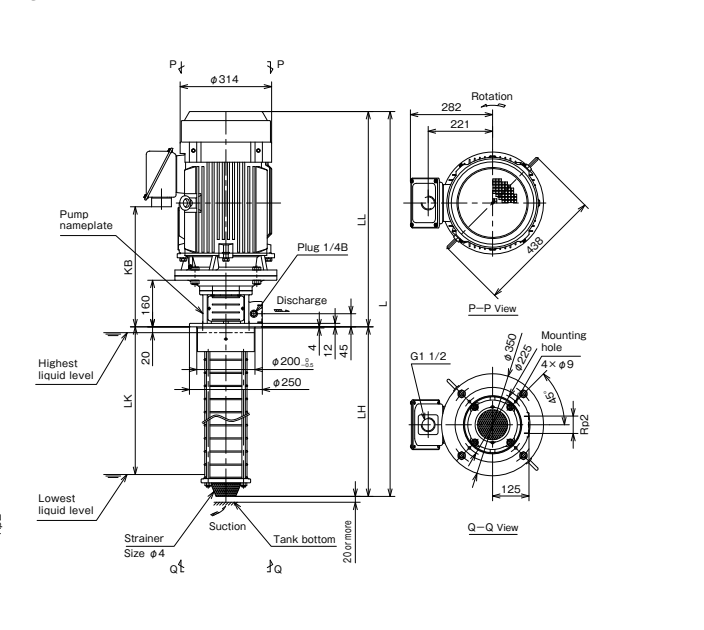
Fig.3



(Unit : mm)

Output kW	LL	KA
5.5	512	233
7.5	552	234

Fig.4



(Unit : mm)

Output kW	KB	LL
11/15	382	689
18.5	412	719

Dimensions

● Discharge diameter :50mm, Nominal flow rate : 10m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
50LVS10-5/2-5.75-e	1	631	282	207	28	
50LVS10-6/2-5.75-e		661	312	237	28	
50LVS10-8/2-5.75-e		721	372	297	30	
50LVS10-10/2-5.75-e		781	432	357	31	
50LVS10-12/2-5.75-e		841	492	417	32	
50LVS10-14/2-5.75-e		901	552	477	34	
50LVS10-16/2-5.75-e		961	612	537	35	
50LVS10-18/2-5.75-e		1021	672	597	36	
50LVS10-20/2-5.75-e		1081	732	657	38	
50LVS10-22/2-5.75-e		1141	792	717	39	
50LVS10-5/3-51.1-e		2	685	282	207	32
50LVS10-6/3-51.1-e	715		312	237	33	
50LVS10-8/3-51.1-e	775		372	297	34	
50LVS10-10/3-51.1-e	835		432	357	35	
50LVS10-12/3-51.1-e	895		492	417	37	
50LVS10-14/3-51.1-e	955		552	477	38	
50LVS10-16/3-51.1-e	1015		612	537	39	
50LVS10-18/3-51.1-e	1075		672	597	40	
50LVS10-20/3-51.1-e	1135		732	657	42	
50LVS10-22/3-51.1-e	1195		792	717	43	
50LVS10-5/4-51.5-e	691		282	207	36	
50LVS10-6/4-51.5-e	721		312	237	36	
50LVS10-8/4-51.5-e	781		372	297	38	
50LVS10-10/4-51.5-e	841		432	357	39	
50LVS10-12/4-51.5-e	901		492	417	40	
50LVS10-14/4-51.5-e	961		552	477	42	
50LVS10-16/4-51.5-e	1021		612	537	43	
50LVS10-18/4-51.5-e	1081		672	597	44	
50LVS10-20/4-51.5-e	1141		732	657	46	
50LVS10-22/4-51.5-e	1201		792	717	47	
50LVS10-5/5-52.2-e	3		691	282	207	39
50LVS10-6/5-52.2-e			721	312	237	40
50LVS10-8/5-52.2-e			781	372	297	41
50LVS10-10/5-52.2-e			841	432	357	43
50LVS10-12/5-52.2-e			901	492	417	44
50LVS10-14/5-52.2-e			961	552	477	45
50LVS10-16/5-52.2-e			1021	612	537	47
50LVS10-18/5-52.2-e			1081	672	597	48
50LVS10-20/5-52.2-e			1141	732	657	49
50LVS10-22/5-52.2-e			1201	792	717	51
50LVS10-6/6-52.2-e			721	312	237	40
50LVS10-8/6-52.2-e			781	372	297	41
50LVS10-10/6-52.2-e			841	432	357	43
50LVS10-12/6-52.2-e		901	492	417	44	
50LVS10-14/6-52.2-e		961	552	477	45	
50LVS10-16/6-52.2-e		1021	612	537	47	
50LVS10-18/6-52.2-e		1081	672	597	48	
50LVS10-20/6-52.2-e		1141	732	657	49	
50LVS10-22/6-52.2-e		1201	792	717	51	

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
50LVS10-8/8-53.0-e	2	814	372	297	51	
50LVS10-10/8-53.0-e		874	432	357	52	
50LVS10-12/8-53.0-e		934	492	417	53	
50LVS10-14/8-53.0-e		994	552	477	55	
50LVS10-16/8-53.0-e		1054	612	537	56	
50LVS10-18/8-53.0-e		1114	672	597	57	
50LVS10-20/8-53.0-e		1174	732	657	59	
50LVS10-22/8-53.0-e		1234	792	717	60	
50LVS10-10/10-54.0-e		3	881	432	357	58
50LVS10-12/10-54.0-e			941	492	417	59
50LVS10-14/10-54.0-e			1001	552	477	60
50LVS10-16/10-54.0-e			1061	612	537	62
50LVS10-18/10-54.0-e			1121	672	597	63
50LVS10-20/10-54.0-e			1181	732	657	64
50LVS10-22/10-54.0-e			1241	792	717	66
50LVS10-12/12-54.0-e			941	492	417	59
50LVS10-14/12-54.0-e			1001	552	477	60
50LVS10-16/12-54.0-e			1061	612	537	62
50LVS10-18/12-54.0-e	1121		672	597	63	
50LVS10-20/12-54.0-e	1181		732	657	64	
50LVS10-22/12-54.0-e	1241		792	717	66	
50LVS10-14/14-55.5-e	3		1064	552	477	88
50LVS10-16/14-55.5-e			1124	612	537	89
50LVS10-18/14-55.5-e			1184	672	597	91
50LVS10-20/14-55.5-e			1244	732	657	92
50LVS10-22/14-55.5-e			1304	792	717	93
50LVS10-16/16-55.5-e		1124	612	537	90	
50LVS10-18/16-55.5-e		1184	672	597	91	
50LVS10-20/16-55.5-e		1244	732	657	92	
50LVS10-22/16-55.5-e		1304	792	717	93	
50LVS10-18/18-57.5-e		1224	672	597	98	
50LVS10-20/18-57.5-e		1284	732	657	99	
50LVS10-22/18-57.5-e		1344	792	717	100	
50LVS10-20/20-57.5-e		1284	732	657	99	
50LVS10-22/20-57.5-e		1344	792	717	100	
50LVS10-22/22-57.5-e	1344	792	717	101		

●Discharge diameter : 50mm, Nominal flow rate : 10m<sup>3</sup>/h

60Hz

(Unit : mm)

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
50LVS10-5/1-6.75-□	1	631	282	207	28	
50LVS10-6/1-6.75-□		661	312	237	28	
50LVS10-8/1-6.75-□		721	372	297	30	
50LVS10-10/1-6.75-□		781	432	357	31	
50LVS10-12/1-6.75-□		841	492	417	32	
50LVS10-5/2-61.5-□		2	691	282	207	36
50LVS10-6/2-61.5-□			721	312	237	36
50LVS10-8/2-61.5-□			781	372	297	38
50LVS10-10/2-61.5-□			841	432	357	39
50LVS10-12/2-61.5-□			901	492	417	40
50LVS10-14/2-61.5-□	961		552	477	42	
50LVS10-16/2-61.5-□	1021		612	537	43	
50LVS10-18/2-61.5-□	1081		672	597	44	
50LVS10-20/2-61.5-□	1141		732	657	46	
50LVS10-22/2-61.5-□	1201		792	717	47	
50LVS10-5/3-62.2-□	691		282	207	39	
50LVS10-6/3-62.2-□	721		312	237	40	
50LVS10-8/3-62.2-□	781		372	297	41	
50LVS10-10/3-62.2-□	841		432	357	42	
50LVS10-12/3-62.2-□	901		492	417	44	
50LVS10-14/3-62.2-□	961		552	477	45	
50LVS10-16/3-62.2-□	1021		612	537	46	
50LVS10-18/3-62.2-□	1081		672	597	48	
50LVS10-20/3-62.2-□	1141		732	657	49	
50LVS10-22/3-62.2-□	1201		792	717	50	
50LVS10-5/4-63.0-□	724	282	207	48		
50LVS10-6/4-63.0-□	754	312	237	49		
50LVS10-8/4-63.0-□	814	372	297	50		
50LVS10-10/4-63.0-□	874	432	357	52		
50LVS10-12/4-63.0-□	934	492	417	53		
50LVS10-14/4-63.0-□	994	552	477	54		
50LVS10-16/4-63.0-□	1054	612	537	56		
50LVS10-18/4-63.0-□	1114	672	597	57		
50LVS10-20/4-63.0-□	1174	732	657	58		
50LVS10-22/4-63.0-□	1234	792	717	60		
50LVS10-5/5-63.0-□	724	282	207	48		
50LVS10-6/5-63.0-□	754	312	237	49		
50LVS10-8/5-63.0-□	814	372	297	50		
50LVS10-10/5-63.0-□	874	432	357	52		
50LVS10-12/5-63.0-□	934	492	417	53		
50LVS10-14/5-63.0-□	994	552	477	54		
50LVS10-16/5-63.0-□	1054	612	537	56		
50LVS10-18/5-63.0-□	1114	672	597	57		
50LVS10-20/5-63.0-□	1174	732	657	58		
50LVS10-22/5-63.0-□	1234	792	717	60		
50LVS10-6/6-64.0-□	761	312	237	55		
50LVS10-8/6-64.0-□	821	372	297	56		
50LVS10-10/6-64.0-□	881	432	357	57		
50LVS10-12/6-64.0-□	941	492	417	59		
50LVS10-14/6-64.0-□	1001	552	477	60		
50LVS10-16/6-64.0-□	1061	612	537	61		
50LVS10-18/6-64.0-□	1121	672	597	63		
50LVS10-20/6-64.0-□	1181	732	657	64		
50LVS10-22/6-64.0-□	1241	792	717	65		

Note 1) "□" in pump type can be any one of -e/-KS/ -7W.

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVS10-8/8-65.5-□	3	884	372	297	83
50LVS10-10/8-65.5-□		944	432	357	85
50LVS10-12/8-65.5-□		1004	492	417	86
50LVS10-14/8-65.5-□		1064	552	477	87
50LVS10-16/8-65.5-□		1124	612	537	89
50LVS10-18/8-65.5-□		1184	672	597	90
50LVS10-20/8-65.5-□		1244	732	657	91
50LVS10-22/8-65.5-□		1304	792	717	93
50LVS10-9/9-65.5-□		914	402	327	84
50LVS10-12/9-65.5-□		1004	492	417	86
50LVS10-14/9-65.5-□		1064	552	477	88
50LVS10-16/9-65.5-□		1124	612	537	89
50LVS10-18/9-65.5-□		1184	672	597	90
50LVS10-20/9-65.5-□		1244	732	657	91
50LVS10-22/9-65.5-□		1304	792	717	93
50LVS10-10/10-67.5-□		984	432	357	92
50LVS10-12/10-67.5-□		1044	492	417	93
50LVS10-14/10-67.5-□		1104	552	477	94
50LVS10-16/10-67.5-□		1164	612	537	96
50LVS10-18/10-67.5-□		1224	672	597	97
50LVS10-20/10-67.5-□	1284	732	657	98	
50LVS10-22/10-67.5-□	1344	792	717	100	
50LVS10-12/12-67.5-□	1044	492	417	93	
50LVS10-14/12-67.5-□	1104	552	477	94	
50LVS10-16/12-67.5-□	1164	612	537	96	
50LVS10-18/12-67.5-□	1224	672	597	97	
50LVS10-20/12-67.5-□	1284	732	657	98	
50LVS10-22/12-67.5-□	1344	792	717	100	
50LVS10-14/14-611-e	4	1241	552	477	169
50LVS10-16/14-611-e		1301	612	537	170
50LVS10-18/14-611-e		1361	672	597	172
50LVS10-20/14-611-e		1421	732	657	173
50LVS10-22/14-611-e		1481	792	717	174
50LVS10-16/16-611-e		1301	612	537	170
50LVS10-18/16-611-e		1361	672	597	172
50LVS10-20/16-611-e		1421	732	657	173
50LVS10-22/16-611-e		1481	792	717	174
50LVS10-18/18-611-e		1361	672	597	172
50LVS10-20/18-611-e		1421	732	657	173
50LVS10-22/18-611-e		1481	792	717	175

Note 1) "□" in pump type can be any one of -e/-KS/ -7W.



●Discharge diameter : 50mm, Nominal flow rate : 20m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVS20-3/1-51.1-e	2	670	267	192	31
50LVS20-4/1-51.1-e		715	312	237	32
50LVS20-5/1-51.1-e		760	357	282	33
50LVS20-6/1-51.1-e		805	402	327	34
50LVS20-3/2-52.2-e		676	267	192	39
50LVS20-4/2-52.2-e		721	312	237	39
50LVS20-5/2-52.2-e		766	357	282	40
50LVS20-6/2-52.2-e		811	402	327	41
50LVS20-7/2-52.2-e		856	447	372	42
50LVS20-8/2-52.2-e		901	492	417	43
50LVS20-10/2-52.2-e		991	582	507	44
50LVS20-12/2-52.2-e		1081	672	597	46
50LVS20-3/3-54.0-e		716	267	192	53
50LVS20-4/3-54.0-e		761	312	237	54
50LVS20-5/3-54.0-e		806	357	282	55
50LVS20-6/3-54.0-e		851	402	327	56
50LVS20-7/3-54.0-e		896	447	372	56
50LVS20-8/3-54.0-e		941	492	417	57
50LVS20-10/3-54.0-e		1031	582	507	59
50LVS20-12/3-54.0-e		1121	672	597	61
50LVS20-14/3-54.0-e	1211	762	687	62	
50LVS20-17/3-54.0-e	1346	897	822	65	
50LVS20-4/4-55.5-e	3	824	312	237	81
50LVS20-5/4-55.5-e		869	357	282	82
50LVS20-6/4-55.5-e		914	402	327	83
50LVS20-7/4-55.5-e		959	447	372	84
50LVS20-8/4-55.5-e		1004	492	417	85
50LVS20-10/4-55.5-e		1094	582	507	87
50LVS20-12/4-55.5-e		1184	672	597	88
50LVS20-14/4-55.5-e		1274	762	687	90
50LVS20-17/4-55.5-e		1409	897	822	92
50LVS20-5/5-55.5-e		869	357	282	83
50LVS20-6/5-55.5-e		914	402	327	83
50LVS20-7/5-55.5-e		959	447	372	84
50LVS20-8/5-55.5-e		1004	492	417	85
50LVS20-10/5-55.5-e		1094	582	507	87
50LVS20-12/5-55.5-e		1184	672	597	88
50LVS20-14/5-55.5-e		1274	762	687	90
50LVS20-17/5-55.5-e		1409	897	822	93
50LVS20-6/6-57.5-e		954	402	327	90
50LVS20-7/6-57.5-e		999	447	372	91
50LVS20-8/6-57.5-e		1044	492	417	92
50LVS20-10/6-57.5-e	1134	582	507	94	
50LVS20-12/6-57.5-e	1224	672	597	95	
50LVS20-14/6-57.5-e	1314	762	687	97	
50LVS20-17/6-57.5-e	1449	897	822	99	
50LVS20-7/7-57.5-e	999	447	372	91	
50LVS20-8/7-57.5-e	1044	492	417	92	
50LVS20-10/7-57.5-e	1134	582	507	94	
50LVS20-12/7-57.5-e	1224	672	597	95	
50LVS20-14/7-57.5-e	1314	762	687	97	
50LVS20-17/7-57.5-e	1449	897	822	100	
50LVS20-8/8-511-e	4	1181	492	417	167
50LVS20-10/8-511-e		1271	582	507	168
50LVS20-12/8-511-e		1361	672	597	170
50LVS20-14/8-511-e		1451	762	687	172
50LVS20-17/8-511-e		1586	897	822	174
50LVS20-10/10-511-e		1271	582	507	168
50LVS20-12/10-511-e		1361	672	597	170
50LVS20-14/10-511-e		1451	762	687	172
50LVS20-17/10-511-e		1586	897	822	174
50LVS20-12/12-515-e		1361	672	597	182
50LVS20-14/12-515-e		1451	762	687	183
50LVS20-17/12-515-e		1586	897	822	186
50LVS20-14/14-515-e		1451	762	687	183
50LVS20-17/14-515-e		1586	897	822	186
50LVS20-17/17-518-e		1616	897	822	203

60Hz

(Unit : mm)

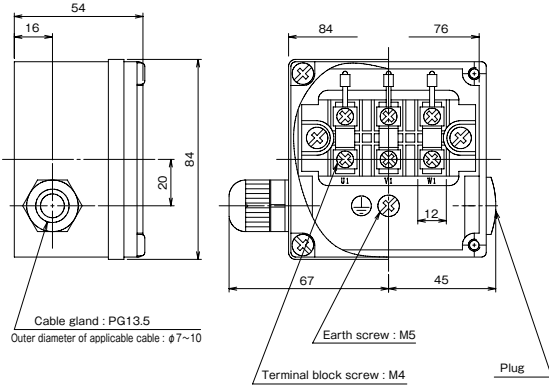
Type	Fig.	L	LH	LK	Approx. mass(kg)	
50LVS20-3/1-62.2-□	2	676	267	192	39	
50LVS20-4/1-62.2-□		721	312	237	39	
50LVS20-5/1-62.2-□		766	357	282	40	
50LVS20-6/1-62.2-□		811	402	327	41	
50LVS20-7/1-62.2-□		856	447	372	42	
50LVS20-3/2-64.0-□		716	267	192	53	
50LVS20-4/2-64.0-□		761	312	237	54	
50LVS20-5/2-64.0-□		806	357	282	55	
50LVS20-6/2-64.0-□		851	402	327	56	
50LVS20-7/2-64.0-□		896	447	372	56	
50LVS20-8/2-64.0-□		941	492	417	57	
50LVS20-10/2-64.0-□		1031	582	507	59	
50LVS20-12/2-64.0-□		1121	672	597	61	
50LVS20-3/3-65.5-□		3	779	267	192	80
50LVS20-4/3-65.5-□			824	312	237	81
50LVS20-5/3-65.5-□			869	357	282	82
50LVS20-6/3-65.5-□			914	402	327	83
50LVS20-7/3-65.5-□			959	447	372	84
50LVS20-8/3-65.5-□			1004	492	417	85
50LVS20-10/3-65.5-□			1094	582	507	86
50LVS20-12/3-65.5-□	1184		672	597	88	
50LVS20-14/3-65.5-□	1274		762	687	90	
50LVS20-17/3-65.5-□	1409		897	822	92	
50LVS20-4/4-67.5-□	864		312	237	88	
50LVS20-5/4-67.5-□	909		357	282	89	
50LVS20-6/4-67.5-□	954		402	327	90	
50LVS20-7/4-67.5-□	999		447	372	91	
50LVS20-8/4-67.5-□	1044		492	417	91	
50LVS20-10/4-67.5-□	1134		582	507	93	
50LVS20-12/4-67.5-□	1224		672	597	95	
50LVS20-14/4-67.5-□	1314		762	687	96	
50LVS20-17/4-67.5-□	1449		897	822	99	
50LVS20-5/5-611-e	4		1046	357	282	163
50LVS20-6/5-611-e		1091	402	327	164	
50LVS20-7/5-611-e		1136	447	372	165	
50LVS20-8/5-611-e		1181	492	417	166	
50LVS20-10/5-611-e		1271	582	507	168	
50LVS20-12/5-611-e		1361	672	597	169	
50LVS20-14/5-611-e		1451	762	687	171	
50LVS20-17/5-611-e		1586	897	822	173	
50LVS20-6/6-611-e		1091	402	327	164	
50LVS20-7/6-611-e		1136	447	372	165	
50LVS20-8/6-611-e		1181	492	417	166	
50LVS20-10/6-611-e		1271	582	507	168	
50LVS20-12/6-611-e		1361	672	597	169	
50LVS20-14/6-611-e		1451	762	687	171	
50LVS20-17/6-611-e		1586	897	822	174	
50LVS20-7/7-615-e		1136	447	372	176	
50LVS20-8/7-615-e		1181	492	417	177	
50LVS20-10/7-615-e		1271	582	507	179	
50LVS20-12/7-615-e		1361	672	597	181	
50LVS20-14/7-615-e		1451	762	687	182	
50LVS20-17/7-615-e	1586	897	822	185		
50LVS20-10/8-615-e	1181	492	417	177		
50LVS20-12/8-615-e	1271	582	507	179		
50LVS20-14/8-615-e	1361	672	597	181		
50LVS20-17/8-615-e	1451	762	687	182		
50LVS20-10/10-618-e	1301	582	507	196		
50LVS20-12/10-618-e	1391	672	597	197		
50LVS20-14/10-618-e	1481	762	687	199		
50LVS20-17/10-618-e	1616	897	822	201		

Note 1) "□" in pump type can be any one of -e/-KS/ -7W.

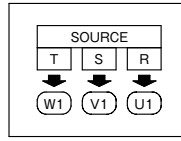
Detailed drawing of the terminal box

Assembly drawing (-e/-KS type)

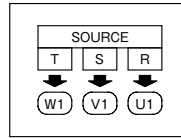
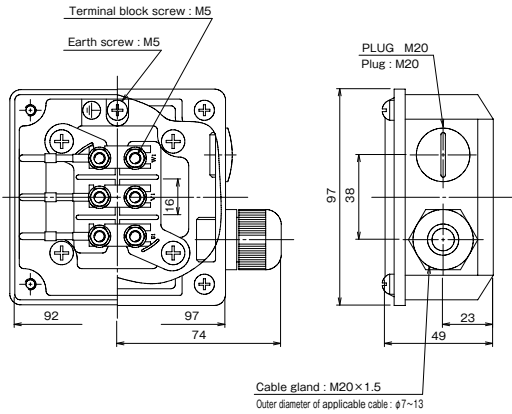
Output 0.75kW



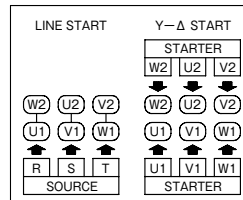
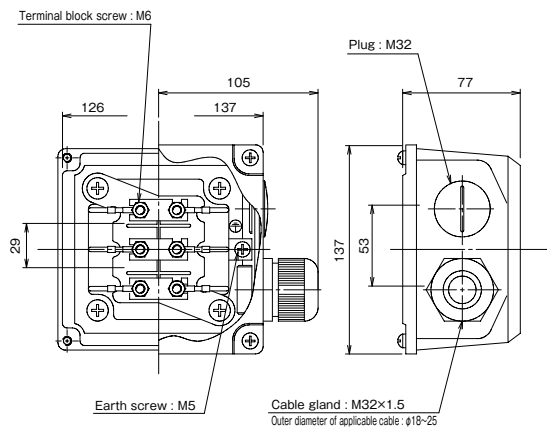
Connection diagram



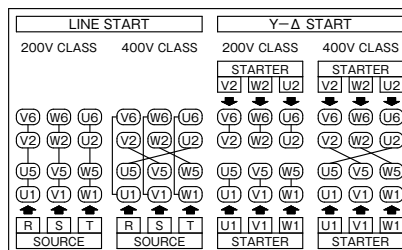
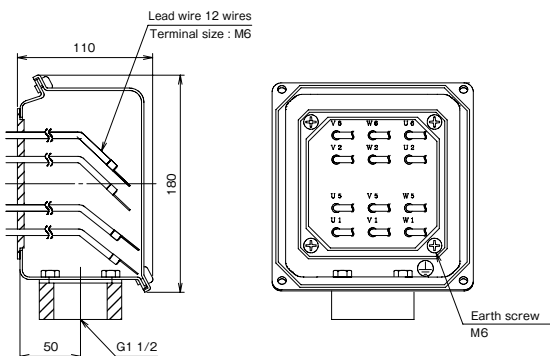
Output 1.1-4.0 kW



Output 5.5, 7.5 kW

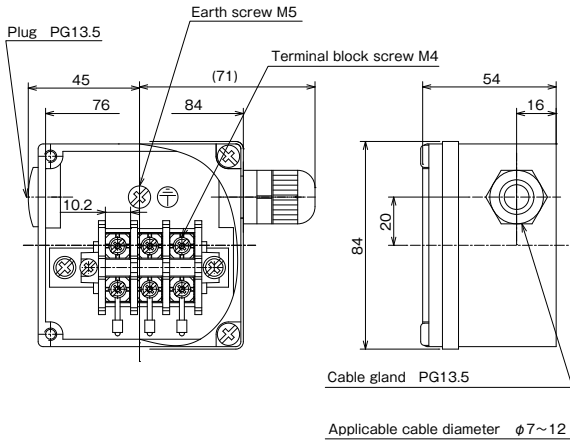


Output 11-18.5 kW (-e type)

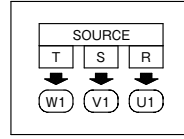


■ Assembly drawing (-7W type)

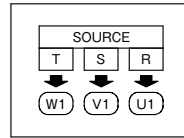
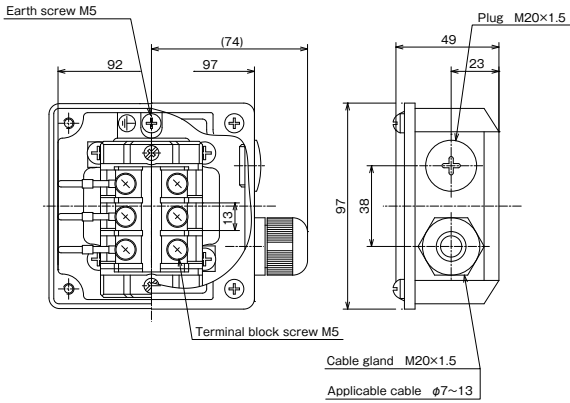
● Output 0.75kW



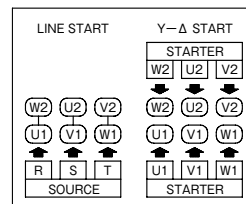
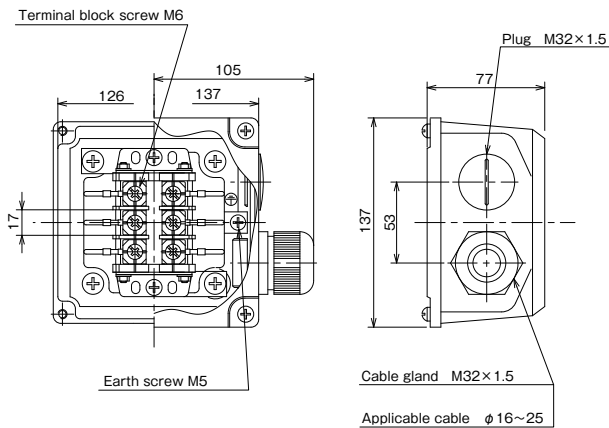
■ Connection diagram



● Output 1.1-4.0kW

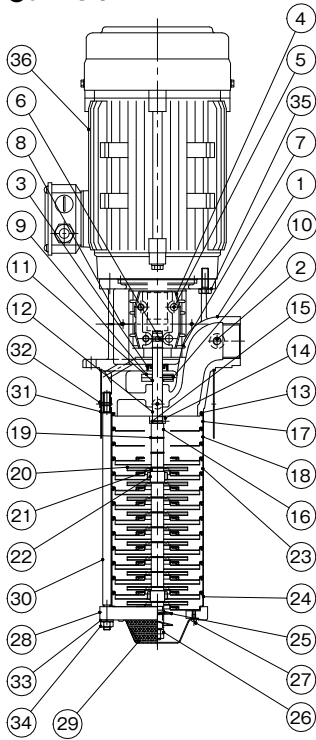


● Output 5.5kW, 7.5kW



Sectional drawing

●32LVS-e

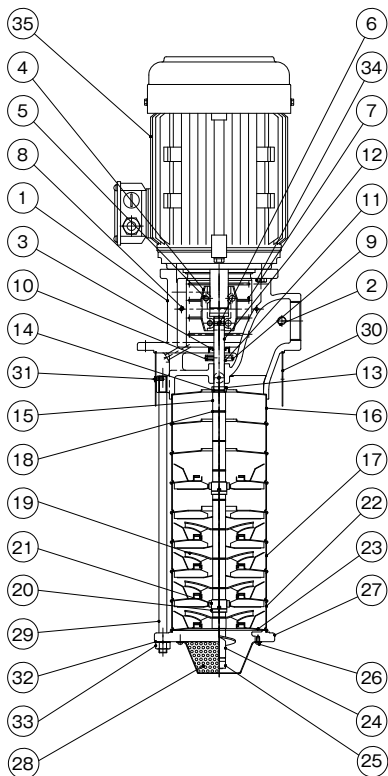


No.	Part name	Material
1	Discharge casing	FC200
2	Plug	SWCH
3	Oil seal	NBR
4	Coupling	FC0205
5	Hexagon socket head bolt	SCM435
6	Shaft pin	SUS316
7	Coupling cover	SUS304
8	Cross-recessed pan head screw	SUS304
9	Oil thrower	SUS304
10	Set screw	SCM435
11	O-ring	FKM
12	Main shaft	SUS420J2
13	Gasket	—
14	Shaft bushing	SUS304
15	Shaft ring	SUS316
16	Sleeve	SUS304
17	Intermediate casing (Final stage)	SUS304
18	Intermediate casing	SUS304
19	Shim	SUS304
20	Impeller	SUS304
21	Baffle	SUS304
22	Bearings	SiC
23	Bearing casing	SUS304+SiC
24	Intermediate casing (First stage)	SUS304
25	Screw	SUS304
26	Hardlock nut	SUS304
27	Cross-recessed pan head screw	SUS304
28	Suction casing	FC200
29	Strainer	SUS304
30	Through bolt	SUS304
31	Outer sleeve	SUS304
32	Cross-recessed flat head screw	SUS304
33	Spring washer	SUS304
34	Hexagon nut	SUS304
35	Hexagon bolt	SUS304
36	Motor	—

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

●50LVS-e



No.	Part name	Material
1	Discharge casing	FC200
2	Plug	SWCH
3	Oil seal	NBR
4	Coupling	FC0205
5	Hexagon socket head bolt	SCM435
6	Shaft pin	SUS316
7	Coupling cover	SUS304
8	Cross-recessed pan head screw	SUS304
9	Oil thrower	SUS304
10	Set screw	SCM435
11	O-ring	FKM
12	Main shaft	SUS420J2
13	Shaft bushing	SUS304
14	Shaft ring	SUS316
15	Sleeve	SUS304
16	Intermediate casing (Final stage)	SUS304
17	Intermediate casing	SUS304
18	Shim	SUS304
19	Impeller	SUS304
20	Baffle	SUS304
21	Bearings	SiC
22	Bearing casing	SUS304+SiC
23	Intermediate casing (First stage)	SUS304
24	Screw	SUS304
25	Hardlock nut	SUS304
26	Cross-recessed pan head screw	SUS304
27	Suction casing	FCD450
28	Strainer	SUS304
29	Through bolt	SUS304
30	Outer sleeve	SUS304
31	Cross-recessed flat head screw	SUS304
32	Plain washer	SUS304
33	Hexagon nut	SUS304
34	Hexagon bolt	SUS304
35	Motor	—

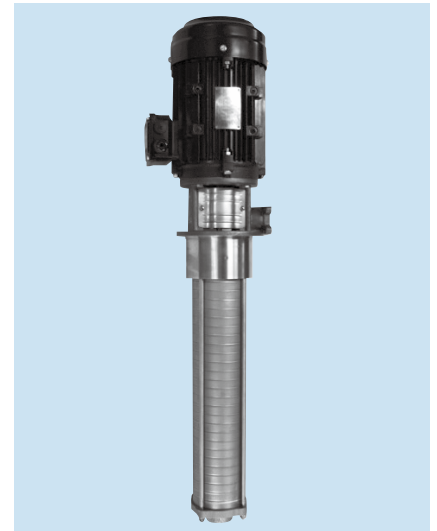
Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.



### Features

- ① Non-seal (mechanical seal-less) structure is adopted.
- ② Stainless steel is used in the pump's main liquid contact part and SiC bearings with increased wear resistance are adopted.
- ③ Measures against air suction into the pump are taken when the fluid level lowers.
- ④ Energy saving by high efficiency impeller!
- ⑤ The lineup including the models complying with global standards by supporting efficiency and other regulations.
  - Japan : Top Runner efficiency
  - Europe : IE3 efficiency, CE marking(EU Directive)  
RoHS Directive (2011/65/EU), 10 restricted substances
  - USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
  - Korea : Energy Efficiency Label and Standard Program (KC Standards, IE3)
  - Canada : CSA standard (efficiency), CSA standard (safety)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

### Non-seal structure

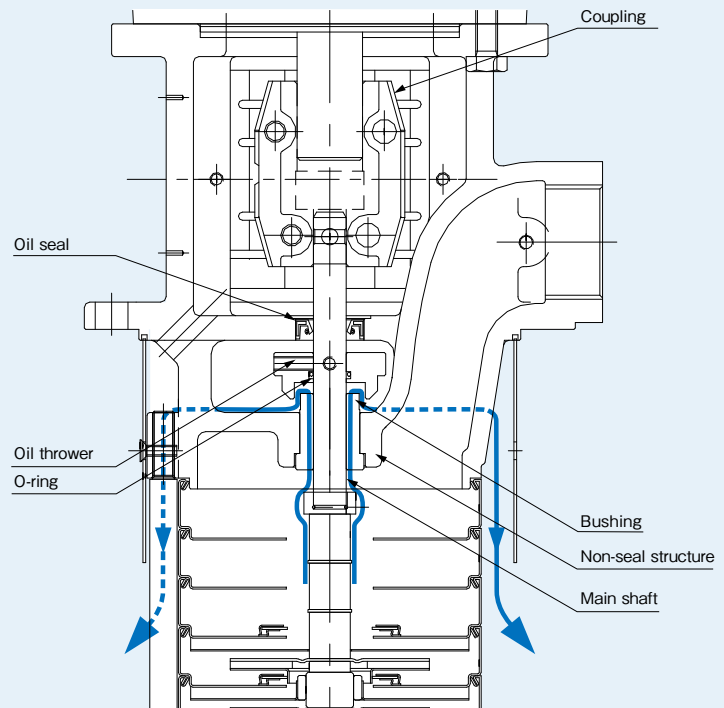
TERAL's original "non-seal" structure allows coolant to flow from a narrow clearance without using a seal between the pump section and the motor section.

#### The advantages of a non-seal pump

- 1 No trouble such as coolant leaks.**  
Helps cut down on running costs.
- 2 Prevents air entrainment.**  
Reduces initial problems.
- 3 Not easily affected by a small quantity of liquid or shut-off operations.**  
Enables a flexible operation system.

#### ※What is non-seal structure?

This structure inwardly releases coolant by depressurizing through a narrow clearance without the use of a mechanical seal.



### Description of types

**50 LVSS 10 - 20 / 12 - 6 7.5 -e**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- |   |                    |   |
|---|--------------------|---|
| ① Discharge diameter                    | ⑧ Motor efficiency | -e : Top Runner efficiency(equivalent to IE3)   |
| ② Model                                 |                    | -KS : Equipped with Korea Energy Efficiency Label and Standard Program compliant motor (IE3)                                    |
| ③ Nominal flow rate (m <sup>3</sup> /h) |                    | -7W : Equipped with NEMA Premium efficiency, UL/CSA certified motor (Output less than 0.75kW complies to safety standards only) |
| ④ Number of casings                     |                    |   |
| ⑤ Number of impellers                   |                    |   |
| ⑥ Frequency 5:50Hz 6:60Hz               |                    |   |
| ⑦ Output                                |                    |   |

## Standard Specification

Used liquid	Property of liquid	Fresh water, Cleaning liquid and Water soluble coolants (e.g. grinding liquid, cutting liquid after secondary treatment) <sup>※1</sup>
	Temperature	0 to 90°C (No frozen liquid)
	Allowable kinematic viscosity	1mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40°C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Suction casing	Bore diameter 32: SCS14A, Bore diameter 50: SCS13
	Discharge casing	SCS13+SUS430
	Intermediate casing	SUS304
	Impeller	SUS304
	Main shaft	SUS420J2
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Type	Totally enclosed fan-cooled outdoor type <sup>※2</sup>
	Protection method	IP55
	Power source	3-phase 50/60/60Hz, 200/200/230V 0.75~7.5kW <sup>※3</sup> 3-phase 50/60/60Hz, 200/200/220V 11~18.5kW
	Thermal class	F <sup>※4</sup>
	Number of poles	2P
	Standard	IEC60034-1
Paint color	Pump	Munsell N1(Frame spacer for 5.5kW or more)
	Motor	Black

※1 If the liquid contains hard sludge, such as abrasive powder, ground powder, or ground diamond grains, the service life might be shortened. Please set up a filter (magnet filter or paper filter, etc.).

※2 The pump cannot be installed outside.

※3 -KS/-7W: 3-phase 60Hz 200V-230V

※4 Thermal class of -7W type is class A.

## Special specification

Motor modifications	Voltage change <sup>※1</sup> , change of terminal box position <sup>※2</sup> , change of terminal box direction <sup>※3</sup>
---------------------	---

※1 7.5kW or less (50Hz/380V,400V 60Hz/400V 460V)

11kW or more(50Hz/380V,400V,415V,420V,440V 60Hz/400V,440V,460V 480V)

※2 Change of terminal box position (every 90° when viewed from above)

※3 Terminal box direction (every 90° when viewed from front), Applicable: 1.5 kW to 18.5 kW

## Special accessory

Companion flange (discharge diameter 32 mm) <sup>※</sup>
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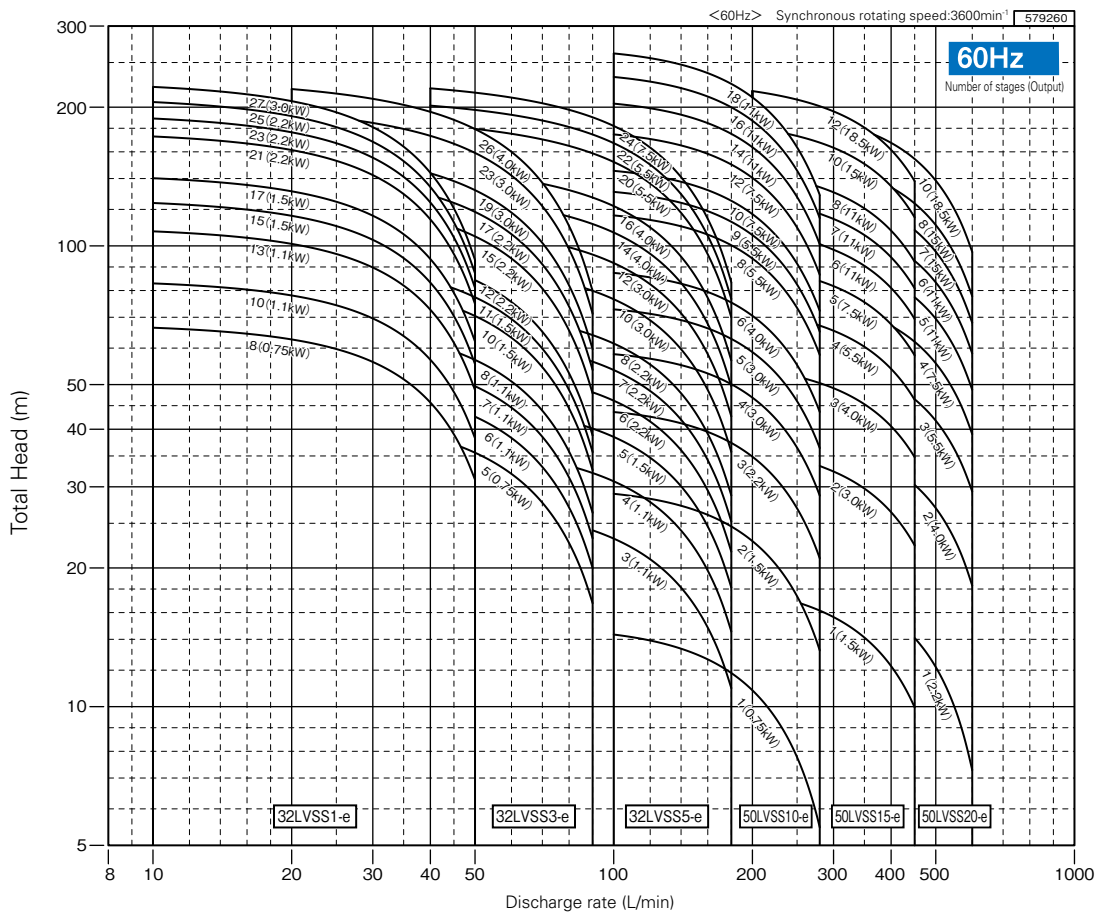
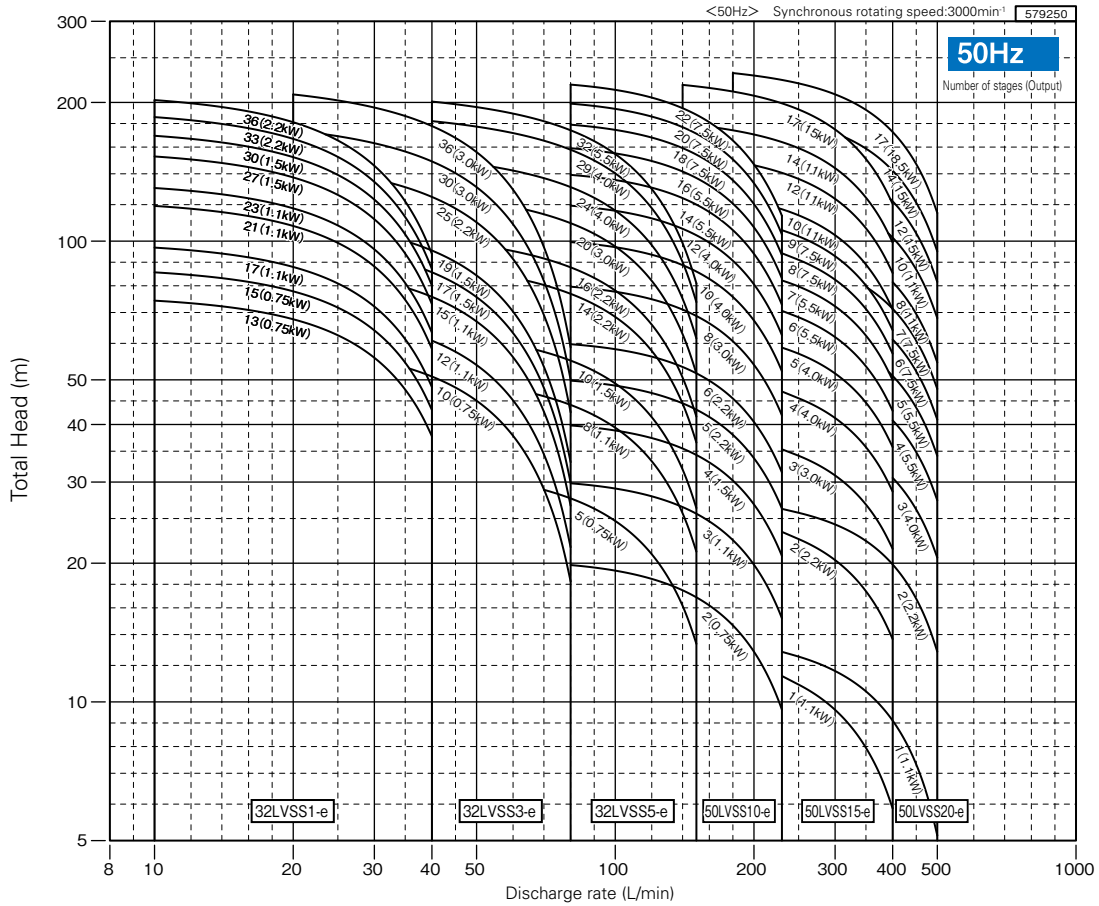
※ The material is SCS13.

## Table of Consumable Parts

Output (kW)	Bearing		Oil seal				O-ring (For oil thrower) Material: FKM	
	Load side	Unload side	Motor		Discharge casing		Bore diameter 32	Bore diameter 50
			Load side (Bearing side)	Unload side	Bore diameter 32	Bore diameter 50		
0.75	6204ZZC3	6201ZZC3	—	—	IS12257	SC16328	S12	S16
1.1		6304ZZC3	6305ZZC3	—				
1.5	VC25407			VC25477				
2.2	VC35557							
3.0	VC35527			VC30528				
4.0	VC45628							
5.5	7309B			6309ZZC3				
7.5								
11								
15								
18.5								

Selection chart

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)



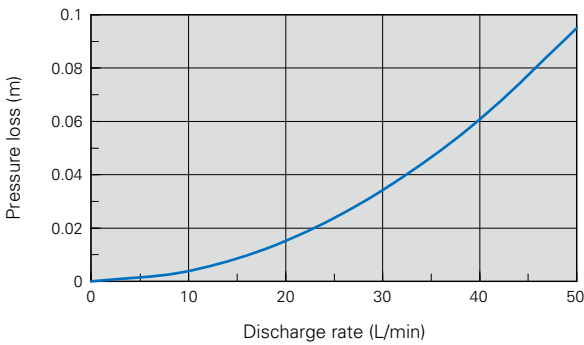
Note 1) The selection chart reflects the full impeller condition of the units. The total head may be decreased depending on the flow rate if empty casings are involved because of pressure loss in the empty casings.

\* Above selection chart (-e) is also available for -KS/-7W type.

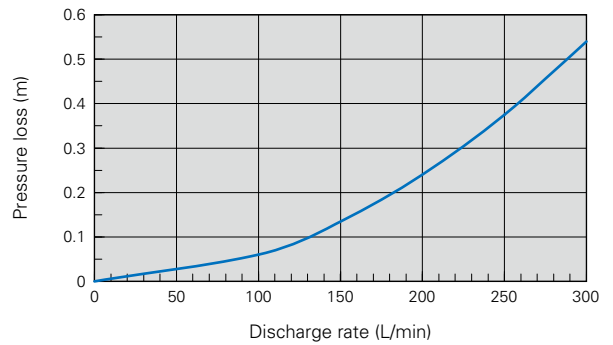
■ Pressure loss in the empty casings (50 Hz/60 Hz)

Pressure loss for 1 stage of empty casing is as follows:

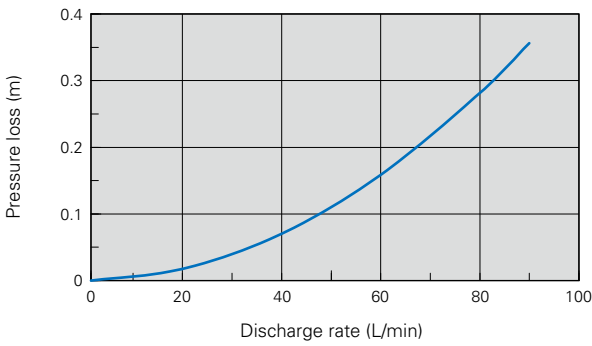
LVSS1



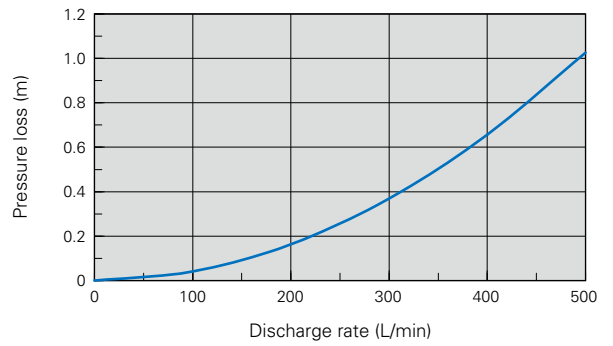
LVSS10



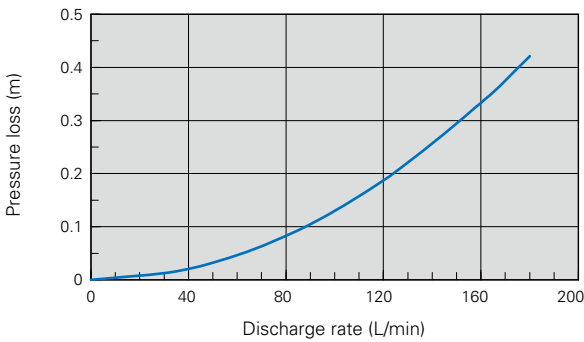
LVSS3



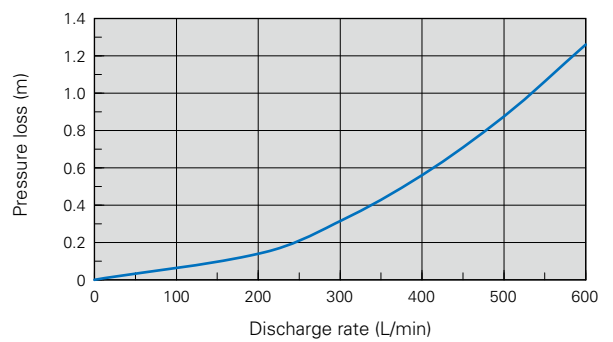
LVSS15



LVSS5



LVSS20



The selection chart is a performance chart of the full-impeller model (all casings are equipped with impeller). A pump with empty casings (without impeller) will have some influence on the total head of the pump depending on the flow rate due to its pressure loss. The pressure loss per 1 stage of empty casing of each model is as shown in the graph above. In the case of a pump with many stages of empty casings, the maximum flow rate may slightly decrease. For details, refer to the characteristic curve chart.

● Calculation example of total pump head in consideration of pressure loss of empty casing

- Pump type : 32LVSS5-20/5-5.75-e
- Specification flow rate: 100L/min
- Specification total head: 20m
- The number of stages: 20
- Number of impellers: 5

From the graph above, the pressure loss per 1 stage of empty casing is 0.13 m for a flow rate of 100L/min  
 The number of stages of the empty casing is 20 - 5 = 15 stages.  
 Total pressure loss = 0.13 × 15 ≒ 2.0m  
 From the selection chart, the total head is 25 m for a flow rate of 100L/min.  
 The pressure loss is subtracted from the total head.  
 Total head = 25 - 2.0 = 23.0m  
 Therefore, the total head of 32LVSS5-20/5-5.75-e is 23.0 m for a flow rate of 100 L/min.

Specification table

●-e type

50Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)		
32	1	32LVSS1-□/13-5.75-e	0.75	200	3.4	26	10-40	74.3 - 37.7		
		32LVSS1-□/15-5.75-e						85.6 - 43.0		
		32LVSS1-□/17-51.1-e	1.1					4.7	34	96.8 - 48.2
		32LVSS1-□/21-51.1-e								119.3 - 58.4
		32LVSS1-□/23-51.1-e	1.5					6.2	47	130.4 - 63.3
		32LVSS1-□/27-51.5-e								152.7 - 73.0
		32LVSS1-□/30-51.5-e	2.2					8.7	83	169.3 - 80.1
		32LVSS1-□/33-52.2-e								185.9 - 87.0
	32LVSS1-36/36-52.2-e					202.4 - 93.8				
	3	10-5.75-e	32LVSS3-□/10-5.75-e		0.75	3.4	26	20-80	58.7 - 18.2	
			32LVSS3-□/12-51.1-e		1.1	4.7	34		70.3 - 21.6	
		32LVSS3-□/15-51.1-e	1.5						6.2	47
		32LVSS3-□/17-51.5-e			2.2	8.7	83			
		32LVSS3-□/19-51.5-e	3.0						12.2	129
		32LVSS3-□/25-52.2-e			3.0	12.2	129			
		32LVSS3-□/30-53.0-e	4.0						14.7	145
		32LVSS3-36/36-53.0-e			208.2 - 58.8					
	5	5-5.75-e	32LVSS5-□/5-5.75-e		0.75	3.4	26	40-150	31.6 - 13.3	
			32LVSS5-□/8-51.1-e		1.1	4.7	34		50.6 - 21.1	
		32LVSS5-□/10-51.5-e	1.5						6.2	47
		32LVSS5-□/14-52.2-e			2.2	8.7	83			
		32LVSS5-□/16-52.2-e	3.0						12.2	129
		32LVSS5-□/20-53.0-e			4.0	14.7	145			
		32LVSS5-□/24-54.0-e	5.5						20.3	204
		32LVSS5-□/29-54.0-e			182.2 - 73.7					
	32LVSS5-32/32-55.5-e	200.9 - 81.0								
	50	10	50LVSS10-□/2-5.75-e		0.75	3.4	26	80-230	19.8 - 9.6	
			50LVSS10-□/3-51.1-e		1.1	4.7	34		29.8 - 15.1	
50LVSS10-□/4-51.5-e			1.5	6.2					47	39.8 - 20.7
50LVSS10-□/5-52.2-e					2.2	8.7	83			49.8 - 26.2
50LVSS10-□/6-52.2-e			3.0	12.2					129	59.7 - 31.4
50LVSS10-□/8-53.0-e					4.0	14.7	145			79.6 - 41.8
50LVSS10-□/10-54.0-e			5.5	20.3					204	99.5 - 52.1
50LVSS10-□/12-54.0-e					7.5	27.2	290			119.4 - 62.4
50LVSS10-□/14-55.5-e			7.5	27.2					290	139.3 - 72.7
50LVSS10-□/16-55.5-e					11	40.5	361			159.1 - 82.9
50LVSS10-□/18-57.5-e			15	52.4					484	179.0 - 93.2
50LVSS10-□/20-57.5-e					198.9 - 103.3					
50LVSS10-22/22-57.5-e		218.7 - 113.5								
15		1-51.1-e	50LVSS15-□/1-51.1-e	1.1	4.7	34	140-400	12.7 - 5.8		
			50LVSS15-□/2-52.2-e	2.2	8.7	83		25.6 - 13.6		
		50LVSS15-□/3-53.0-e	3.0					12.2	129	38.6 - 21.4
		50LVSS15-□/4-54.0-e		4.0	14.7	145				51.4 - 28.6
		50LVSS15-□/5-54.0-e	5.5					20.3	204	64.3 - 35.7
		50LVSS15-□/6-55.5-e		7.5	27.2	290				77.2 - 42.8
		50LVSS15-□/7-55.5-e	11					40.5	361	90.0 - 49.9
		50LVSS15-□/8-57.5-e		15	52.4	484				102.9 - 57.0
		50LVSS15-□/9-57.5-e	11					40.5	361	115.7 - 64.1
		50LVSS15-□/10-511-e		15	52.4	484				128.5 - 71.1
		50LVSS15-□/12-511-e	15					52.4	484	154.2 - 85.2
		50LVSS15-□/14-511-e		179.9 - 99.3						
50LVSS15-17/17-515-e		218.4 - 120.4								
20		1-51.1-e	50LVSS20-□/1-51.1-e	1.1	4.7	34	180-500	13.4 - 5.1		
			50LVSS20-□/2-52.2-e	2.2	8.7	83		27.1 - 12.8		
		50LVSS20-□/3-54.0-e	4.0					14.7	145	40.9 - 20.5
		50LVSS20-□/4-55.5-e		5.5	20.3	204				54.6 - 27.3
		50LVSS20-□/5-55.5-e	7.5					27.2	290	68.2 - 34.1
		50LVSS20-□/6-57.5-e		11	40.5	361				81.8 - 40.9
		50LVSS20-□/7-57.5-e	15					54.0	484	95.5 - 47.7
		50LVSS20-□/8-511-e		15	54.0	484				109.1 - 54.5
		50LVSS20-□/10-511-e	18.5					66.0	563	136.4 - 68.0
		50LVSS20-□/12-515-e		18.5	66.0	563				163.6 - 81.5
		50LVSS20-□/14-515-e	190.8 - 95.0							
		50LVSS20-17/17-518-e	231.7 - 115.1							

Note) The rated current in the table above is the recommended setting for the current value of the protective device.

●-e type

60Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)		
32	1	32LVSS1-□/8-6.75-e	0.75	200/230	3.2/3.1	25.0/28.5	10-50	66.4 - 31.1		
		32LVSS1-□/10-61.1-e	1.1		4.4/4.1	32.5/37.0		82.9 - 38.2		
		32LVSS1-□/13-61.1-e			2.2	5.9/5.4		41.0/47.6	107.6 - 48.6	
		32LVSS1-□/15-61.5-e	1.5			8.4/7.6		78.0/82.6	123.9 - 55.4	
		32LVSS1-□/17-61.5-e							2.2	140.3 - 62.0
		32LVSS1-□/21-62.2-e	3.0			11.5/10.8		115/135		172.8 - 74.8
		32LVSS1-□/23-62.2-e							2.2	189.1 - 81.1
		32LVSS1-□/25-62.2-e	3.0			11.5/10.8		115/135		205.3 - 87.2
	32LVSS1-□/27-63.0-e	0.75			3.2/3.1		25.0/28.5		221.4 - 93.2	
	32LVSS3-□/5-6.75-e		1.1		4.4/4.1	32.5/37.0	42.7 - 16.7			
	32LVSS3-□/6-61.1-e						1.5	5.9/5.4	41.0/47.6	51.2 - 20.0
	32LVSS3-□/7-61.1-e		2.2		8.4/7.6	78.0/82.6				59.7 - 23.1
	32LVSS3-□/8-61.1-e									3.0
	32LVSS3-□/10-61.5-e		4.0		14.3/12.8	132/151				
	32LVSS3-□/11-61.5-e									2.2
	32LVSS3-□/12-62.2-e		3.0		11.5/10.8	115/135				
	32LVSS3-□/15-62.2-e	4.0					14.3/12.8	132/151	127.1 - 47.8	
	32LVSS3-□/17-62.2-e		0.75		3.2/3.1	25.0/28.5			143.9 - 53.8	
	32LVSS3-□/19-63.0-e	1.1					4.4/4.1	32.5/37.0	160.7 - 59.6	
	32LVSS3-□/23-63.0-e		1.5		5.9/5.4	41.0/47.6			194.1 - 71.2	
	32LVSS3-□/26-64.0-e	2.2					8.4/7.6	78.0/82.6	219.0 - 79.7	
	32LVSS5-□/3-61.1-e		1.1		4.4/4.1	32.5/37.0			27.7 - 10.9	
	32LVSS5-□/4-61.1-e	1.5					5.9/5.4	41.0/47.6	36.9 - 14.5	
	32LVSS5-□/5-61.5-e		2.2		8.4/7.6	78.0/82.6			46.1 - 18.1	
	32LVSS5-□/6-62.2-e								3.0	11.5/10.8
	32LVSS5-□/7-62.2-e		4.0		14.3/12.8	132/151				
	32LVSS5-□/8-62.2-e								5.5	19.8/17.8
	32LVSS5-□/10-63.0-e		7.5		26.5/23.7	254/295				
	32LVSS5-□/12-63.0-e	0.75					3.2/3.1	25.0/28.5	110.3 - 42.6	
	32LVSS5-□/14-64.0-e		1.5		5.9/5.4	41.0/47.6			128.6 - 49.5	
	32LVSS5-□/16-64.0-e	2.2					8.4/7.6	78.0/82.6	146.9 - 56.4	
	32LVSS5-□/20-65.5-e		3.0		11.5/10.8	115/135			183.4 - 69.9	
32LVSS5-□/22-65.5-e	4.0	14.3/12.8		132/151			201.6 - 76.6			
32LVSS5-□/24-67.5-e			5.5		19.8/17.8	178/206	219.8 - 83.3			
50LVSS10-□/1-6.75-e	0.75	3.2/3.1		25.0/28.5			14.3 - 5.4			
50LVSS10-□/2-61.5-e	1.5	5.9/5.4	41.0/47.6	28.9 - 13.2						
50LVSS10-□/3-62.2-e	2.2	8.4/7.6	78.0/82.6	43.6 - 20.9						
50LVSS10-□/4-63.0-e	3.0	11.5/10.8	115/135	58.2 - 28.7						
50LVSS10-□/5-63.0-e				4.0	14.3/12.8	132/151	72.8 - 36.4			
50LVSS10-□/6-64.0-e	5.5	19.8/17.8	178/206				87.4 - 43.6			
50LVSS10-□/8-65.5-e				7.5	26.5/23.7	254/295	116.5 - 57.9			
50LVSS10-□/9-65.5-e	11	39.5/36.5	296/333				131.0 - 65.1			
50LVSS10-□/10-67.5-e				15	53.0/49.0	397/447	145.5 - 72.2			
50LVSS10-□/12-67.5-e	18.5	65.0/59.0	456/515				174.6 - 86.5			
50LVSS10-□/14-611-e				200/220	39.5/36.5	296/333	203.7 - 100.7			
50LVSS10-□/16-611-e	200/230	5.9/5.4	41.0/47.6				232.7 - 114.8			
50LVSS10-□/18-611-e				3.0	11.5/10.8	115/135	261.7 - 129.0			
50LVSS15-□/1-61.5-e	1.5	5.9/5.4	41.0/47.6				18.3 - 9.9			
50LVSS15-□/2-63.0-e	3.0	11.5/10.8	115/135	37.0 - 22.3						
50LVSS15-□/3-64.0-e	4.0	14.3/12.8	132/151	55.6 - 34.7						
50LVSS15-□/4-65.5-e	5.5	19.8/17.8	178/206	74.2 - 46.3						
50LVSS15-□/5-67.5-e	7.5	26.5/23.7	254/295	92.7 - 57.8						
50LVSS15-□/6-611-e	11	39.5/36.5	296/333	111.2 - 69.3						
50LVSS15-□/7-611-e				200/220	53.0/49.0	397/447	129.8 - 80.8			
50LVSS15-□/8-611-e	15	53.0/49.0	397/447				148.3 - 92.3			
50LVSS15-□/10-615-e				18.5	65.0/59.0	456/515	185.3 - 115.3			
50LVSS15-□/12-618-e	2.2	8.4/7.8	78.0/82.6				222.4 - 138.2			
50LVSS20-□/1-62.2-e				4.0	14.3/12.8	132/151	19.2 - 7.2			
50LVSS20-□/2-64.0-e	5.5	19.8/17.8	178/206				39.0 - 18.3			
50LVSS20-□/3-65.5-e				7.5	26.5/23.7	254/295	58.8 - 29.3			
50LVSS20-□/4-67.5-e	11	39.5/36.5	296/333				78.4 - 39.0			
50LVSS20-□/5-611-e				15	53.0/49.0	397/447	98.0 - 48.7			
50LVSS20-□/6-611-e	18.5	65.0/59.0	456/515				117.6 - 58.4			
50LVSS20-□/7-615-e				200/230	5.9/5.4	41.0/47.6	137.2 - 68.1			
50LVSS20-□/8-615-e	3.0	11.5/10.8	115/135				156.8 - 77.7			
50LVSS20-□/10-618-e				4.0	14.3/12.8	132/151	195.9 - 97.0			

Note) The rated current in the table above is the recommended setting for the current value of the protective device.

●-7W type

60Hz

Bore diameter (mm)	Nominal flow rate (m³/h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)			
32	1	32LVSS1-□/8-6.75-7W	0.75	200-230	3.2-3.1	25.0-28.5	10-50	66.4 - 31.1			
		32LVSS1-□/10-61.1-7W	1.1		4.4-4.1	32.5-37.0		82.9 - 38.2			
		32LVSS1-□/13-61.1-7W			2.2	8.4-76		78.0-82.6	107.6 - 48.6		
		32LVSS1-□/15-61.5-7W	1.5						41.0-476	123.9 - 55.4	
		32LVSS1-□/17-61.5-7W								2.2	140.3 - 62.0
		32LVSS1-□/21-62.2-7W	2.2						172.8 - 74.8		
		32LVSS1-□/23-62.2-7W							3.0	115-135	189.1 - 81.1
		32LVSS1-□/25-62.2-7W	2.2								205.3 - 87.2
	32LVSS1-□/27-63.0-7W	3.0			221.4 - 93.2						
	3	3	32LVSS3-□/5-6.75-7W		0.75	3.2-3.1	25.0-28.5	20-90	42.7 - 16.7		
			32LVSS3-□/6-61.1-7W		1.1	4.4-4.1	32.5-37.0		51.2 - 20.0		
			32LVSS3-□/7-61.1-7W						1.5	41.0-476	59.7 - 23.1
			32LVSS3-□/8-61.1-7W		2.2	78.0-82.6	68.1 - 26.3				
		32LVSS3-□/10-61.5-7W	2.2				115-135		85.0 - 32.6		
		32LVSS3-□/11-61.5-7W			3.0	115-135			93.5 - 35.7		
		32LVSS3-□/12-62.2-7W	3.0				14.3-12.8		101.9 - 38.7		
		32LVSS3-□/15-62.2-7W			4.0	132-151			127.1 - 47.8		
		32LVSS3-□/17-62.2-7W	3.0				115-135		143.9 - 53.8		
		32LVSS3-□/19-63.0-7W			4.0	132-151			160.7 - 59.6		
		32LVSS3-□/23-63.0-7W	4.0				132-151		194.1 - 71.2		
		32LVSS3-□/26-64.0-7W			4.0	219.0 - 79.7					
		5	5		32LVSS5-□/3-61.1-7W	1.1	4.4-4.1		32.5-37.0	40-180	27.7 - 10.9
					32LVSS5-□/4-61.1-7W						36.9 - 14.5
	32LVSS5-□/5-61.5-7W				1.5	5.9-5.4		41.0-476			46.1 - 18.1
	32LVSS5-□/6-62.2-7W				2.2	8.4-76		78.0-82.6			55.3 - 21.6
	32LVSS5-□/7-62.2-7W										64.4 - 25.2
	32LVSS5-□/8-62.2-7W				3.0	11.3-10.6		115-135			73.6 - 28.7
	32LVSS5-□/10-63.0-7W		92.0 - 35.7								
	32LVSS5-□/12-63.0-7W		4.0		14.3-12.8	132-151	110.3 - 42.6				
	32LVSS5-□/14-64.0-7W						128.6 - 49.5				
	32LVSS5-□/16-64.0-7W		5.5		19.8-178	178-206	146.9 - 56.4				
	32LVSS5-□/20-65.5-7W						183.4 - 69.9				
32LVSS5-□/22-65.5-7W	7.5		201.6 - 76.6								
32LVSS5-□/24-67.5-7W	7.5	219.8 - 83.3									
50	10	50LVSS10-□/1-6.75-7W	0.75	3.2-3.1	25.0-28.5	100-280	14.3 - 5.4				
		50LVSS10-□/2-61.5-7W	1.5	5.9-5.4	41.0-476		28.9 - 13.2				
		50LVSS10-□/3-62.2-7W	2.2	8.4-76	78.0-82.6		43.6 - 20.9				
		50LVSS10-□/4-63.0-7W	3.0	11.3-10.6	115-135		58.2 - 28.7				
		50LVSS10-□/5-63.0-7W					72.8 - 36.4				
		50LVSS10-□/6-64.0-7W	4.0	14.3-12.8	132-151		87.4 - 43.6				
		50LVSS10-□/8-65.5-7W	5.5	19.8-178	178-206		116.5 - 57.9				
		50LVSS10-□/9-65.5-7W					131.0 - 65.1				
		50LVSS10-□/10-67.5-7W	7.5	26.5-23.7	254-295		145.5 - 72.2				
		50LVSS10-□/12-67.5-7W					174.6 - 86.5				
	15	50LVSS15-□/1-61.5-7W	1.5	5.9-5.4	41.0-476	160-450	18.3 - 9.9				
		50LVSS15-□/2-63.0-7W	3.0	11.3-10.6	115-135		37.0 - 22.3				
		50LVSS15-□/3-64.0-7W	4.0	14.3-12.8	132-151		55.6 - 34.7				
		50LVSS15-□/4-65.5-7W	5.5	19.8-178	178-206		74.2 - 46.3				
		50LVSS15-□/5-67.5-7W	7.5	26.5-23.7	254-295		92.7 - 57.8				
		50LVSS15-□/6-67.5-7W	7.5	26.5-23.7	254-295		92.7 - 57.8				
	20	50LVSS20-□/1-62.2-7W	2.2	8.4-78	78.0-82.6	220-600	19.2 - 7.2				
		50LVSS20-□/2-64.0-7W	4.0	14.3-12.8	132-151		39.0 - 18.3				
		50LVSS20-□/3-65.5-7W	5.5	19.8-178	178-206		58.8 - 29.3				
		50LVSS20-□/4-67.5-7W	7.5	26.5-23.7	254-295		78.4 - 39.0				

Note 1) The rated current is the recommended current setting for the protection device.

## ●-KS type

60Hz

Bore diameter (mm)	Nominal flow rate (m <sup>3</sup> /h)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total Head (m)	
32	1	32LVSS1-□/8-6.75-KS	0.75	200-230	3.2-3.1	25.0-28.5	10-50	66.4 - 31.1	
		32LVSS1-□/10-61.1-KS	1.1		4.4-4.1	32.5-37.0		82.9 - 38.2	
		32LVSS1-□/13-61.1-KS			1.5	5.9-5.4		41.0-47.6	107.6 - 48.6
		32LVSS1-□/15-61.5-KS	2.2			8.4-7.6		78.0-82.6	123.9 - 55.4
		32LVSS1-□/17-61.5-KS			3.0				11.5-10.8
		32LVSS1-□/21-62.2-KS	2.2			8.4-7.6		78.0-82.6	
		32LVSS1-□/23-62.2-KS			3.0				11.5-10.8
		32LVSS1-□/25-62.2-KS	4.0			14.3-12.8		132-151	
	32LVSS1-□/27-63.0-KS	3			32LVSS3-□/5-6.75-KS		0.75		3.2-3.1
	32LVSS3-□/6-61.1-KS		1.1		4.4-4.1	32.5-37.0	42.7 - 16.7		
	32LVSS3-□/7-61.1-KS				1.5	5.9-5.4	41.0-47.6	51.2 - 20.0	
	32LVSS3-□/8-61.1-KS		2.2			8.4-7.6	78.0-82.6	59.7 - 23.1	
	32LVSS3-□/10-61.5-KS				3.0			11.5-10.8	115-135
	32LVSS3-□/11-61.5-KS		4.0			14.3-12.8	132-151		
	32LVSS3-□/12-62.2-KS				2.2			8.4-7.6	78.0-82.6
	32LVSS3-□/15-62.2-KS		3.0			11.5-10.8	115-135		
	32LVSS3-□/17-62.2-KS	4.0			14.3-12.8			132-151	127.1 - 47.8
	32LVSS3-□/19-63.0-KS		1.1			4.4-4.1	32.5-37.0		143.9 - 53.8
	32LVSS3-□/23-63.0-KS	1.5			5.9-5.4			41.0-47.6	160.7 - 59.6
	32LVSS3-□/26-64.0-KS		3.0			11.3-10.6	115-135		194.1 - 71.2
	32LVSS5-□/3-61.1-KS	1.1			4.4-4.1			32.5-37.0	219.0 - 79.7
	32LVSS5-□/4-61.1-KS		1.5			5.9-5.4	41.0-47.6		27.7 - 10.9
	32LVSS5-□/5-61.5-KS	2.2			8.4-7.6			78.0-82.6	36.9 - 14.5
	32LVSS5-□/6-62.2-KS		3.0			11.3-10.6	115-135		46.1 - 18.1
	32LVSS5-□/7-62.2-KS	4.0			14.3-12.8			132-151	55.3 - 21.6
	32LVSS5-□/8-62.2-KS		5.5			19.8-17.8	178-206		64.4 - 25.2
	32LVSS5-□/10-63.0-KS	7.5			26.5-23.7			254-295	73.6 - 28.7
	32LVSS5-□/12-63.0-KS		1.1			4.4-4.1	32.5-37.0		92.0 - 35.7
	32LVSS5-□/14-64.0-KS	1.5			5.9-5.4			41.0-47.6	110.3 - 42.6
	32LVSS5-□/16-64.0-KS		3.0			11.3-10.6	115-135		128.6 - 49.5
	32LVSS5-□/20-65.5-KS	4.0			14.3-12.8			132-151	146.9 - 56.4
	32LVSS5-□/22-65.5-KS		5.5			19.8-17.8	178-206		183.4 - 69.9
32LVSS5-□/24-67.5-KS	7.5	26.5-23.7		254-295	201.6 - 76.6				
50LVSS10-□/1-6.75-KS			10		50LVSS10-□/2-61.5-KS	0.75	3.2-3.1	25.0-28.5	100-280
50LVSS10-□/3-62.2-KS	1.5	5.9-5.4		41.0-47.6	14.3 - 5.4				
50LVSS10-□/4-63.0-KS		2.2		8.4-7.6	78.0-82.6	28.9 - 13.2			
50LVSS10-□/5-63.0-KS	3.0			11.3-10.6	115-135	43.6 - 20.9			
50LVSS10-□/6-64.0-KS		4.0		14.3-12.8	132-151	58.2 - 28.7			
50LVSS10-□/8-65.5-KS	5.5			19.8-17.8	178-206	72.8 - 36.4			
50LVSS10-□/9-65.5-KS		7.5		26.5-23.7	254-295	87.4 - 43.6			
50LVSS10-□/10-67.5-KS	1.5			5.9-5.4	41.0-47.6	116.5 - 57.9			
50LVSS10-□/12-67.5-KS		3.0		11.3-10.6	115-135	131.0 - 65.1			
50LVSS15-□/1-61.5-KS	4.0			14.3-12.8	132-151	145.5 - 72.2			
50LVSS15-□/2-63.0-KS		5.5	19.8-17.8	178-206	174.6 - 86.5				
50LVSS15-□/3-64.0-KS	7.5		26.5-23.7	254-295	18.3 - 9.9				
50LVSS15-□/4-65.5-KS		2.2	8.4-7.8	78.0-82.6	37.0 - 22.3				
50LVSS15-□/5-67.5-KS	4.0		14.3-12.8	132-151	55.6 - 34.7				
50LVSS20-□/1-62.2-KS		5.5	19.8-17.8	178-206	74.2 - 46.3				
50LVSS20-□/2-64.0-KS	7.5		26.5-23.7	254-295	92.7 - 57.8				
50LVSS20-□/3-65.5-KS		2.2	8.4-7.8	78.0-82.6	19.2 - 7.2				
50LVSS20-□/4-67.5-KS	4.0		14.3-12.8	132-151	39.0 - 18.3				
		5.5	19.8-17.8	178-206	58.8 - 29.3				
	7.5		26.5-23.7	254-295	78.4 - 39.0				

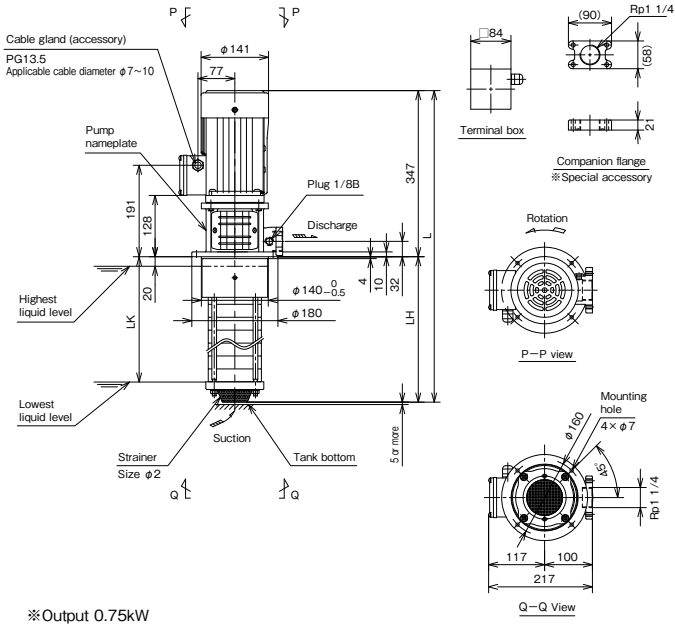
Note 1) The rated current is the recommended current setting for the protection device.



Assembly drawing

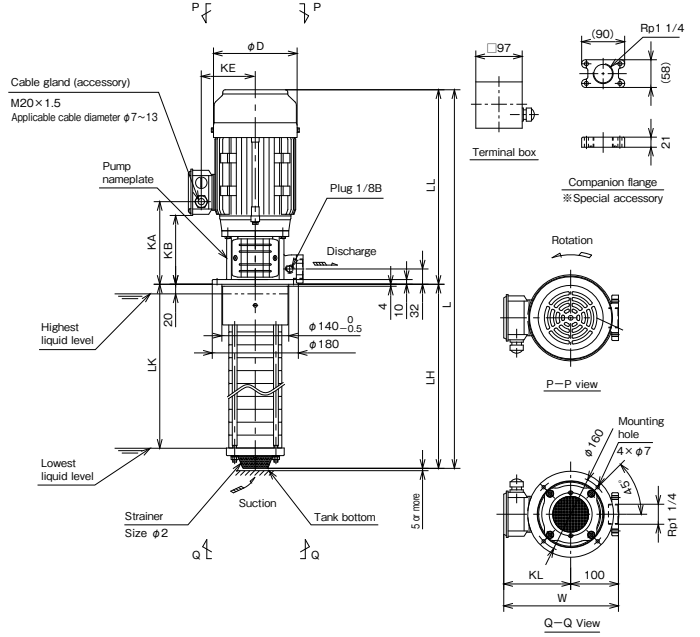
● Discharge diameter: 32mm

Fig.1



※ Output 0.75kW

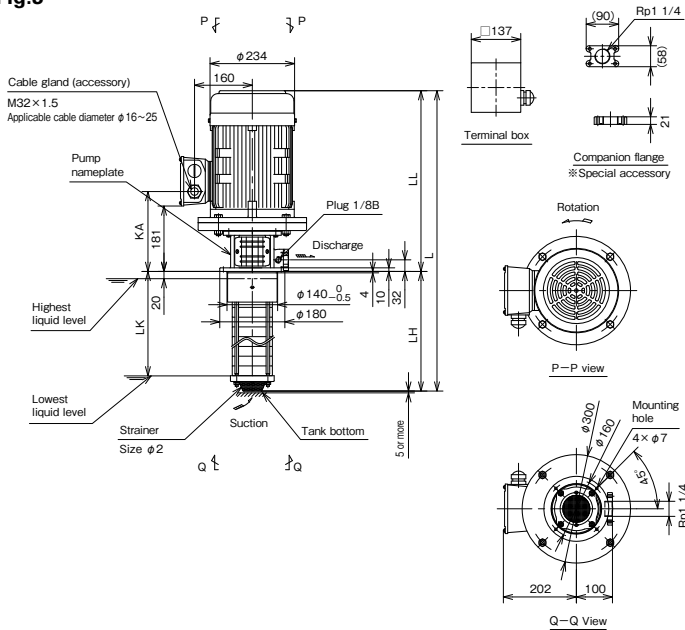
Fig.2



(Unit : mm)

Output kW	D	KA	KB	KE	KL	LL	W
1.1	175	167	138	113	140	401	240
1.5/2.2	175	173	144	113	140	407	240
3.0	196	174	144	125	152	430	252
4.0	219	178	149	134	161	437	—

Fig.3



(Unit : mm)

Output kW	LL	KA
5.5	500	221
7.5	540	222

Dimensions

● Discharge diameter : 32mm, Nominal flow rate : 1m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVSS1-13/13-5.75-e	1	696	349	307	23
32LVSS1-15/13-5.75-e		732	385	343	24
32LVSS1-17/13-5.75-e		768	421	379	24
32LVSS1-21/13-5.75-e		840	493	451	25
32LVSS1-25/13-5.75-e		912	565	523	26
32LVSS1-15/15-5.75-e		732	385	343	24
32LVSS1-17/15-5.75-e		768	421	379	24
32LVSS1-21/15-5.75-e		840	493	451	25
32LVSS1-25/15-5.75-e		912	565	523	26
32LVSS1-17/17-51.1-e		2	822	421	379
32LVSS1-21/17-51.1-e	894		493	451	29.5
32LVSS1-25/17-51.1-e	966		565	523	30.5
32LVSS1-30/17-51.1-e	1056		655	613	32.5
32LVSS1-21/21-51.1-e	894		493	451	30.5
32LVSS1-25/21-51.1-e	966		565	523	31.5
32LVSS1-30/21-51.1-e	1056		655	613	32.5
32LVSS1-33/21-51.1-e	1110		709	667	32.5
32LVSS1-23/23-51.1-e	930		529	487	30.5
32LVSS1-25/23-51.1-e	966		565	523	31.5
32LVSS1-30/23-51.1-e	1056		655	613	32.5
32LVSS1-33/23-51.1-e	1110		709	667	33.5
32LVSS1-36/23-51.1-e	1164		763	721	33.5
32LVSS1-27/27-51.5-e	1008		601	559	36
32LVSS1-33/27-51.5-e	1116		709	667	37
32LVSS1-36/27-51.5-e	1170		763	721	38
32LVSS1-30/30-51.5-e	1062		655	613	36
32LVSS1-33/30-51.5-e	1116		709	667	37
32LVSS1-36/30-51.5-e	1170		763	721	38
32LVSS1-33/33-52.2-e	1116		709	667	41
32LVSS1-36/33-52.2-e	1170		763	721	41
32LVSS1-36/36-52.2-e	1170		763	721	41

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
32LVSS1-8/8-6.75-□	1	606	259	217	22	
32LVSS1-10/8-6.75-□		642	295	253	22	
32LVSS1-13/8-6.75-□		696	349	307	23	
32LVSS1-15/8-6.75-□		732	385	343	24	
32LVSS1-17/8-6.75-□		768	421	379	24	
32LVSS1-21/8-6.75-□		840	493	451	25	
32LVSS1-25/8-6.75-□		912	565	523	26	
32LVSS1-10/10-61.1-□		2	696	295	253	27.5
32LVSS1-13/10-61.1-□			750	349	307	27.5
32LVSS1-15/10-61.1-□			786	385	343	28.5
32LVSS1-17/10-61.1-□	822		421	379	28.5	
32LVSS1-21/10-61.1-□	894		493	451	29.5	
32LVSS1-25/10-61.1-□	966		565	523	30.5	
32LVSS1-13/13-61.1-□	750		349	307	27.5	
32LVSS1-15/13-61.1-□	786		385	343	28.5	
32LVSS1-17/13-61.1-□	822		421	379	28.5	
32LVSS1-21/13-61.1-□	894		493	451	29.5	
32LVSS1-25/13-61.1-□	966		565	523	30.5	
32LVSS1-15/15-61.5-□	792		385	343	32	
32LVSS1-17/15-61.5-□	828		421	379	33	
32LVSS1-21/15-61.5-□	900		493	451	33	
32LVSS1-25/15-61.5-□	972		565	523	34	
32LVSS1-30/15-61.5-□	1062		655	613	36	
32LVSS1-17/17-61.5-□	828		421	379	33	
32LVSS1-21/17-61.5-□	900		493	451	34	
32LVSS1-25/17-61.5-□	972		565	523	35	
32LVSS1-30/17-61.5-□	1062		655	613	36	
32LVSS1-33/17-61.5-□	1116		709	667	36	
32LVSS1-21/21-62.2-□	900		493	451	37	
32LVSS1-25/21-62.2-□	972		565	523	38	
32LVSS1-30/21-62.2-□	1062		655	613	39	
32LVSS1-33/21-62.2-□	1116		709	667	40	
32LVSS1-36/21-62.2-□	1170		763	721	41	
32LVSS1-23/23-62.2-□	936		529	487	38	
32LVSS1-27/23-62.2-□	1008		601	559	39	
32LVSS1-30/23-62.2-□	1062		655	613	39	
32LVSS1-33/23-62.2-□	1116		709	667	40	
32LVSS1-36/23-62.2-□	1170	763	721	41		
32LVSS1-25/25-62.2-□	972	565	523	38		
32LVSS1-27/25-62.2-□	1008	601	559	39		
32LVSS1-30/25-62.2-□	1062	655	613	40		
32LVSS1-33/25-62.2-□	1116	709	667	40		
32LVSS1-36/25-62.2-□	1170	763	721	41		
32LVSS1-27/27-63.0-□	1031	601	559	46		
32LVSS1-30/27-63.0-□	1085	655	613	47		
32LVSS1-33/27-63.0-□	1139	709	667	47		
32LVSS1-36/27-63.0-□	1193	763	721	48		

Note 1) \* □ \* in pump type can be any one of -e/-KS/ -7W.

● Discharge diameter : 32mm, Nominal flow rate : 3m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVSS3-10/10-5.75-e	1	642	295	253	22
32LVSS3-12/10-5.75-e		678	331	289	23
32LVSS3-15/10-5.75-e		732	385	343	24
32LVSS3-19/10-5.75-e		804	457	415	25
32LVSS3-23/10-5.75-e		876	529	487	25
32LVSS3-12/12-51.1-e	2	732	331	289	28.5
32LVSS3-15/12-51.1-e		786	385	343	28.5
32LVSS3-19/12-51.1-e		858	457	415	29.5
32LVSS3-23/12-51.1-e		930	529	487	30.5
32LVSS3-15/15-51.1-e		786	385	343	28.5
32LVSS3-19/15-51.1-e		858	457	415	29.5
32LVSS3-23/15-51.1-e		930	529	487	30.5
32LVSS3-17/17-51.5-e		828	421	379	33
32LVSS3-23/17-51.5-e		936	529	487	34
32LVSS3-26/17-51.5-e		990	583	541	35
32LVSS3-19/19-51.5-e		864	457	415	33
32LVSS3-23/19-51.5-e		936	529	487	34
32LVSS3-26/19-51.5-e		990	583	541	35
32LVSS3-30/19-51.5-e		1062	655	613	36
32LVSS3-25/25-52.2-e		972	565	523	38
32LVSS3-30/25-52.2-e		1062	655	613	40
32LVSS3-36/25-52.2-e		1170	763	721	41
32LVSS3-30/30-53.0-e		1085	655	613	47
32LVSS3-36/30-53.0-e		1193	763	721	48
32LVSS3-36/36-53.0-e		1193	763	721	48

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVSS3-5/5-6.75-□	1	552	205	163	21
32LVSS3-7/5-6.75-□		588	241	199	21
32LVSS3-10/5-6.75-□		642	295	253	22
32LVSS3-12/5-6.75-□		678	331	289	23
32LVSS3-15/5-6.75-□		732	385	343	23
32LVSS3-19/5-6.75-□		804	457	415	24
32LVSS3-23/5-6.75-□		876	529	487	25
32LVSS3-6/6-61.1-□		624	223	181	25.5
32LVSS3-10/6-61.1-□		696	295	253	26.5
32LVSS3-12/6-61.1-□		732	331	289	27.5
32LVSS3-15/6-61.1-□		786	385	343	28.5
32LVSS3-19/6-61.1-□		858	457	415	28.5
32LVSS3-23/6-61.1-□		930	529	487	29.5
32LVSS3-7/7-61.1-□		642	241	199	26.5
32LVSS3-10/7-61.1-□		696	295	253	26.5
32LVSS3-12/7-61.1-□	732	331	289	27.5	
32LVSS3-15/7-61.1-□	786	385	343	28.5	
32LVSS3-19/7-61.1-□	858	457	415	28.5	
32LVSS3-23/7-61.1-□	930	529	487	29.5	
32LVSS3-8/8-61.1-□	660	259	217	26.5	
32LVSS3-10/8-61.1-□	696	295	253	26.5	
32LVSS3-12/8-61.1-□	732	331	289	27.5	
32LVSS3-15/8-61.1-□	786	385	343	28.5	
32LVSS3-19/8-61.1-□	858	457	415	29.5	
32LVSS3-23/8-61.1-□	930	529	487	29.5	
32LVSS3-10/10-61.5-□	702	295	253	31	
32LVSS3-12/10-61.5-□	738	331	289	31	
32LVSS3-15/10-61.5-□	792	385	343	32	
32LVSS3-19/10-61.5-□	864	457	415	33	
32LVSS3-23/10-61.5-□	936	529	487	34	
32LVSS3-11/11-61.5-□	720	313	271	31	
32LVSS3-15/11-61.5-□	792	385	343	32	
32LVSS3-19/11-61.5-□	864	457	415	33	
32LVSS3-23/11-61.5-□	936	529	487	34	
32LVSS3-12/12-62.2-□	738	331	289	35	
32LVSS3-15/12-62.2-□	792	385	343	35	
32LVSS3-19/12-62.2-□	864	457	415	36	
32LVSS3-23/12-62.2-□	936	529	487	37	
32LVSS3-15/15-62.2-□	792	385	343	36	
32LVSS3-19/15-62.2-□	864	457	415	36	
32LVSS3-23/15-62.2-□	936	529	487	37	
32LVSS3-26/15-62.2-□	990	583	541	38	
32LVSS3-17/17-62.2-□	828	421	379	36	
32LVSS3-23/17-62.2-□	936	529	487	37	
32LVSS3-26/17-62.2-□	990	583	541	38	
32LVSS3-30/17-62.2-□	1062	655	613	39	
32LVSS3-19/19-63.0-□	887	457	415	44	
32LVSS3-23/19-63.0-□	959	529	487	44	
32LVSS3-26/19-63.0-□	1013	583	541	45	
32LVSS3-30/19-63.0-□	1085	655	613	46	
32LVSS3-36/19-63.0-□	1193	763	721	47	
32LVSS3-23/23-63.0-□	959	529	487	45	
32LVSS3-26/23-63.0-□	1013	583	541	45	
32LVSS3-30/23-63.0-□	1085	655	613	46	
32LVSS3-36/23-63.0-□	1193	763	721	48	
32LVSS3-26/26-64.0-□	1020	583	541	51	
32LVSS3-30/26-64.0-□	1092	655	613	52	
32LVSS3-36/26-64.0-□	1200	763	721	53	

Note 1) \* □ \* in pump type can be any one of -e/-KS/-7W.

●Discharge diameter : 32mm, Nominal flow rate : 5m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVSS5-5/5-5.75-e	1	597	250	208	22
32LVSS5-7/5-5.75-e		651	304	262	22
32LVSS5-10/5-5.75-e		732	385	343	23
32LVSS5-14/5-5.75-e		840	493	451	24
32LVSS5-16/5-5.75-e		894	547	505	25
32LVSS5-20/5-5.75-e		1002	655	613	26
32LVSS5-8/8-51.1-e	2	732	331	289	27.5
32LVSS5-10/8-51.1-e		786	385	343	27.5
32LVSS5-14/8-51.1-e		894	493	451	29.5
32LVSS5-16/8-51.1-e		948	547	505	29.5
32LVSS5-20/8-51.1-e		1056	655	613	31.5
32LVSS5-10/10-51.5-e		792	385	343	32
32LVSS5-14/10-51.5-e		900	493	451	33
32LVSS5-16/10-51.5-e		954	547	505	34
32LVSS5-20/10-51.5-e		1062	655	613	35
32LVSS5-14/14-52.2-e		900	493	451	37
32LVSS5-16/14-52.2-e		954	547	505	37
32LVSS5-20/14-52.2-e		1062	655	613	39
32LVSS5-24/14-52.2-e		1170	763	721	40
32LVSS5-16/16-52.2-e		954	547	505	37
32LVSS5-20/16-52.2-e		1062	655	613	39
32LVSS5-24/16-52.2-e		1170	763	721	40
32LVSS5-29/16-52.2-e		1305	898	856	41
32LVSS5-20/20-53.0-e		1085	655	613	46
32LVSS5-24/20-53.0-e		1193	763	721	47
32LVSS5-29/20-53.0-e		1328	898	856	49
32LVSS5-32/20-53.0-e		1409	979	937	50
32LVSS5-24/24-54.0-e		1200	763	721	53
32LVSS5-29/24-54.0-e		1335	898	856	54
32LVSS5-32/24-54.0-e		1416	979	937	55
32LVSS5-29/29-54.0-e	1335	898	856	54	
32LVSS5-32/29-54.0-e	1416	979	937	55	
32LVSS5-32/32-55.5-e	3	1479	979	937	83

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
32LVSS5-3/3-61.1-□	1	597	196	154	25.5
32LVSS5-5/3-61.1-□		651	250	208	26.5
32LVSS5-7/3-61.1-□		705	304	262	26.5
32LVSS5-10/3-61.1-□		786	385	343	27.5
32LVSS5-14/3-61.1-□		894	493	451	28.5
32LVSS5-16/3-61.1-□		948	547	505	29.5
32LVSS5-20/3-61.1-□		1056	655	613	30.5
32LVSS5-4/4-61.1-□		624	223	181	25.5
32LVSS5-6/4-61.1-□		678	277	235	26.5
32LVSS5-8/4-61.1-□		732	331	289	26.5
32LVSS5-10/4-61.1-□		786	385	343	27.5
32LVSS5-14/4-61.1-□		894	493	451	29.5
32LVSS5-16/4-61.1-□		948	547	505	30.5
32LVSS5-20/4-61.1-□		1056	655	613	31.5
32LVSS5-5/5-61.5-□		657	250	208	30
32LVSS5-7/5-61.5-□		711	304	262	30
32LVSS5-10/5-61.5-□		792	385	343	31
32LVSS5-14/5-61.5-□		900	493	451	33
32LVSS5-16/5-61.5-□		954	547	505	33
32LVSS5-20/5-61.5-□		1062	655	613	35
32LVSS5-6/6-62.2-□		684	277	235	34
32LVSS5-8/6-62.2-□		738	331	289	34
32LVSS5-10/6-62.2-□		792	385	343	35
32LVSS5-14/6-62.2-□		900	493	451	36
32LVSS5-16/6-62.2-□	954	547	505	37	
32LVSS5-20/6-62.2-□	1062	655	613	38	
32LVSS5-7/7-62.2-□	711	304	262	34	
32LVSS5-10/7-62.2-□	792	385	343	35	
32LVSS5-14/7-62.2-□	900	493	451	36	
32LVSS5-16/7-62.2-□	954	547	505	37	
32LVSS5-20/7-62.2-□	1062	655	613	38	
32LVSS5-8/8-62.2-□	738	331	289	34	
32LVSS5-10/8-62.2-□	792	385	343	35	
32LVSS5-14/8-62.2-□	900	493	451	36	
32LVSS5-16/8-62.2-□	954	547	505	37	
32LVSS5-20/8-62.2-□	1062	655	613	38	
32LVSS5-10/10-63.0-□	815	385	343	42	
32LVSS5-14/10-63.0-□	923	493	451	43	
32LVSS5-16/10-63.0-□	977	547	505	44	
32LVSS5-20/10-63.0-□	1085	655	613	45	
32LVSS5-12/12-63.0-□	869	439	397	43	
32LVSS5-14/12-63.0-□	923	493	451	43	
32LVSS5-16/12-63.0-□	977	547	505	44	
32LVSS5-20/12-63.0-□	1085	655	613	45	
32LVSS5-24/12-63.0-□	1193	763	721	46	
32LVSS5-14/14-64.0-□	930	493	451	49	
32LVSS5-16/14-64.0-□	984	547	505	50	
32LVSS5-20/14-64.0-□	1092	655	613	51	
32LVSS5-24/14-64.0-□	1200	763	721	52	
32LVSS5-29/14-64.0-□	1335	898	856	54	
32LVSS5-16/16-64.0-□	984	547	505	50	
32LVSS5-20/16-64.0-□	1092	655	613	51	
32LVSS5-24/16-64.0-□	1200	763	721	52	
32LVSS5-29/16-64.0-□	1335	898	856	54	
32LVSS5-32/16-64.0-□	1416	979	937	55	
32LVSS5-20/20-65.5-□	3	1155	655	613	79
32LVSS5-24/20-65.5-□		1263	763	721	80
32LVSS5-29/20-65.5-□		1398	898	856	81
32LVSS5-32/20-65.5-□		1479	979	937	82
32LVSS5-22/22-65.5-□		1209	709	667	79
32LVSS5-24/22-65.5-□		1263	763	721	80
32LVSS5-29/22-65.5-□		1398	898	856	81
32LVSS5-32/22-65.5-□		1479	979	937	82
32LVSS5-24/24-67.5-□		1303	763	721	87
32LVSS5-29/24-67.5-□		1438	898	856	88
32LVSS5-32/24-67.5-□		1519	979	937	89

Note 1) \* □ in pump type can be any one of -e/-KS/-7W.

Assembly drawing

● Discharge diameter: 50mm

Fig.1

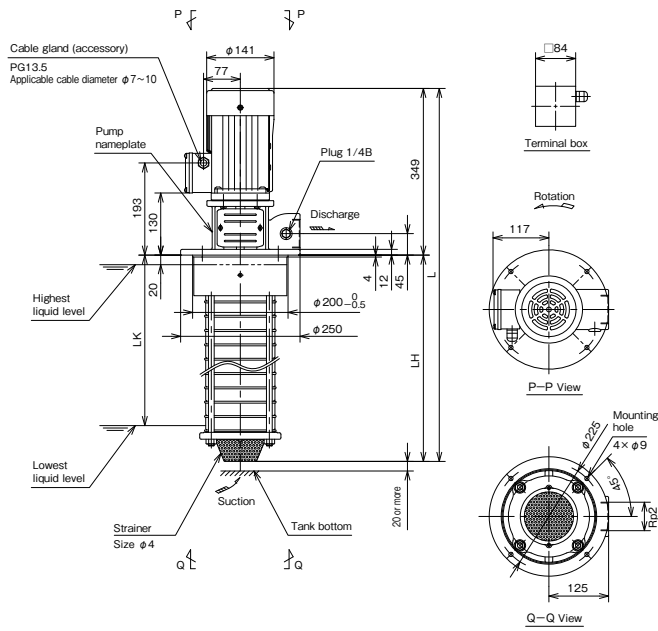
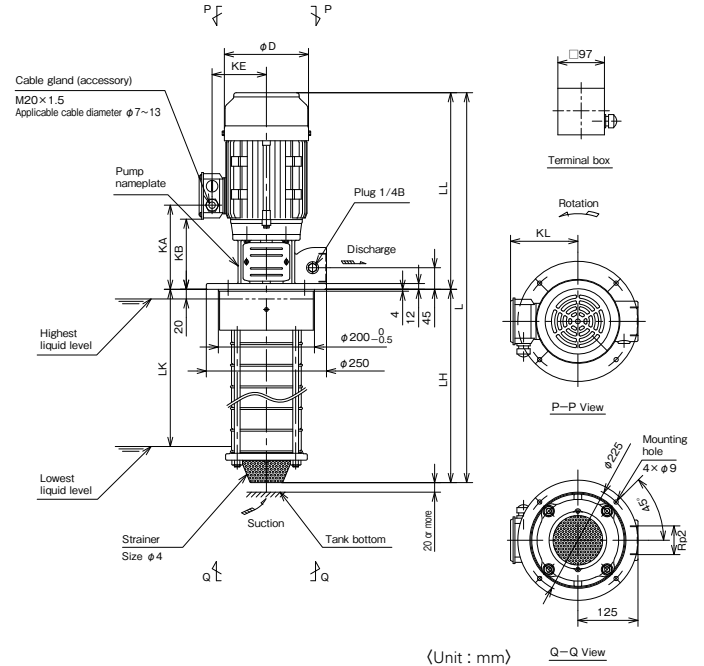


Fig.2



※ Output 0.75kW

(Unit : mm)

Output kW	D	KA	KB	KE	KL	LL
1.1	175	169	140	113	140	403
1.5/2.2	175	175	146	113	140	409
3.0	196	186	156	125	152	442
4.0	219	190	161	134	161	449

Fig.3

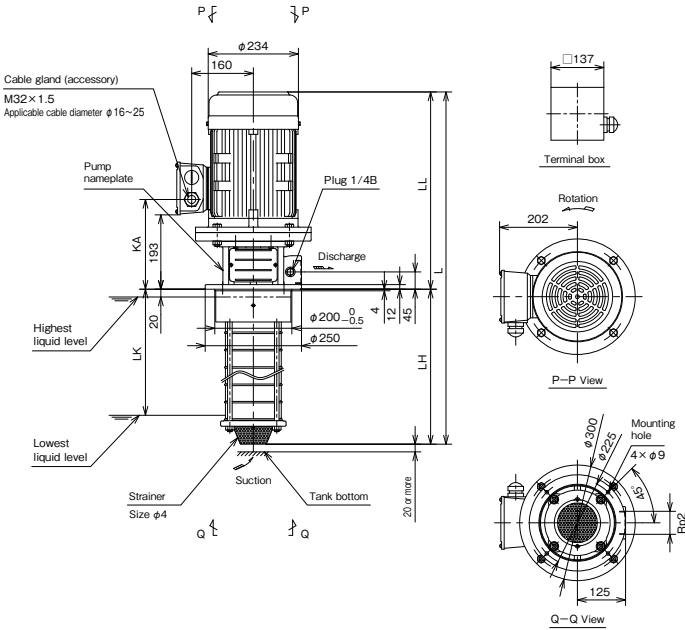
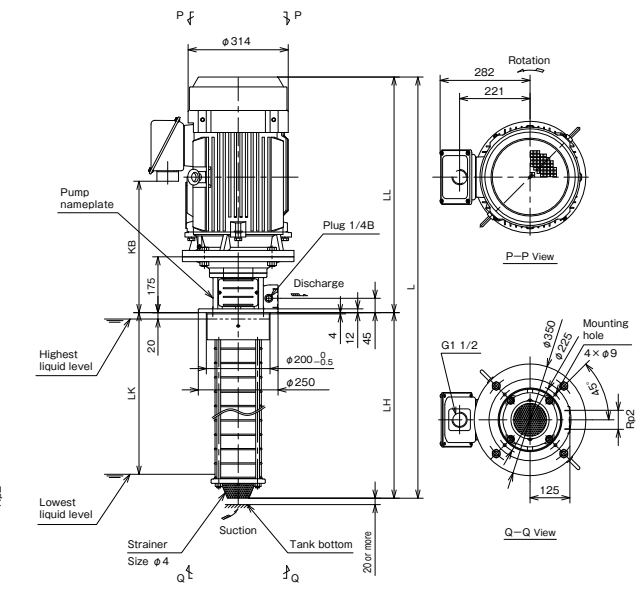


Fig.4



(Unit : mm)

Output kW	LL	KA
5.5	512	233
7.5	552	234

(Unit : mm)

Output kW	KB	LL
11/15	382	689
18.5	412	719

Dimensions

● Discharge diameter :50mm, Nominal flow rate : 10m<sup>3</sup>/h

50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVSS10-5/2-5.75-e	1	631	282	207	30
50LVSS10-6/2-5.75-e		661	312	237	30
50LVSS10-8/2-5.75-e		721	372	297	32
50LVSS10-10/2-5.75-e		781	432	357	33
50LVSS10-12/2-5.75-e		841	492	417	34
50LVSS10-14/2-5.75-e		901	552	477	36
50LVSS10-16/2-5.75-e		961	612	537	37
50LVSS10-18/2-5.75-e		1021	672	597	38
50LVSS10-20/2-5.75-e		1081	732	657	40
50LVSS10-22/2-5.75-e		1141	792	717	41
50LVSS10-5/3-51.1-e		2	685	282	207
50LVSS10-6/3-51.1-e	715		312	237	35.5
50LVSS10-8/3-51.1-e	775		372	297	36.5
50LVSS10-10/3-51.1-e	835		432	357	37.5
50LVSS10-12/3-51.1-e	895		492	417	39.5
50LVSS10-14/3-51.1-e	955		552	477	40.5
50LVSS10-16/3-51.1-e	1015		612	537	41.5
50LVSS10-18/3-51.1-e	1075		672	597	42.5
50LVSS10-20/3-51.1-e	1135		732	657	44.5
50LVSS10-22/3-51.1-e	1195		792	717	45.5
50LVSS10-5/4-51.5-e	691		282	207	38.5
50LVSS10-6/4-51.5-e	721		312	237	38.5
50LVSS10-8/4-51.5-e	781		372	297	40.5
50LVSS10-10/4-51.5-e	841		432	357	41.5
50LVSS10-12/4-51.5-e	901		492	417	42.5
50LVSS10-14/4-51.5-e	961		552	477	44.5
50LVSS10-16/4-51.5-e	1021		612	537	45.5
50LVSS10-18/4-51.5-e	1081		672	597	46.5
50LVSS10-20/4-51.5-e	1141		732	657	48.5
50LVSS10-22/4-51.5-e	1201		792	717	49.5
50LVSS10-5/5-52.2-e	691		282	207	41.5
50LVSS10-6/5-52.2-e	721		312	237	42.5
50LVSS10-8/5-52.2-e	781		372	297	43.5
50LVSS10-10/5-52.2-e	841		432	357	45.5
50LVSS10-12/5-52.2-e	901		492	417	46.5
50LVSS10-14/5-52.2-e	961		552	477	47.5
50LVSS10-16/5-52.2-e	1021		612	537	49.5
50LVSS10-18/5-52.2-e	1081		672	597	50.5
50LVSS10-20/5-52.2-e	1141		732	657	51.5
50LVSS10-22/5-52.2-e	1201		792	717	53.5
50LVSS10-6/6-52.2-e	721		312	237	42.5
50LVSS10-8/6-52.2-e	781		372	297	43.5
50LVSS10-10/6-52.2-e	841		432	357	45.5
50LVSS10-12/6-52.2-e	901	492	417	46.5	
50LVSS10-14/6-52.2-e	961	552	477	47.5	
50LVSS10-16/6-52.2-e	1021	612	537	49.5	
50LVSS10-18/6-52.2-e	1081	672	597	50.5	
50LVSS10-20/6-52.2-e	1141	732	657	51.5	
50LVSS10-22/6-52.2-e	1201	792	717	53.5	

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVSS10-8/8-53.0-e	2	814	372	297	52
50LVSS10-10/8-53.0-e		874	432	357	53
50LVSS10-12/8-53.0-e		934	492	417	54
50LVSS10-14/8-53.0-e		994	552	477	56
50LVSS10-16/8-53.0-e		1054	612	537	57
50LVSS10-18/8-53.0-e		1114	672	597	58
50LVSS10-20/8-53.0-e		1174	732	657	60
50LVSS10-22/8-53.0-e		1234	792	717	61
50LVSS10-10/10-54.0-e		881	432	357	59
50LVSS10-12/10-54.0-e		941	492	417	60
50LVSS10-14/10-54.0-e		1001	552	477	61
50LVSS10-16/10-54.0-e		1061	612	537	63
50LVSS10-18/10-54.0-e		1121	672	597	64
50LVSS10-20/10-54.0-e		1181	732	657	65
50LVSS10-22/10-54.0-e		1241	792	717	67
50LVSS10-12/12-54.0-e		941	492	417	60
50LVSS10-14/12-54.0-e		1001	552	477	61
50LVSS10-16/12-54.0-e		1061	612	537	63
50LVSS10-18/12-54.0-e	1121	672	597	64	
50LVSS10-20/12-54.0-e	1181	732	657	65	
50LVSS10-22/12-54.0-e	1241	792	717	67	
50LVSS10-14/14-55.5-e	3	1064	552	477	89
50LVSS10-16/14-55.5-e		1124	612	537	90
50LVSS10-18/14-55.5-e		1184	672	597	92
50LVSS10-20/14-55.5-e		1244	732	657	93
50LVSS10-22/14-55.5-e		1304	792	717	94
50LVSS10-16/16-55.5-e		1124	612	537	91
50LVSS10-18/16-55.5-e		1184	672	597	92
50LVSS10-20/16-55.5-e		1244	732	657	93
50LVSS10-22/16-55.5-e		1304	792	717	94
50LVSS10-18/18-57.5-e		1224	672	597	99
50LVSS10-20/18-57.5-e		1284	732	657	100
50LVSS10-22/18-57.5-e		1344	792	717	101
50LVSS10-20/20-57.5-e		1284	732	657	100
50LVSS10-22/20-57.5-e		1344	792	717	101
50LVSS10-22/22-57.5-e	1344	792	717	102	

●Discharge diameter :50mm, Nominal flow rate : 10m<sup>3</sup>/h

60Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)	
50LVSS10-5/1-6.75-□	1	631	282	207	30	
50LVSS10-6/1-6.75-□		661	312	237	30	
50LVSS10-8/1-6.75-□		721	372	297	32	
50LVSS10-10/1-6.75-□		781	432	357	33	
50LVSS10-12/1-6.75-□		841	492	417	34	
50LVSS10-5/2-61.5-□		2	691	282	207	38.5
50LVSS10-6/2-61.5-□			721	312	237	38.5
50LVSS10-8/2-61.5-□			781	372	297	40.5
50LVSS10-10/2-61.5-□			841	432	357	41.5
50LVSS10-12/2-61.5-□			901	492	417	42.5
50LVSS10-14/2-61.5-□	961		552	477	44.5	
50LVSS10-16/2-61.5-□	1021		612	537	45.5	
50LVSS10-18/2-61.5-□	1081		672	597	46.5	
50LVSS10-20/2-61.5-□	1141		732	657	48.5	
50LVSS10-22/2-61.5-□	1201		792	717	49.5	
50LVSS10-5/3-62.2-□	691		282	207	41.5	
50LVSS10-6/3-62.2-□	721		312	237	42.5	
50LVSS10-8/3-62.2-□	781		372	297	43.5	
50LVSS10-10/3-62.2-□	841		432	357	44.5	
50LVSS10-12/3-62.2-□	901		492	417	46.5	
50LVSS10-14/3-62.2-□	961		552	477	47.5	
50LVSS10-16/3-62.2-□	1021		612	537	48.5	
50LVSS10-18/3-62.2-□	1081		672	597	50.5	
50LVSS10-20/3-62.2-□	1141		732	657	51.5	
50LVSS10-22/3-62.2-□	1201		792	717	52.5	
50LVSS10-5/4-63.0-□	2	724	282	207	49	
50LVSS10-6/4-63.0-□		754	312	237	50	
50LVSS10-8/4-63.0-□		814	372	297	51	
50LVSS10-10/4-63.0-□		874	432	357	53	
50LVSS10-12/4-63.0-□		934	492	417	54	
50LVSS10-14/4-63.0-□		994	552	477	55	
50LVSS10-16/4-63.0-□		1054	612	537	57	
50LVSS10-18/4-63.0-□		1114	672	597	58	
50LVSS10-20/4-63.0-□		1174	732	657	59	
50LVSS10-22/4-63.0-□		1234	792	717	61	
50LVSS10-5/5-63.0-□		724	282	207	49	
50LVSS10-6/5-63.0-□		754	312	237	50	
50LVSS10-8/5-63.0-□		814	372	297	51	
50LVSS10-10/5-63.0-□		874	432	357	53	
50LVSS10-12/5-63.0-□		934	492	417	54	
50LVSS10-14/5-63.0-□		994	552	477	55	
50LVSS10-16/5-63.0-□		1054	612	537	57	
50LVSS10-18/5-63.0-□		1114	672	597	58	
50LVSS10-20/5-63.0-□		1174	732	657	59	
50LVSS10-22/5-63.0-□		1234	792	717	61	
50LVSS10-6/6-64.0-□	761	312	237	56		
50LVSS10-8/6-64.0-□	821	372	297	57		
50LVSS10-10/6-64.0-□	881	432	357	58		
50LVSS10-12/6-64.0-□	941	492	417	60		
50LVSS10-14/6-64.0-□	1001	552	477	61		
50LVSS10-16/6-64.0-□	1061	612	537	62		
50LVSS10-18/6-64.0-□	1121	672	597	64		
50LVSS10-20/6-64.0-□	1181	732	657	65		
50LVSS10-22/6-64.0-□	1241	792	717	66		

Note 1) \* □ \* in pump type can be any one of -e/-KS/ -7W.

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVSS10-8/8-65.5-□	3	884	372	297	84
50LVSS10-10/8-65.5-□		944	432	357	86
50LVSS10-12/8-65.5-□		1004	492	417	87
50LVSS10-14/8-65.5-□		1064	552	477	88
50LVSS10-16/8-65.5-□		1124	612	537	90
50LVSS10-18/8-65.5-□		1184	672	597	91
50LVSS10-20/8-65.5-□		1244	732	657	92
50LVSS10-22/8-65.5-□		1304	792	717	94
50LVSS10-9/9-65.5-□		914	402	327	85
50LVSS10-12/9-65.5-□		1004	492	417	87
50LVSS10-14/9-65.5-□		1064	552	477	89
50LVSS10-16/9-65.5-□		1124	612	537	90
50LVSS10-18/9-65.5-□		1184	672	597	91
50LVSS10-20/9-65.5-□		1244	732	657	92
50LVSS10-22/9-65.5-□		1304	792	717	94
50LVSS10-10/10-67.5-□		984	432	357	93
50LVSS10-12/10-67.5-□		1044	492	417	94
50LVSS10-14/10-67.5-□		1104	552	477	95
50LVSS10-16/10-67.5-□		1164	612	537	97
50LVSS10-18/10-67.5-□		1224	672	597	98
50LVSS10-20/10-67.5-□	1284	732	657	99	
50LVSS10-22/10-67.5-□	1344	792	717	101	
50LVSS10-12/12-67.5-□	1044	492	417	94	
50LVSS10-14/12-67.5-□	1104	552	477	95	
50LVSS10-16/12-67.5-□	1164	612	537	97	
50LVSS10-18/12-67.5-□	1224	672	597	98	
50LVSS10-20/12-67.5-□	1284	732	657	99	
50LVSS10-22/12-67.5-□	1344	792	717	101	
50LVSS10-14/14-611-e	4	1241	552	477	170
50LVSS10-16/14-611-e		1301	612	537	171
50LVSS10-18/14-611-e		1361	672	597	173
50LVSS10-20/14-611-e		1421	732	657	174
50LVSS10-22/14-611-e		1481	792	717	175
50LVSS10-16/16-611-e		1301	612	537	171
50LVSS10-18/16-611-e		1361	672	597	173
50LVSS10-20/16-611-e		1421	732	657	174
50LVSS10-22/16-611-e		1481	792	717	175
50LVSS10-18/18-611-e		1361	672	597	173
50LVSS10-20/18-611-e		1421	732	657	174
50LVSS10-22/18-611-e		1481	792	717	176

Note 1) \* □ \* in pump type can be any one of -e/-KS/ -7W.





● Discharge diameter : 50mm, Nominal flow rate : 20m<sup>3</sup>/h

### 50Hz

(Unit : mm)

Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVSS20-3/1-51.1-e	2	670	267	192	33.5
50LVSS20-4/1-51.1-e		715	312	237	34.5
50LVSS20-5/1-51.1-e		760	357	282	35.5
50LVSS20-6/1-51.1-e		805	402	327	36.5
50LVSS20-3/2-52.2-e		676	267	192	41.5
50LVSS20-4/2-52.2-e		721	312	237	41.5
50LVSS20-5/2-52.2-e		766	357	282	42.5
50LVSS20-6/2-52.2-e		811	402	327	43.5
50LVSS20-7/2-52.2-e		856	447	372	44.5
50LVSS20-8/2-52.2-e		901	492	417	45.5
50LVSS20-10/2-52.2-e		991	582	507	46.5
50LVSS20-12/2-52.2-e		1081	672	597	48.5
50LVSS20-3/3-54.0-e		716	267	192	54
50LVSS20-4/3-54.0-e		761	312	237	55
50LVSS20-5/3-54.0-e		806	357	282	56
50LVSS20-6/3-54.0-e		851	402	327	57
50LVSS20-7/3-54.0-e		896	447	372	57
50LVSS20-8/3-54.0-e		941	492	417	58
50LVSS20-10/3-54.0-e		1031	582	507	60
50LVSS20-12/3-54.0-e		1121	672	597	62
50LVSS20-14/3-54.0-e		1211	762	687	63
50LVSS20-17/3-54.0-e		1346	897	822	66
50LVSS20-4/4-55.5-e		824	312	237	82
50LVSS20-5/4-55.5-e		869	357	282	83
50LVSS20-6/4-55.5-e		914	402	327	84
50LVSS20-7/4-55.5-e		959	447	372	85
50LVSS20-8/4-55.5-e		1004	492	417	86
50LVSS20-10/4-55.5-e		1094	582	507	88
50LVSS20-12/4-55.5-e		1184	672	597	89
50LVSS20-14/4-55.5-e		1274	762	687	91
50LVSS20-17/4-55.5-e		1409	897	822	93
50LVSS20-5/5-55.5-e		869	357	282	84
50LVSS20-6/5-55.5-e		914	402	327	84
50LVSS20-7/5-55.5-e	959	447	372	85	
50LVSS20-8/5-55.5-e	1004	492	417	86	
50LVSS20-10/5-55.5-e	1094	582	507	88	
50LVSS20-12/5-55.5-e	1184	672	597	89	
50LVSS20-14/5-55.5-e	1274	762	687	91	
50LVSS20-17/5-55.5-e	1409	897	822	94	
50LVSS20-6/6-57.5-e	954	402	327	91	
50LVSS20-7/6-57.5-e	999	447	372	92	
50LVSS20-8/6-57.5-e	1044	492	417	93	
50LVSS20-10/6-57.5-e	1134	582	507	95	
50LVSS20-12/6-57.5-e	1224	672	597	96	
50LVSS20-14/6-57.5-e	1314	762	687	98	
50LVSS20-17/6-57.5-e	1449	897	822	100	
50LVSS20-7/7-57.5-e	999	447	372	92	
50LVSS20-8/7-57.5-e	1044	492	417	93	
50LVSS20-10/7-57.5-e	1134	582	507	95	
50LVSS20-12/7-57.5-e	1224	672	597	96	
50LVSS20-14/7-57.5-e	1314	762	687	98	
50LVSS20-17/7-57.5-e	1449	897	822	101	
50LVSS20-8/8-511-e	1181	492	417	168	
50LVSS20-10/8-511-e	1271	582	507	169	
50LVSS20-12/8-511-e	1361	672	597	171	
50LVSS20-14/8-511-e	1451	762	687	173	
50LVSS20-17/8-511-e	1586	897	822	175	
50LVSS20-10/10-511-e	1271	582	507	169	
50LVSS20-12/10-511-e	1361	672	597	171	
50LVSS20-14/10-511-e	1451	762	687	173	
50LVSS20-17/10-511-e	1586	897	822	175	
50LVSS20-12/12-515-e	1361	672	597	183	
50LVSS20-14/12-515-e	1451	762	687	184	
50LVSS20-17/12-515-e	1586	897	822	187	
50LVSS20-14/14-515-e	1451	762	687	184	
50LVSS20-17/14-515-e	1586	897	822	187	
50LVSS20-17/17-518-e	1616	897	822	204	

### 60Hz

(Unit : mm)

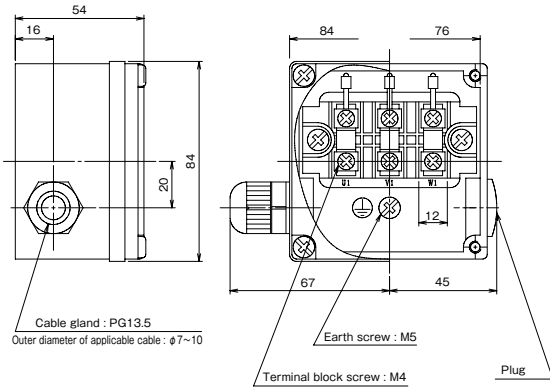
Type	Fig.	L	LH	LK	Approx. mass(kg)
50LVSS20-3/1-62.2-□	2	676	267	192	41.5
50LVSS20-4/1-62.2-□		721	312	237	41.5
50LVSS20-5/1-62.2-□		766	357	282	42.5
50LVSS20-6/1-62.2-□		811	402	327	43.5
50LVSS20-7/1-62.2-□		856	447	372	44.5
50LVSS20-3/2-64.0-□		716	267	192	54
50LVSS20-4/2-64.0-□		761	312	237	55
50LVSS20-5/2-64.0-□		806	357	282	56
50LVSS20-6/2-64.0-□		851	402	327	57
50LVSS20-7/2-64.0-□		896	447	372	57
50LVSS20-8/2-64.0-□		941	492	417	58
50LVSS20-10/2-64.0-□		1031	582	507	60
50LVSS20-12/2-64.0-□		1121	672	597	62
50LVSS20-3/3-65.5-□		779	267	192	81
50LVSS20-4/3-65.5-□		824	312	237	82
50LVSS20-5/3-65.5-□		869	357	282	83
50LVSS20-6/3-65.5-□		914	402	327	84
50LVSS20-7/3-65.5-□		959	447	372	85
50LVSS20-8/3-65.5-□		1004	492	417	86
50LVSS20-10/3-65.5-□		1094	582	507	87
50LVSS20-12/3-65.5-□		1184	672	597	89
50LVSS20-14/3-65.5-□		1274	762	687	91
50LVSS20-17/3-65.5-□		1409	897	822	93
50LVSS20-4/4-67.5-□		864	312	237	89
50LVSS20-5/4-67.5-□		909	357	282	90
50LVSS20-6/4-67.5-□		954	402	327	91
50LVSS20-7/4-67.5-□		999	447	372	92
50LVSS20-8/4-67.5-□		1044	492	417	92
50LVSS20-10/4-67.5-□		1134	582	507	94
50LVSS20-12/4-67.5-□		1224	672	597	96
50LVSS20-14/4-67.5-□		1314	762	687	97
50LVSS20-17/4-67.5-□		1449	897	822	100
50LVSS20-5/5-611-e		1046	357	282	164
50LVSS20-6/5-611-e	1091	402	327	165	
50LVSS20-7/5-611-e	1136	447	372	166	
50LVSS20-8/5-611-e	1181	492	417	167	
50LVSS20-10/5-611-e	1271	582	507	169	
50LVSS20-12/5-611-e	1361	672	597	170	
50LVSS20-14/5-611-e	1451	762	687	172	
50LVSS20-17/5-611-e	1586	897	822	174	
50LVSS20-6/6-611-e	1091	402	327	165	
50LVSS20-7/6-611-e	1136	447	372	166	
50LVSS20-8/6-611-e	1181	492	417	167	
50LVSS20-10/6-611-e	1271	582	507	169	
50LVSS20-12/6-611-e	1361	672	597	170	
50LVSS20-14/6-611-e	1451	762	687	172	
50LVSS20-17/6-611-e	1586	897	822	175	
50LVSS20-7/7-615-e	1136	447	372	177	
50LVSS20-8/7-615-e	1181	492	417	178	
50LVSS20-10/7-615-e	1271	582	507	180	
50LVSS20-12/7-615-e	1361	672	597	182	
50LVSS20-14/7-615-e	1451	762	687	183	
50LVSS20-17/7-615-e	1586	897	822	186	
50LVSS20-8/8-615-e	1181	492	417	178	
50LVSS20-10/8-615-e	1271	582	507	180	
50LVSS20-12/8-615-e	1361	672	597	182	
50LVSS20-14/8-615-e	1451	762	687	183	
50LVSS20-17/8-615-e	1586	897	822	186	
50LVSS20-10/10-618-e	1301	582	507	197	
50LVSS20-12/10-618-e	1391	672	597	198	
50LVSS20-14/10-618-e	1481	762	687	200	
50LVSS20-17/10-618-e	1616	897	822	202	

Note 1) \* □ in pump type can be any one of -e/-KS/-7W.

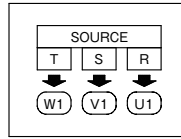
Detailed drawing of the terminal box

Assembly drawing (-e/-KS type)

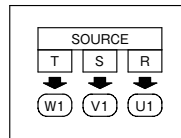
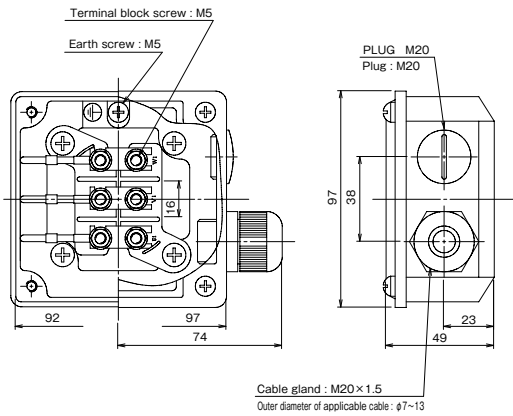
Output 0.75kW



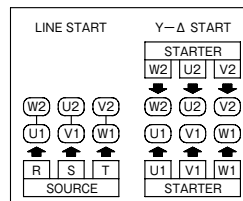
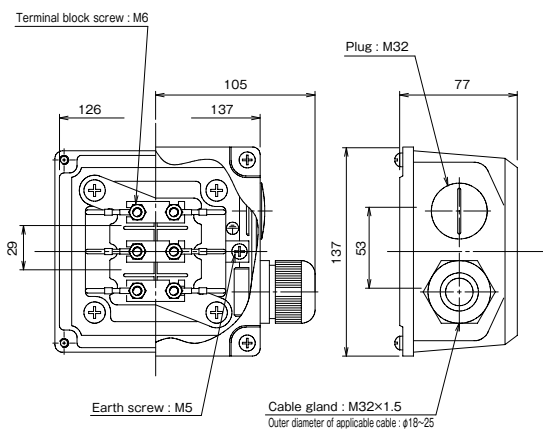
Connection diagram



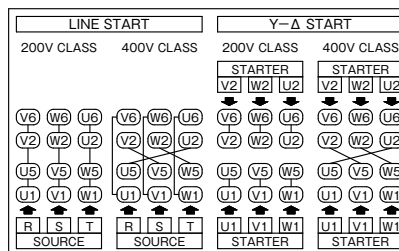
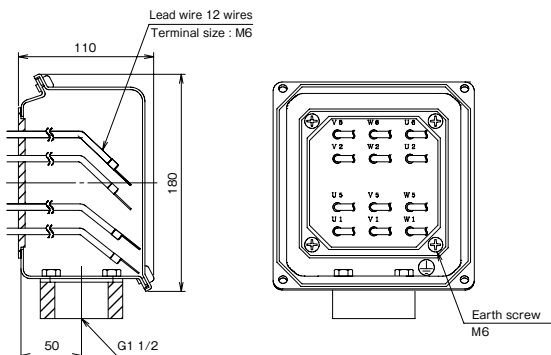
Output 1.1-4.0 kW



Output 5.5, 7.5 kW

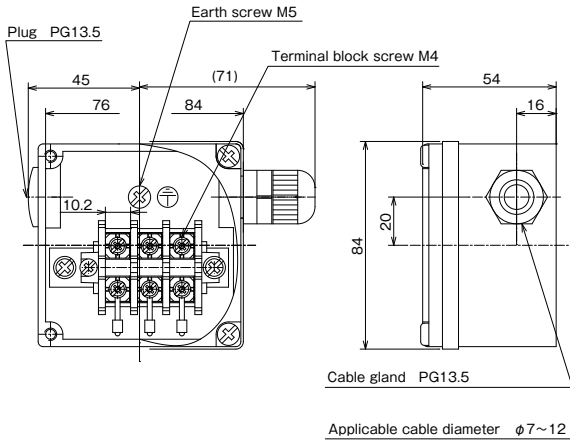


Output 11-18.5 kW (-e type)

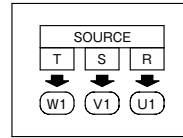


### Assembly drawing (-7W type)

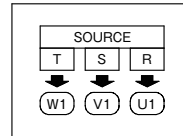
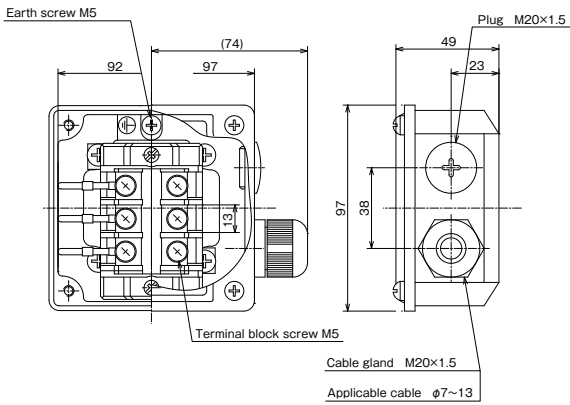
#### Output 0.75kW



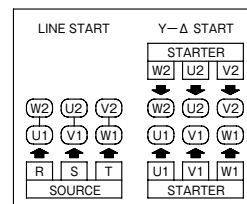
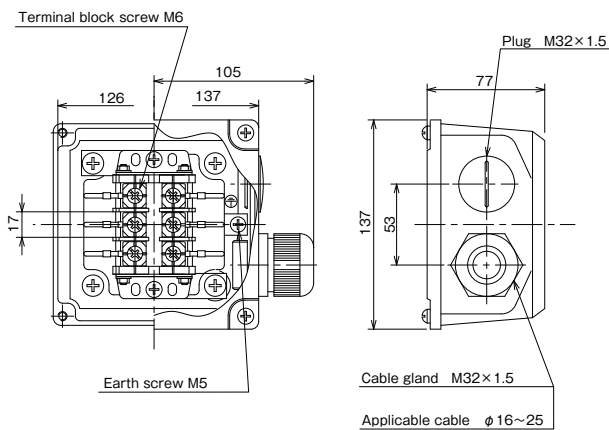
### Connection diagram



#### Output 1.1-4.0kW

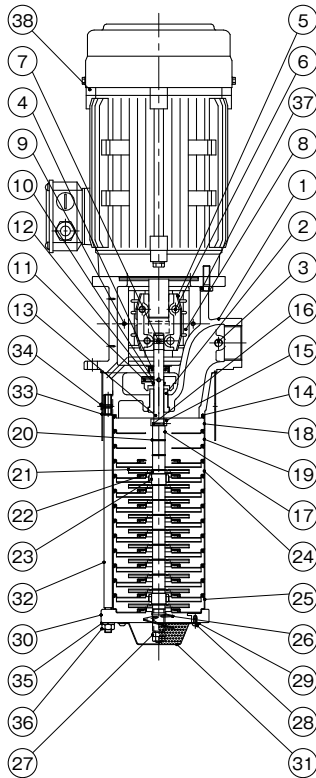


#### Output 5.5kW, 7.5kW



Sectional drawing

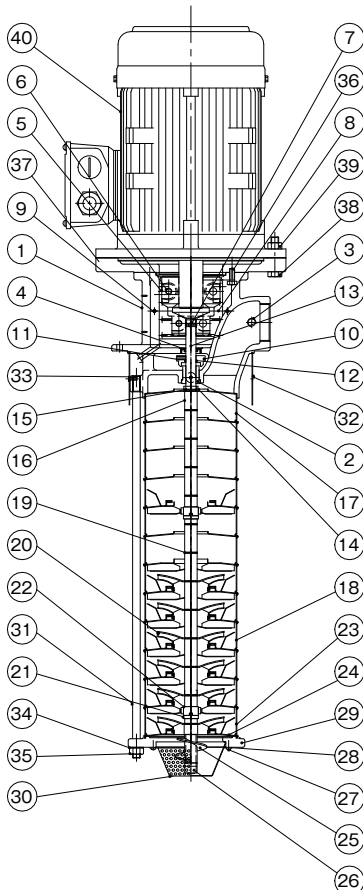
●32LVSS-e



No.	Part name	Material
1	Discharge casing	SCS13
2	Bushing	SUS430
3	Plug	SUS304
4	Oil seal	NBR
5	Coupling	FC0205
6	Hexagon socket head bolt	SCM435
7	Shaft pin	SUS316
8	Coupling cover	SUS304
9	Cross-recessed pan head screw	SUS304
10	Oil thrower	SUS304
11	Set screw	SUS304
12	O-ring	FKM
13	Main shaft	SUS420J2
14	Gasket	—
15	Shaft bushing	SUS304
16	Shaft ring	SUS316
17	Sleeve	SUS304
18	Intermediate casing (Final stage)	SUS304
19	Intermediate casing	SUS304
20	Shim	SUS304
21	Impeller	SUS304
22	Baffle	SUS304
23	Bearings	SiC
24	Bearing casing	SUS304+SiC
25	Intermediate casing (First stage)	SUS304
26	Screw	SUS304
27	Hard locknut	SUS304
28	Cross-recessed pan head screw	SUS304
29	Protection plate	SUS304
30	Suction casing	SCS14A
31	Strainer	SUS304
32	Through bolt	SUS304
33	Outer sleeve	SUS304
34	Cross-recessed flat head screw	SUS304
35	Spring washer	SUS304
36	Hexagon nut	SUS304
37	Hexagon bolt	SUS304
38	Motor	—

Note 1) The materials in the table above are equivalents.  
Note 2) Structure and other details are subject to change without notice.

●50LVSS-e



No.	Part name	Material
1	Discharge casing	SCS13
2	Bushing	SUS430
3	Plug	SUS304
4	Oil seal	NBR
5	Coupling	FC0205
6	Hexagon socket head bolt	SCM435
7	Shaft pin	SUS316
8	Coupling cover	SUS304
9	Cross-recessed pan head screw	SUS304
10	Oil thrower	SUS304
11	Set screw	SUS304
12	O-ring	FKM
13	Main shaft	SUS420J2
14	Shaft bushing	SUS304
15	Shaft ring	SUS316
16	Sleeve	SUS304
17	Intermediate casing (Final stage)	SUS304
18	Intermediate casing	SUS304
19	Shim	SUS304
20	Impeller	SUS304
21	Baffle	SUS304
22	Bearings	SiC
23	Bearing casing	SUS304+SiC
24	Intermediate casing (First stage)	SUS304
25	Screw	SUS304
26	Hard locknut	SUS304
27	Cross-recessed pan head screw	SUS304
28	Protection plate	SUS304
29	Suction casing	SCS13
30	Strainer	SUS304
31	Through bolt	SUS304
32	Outer sleeve	SUS304
33	Cross-recessed flat head screw	SUS304
34	Plain washer	SUS304
35	Hexagon nut	SUS304
36	Hexagon bolt	SUS304
37	Frame spacer	FC200
38	Hexagon bolt	SUS304
39	Hexagon nut	SUS304
40	Motor	—

Note 1) The materials in the table above are equivalents.  
Note 2) Structure and other details are subject to change without notice.

Features

- ① The motor and the pump are integrated for smaller sizes and lighter weights.
- ② The self-priming function and floor mount offer a wider choice of installation locations, not limited to the top of tank.
- ③ The lineup including the models complying with global standards by supporting efficiency and other regulations.
  - Japan : Top Runner efficiency
  - Europe : IE3 efficiency, CE marking (EU Directive)  
RoHS Directive (2011/65/EU) , 10 substances restricted\*
  - USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
  - China : GB3 (GB18613-2020)
- ④ The lineup that includes both VKN-A type (flow type) and VKN-H type (pressure type) broadens the scope of choices of heads and flow rates. VKN-H type offers approximately 30% more pressure than VKN-A type.

\* Excluding the types that end with "L."



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Description of types

**VKN 07 5 A**

① ② ③ ④ ⑤

- ① Model
- ② Output (04:40W, 05:60W, 06:100W, 07:180W, 08:250W, 09:400W, 11:750W)
- ③ Series number
- ④ Characteristics
  - L : flow type / cabtyre cable used
  - A : flow type
  - H : pressure type
- ⑤ Motor efficiency/voltage
  - None : Standard efficiency (equivalent to IE1) / Standard voltage
  - e : Top Runner efficiency (equivalent to IE3) / Standard voltage
  - 4Z : Standard efficiency (equivalent to IE1) / Different voltage
  - 4Z-e : Top Runner efficiency (equivalent to IE3) / Different voltage
  - 7W : UL approved motor (750W is NEMA Premium efficiency)

Global standards

Type	Standards/Regulations	Output		
		40W-250W	400W	750W
VKN	IE1 equivalent	●	●	●
	CE Marking	●*1	●	●
	EU energy efficiency	—	●	●
	GB3(GB18613-2020)	—	●	—
VKN-e	Top Runner efficiency (IE3 equivalent)	X		●
	CE Marking			●
	EU energy efficiency			●
	GB3(GB18613-2020)			●*2
VKN-7W	NEMA Premium efficiency	—	—	●
	UL Standards (safety)	●	●	●

\*1 Excluding the types that end with "L."      ● : Compliant  
\*2 GB certification label is attached as exclusive for GB standard.      — : Ineligible

Standard Specification

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc.*1
	Temperature	40°C or less (No frozen liquid)
	Allowable kinematic viscosity	VKN-A 50Hz : 200mm <sup>2</sup> /s 60Hz : 75mm <sup>2</sup> /s VKN-H 50/60Hz : 37.5mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Material	Casing	FC150
	Impeller	CAC407 or Special resins Refer to the table of impeller materials.
	Main shaft	S45C
Shaft seal structure		Mechanical seal
Motor	Power source	3-phase 50/60/60 Hz, 200/200/220 V <sup>2</sup>
	Type	Output 0.25kW or less: Totally enclosed self-cooled type Output 0.4kW or more: Totally enclosed fan-cooled indoor type
	Protection method	Refer to the specification table.
	Thermal class	Refer to the specification table.
	Rating	Continuous
	Number of poles	2P
Standard		IEC60034-1 CE marking <sup>3</sup>
Paint color		Munsell N1

\*1 Take note that the unit is not used for water and special liquids such as printing and acidic liquids. Contact us when using the unit for other special liquids (ceramic, etc.).  
\*2 (Standad specification) different voltage: 50/50/50/60/60Hz, 380/400/415/400/440V, NEMA Premium efficiency (IE3), UL Standards (safety): 60Hz, 208/230/460V, GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V  
\*3 Excluding -7W type and the types that end with "L."

List of Consumable Parts

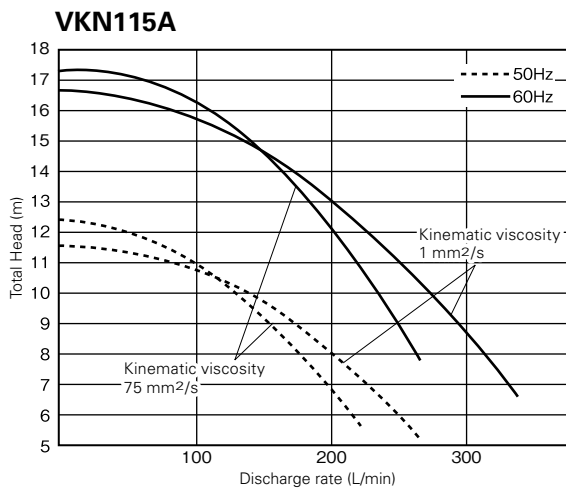
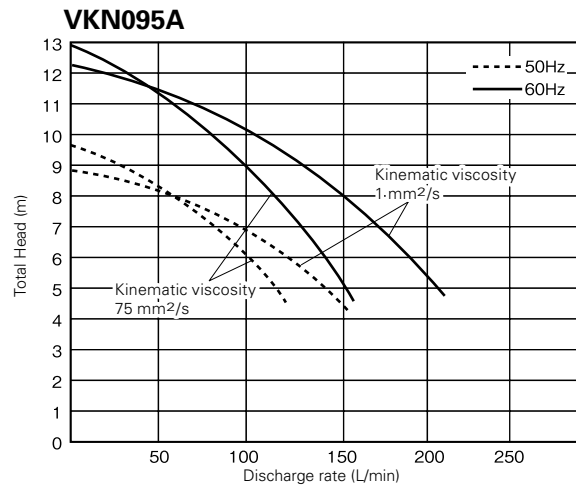
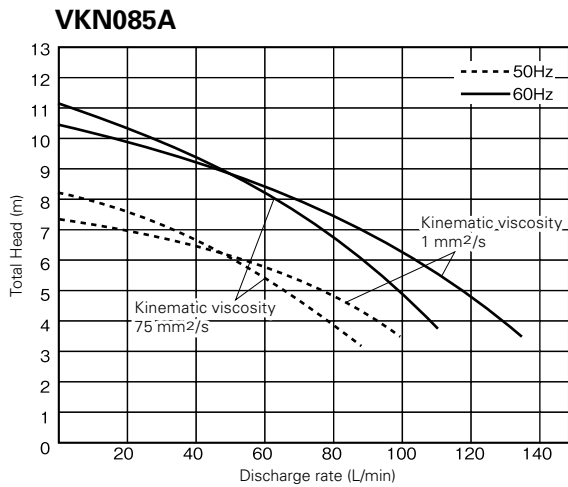
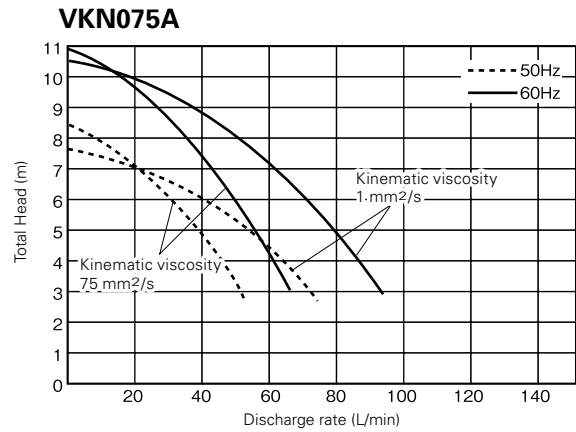
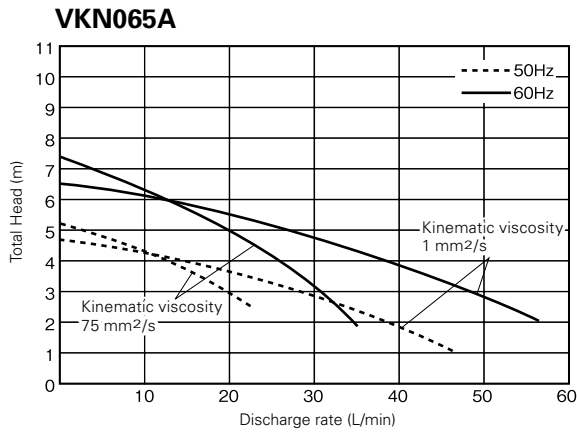
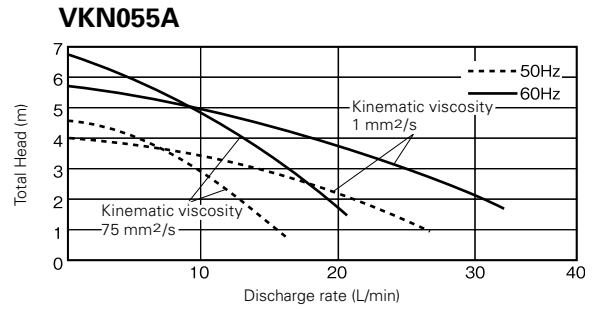
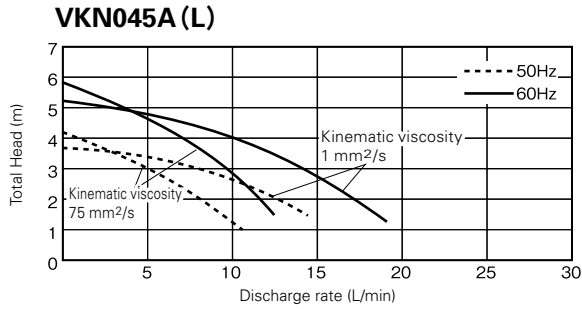
Type	Bearing		O-ring for casing
	Load side	Unload side	
VKN045L	6200ZZ	6200ZZ	—
VKN045A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN055A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN065A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN075A (-4Z/7W)	6202ZZ	6200ZZ	—
VKN085A (-4Z/7W)	6202ZZ	6200ZZ	—
VKN095A (-4Z/7W)	6203ZZ	6202ZZ	—
VKN115A (-e/4Z/7W)	6305ZZ	6203ZZ	G165-N
VKN055H	6200ZZ	6200ZZ	—
VKN065H (-7W)	6200ZZ	6200ZZ	—
VKN075H	6202ZZ	6200ZZ	—
VKN085H	6202ZZ	6200ZZ	—
VKN095H (-7W)	6203ZZ	6202ZZ	—

Selection chart

●VKN-A

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)  
(Values at kinematic viscosity 75mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
60Hz : 3600min<sup>-1</sup>



※ Above selection chart is also available for -e/-4Z/-7W type.

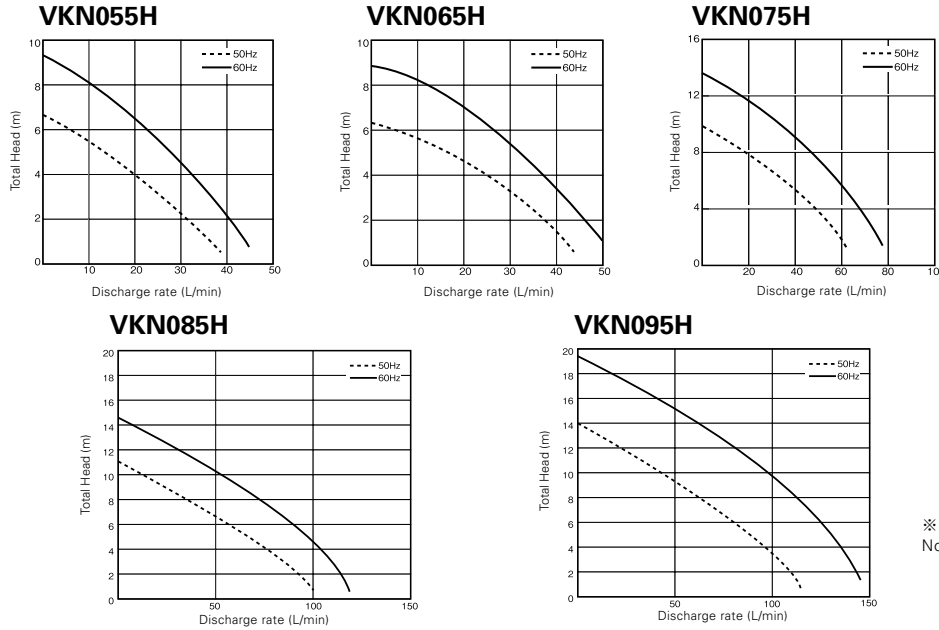
Note) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Selection chart

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min<sup>-1</sup>  
60Hz : 3600min<sup>-1</sup>

VKN-H



※ This also applies to -7W type.  
Note) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Specification table

VKN-A

Bore diameter (Rp)	Type	Output (W)	50Hz					60Hz					Max. length of suction pipe	Protection method	Thermal class
			Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)	Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)			
1/4	VKN045L *	40	200	0.32	1.38	13	1.5	200/220	0.31/0.31	1.24/1.36	16	1.5	0.7	IP23	B
	VKN045A														
	VKN045A-4Z VKN045A-7W														
3/8	VKN055A	60	200	0.4	1.73	16	2	200/220	0.35/0.35	1.75/1.67	24	2	0.7	IP54	B
	VKN055A-4Z		380/400/415	0.19/0.20/0.22	0.8/0.9/0.9			400/440	0.18/0.18	0.7/0.8					
	VKN055A-7W	208/230/460			0.39/0.38/0.19	1.8/2.0/1.0	50	2	0.7						
	VKN065A	200	0.55	2.67	200/220	0.5/0.5				2.33/2.56					
	VKN065A-4Z VKN065A-7W	380/400/415	0.28/0.28/0.29	1.2/1.3/1.3	400/440	0.25/0.25				1.1/1.3					
1/2	VKN075A	180	200	0.85	5.86	50	3	200/220	1.0/1.0	5.52/6.08	67	3	0.7	IP54	B
	VKN075A-4Z		380/400/415	0.44/0.43/0.42	2.0/2.1/2.1			400/440	0.5/0.5	1.9/2.1					
	VKN075A-7W		208/230/460					1.0/0.95/0.48	5.4/6.0/3.0						
3/4	VKN085A	250	200	1.2	8.79	95	4	200/220	1.5/1.5	8.26/9.09	130	4	0.6	IP54	B
	VKN085A-4Z		380/400/415	0.65/0.6/0.6	2.9/3.1/3.2			400/440	0.75/0.75	2.9/3.2					
	VKN085A-7W		208/230/460					1.4/1.3/0.65	10.1/10.7/5.4						
1	VKN095A	400	200	2.4	11.0	140	5	200/220	2.5/2.4	10.0/11.0	200	5	0.7	IP54	B
	VKN095A-4Z		380/400/415	1.2/1.2/1.2	5.2/5.5/5.7			400/440	1.3/1.2	5.0/5.5					
	VKN095A-7W		208/230/460					2.3/2.2/1.1	13.4/15.2/7.6						
1 1/2	VKN115A	750	200	3.3	25.7	230	7	200/220	4.5/4.2	23.3/25.7	320	7	0.7	IP54	B
	VKN115A-e		200	3.3	29.0			200/220	4.5/4.2	28.0/30.0					
	VKN115A-4Z		380/400/415	1.7/1.7/1.7	11.1/11.7/12.1			400/440	2.3/2.1	11.1/12.7					
	VKN115A-4Z-e		380/400/415	1.7/1.7/1.7	13.5/14.5/15.3			400/440	2.3/2.3	14.0/15.0					
	VKN115A-7W		208/230/460					4.2/3.9/1.9	28.8/32.0/16.0						

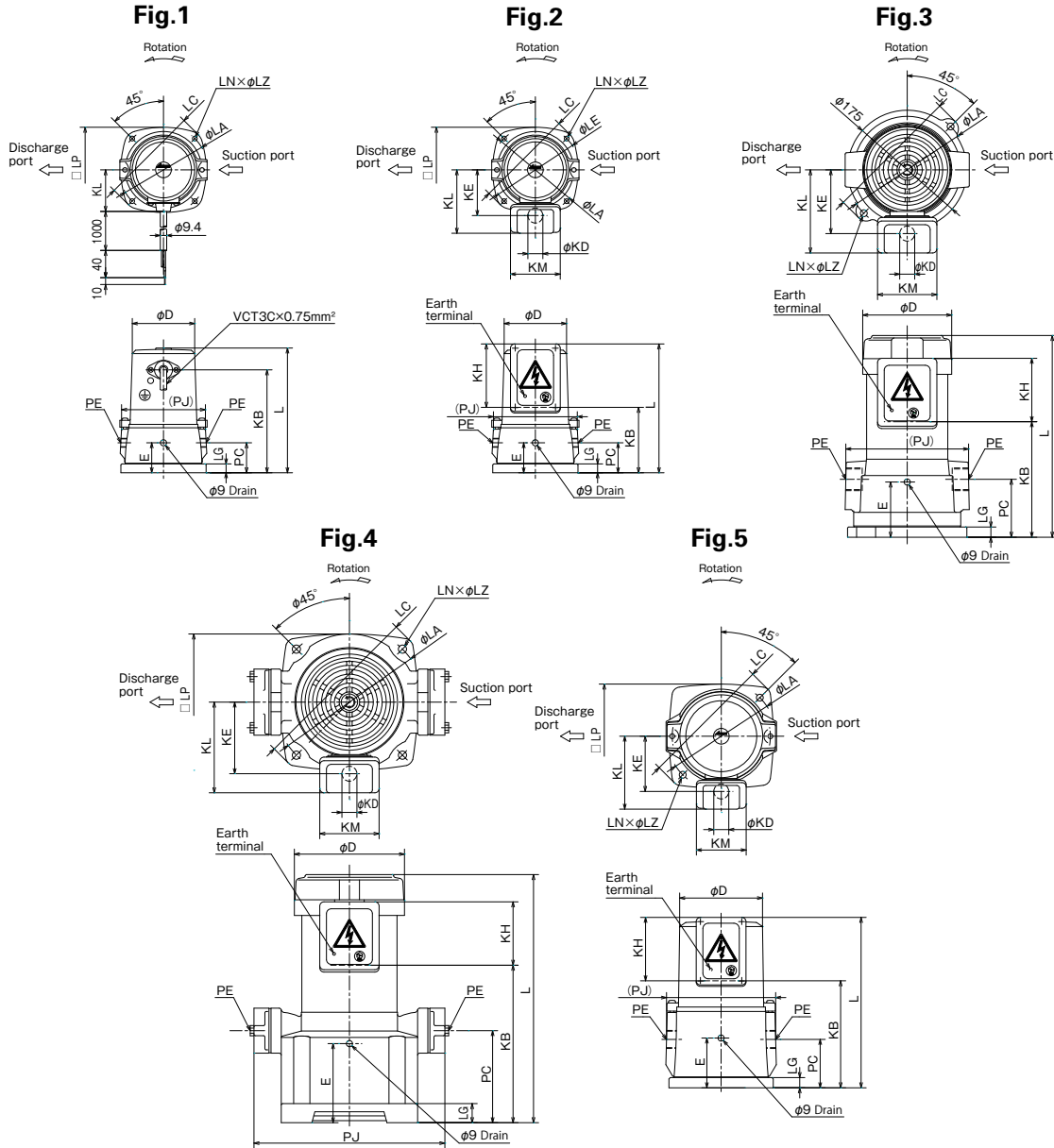
Notes 1) Since VKN045L has cabtyre cable, it does not comply with CE Marking. In addition it does not comply with RoHS Directive (2011/65/EU), which restricting 10 substances. The protection method is IP23.  
Notes 2) The discharge rate and total head values were obtained in tests with a liquid kinematic viscosity of 1 mm<sup>2</sup>/s (same as fresh water at normal temperature). Take note that the pumps cannot be used with water.

VKN-H

Bore diameter (Rp)	Type	Output (W)	50Hz					60Hz					Max. length of suction pipe	Protection method	Thermal class
			Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)	Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)			
3/8	VKN055H	60	200	0.42	1.73	10	4.5	200/220	0.55/0.52	1.75/1.67	10	7	0.7	IP54	B
	VKN065H	100	200	0.55	5.86	10	5	200/220	0.6/0.6	5.52/6.08		7.5	0.7		
	VKN065H-7W		208/230/460			0.56/0.55/0.28	3.0/3.3/1.7								
1/2	VKN075H	180	200	0.9	8.79	20	7	200/220	1.2/1.1	8.26/9.09	20	11	0.7	IP54	B
3/4	VKN085H	250	200	1.2	8.79	20	8	200/220	1.5/1.5	8.26/9.09		12	0.6		
1	VKN095H	400	200	2.4	11.0	20	12	200/220	2.5/2.4	10.0/11.0	20	17	0.6	IP54	F
	VKN095H-7W		208/230/460			2.3/2.2/1.1	13.4/15.2/7.6								

Note) The discharge rate and total head values were obtained in tests with a liquid kinematic viscosity of 1 mm<sup>2</sup>/s (same as fresh water at normal temperature). Take note that the pumps cannot be used with water.

Assembly drawing



Dimensions

●VKN-A

(Unit : mm)

Type	Fig.	D	E	KB	KD	KE	KH	KL	KM	L	LA	LC	LE	LG	LN	LP	LZ	PC	PE	PJ	Approx. mass(kg)
VKN045L	1	92	44	151	—	—	—	61	—	183	130	145	—	13	4	125	7	44	Rp1/4	123	4.6
VKN045A(-4Z/7W)	2	92	44	96	22	67	93	93	73	189	130	145	—	13	4	125	7	44	Rp1/4	123	4.5
VKN055A(-4Z/7W)	2	92	57	119	22	67	93	93	73	212	130	169	132	14	4	131	7	56	Rp3/8	132	6.5
VKN065A(-4Z/7W)	2	92	57	119	22	67	93	93	73	212	150	169	132	14	4	131	7	56	Rp3/8	132	7.5
VKN075A(-4Z/7W)	2	111	61	143	22	78	93	104	73	236	164	194	160	15	4	153	10	63	Rp1/2	150	11.0
VKN085A(-4Z/7W)	2	122	73	157	22	81	93	107	73	250	170	194	160	15	4	153	10	71	Rp3/4	160	12.5
VKN095A(-4Z/7W)	3	131	81	169	22	94	93	122	87	296	180	200	—	15	2	—	10	85	Rp1	180	14.0
VKN115A(-4Z)	4	162	116	231	22	105	93	133	87	364	220	253	—	28	4	200	12	135	Rp1 1/2	280	23.0
VKN115A-e(-4Z/7W)	4	162	116	231	22	105	93	133	87	364	220	253	—	28	4	200	12	135	Rp1 1/2	280	24.0

●VKN-H

(Unit : mm)

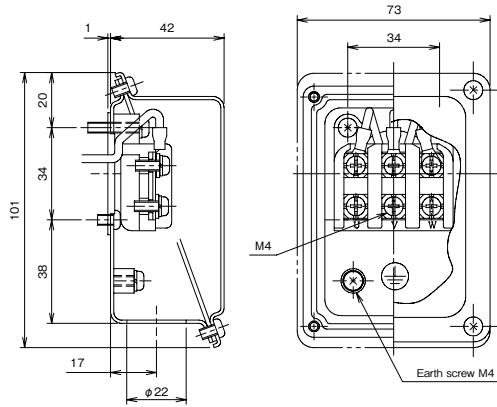
Type	Fig.	D	E	KB	KD	KE	KH	KL	KM	L	LA	LC	LG	LN	LP	LZ	PC	PE	PJ	Approx. mass(kg)
VKN055H	5	92	57	119	22	67	93	93	73	212	132	169	14	2	131	7	56	Rp3/8	132	6.5
VKN065H(-7W)	5	92	57	119	22	67	93	93	73	212	132	169	14	2	131	7	56	Rp3/8	132	7.5
VKN075H	5	111	61	143	22	78	93	104	73	236	160	194	15	2	153	10	63	Rp1/2	150	11.0
VKN085H	5	122	73	157	22	81	93	107	73	250	160	194	15	2	153	10	71	Rp3/4	160	12.5
VKN095H(-7W)	3	131	81	169	22	94	93	122	87	296	180	200	15	2	—	10	85	Rp1	180	14.0



Detailed drawing of the terminal box

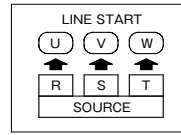
●VKN045A-085A (-4Z),  
VKN055H-085H

Assembly drawing



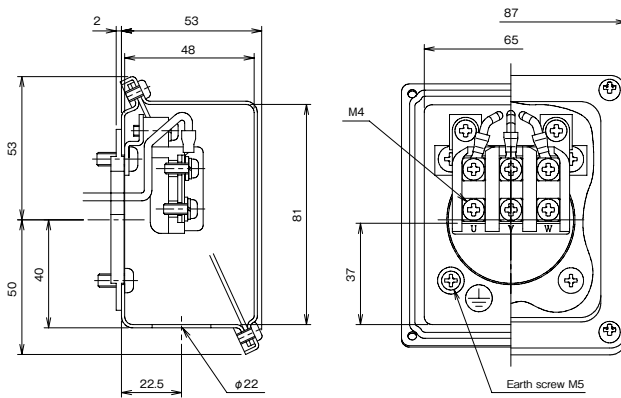
※ For the types that end with "L," cabtyre cable is used.

Connection diagram

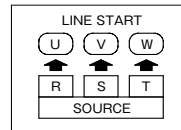


●VKN095□ (-4Z), 115A (-e/4Z)

Assembly drawing

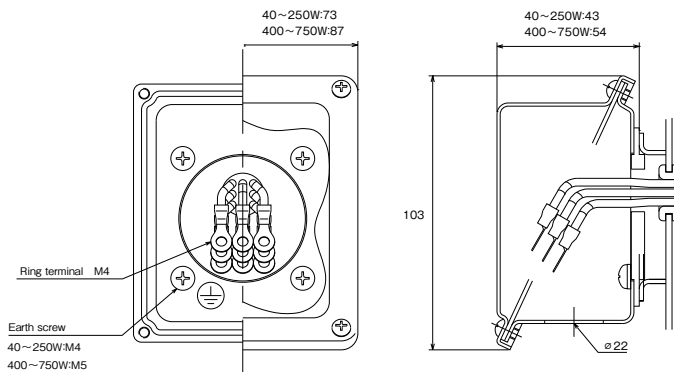


Connection diagram

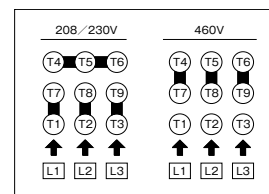


●VKN-7W

Assembly drawing

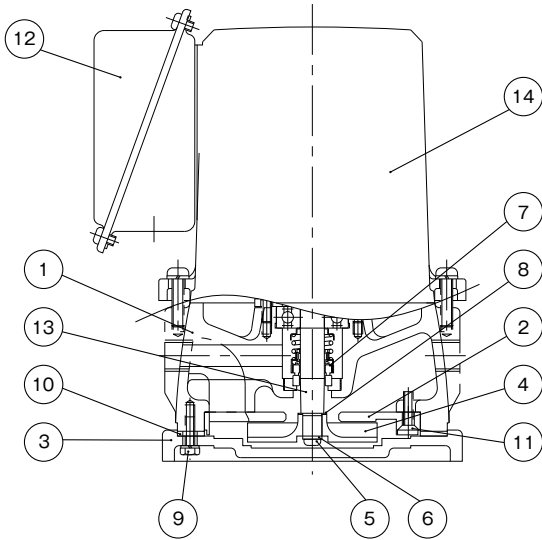


Connection diagram



Sectional drawing

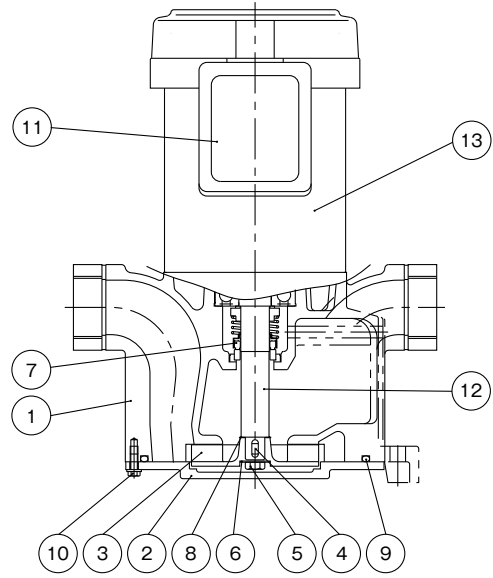
●VKN045L, VKN045A-085A (-4Z/7W), VKN055H-085H (-7W)



No.	Part name	Material	No.	Part name	Material
1	Casing	FC150	8	Adjust seal	BsP3-1/2H
2	Inner casing	FC150	9	Hexagon head screw with captive washer	SUS302
3	Bottom plate	FC150	10	Packing	NBR
4	Impeller	Refer to the table below	11	Flat head screw	SS
5	Pan head machine screw	SS	12	Terminal box	SPCC
6	Toothed washer	SK5	13	Main shaft	S45C
7	Mechanical seal	Ceramic vs carbon	14	Motor	-

Note 1) VKN045L has cabtyre cable.  
 Note 2) The materials in the table above are equivalents.  
 Note 3) Structure and other details are subject to change without notice.

●VKN115A (-e/4Z/7W)



No.	Part name	Material	No.	Part name	Material
1	Casing	FC150	8	Adjust seal	BsP3-1/2H
2	Bottom plate	FC150			Phosphor bronze
3	Impeller	CAC407	9	O ring	NBR
4	Key	S45C	10	Hexagon head screw with captive washer	SUS302
5	Hexagon bolt	SS	11	Terminal box	SPCC
6	Toothed washer	SK5	12	Main shaft	S45C
7	Mechanical seal	Ceramic vs carbon	13	Motor	-

Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.

Table of impeller materials

●VKN-A

Type	Impeller material
VKN045L	CAC407
VKN045A (-4Z/7W)	CAC407
VKN055A (-4Z/7W)	CAC407
VKN065A (-4Z/7W)	CAC407
VKN075A (-4Z/7W)	Special resins
VKN085A (-4Z/7W)	Special resins
VKN095A (-4Z/7W)	Special resins
VKN115A (-e/4Z/7W)	CAC407

●VKN-H

Type	Impeller material
VKN055H	CAC407
VKN065H (-7W)	CAC407
VKN075H	CAC407
VKN085H	CAC407
VKN095H (-7W)	CAC407

### Features

- ① The structure and materials are not easily affected by dirty coolants.
- ② The impeller made of FCD material and non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ③ The self-priming function and floor mount offer a wider choice of installation location, not limited to the top of the tank.
- ④ Can be used for high viscosity coolants. (LPSE40D-e)
- ⑤ The lineup including the models complying with global standards by supporting efficiency and other regulations.
  - Japan : Top Runner efficiency
  - Europe : IE3 efficiency, CE marking (EU Directive)  
RoHS Directive (2011/65/EU) , 10 substances restricted
  - China : GB3 (GB18613-2020)



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

### 型式説明

## LPSE 40 4 A - 3.0 -e

- ①
- ②
- ③
- ④
- ⑤
- ⑥

- ① Model
- ② Bore diameter
- ③ Number of casings
- ④ Viscosity of the liquid A : for low viscosity liquid  
B : for high viscosity liquid
- ⑤ Output
- ⑥ Motor efficiency -e : Top Runner efficiency (equivalent to IE3)

### Standard Specification

Bore diameter [A]		40
Used liquid	Property of liquid	Water soluble coolant, liquids of similar viscosity to water containing additives (anti-rust agents) and the like <sup>※1</sup>
	Temperature	0 to 60°C (No frozen liquid is allowed.)
Allowable kinematic viscosity		40A: 32 mm <sup>2</sup> /s or less 40B: 150 mm <sup>2</sup> /s or less
Installation location		Indoor
		Ambient temperature: 0 to 40°C; humidity:85% RH or less (no condensation)
		Height above sea level: 1,000 m or less; place not exposed to direct sunlight
Place without any corrosive gas, explosive gas, or vapor in the atmosphere		
Max. intake piping length		0.7m <sup>※2</sup>
Material	Casing (suction/discharge/middle)	FC200
	Impeller	FCD450
	Main shaft	S45C
Shaft seal structure		Sealless structure (without mechanical seal)
Motor	Type	Totally-enclosed fan-cooled indoor type
	Protection method	IP44
	Power source <sup>※2</sup>	3-phase 50/60Hz 200/200-220V <sup>※3</sup>
	Thermal class	B
	Rating	Continuous (S1)
	Number of poles	2P
	Terminal box position	90°with the discharge port facing the front
Wiring inlet direction	Bottom	
Paint color		Munsell N1.5

※1 Note that the product cannot be used for water. If the liquid contains hard foreign matters or large amount of foreign matters (cutting chips), contact TERAL.  
 ※2 Intake piping should be as short as possible and the number of bends and fittings as few as possible.  
 ※3 GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V

### Global standards

Type	Standards/Regulations	Output
		0.75kW-3.0kW
LPSE-e	Top Runner efficiency (IE3 equivalent)	●
	CE Marking EU energy efficiency	●
	GB3(GB18613-2020)	● <sup>※1</sup>

※1 GB certification label is attached as exclusive for GB standard. ● : Compliant

### Special specification

Voltage change<sup>※1</sup>, change of terminal box position<sup>※2</sup>, change of terminal box direction<sup>※3</sup>, With cable inlet adapter for terminal box<sup>※4</sup>

- ※1 50Hz : 210V/220V/380V/400V/415V,60Hz 400V/440V
- ※2 Terminal box position change(Every 90°with the discharge port facing the front)
- ※3 Terminal box orientation (with the terminal box facing the front): wire inlet port is right or left.
- ※4 G3/4 conduit can be attached

### Special accessories

Companion flange .....	With O-ring, bolts and nuts
Eye bolt .....	2 pcs

### Table of Consumable Parts

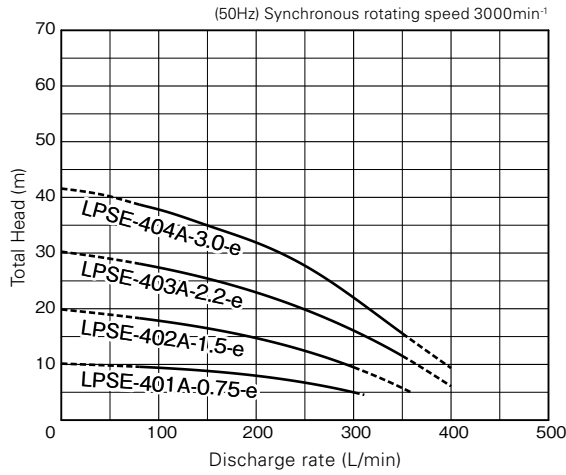
Output (kW)	Bearing		Oil seal
	Load side	Unload side	
0.75	6306ZZC3	6203CXZZC3 (Anti-creep)	AG1705E
1.5		6204CXZZC3 (Anti-creep)	
2.2			
3.0			

Output (kW)	O-ring	
	For discharge casing	For suction spacer
0.75	G155	G175
1.5		
2.2		
3.0		

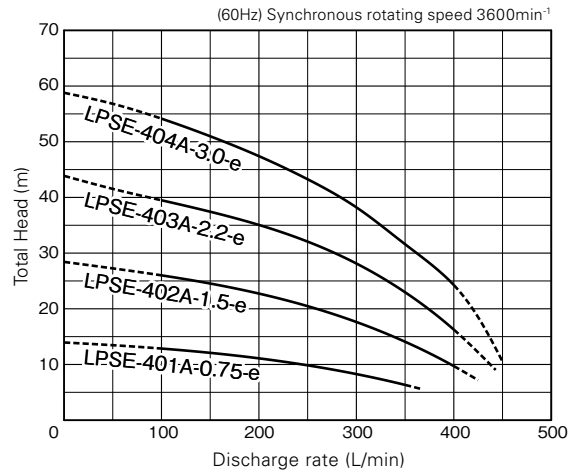
Selection chart

●For low viscosity liquid (Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

50Hz

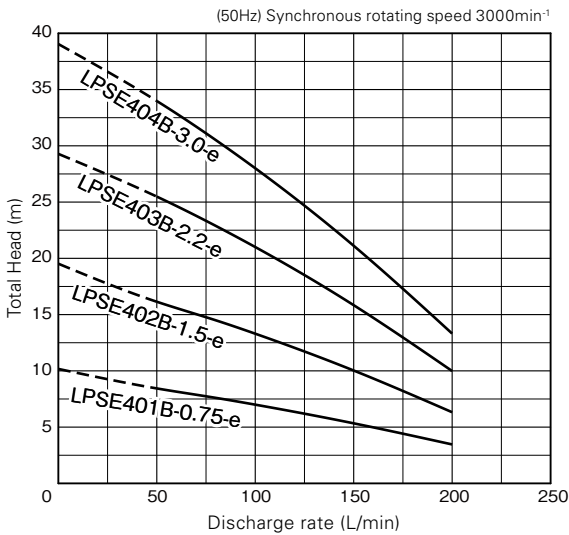


60Hz

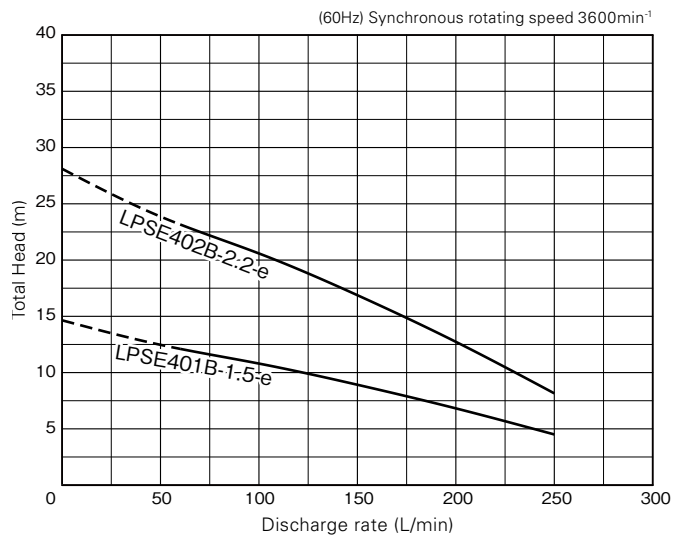


●For high-viscosity liquid (Value at kinematic viscosity 150mm<sup>2</sup>/s, kinematic viscosity, specific gravity 1)

50Hz



60Hz



Specification table

●LPSE-e

Bore diameter (mm)	Frequency (Hz)	Used liquid	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Standard specification	
								Applied flow rate range L/min	Total head (m)
40	50	For low viscosity liquid	0.75	LPSE401A-0.75-e	200	3.6	28	80-300	9.5-4.9
			1.5	LPSE402A-1.5-e	200	6.1	64		18.3-9.4
			2.2	LPSE403A-2.2-e	200	8.6	86	80-350	28.0-11.5
			3	LPSE404A-3.0-e	200	12.6	164		38.7-15.5
		For high-viscosity liquid	0.75	LPSE401B-0.75-e	200	3.5	28	50-200	8.4-3.5
			1.5	LPSE402B-1.5-e	200	6.2	64		16.1-6.3
			2.2	LPSE403B-2.2-e	200	9.0	86		25.5-10.0
			3	LPSE404B-3.0-e	200	12.5	164		34.0-13.3
	60	For low viscosity liquid	0.75	LPSE401A-0.75-e	200/220	4.0	27/29	100-350	12.8-6.3
			1.5	LPSE402A-1.5-e	200/220	7.5	61/68	100-400	26.0-9.7
			2.2	LPSE403A-2.2-e	200/220	10.0	79/87		39.4-16.2
			3	LPSE404A-3.0-e	200/220	14.0	129/144		54.1-24.2
		For high-viscosity liquid	1.5	LPSE401B-1.5-e	200/220	6.0	61/68	50-250	12.5-4.5
			2.2	LPSE402B-2.2-e	200/220	8.4	79/87		23.9-8.2

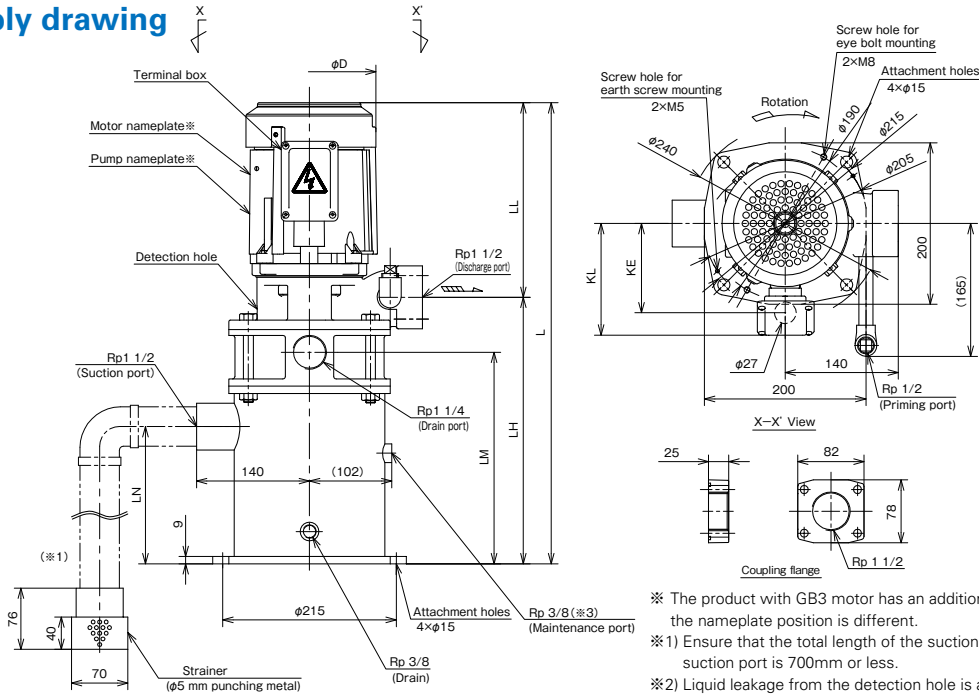
Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

●LPSE-e (50Hz 380V)

Bore diameter (mm)	Frequency (Hz)	Used liquid	Output (kW)	Type	Rated voltage (V)	Rated current (A)	Starting current (A)	Standard specification	
								Applied flow rate range L/min	Total head (m)
40	50	For low viscosity liquid	0.75	LPSE401A-0.75-e	380	2.0	13	80-300	9.5-4.9
			1.5	LPSE402A-1.5-e	380	3.1	33		18.3-9.4
			2.2	LPSE403A-2.2-e	380	5.0	43	80-350	28.0-11.5
			3	LPSE404A-3.0-e	380	6.0	73		38.7-15.5
		For high-viscosity liquid	0.75	LPSE401B-0.75-e	380	2.0	13	50-200	8.4-3.5
			1.5	LPSE402B-1.5-e	380	3.1	33		16.1-6.3
			2.2	LPSE403B-2.2-e	380	5.0	43		25.5-10.1
			3	LPSE404B-3.0-e	380	6.2	73		34.0-13.5

Note 1) The pump's rated current (current value listed on the pump nameplate) is the recommended current setting for protection device.

Assembly drawing



- ※ The product with GB3 motor has an additional certification nameplate and the nameplate position is different.
- ※1) Ensure that the total length of the suction pipe from the liquid level to the suction port is 700mm or less.
- ※2) Liquid leakage from the detection hole is abnormal. Please check around the drain.
- ※3) If the siphon preventive hole inside the pump is clogged, it may cause disabling suction. Inspect the pump from the cleaning port.

Dimensions

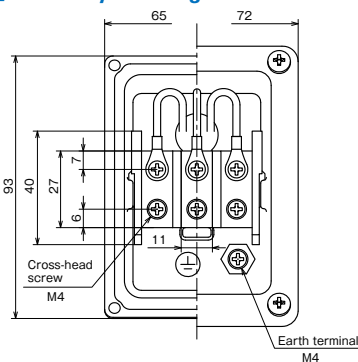
(Unit : mm)

Bore diameter (mm)	Frequency (Hz)	Used liquid	Type	φD	KL	KE	L	LH	LL	LM	LN	Approx. mass (kg)
40	50	For low viscosity liquid	LPSE401A-0.75-e	170	139	111	571	330	241	262	170	39
			LPSE402A-1.5-e	195	145	117	604	330	274	262	170	46
			LPSE403A-2.2-e	195	145	117	614	330	284	262	170	56
		LPSE404A-3.0-e	195	145	117	689	375	314	307	215	61	
		For high-viscosity liquid	LPSE401B-0.75-e	170	139	111	571	330	241	262	170	39
			LPSE402B-1.5-e	195	145	117	604	330	274	262	170	46
	LPSE403B-2.2-e		195	145	117	614	330	284	262	170	56	
	60	For low viscosity liquid	LPSE404B-3.0-e	195	145	117	689	375	314	307	215	61
			LPSE401A-0.75-e	170	139	111	571	330	241	262	170	39
			LPSE402A-1.5-e	195	145	117	604	330	274	262	170	46
		For high-viscosity liquid	LPSE403A-2.2-e	195	145	117	614	330	284	262	170	56
			LPSE404A-3.0-e	195	145	117	689	375	314	307	215	61
LPSE401B-1.5-e			195	145	117	604	330	274	262	170	45	
LPSE402B-2.2-e	195	145	117	614	330	284	262	170	55			

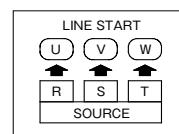
※ Above specification is also available for different voltage specification.

Detailed drawing of the terminal box

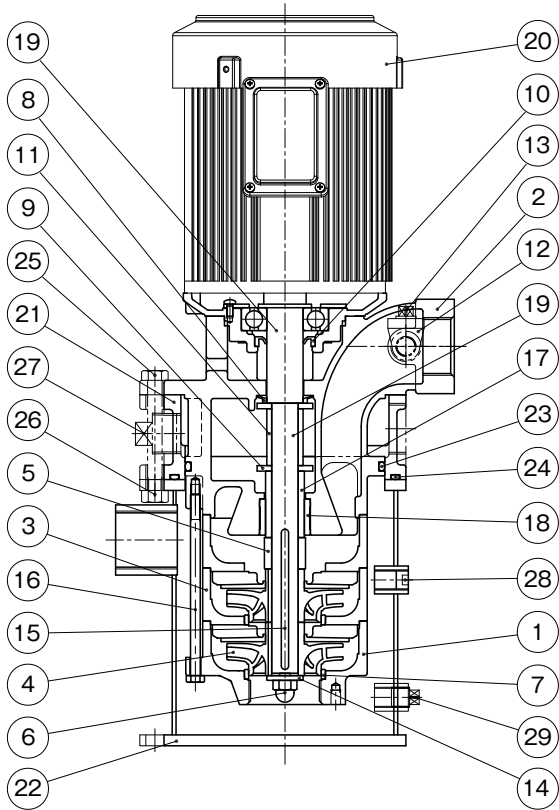
Assembly drawing



Connection diagram



Sectional drawing



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Impeller	2	FCD450
5	Shaft spacer	1	STKM
6	Impeller nut	1	SUS304
7	Liner ring	2	SUS304
8	Deflector	1	NBR
9	Deflector	2	SPHC
10	Oil seal	1	NBR
11	Collar	1	STKM
12	Elbow	1	FCMB
13	Plug	1	SWCH
14	Washer	1	SUS304
15	Key	1	SUS403
16	Through bolt	4	SS400
17	Shaft sleeve	1	SUS440C
18	Discharge bushing	1	SKD11
19	Motor shaft	1	S45C
20	Motor	1	—
21	Suction spacer	1	FC200
22	Suction pipe	1	SS400
23	O-ring	1	NBR
24	O-ring	1	NBR
25	Through bolt	4	SS400
26	Nut	4	SWCH
27	Plug	1	FCMB
28	Hexagonal socket sunk plug	1	SS400
29	Plug	1	SWCH

Note 1) The materials in the table above are equivalents.  
 Note 2) Structure and other details are subject to change without notice.  
 Applicable models : LPSE402A(B)-1.5-e · LPSE402B-2.2-e

## Features

- ① Energy-saving pump with a Top Runner (equivalent to IE3) motor (LPS-e).
- ② The structure and materials are not easily affected by dirty coolants.
- ③ The impeller made of FCD material and non-seal (mechanical seal-less) structure is adopted for excellent durability.
- ④ The self-priming function and floor mount offer a wider choice of installation location, not limited to the top of the tank.
- ⑤ The lineup includes the models that meet the efficiency of the various regulations:  
LPS-e type : Equipped with a Top Runner (equivalent to IE3) motor.  
(NEMA Premium motor)

## Description of types

### LPS 65 3 / 2 A - 5 7.5 T -e

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- |                           |  |
|---------------------------|--|
| ① Model                   | ⑥ Frequency 5:50Hz 6:60Hz                                    |
| ② Bore diameter           | ⑦ Output   |
| ③ Number of casings       | ⑧ ID code  |
| ④ Number of impellers     | ⑨ Motor efficiency Top Runner efficiency (equivalent to IE3) |
| ⑤ Viscosity of the liquid |  |
- A : for low viscosity liquid



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

## Standard Specification

Bore diameter		65mm
Used liquid	Property of liquid	Water-soluble coolant liquid
	Temperature	0 to 60°C (No frozen liquid)
	Allowable kinematic viscosity	1mm <sup>2</sup> /s
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation), Height above sea level : 1000m or less, Place not exposed to direct sunlight, Place in an area free of corrosive or explosive gas or vapor.
Max. intake piping length		0.7m <sup>*2</sup>
Material	Casing (Suction・Discharge・Intermediate)	FC200
	Impeller	FCD450
	Shaft	S45C
Shaft seal structure		Non-seal (mechanical seal-less)
Motor	Power source	3-phase 50/60/60Hz 200/200/230V
	Type	Totally enclosed fan-cooled outdoor type <sup>*3</sup>
	Protection method	IP55
	Thermal class	F
	Rating	Continuous
	Number of poles	2P
Paint color		Munsell N1.5

\*1 Avoid using the pump with water. Contact us when using the unit for coolant containing foreign substances with high hardness or a large amount of foreign substances including chips.

\*2 Intake piping should be as short as possible and the number of bends and fittings as few as possible.

\*3 The pump cannot be installed outdoors.

## Special specification

Shaft seal structure is modified (to improve abrasion resistance).

## Table of Consumable Parts

Output (kW)	Bearing		Oil seal	
	Load side	Unload side	Load side	Unload side
5.5	6309ZZC3	6306ZZC3	VC45628	VC30528
7.5	6309ZZC3	6306ZZC3	VC45628	VC30528

Bore diameter (mm)	O-ring (For interior surface of suction spacer)	O-ring (For bottom surface of suction spacer)	O-ring (For coolant sealing plate)
65	G270	G280	S56

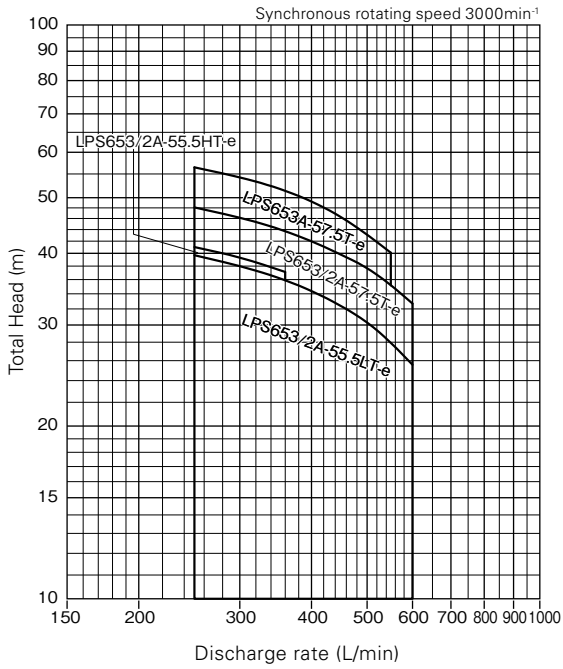


Selection chart

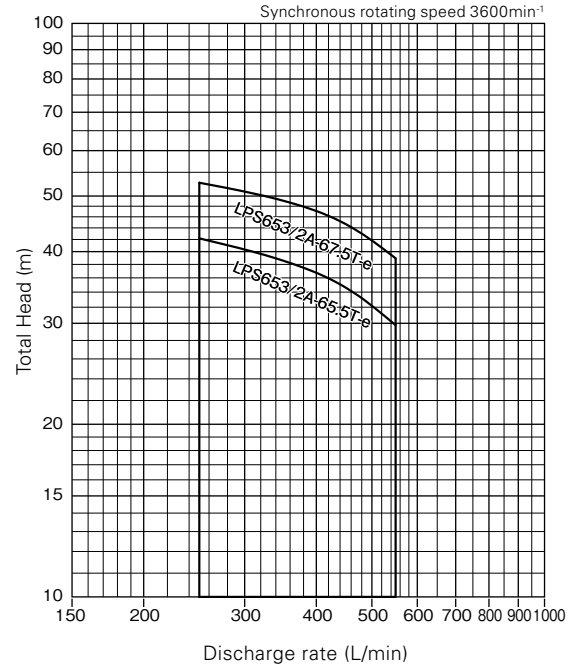
●LPS65

●For low viscosity liquid (Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)

50Hz



60Hz



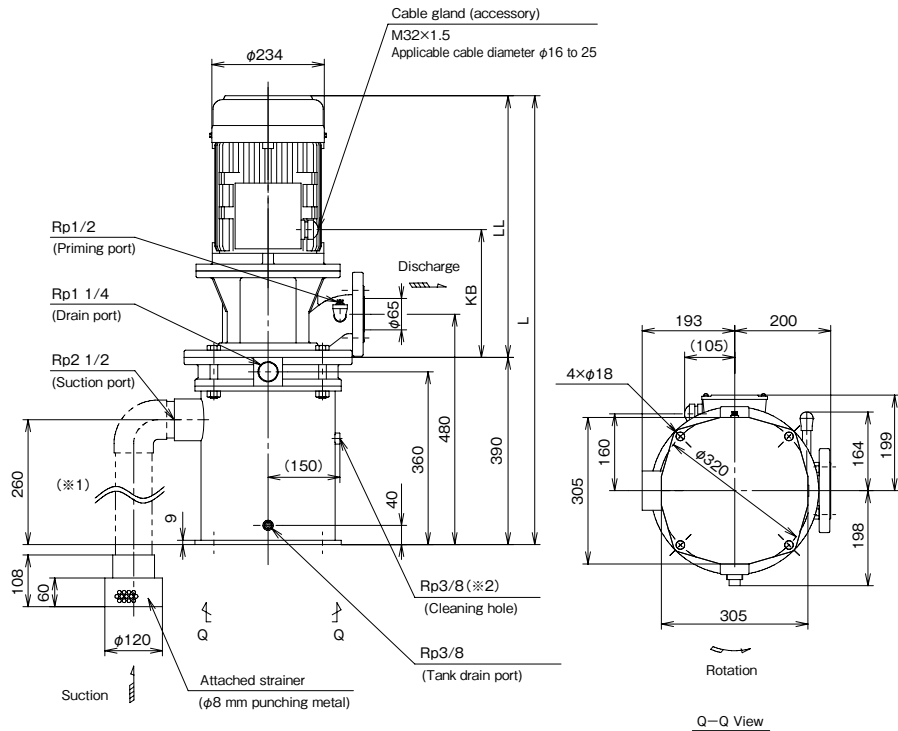
Specification table

●LPS65

Bore diameter (mm)	Frequency (Hz)	Type	Output (kW)	Rated voltage (V)	Rated current (A)	Starting current (A)	Discharge rate (L/min)	Total head (m)
65	50	LPS653/2A-55.5LT-e	5.5	200	20.3	204	250-600	39.7-25.6
		LPS653/2A-55.5HT-e	5.5		20.3	204	250-360	41.0-37.1
		LPS653/2A-57.5T-e	7.5		27.2	288	250-600	48.1-32.7
		LPS653A-57.5T-e	7.5		27.2	288	250-550	56.5-40.1
	60	200/230	LPS653/2A-65.5T-e	5.5	19.8/17.8	178/206	250-550	42.2-29.8
			LPS653/2A-67.5T-e	7.5	26.5/23.7	254/295	250-550	52.8-39.0

Assembly drawing

LPS65



※1) The length of suction pipe from the liquid surface to the suction port should be shorter than 700 mm.  
 ※2) If the siphon prevention hole is clogged, suction might be disabled. Inspect the interior via cleaning hole. A companion flange JIS 10K standard type is attached.

Dimensions

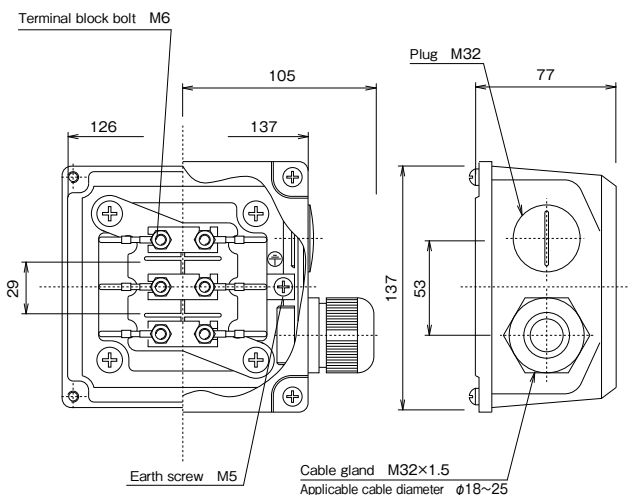
LPS65

(Unit : mm)

Bore diameter (mm)	Frequency (Hz)	Type	L	LL	KB	Approx. mass(kg)
65	50	LPS653/2A-55.5LT-e	935	545	266	135
		LPS653/2A-55.5HT-e				135
		LPS653/2A-57.5T-e	975	585	267	141
	LPS653A-57.5T-e	143				
	LPS653/2A-65.5T-e	935				545
	LPS653/2A-67.5T-e		940	585	267	

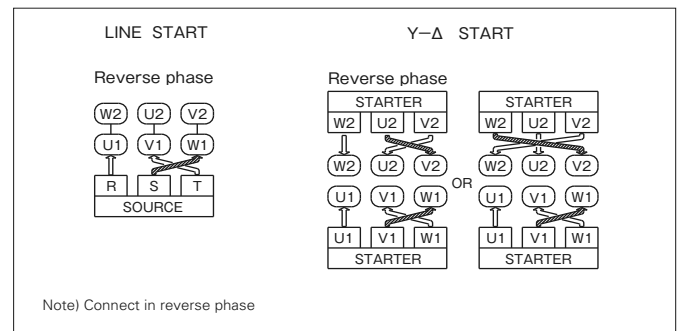
Detailed drawing of the terminal box

LPS65-e



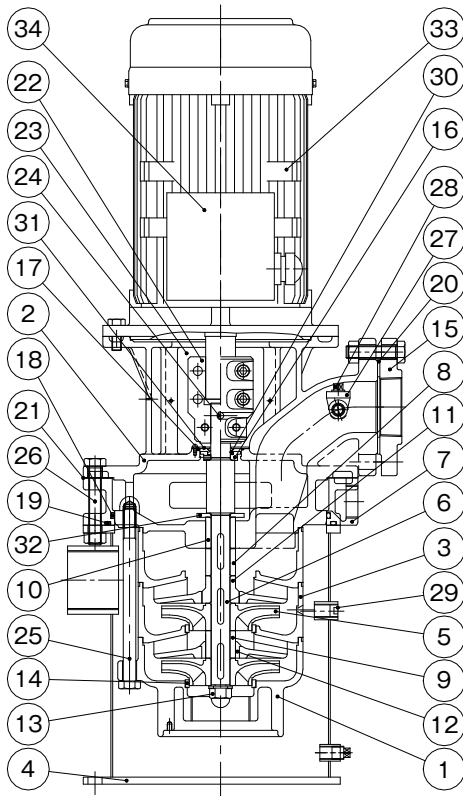
LPS65-e

Connection diagram



Sectional drawing

●LPS65



No.	Part name	Qty	Material
1	Suction casing	1	FC200
2	Discharge casing	1	FC200
3	Intermediate casing	2	FC200
4	Suction pipe	1	SS400
5	Impeller	2	FCD450
6	Main shaft	1	S45C
7	Suction spacer	1	FC200
8	Shaft sleeve A	1	SUS304
9	Shaft sleeve B	1	SiC
10	Shaft sleeve C	1	SUS304
11	Shaft sleeve D	1	SUS304
12	Intermediate bushing	1	SiC
13	Impeller nut	1	SUS304
14	Liner ring	2	SUS304
15	Companion flange	1	FC200
16	Deflector	1	C3604B
17	O-ring	1	NBR
18	O-ring	1	NBR
19	O-ring	1	NBR
20	Sheet packing	1	NBR
21	Sheet packing	1	JOINT SHEET
22	Coupling	1	FC200
23	Coupling cover	2	SUS304
24	Hexagon socket set screw	1	SCM435
25	Through bolt	4	SS400
26	Through bolt	4	SS400
27	Elbow	1	FCMB
28	Plug	1	SS400
29	Hexagonal socket sunk plug	1	SS400
30	V-ring	1	FKM
31	Coolant sealing plate	1	SUS304
32	Deflector	1	SUS304
33	Motor	1	
34	Terminal box	1	ADC12

Note 1) The materials in the table above are equivalents.

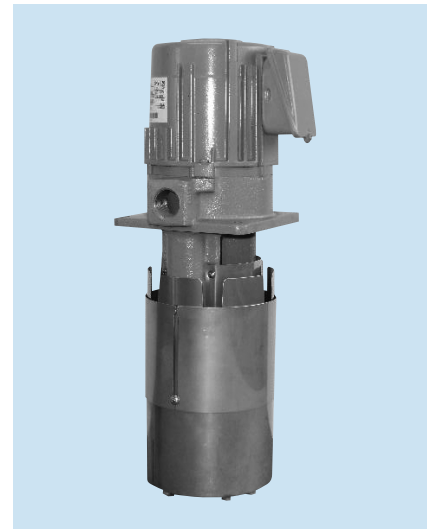
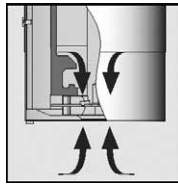
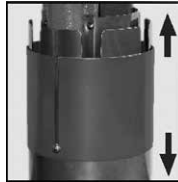
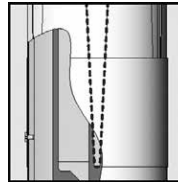
Note 2) Structure and other details are subject to change without notice.

Applicable models : 50Hz LPS653/2A-55.5LT-e, LPS653/2A-55.5HT-e,  
LPS653/2A-57.5T-e

60Hz LPS653/2A-65.5T-e, LPS653/2A-67.5T-e

**Features**

- ① Bubbles and chips floating on the liquid surface can be suctioned continuously.
- ② Complete exhaust structure to prevent air lock (patented).
- ③ V-shaped inlet allowing suction even when fluid level fluctuates (patented).
- ④ The sliding mechanism that allows for manual adjustment of inlet to achieve the best suction conditions according to the liquid level during operation (patented).
- ⑤ Impeller allowing simultaneous suction from both above and below is adopted (patented).



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

**The SKM Series resolves device failures caused by chips floating in the tank and the problems of fluid replacement and quality deterioration due to decayed sludge-like precipitate containing chips!**

**Effects generated from cleaning the coolant liquids:**

- Improved processing accuracy
- Reduced manufacturing defects ➔ Increased productivity ➔ Cost reduction
- Reduced frequency of fluid replacement
  - ➔ Reduced frequency of disposal of oil waste ➔ Environmental protection and cost reduction
  - ➔ Reduced amount of new oil to replace ➔ Cost reduction
- Prevention of fluid decay ➔ Improved work environment

**Description of types**

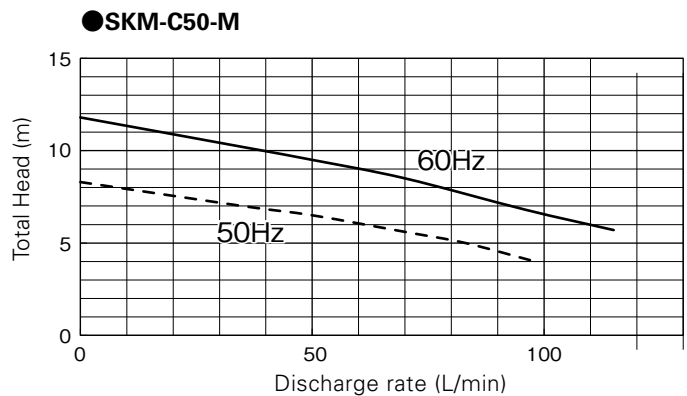
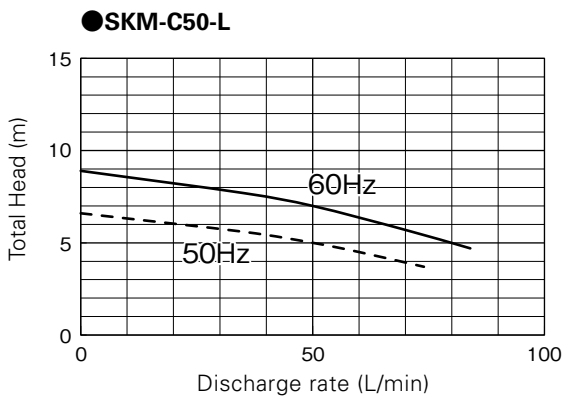
**SKM-C 50 - L**

①          ②          ③

- ① Model
- ② Discharge rate (L/min)
- ③ Head category    L: low head  
                              H: high head

**Selection chart**

(Values at kinematic viscosity 1mm<sup>2</sup>/s, specific gravity 1)



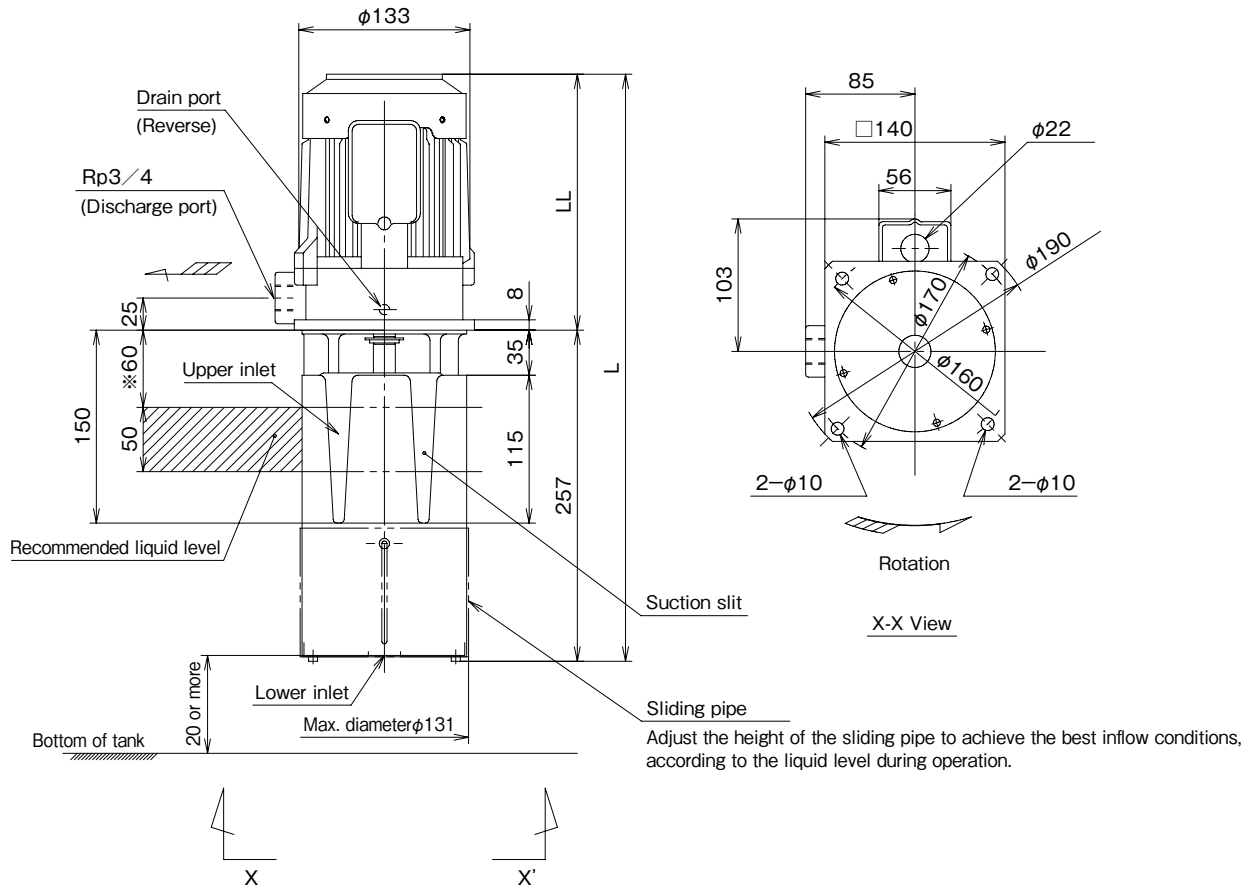
- Note 1) The performance of the pump represents the performance when used with the recommended liquid level.
- Note 2) The performance of the pump may change depending on the liquid level during operation.
- Note 3) If the liquid level during operation is high or discharge is low, suction of the surface water will decrease.

- Note 4) The pump should be installed in a place where the surface water is stable.
- Note 5) The pump should be used at a level higher than the lowest liquid level.
- Note 6) Suction is only carried out from the lower inlet if the liquid level is lower than the suction slit.

■ Specification table

Type		SKM-C50-L		SKM-C50-M	
Pump	Bore diameter	20mm			
	Discharge rate	50L/min	50L/min	50L/min	50L/min
	Total head	5m	7m	6.5m	9.5m
	Allowable kinematic viscosity	1mm <sup>2</sup> /s			
	Liquid filtration accuracy	Medium filtration accuracy (Max. chip size allowed within the pump: 4 mm)			
	Materials	Bracket FC Impeller SUS304 S35C			
Motor	Phases	3-phase			
	Number of poles	2P			
	Output	0.18kW		0.25kW	
	Voltage	200V	200/220V	200V	200/220V
	Rated current	1.0A	1.1/1.0A	1.6A	1.7/1.6A
	Frequency	50Hz	60Hz	50Hz	60Hz
	Synchronous rotating speed	3000min <sup>-1</sup>	3600min <sup>-1</sup>	3000min <sup>-1</sup>	3600min <sup>-1</sup>
	Thermal class	B			
	Ambient temperature	0~40°C			
	Rating	Continuous			
	Protection method	Totally enclosed self-cooling indoor type		Totally enclosed fan-cooled indoor type	
	Bearing	Load side	6203ZZ		
Unload side		6201ZZAC			
Paint color	Munsell N5.5				

■ Assembly drawing



■ Dimensions

(Unit : mm)

Type	L	LL	Approx. mass(kg)
SKM-C50-L	428	171	14.5
SKM-C50-M	456	199	15.0

※ When the liquid level during operation reaches 120mm or more below the base, the pump switches to the air suction operation.  
When the nominal discharge rate is exceeded, the pump also switches to the air suction operation.







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