


ShinMaywa

Submersible Pumps

Non-Clogging Type **CNX Series**



With
closed-loop
cooling
system

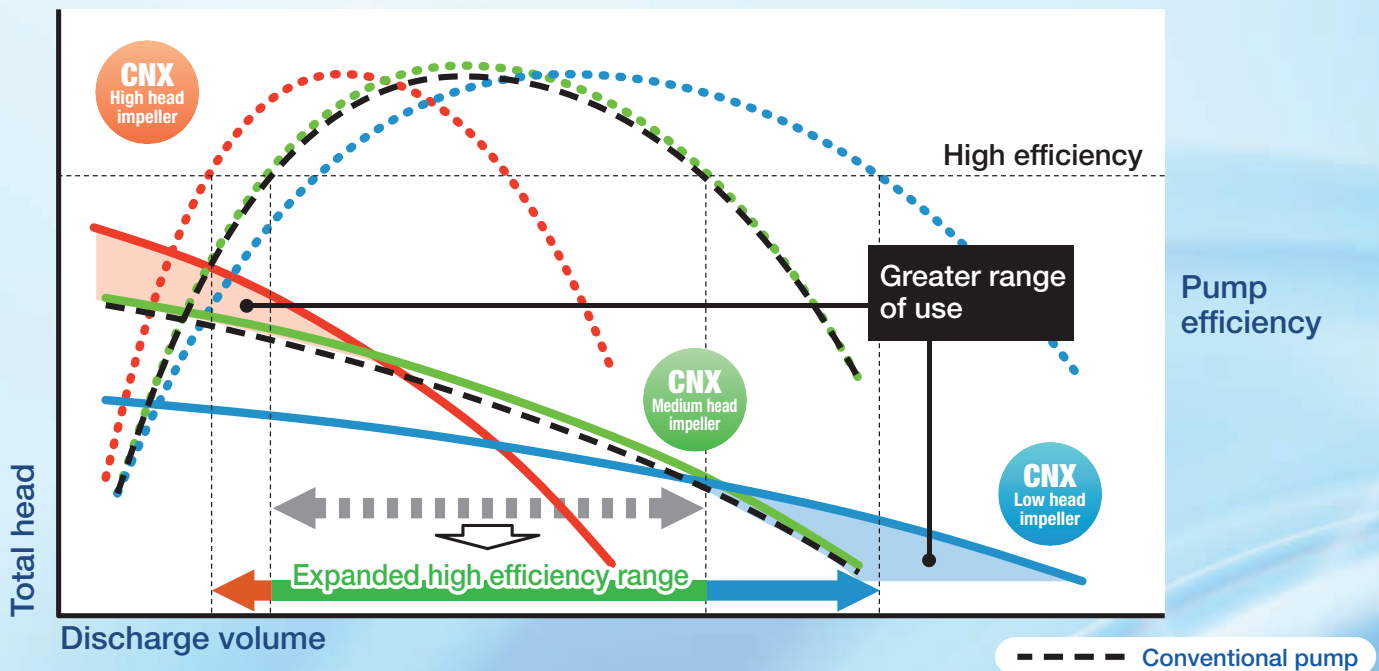
High efficiency over a wider range

New Style Submersible Pumps

High efficiency over a wider range

Development of 3 types (High, Medium and Low head) of impellers for each output. Expanded high efficiency range

The newly developed CNX series, with a greater range of use compared to conventional pumps, can be adopted for a wide range of facilities. In addition, all the models in the series are tolerant to passage of foreign matter, with a solid passage diameter of at least 3 inches. They also utilize a motor featuring a built-in heat exchanger and this allows them to run over a prolonged period with their motor emerged in to the air, although they are submersible pumps. This means that they can be installed in retention basins or sewage holding tanks, where the water level changes frequently.



High efficiency over a wide range

To offer high efficiency over a wide range, we developed three types of impellers for each output. Selecting the impeller most suited for your application permits operation close to the highest pump efficiency.

3-inch solid passage diameter

A solid passage diameter of at least 3 inches (76.2 mm) is realized for all models. Compared to conventional pumps with the 4 poles motor, the new models allow the passage of larger foreign matter. (3-inch solid passage diameter is standard in the U.S.A., Europe, Malaysia, Singapore, Hong Kong, and China.)

Compact design achieved with 4-poles motor

All the models in this new series employ a 4-poles motor that enabled compact, light design. Models with a 6-poles motor option are also available. Please contact us for more information.

High reliability

Following the tradition of our conventional models, excellent reliability is secured with the features such as "no-overloading over the entire flowrate range", "motor burnout prevention with built-in micro thermal protector" and "bearings with long life grease lubrication".



Superior cooling system that enables stable and continuous dry operation

The CNX series cools the motor by circulating coolant that is enclosed in the duplex casing around the motor, using a dedicated impeller, and exhausting heat to pumped water through the heat exchanger installed at the bottom of the motor. This avoids the danger of the clogging of the cooling system with sewage particle and allows stable continuous dry operation.

Micro thermal protector

The built-in micro thermal protector (motor protection device) prevents possible motor burnouts due to overloading, impeller locking, or open phases.
* 5.5/7.5 kW models incorporate the automatic cut-off function.

Motor

Dry motors with class E insulation are used. (Motors with class F insulation are also available.)

Discharge connection

Submersible pump is automatically connected to the discharge pipe.

Cable entry

Core sealing is employed to prevent water leakage into the motor chamber by blocking water that streams along the core wires even if the cable sheath is damaged or the end of the cable is immersed in water.

Closed-loop cooling system

Coolant circulation

Coolant circulating vane

Heat exchanger



Impeller

The most suitable non-clogging type impeller, either volute or volute mixed flow type, can be selected for the application.

Shaft seal

The double mechanical sealing, made of highly wear-resistant material, at the upper and lower parts prevent water leakage into the motor chamber.

Leakage detector

Deterioration of the motor insulation is prevented by the immersion detector that activates when water penetrates into the motor chamber.

- Closed-loop cooling type : Equipped as standard
- Natural cooling type : Option

Bore mm	Model	Output kW	Phase	Capacity—Total Head m ³ /min—m		No. of Poles P	Weight (Bare Pump) kg	External dimensions mm										
				50Hz	60Hz			A	B	C	D	E	F	G				
150	CNX150-P	11	3-Ph	(1H)	3.4 - 12.6	(2H)	2.9 - 14.1	330	996	823	190	514	450	345	—			
				(1M)	3.2 - 12.1	—												
		15		(1H)	3.5 - 16.6	(2H)	3.5 - 16.4	365	1,032									
				(1M)	3.7 - 14.5	(2M)	2.8 - 18.7											
		18.5		(1H)	3.8 - 18.5	(2H)	3.9 - 18.2	395	1,100									
				(1H)	4.3 - 20.8	(2H)	4.1 - 20.9											
22	(1H)	4.8 - 24.9	(2H)	4.4 - 26.3	405	1,133												
	(1H)	5.4 - 27.3	(2H)	4.9 - 30.2														
30	(1H)	5.4 - 27.3	(2H)	4.9 - 30.2	755	1,406	1,024	220	578	550								
	37	(1H)	5.4 - 27.3	(2H)							4.9 - 30.2							
200	CNX200-P	11	3-Ph	(1H)	3.4 - 12.6	(2H)	2.8 - 14.8	400	1,066	917	285	521	570	550	—			
				(1M)	3.7 - 11.2	—	1,086		875	526								
		15		(1L)	4.3 - 9.4	(2L)	4.8 - 8.3	440	1,077	917	521							
				(1H)	3.5 - 16.6	(2H)	3.5 - 16.4		1,102	875	526							
		18.5		(1M)	4.4 - 13.2	(2M)	4.0 - 14.7	470	1,170	917	521							
				(1L)	5.5 - 10.6	(2L)	5.0 - 11.3		1,190	944	546	570	550					
		22		(1H)	3.8 - 18.5	(2H)	3.9 - 18.2	480	1,203	917	521							
				(1M)	4.7 - 15.1	(2M)	4.5 - 15.9		1,223	944	546							
		30		(1L)	5.9 - 11.5	(2L)	6.0 - 10.6	795	1,426	1,023	578							
				(1H)	4.3 - 20.8	(2H)	4.1 - 20.9		1,453	1,050	615							
		37		(1M)	5.0 - 16.5	(2M)	4.8 - 17.6	795	1,426	1,023	578							
				(1L)	6.6 - 12.2	(2L)	6.6 - 11.5		1,453	1,050	615							
		250		CNX250-P	11	3-Ph	(1M)	4.4 - 9.6	(2M)	3.5 - 11.6	395	1,104	875	333	567	663	650	75
							(1L)	5.6 - 7.3	(2L)	5.3 - 7.7								
					15		(1M)	5.0 - 12.0	(2M)	4.0 - 14.8	435	1,140						
							(1L)	6.4 - 9.5	(2L)	6.3 - 9.3								
					18.5		(1M)	5.6 - 13.1	(2M)	5.7 - 12.7	470	1,208						
							(1L)	7.3 - 9.7	(2L)	6.8 - 9.7								
22	(1M)		6.8 - 13.4		(2M)		5.8 - 14.7	480	1,241									
	(1L)		7.7 - 10.6		(2L)		7.5 - 10.5											
30	(1H)		4.8 - 24.9		(2H)		4.4 - 26.3	795	1,444	1,023	578							
	(1M)		6.2 - 18.8		(2M)		5.4 - 21.7		1,471	1,050	615							
37	(1H)		5.4 - 27.3		(2H)		4.9 - 30.4	795	1,444	1,023	578							
	(1M)		6.7 - 21.6		(2M)		6.2 - 23.3		1,471	1,050	615							
300	CNX300-P		11		3-Ph		(1L)	6.4 - 6.7	(2L)	5.7 - 7.3	405	1,171	928	333	569	805	750	45
							(1L)	6.6 - 9.0	(2L)	5.9 - 9.6		445						
			15				(1L)	8.5 - 8.6	(2L)	7.8 - 9.1	485	1,310						
							(1L)	8.3 - 10.5	(2L)	8.4 - 9.9			495	1,343	1,026			
			18.5				(1L)	8.3 - 10.5	(2L)	8.4 - 9.9	495	1,343						
							(1L)	10.0 - 11.9	(2L)	8.8 - 12.8								
		22	(1M)	7.7 - 19.3		(2M)	7.4 - 20.2	855	1,605	1,061	649							
			(1L)	11.3 - 12.9		(2L)	9.9 - 14.0											
		30	(1L)	10.0 - 11.9		(2L)	8.8 - 12.8	855	1,605	1,061	649							
			(1M)	7.7 - 19.3		(2M)	7.4 - 20.2											
		37	(1L)	11.3 - 12.9		(2L)	9.9 - 14.0	855	1,605	1,061	649							
			(1L)	11.3 - 12.9		(2L)	9.9 - 14.0											

※Weight (Bare Pump):excluding a lifting chain.

[] Impeller Code No.

Standard Accessories

- Connection (with bolts and nuts)..... 1 set
- Guide holder(with bolts and nuts)..... 1 set
- Cable(8m)..... 3pcs.
- Lifting chain(6m)..... 1pc.

Special Specifications

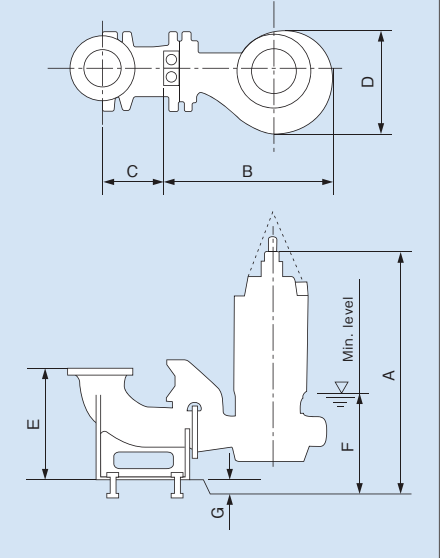
Handling Liquid	Kind of liquid	Wastewater and sewage
	Temperature	0~40°C(0~32°C for 5.5-7.5kW)
Material	Cable	2PNCT (VCT for 5.5-7.5kW)
	Motor shaft	420 stainless steel
	Pump casing	Gray cast iron (FC200)
Electric Motor	Impeller	Gray cast iron (FC200) or Ductile cast iron (FCD500)
	Name	Air-filled type Submersible Induction Motor
	Insulation class	Class E
	Enclosure	IP68
	Phase	3-Ph
	Voltage	200-480V

Cable Specification

Output kW	Type	Section area (mm ²)	Cores	Outer dia. (mm)	No. of cables
11	2PNCT	5.5	4	17.0	1
		5.5	3	15.5	
		1.25	4	11.5	
15	2PNCT	8.0	4	18.5	1
		8.0	3	17.0	
		1.25	4	11.5	
18.5	2PNCT	14.0	4	22.0	1
		14.0	3	20.0	
		1.25	4	11.5	
22	2PNCT	14.0	4	22.0	1
		14.0	3	20.0	
		1.25	4	11.5	
30	2PNCT	22.0	4	29.0	1
		22.0	3	27.0	
		1.25	4	11.5	
37	2PNCT	22.0	4	29.0	1
		22.0	3	27.0	
		1.25	4	11.5	

Dimensions

●Auto-connection type



Free standing type also available as an option. Please contact us for more information.

Bore mm	Model	Output kW	Phase	Capacity—Total Head m ³ /min—m				No. of Poles P	Weight (Bare Pump) kg	External dimensions mm										
				50Hz		60Hz				A	B	C	D	E	F	G	H			
150	CNX1501-P	5.5	3-Ph	(1M)	2.4 – 8.5	(2M)	2.2 – 9.1	4	165	781	759	400	450	325	—	720				
				(1L)	3.1 – 5.9	(2L)	3.1 – 5.5													
		7.5		(1M)	2.7 – 9.4	(2M)	2.6 – 11.1		185	816										
				(1L)	3.4 – 7.9	(2L)	3.3 – 7.7													
		11		(1H)	3.4 – 12.6	(2H)	2.9 – 14.1		275	895						190				
				(1M)	3.2 – 12.1	(2M)	—													
		15		(1H)	3.5 – 16.6	(2H)	3.5 – 16.4		295	921	823	514	345							
				(1M)	3.7 – 14.5	(2M)	2.8 – 18.7													
		18.5		(1H)	3.8 – 18.5	(2H)	3.9 – 18.2		335	989										
		22		(1H)	4.3 – 20.8	(2H)	4.1 – 20.9		355	1,022										
		30		(1H)	4.8 – 24.9	(2H)	4.4 – 26.3		650	1,312	1,024	220	578	550	1,200					
		37		(1H)	5.4 – 27.3	(2H)	4.9 – 30.2													
		200		CNX2001-P	5.5	3-Ph	(1M)		2.9 – 6.7	(2M)	2.7 – 7.4	4	225	874	847	480	570	550	—	815
(1L)	2.8 – 7.0		(2L)				3.3 – 5.5													
7.5	(1M)		3.1 – 9.5		(2M)		3.1 – 8.6	235	909											
	(1L)		3.4 – 7.9		(2L)		3.0 – 8.8													
11	(1H)		3.4 – 12.6		(2H)		2.8 – 14.8	350	965	917	521									
	(1M)		3.7 – 11.2		(2M)		—													
15	(1L)		4.3 – 9.4		(2L)		4.8 – 8.3	370	985	875	526									
	(1H)		3.5 – 16.6		(2H)		3.5 – 16.4													
18.5	(1M)		4.4 – 13.2		(2M)		4.0 – 14.7	405	1,011	875	526									
	(1L)		5.5 – 10.6		(2L)		5.0 – 11.3													
22	(1H)		3.8 – 18.5		(2H)		3.9 – 18.2	430	1,059	917	285		521	578	615					
	(1M)		4.7 – 15.1		(2M)		4.5 – 15.9													
30	(1L)		5.9 – 11.5		(2L)		6.0 – 10.6	690	1,079	944	546									
	(1H)		4.3 – 20.8		(2H)		4.1 – 20.9													
37	(1M)		5.0 – 16.5		(2M)		4.8 – 17.6	1,092	917	521	578									
	(1L)		6.6 – 12.2		(2L)		6.6 – 11.5													
30	(1H)		4.8 – 24.9		(2H)		4.4 – 26.3	1,332	1,023	578	615									
	(1M)		6.2 – 18.8		(2M)		5.4 – 21.7													
37	(1H)		5.4 – 27.3		(2H)		4.9 – 30.4	1,359	1,050	578	615									
	(1M)		6.7 – 21.6		(2M)		6.2 – 23.3													
250	CNX2501-P		5.5		3-Ph		(1M)	2.9 – 6.7	(2M)	2.7 – 7.4	4		220	892	847	480	663	650	75	830
							(1L)	2.8 – 7.0	(2L)	3.3 – 5.5										
		7.5	(1M)	3.1 – 9.5		(2M)	3.1 – 8.6	230	927											
			(1L)	3.4 – 7.9		(2L)	3.0 – 8.8													
		11	(1M)	4.4 – 9.6		(2M)	3.5 – 11.6	340	1,003	875		544								
			(1L)	5.6 – 7.3		(2L)	5.3 – 7.7													
		15	(1M)	5.0 – 12.0		(2M)	4.0 – 14.8	365	1,029	333		567								
			(1L)	6.4 – 9.5		(2L)	6.3 – 9.3													
		18.5	(1M)	5.6 – 13.1		(2M)	5.7 – 12.7	410	1,097	946		577								
			(1L)	7.3 – 9.7		(2L)	6.8 – 9.7													
		22	(1M)	6.8 – 13.4		(2M)	5.8 – 14.7	430	1,130	946		577								
			(1L)	7.7 – 10.6		(2L)	7.5 – 10.5													
		30	(1H)	4.8 – 24.9		(2H)	4.4 – 26.3	690	1,350	1,023		615								
(1M)	6.2 – 18.8		(2M)	5.4 – 21.7																
37	(1H)	5.4 – 27.3	(2H)	4.9 – 30.4	1,350	1,023	577	615												
	(1M)	6.7 – 21.6	(2M)	6.2 – 23.3																
300	CNX3001-P	11	3-Ph	(1L)	6.4 – 6.7	(2L)	5.7 – 7.3	4	355	1,070	928	547	805	750	45	975				
		15		(1L)	6.6 – 9.0	(2L)	5.9 – 9.6		370	1,096										
		18.5		(1L)	8.5 – 8.6	(2L)	7.8 – 9.1		420	1,199	1,026	569	80	1,005						
		22		(1L)	8.3 – 10.5	(2L)	8.4 – 9.9		435	1,232										
		30		(1L)	10.0 – 11.9	(2L)	8.8 – 12.8		750	1,511	1,061	649	1,105							
		37		(1M)	7.7 – 19.3	(2M)	7.4 – 20.2						1,140							
				(1L)	11.3 – 12.9	(2L)	9.9 – 14.0						1,400							

※Weight (Bare Pump):excluding a lifting chain.

() Impeller Code No.

Standard Accessories

- Connection (with bolts and nuts).....1 set
- Guide holder (with bolts and nuts)....1 set
- Cable(8m) 1pc. (5.5/7.5kW or less)
..... 3pcs.(1 kW or more)
- Lifting chain(6m) 1pc.

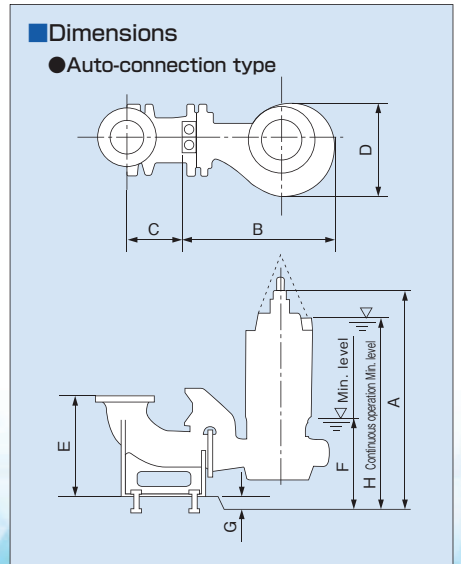
Connection weight

- Closed-loop cooling, Natural cooling in common

Bore	Weight	Remarks
150	42(95)	() for 30, 37kW only
200	130	
250	200	
300	225	

Cable Specification

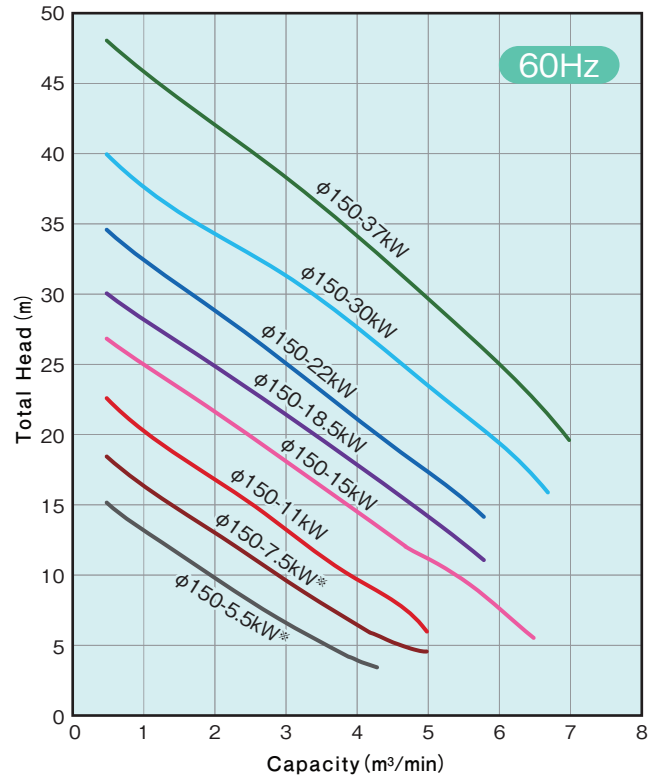
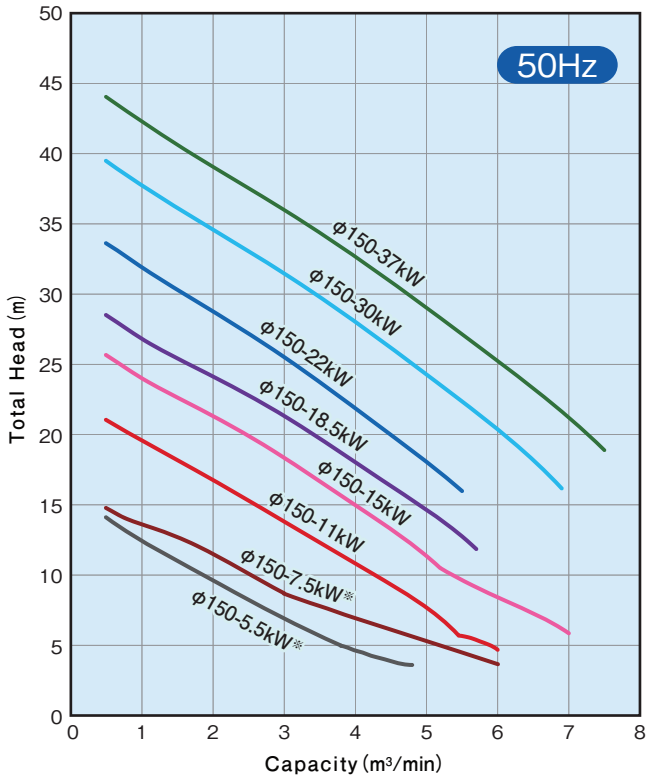
Output kW	Type	Section area mm ²	Cores	Outer dia mm	No.of cables
5.5	VCT	3.5	4	14.0	1
		5.5	4	16.5	
7.5	VCT	5.5	4	17.0	1
		5.5	3	15.5	
		1.25	2	9.8	
11	2PNCT	8.0	4	18.5	1
		8.0	3	17.0	
		1.25	2	9.8	
15	2PNCT	14.0	4	22.0	1
		14.0	3	20.0	
		1.25	2	9.8	
18.5	2PNCT	14.0	4	22.0	1
		14.0	3	20.0	
		1.25	2	9.8	
22	2PNCT	22.0	4	29.0	1
		22.0	3	27.0	
		1.25	2	9.8	
30	2PNCT	22.0	4	29.0	1
		22.0	3	27.0	
		1.25	2	9.8	
37	2PNCT	22.0	4	29.0	1
		22.0	3	27.0	
		1.25	2	9.8	



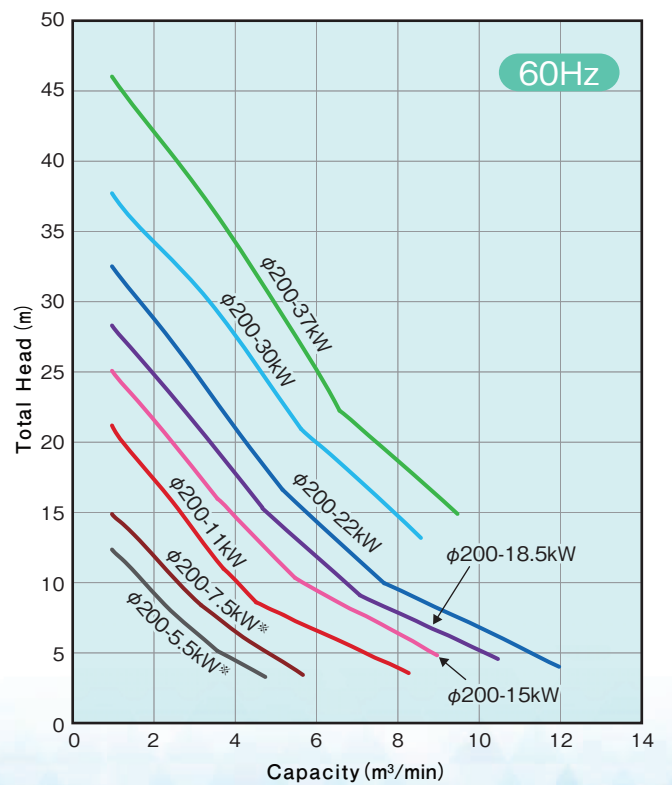
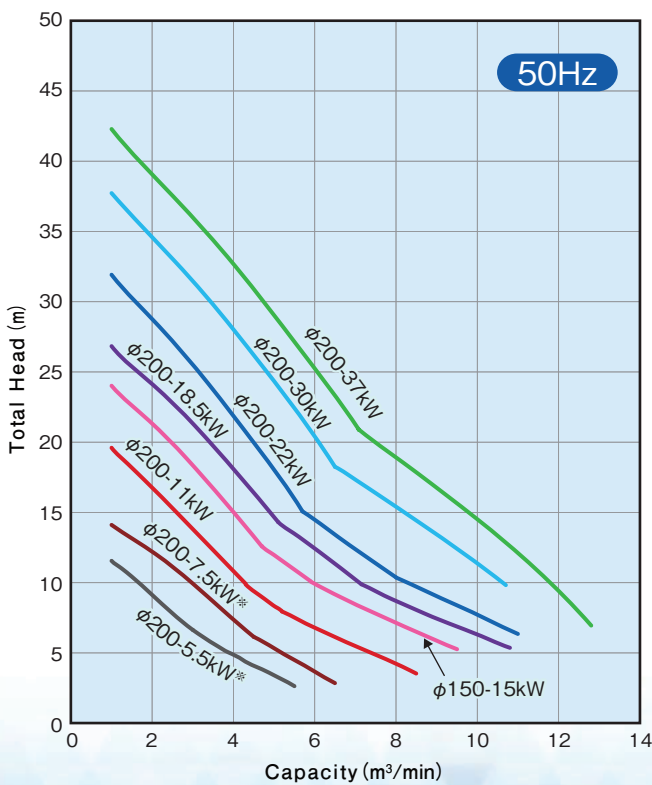
Free standing type also available as an option. Please contact us for more information.

Performance curve

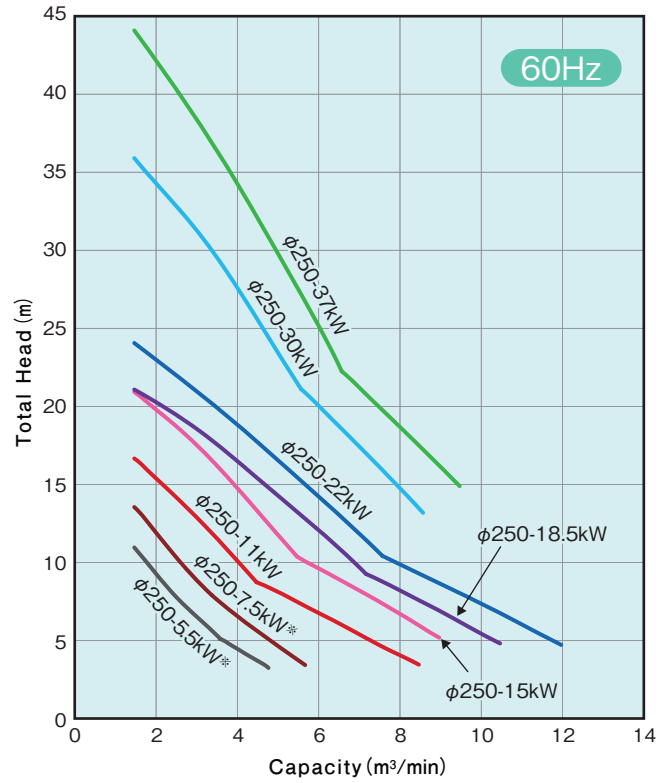
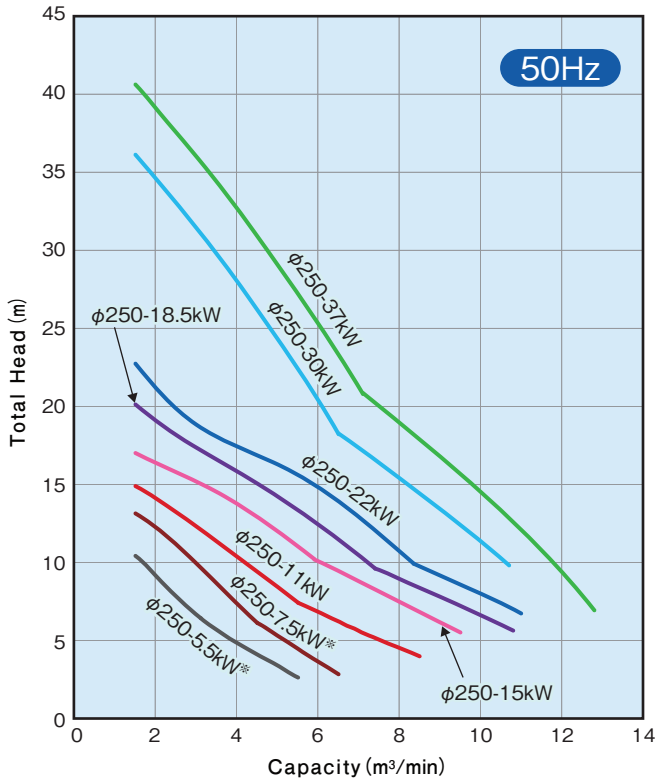
150mm discharge diameter



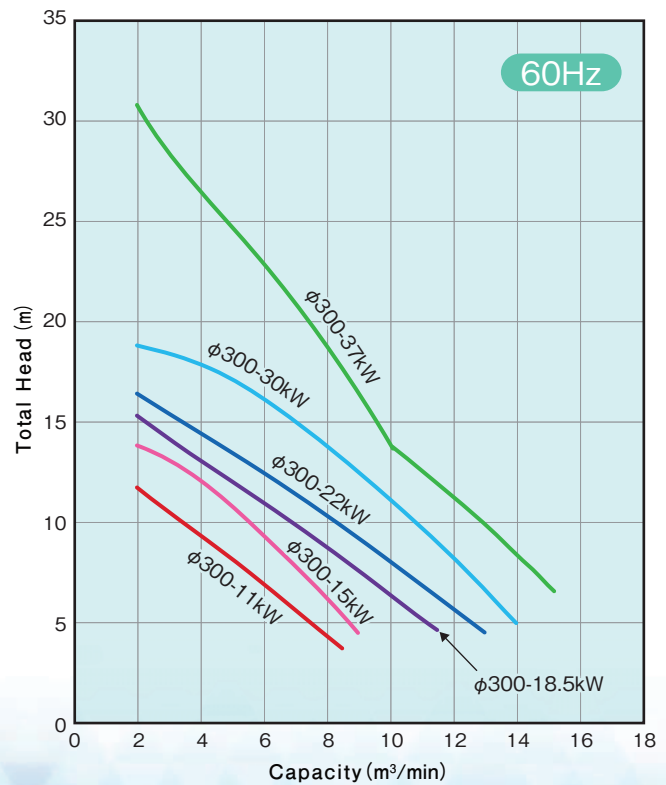
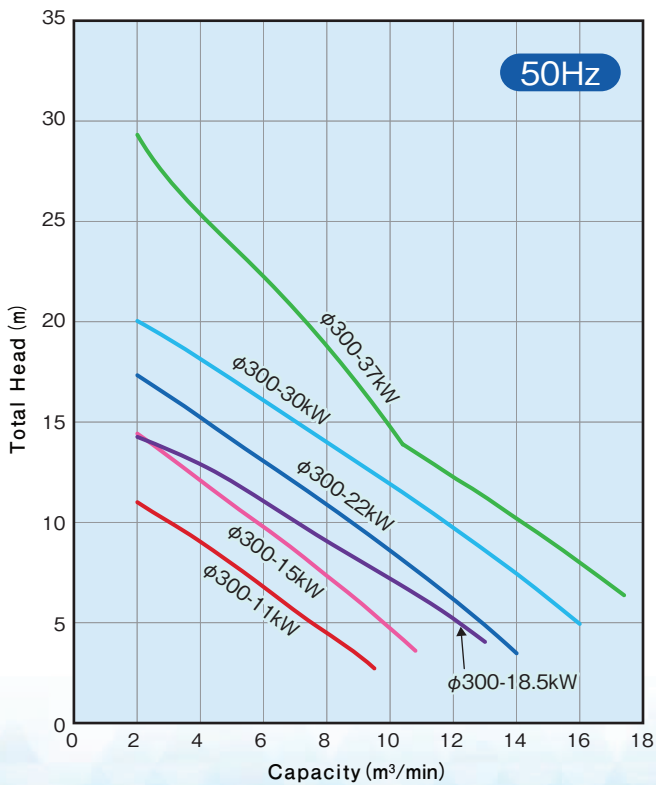
200mm discharge diameter



250mm discharge diameter



300mm discharge diameter



※5.5 & 7.5kW models :Natural cooling type only.

※Pump performance of the Closed-loop cooling type and the Natural cooling type are same. Please contact us for more information.

Liquid Level Regulators - All models are non-mercury structure for earth environment.

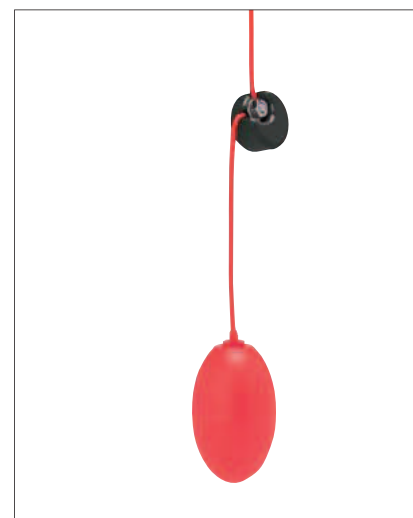
LC "Level Switch"



MS "Mini Switch"



FV "Oval Float"



Features

LC Useful for drinking water, waste water and sewage containing the suspended solids. Hardly affected by corrosion or rust even if it is immersed in a corrosive liquid for a long time.

MS Useful for waste water and sewage containing a few suspended solids. The MS is available in two types, MS11 (single float) and MS21 (double float).

FV Useful for the fresh water as well as waste water not containing suspended solids. A single FV is able to control both the upper and lower liquid levels.

Specifications

Model		LC12	MS11, MS21	FV11
Switch		Micro Switch	Lead Switch	Lead Switch
Specific gravity of liquid		0.95~1.15	0.95~1.10	0.95~1.10
Liquid Temp		0~60°C	0~40°C	0~60°C
Voltage		AC/DC30V or under		
Current		5A or under	0.5A or under	0.6A
Cable Length		6m, 13m, 20m, 30m, 40m, 50m (further cable extension at interval of 10m)		
Cable Type		0.75mm ² ×3 cores, Flat Type	0.2mm ² ×2 cores×φ4.7mm	0.5mm ² ×2 cores×φ5.8mm
Weight (including cable)		1.2kg (6m cable)	0.6kg (MS11, 6m cable)	1.0kg (6m cable)
Material	Case	Polypropylene resin	ABS resin	Polypropylene resin
	Cable	VCTFK	PVC resin (soft type)	PVC resin (soft type)
	Others	Chain: SUS304	Sinker: Cast iron with PVC resin coating	Sinker: Cast iron

Specifications and dimensions are subject to change without notice.

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ShinMaywa ONO PLANT

ISO 9001(No.956445)/ISO 14001(No.771888)

Printed on recycled paper.
 '16. 2 Z-W011 Printed in Japan 1.1 Ⓞ