

ShinMaywa

Submersible Pumps

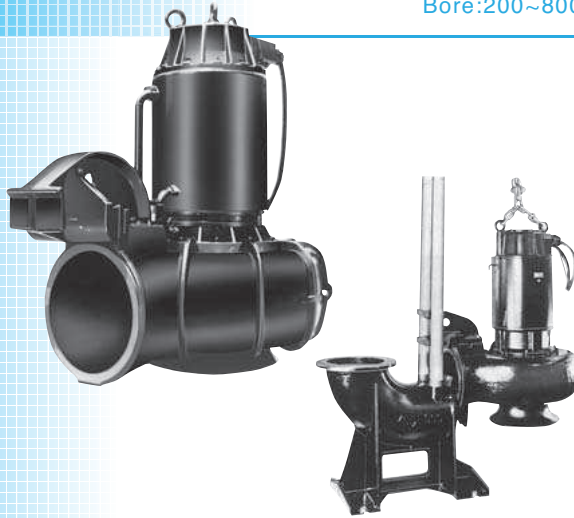
Large Size (Channel Impeller Type) CN Series



CN

CN Large Bore and Forced Cooling

Bore:200~800mm/Output:7.5~250kW



Guide rail installation type

The guide rail installation type CN-P pump is automatically detached from the discharge pipe by just pulling it up from the ground or automatically connected to the discharge pipe by just letting it down to the bottom of the pit along with the guide pipe.

Vertical wet/dry pit type with submersible motor

The vertical wet/dry pit type CNT pump is a stationary type sewage pump which can be installed outside the pit. The motor is always cooled during the operation by the differential pressure type forced cooling system. Since the pump is equipped with a submersible motor that features complete watertight construction, it can be used as it is even if the pump room is flooded with water. To obtain higher pump head, it is recommended to use the CN-P type pump in combination with this CNT pump for series operation.

※A portable type with detachable hoses is also available upon request.

CN Large Bore and Natural Cooling

Bore:200~400mm/Output:7.5~45kW

Guide rail installation type

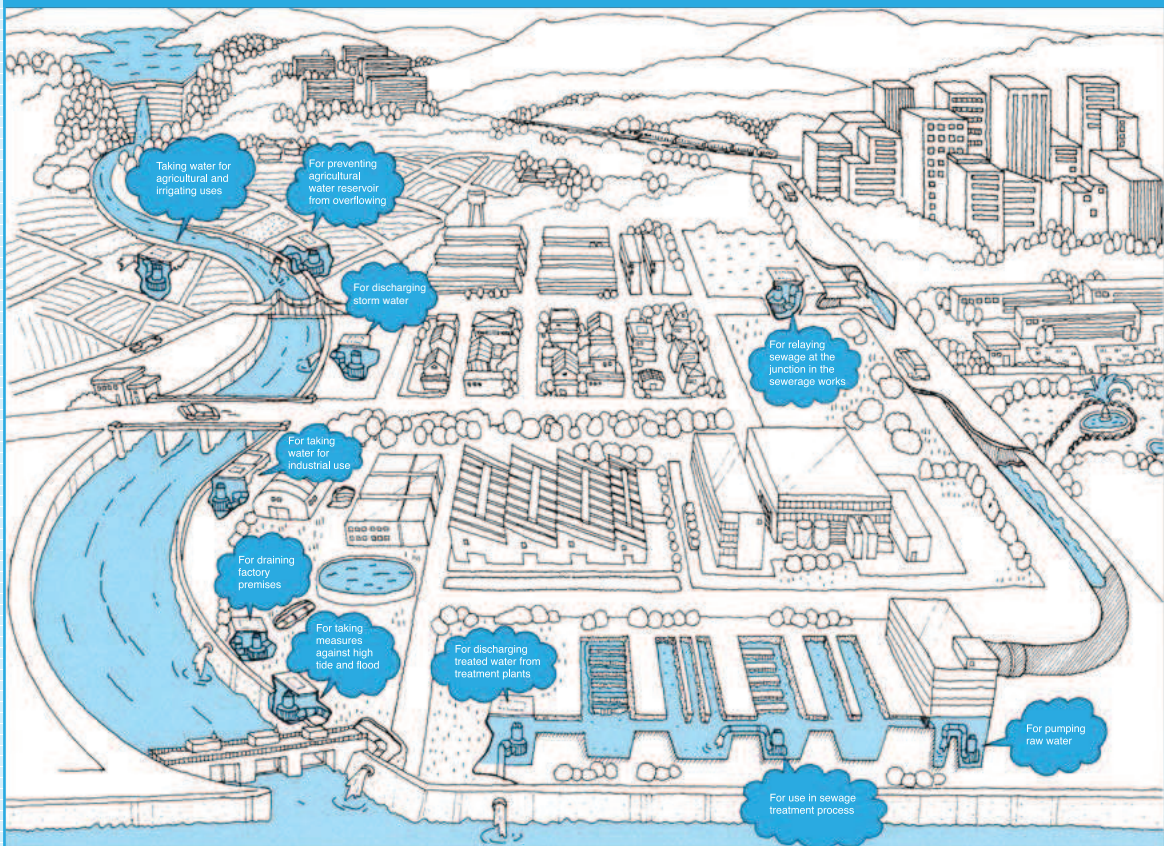
The guide rail installation type CN-P pump can be taken out of the pit by just pulling it up to the ground requesting no manual works inside the pit and then be automatically connected with the discharge pipe again by just letting it down to the bottom of the pit along with the guide pipe.

Free standing type

The free standing type CN-F pump is installed in the pit at the bottom and connected to the discharge pipe via flange.



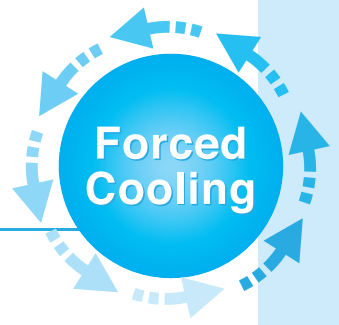
A wide variety of applications are self-evident for our customer's reliance on our submersible pumps



CN

- Built-in leakage detector
- Adoption of forced cooling system for motor

The minimum water level can be set lower.



● Motor protector

The normally closed thermal switches which are embedded in the stator windings positively prevents the motor from burning due to overloading, impeller clogging or open phase operation.

● Motor

Air-filled type submersible motor with Class E or F insulation is employed

● Forced cooling system

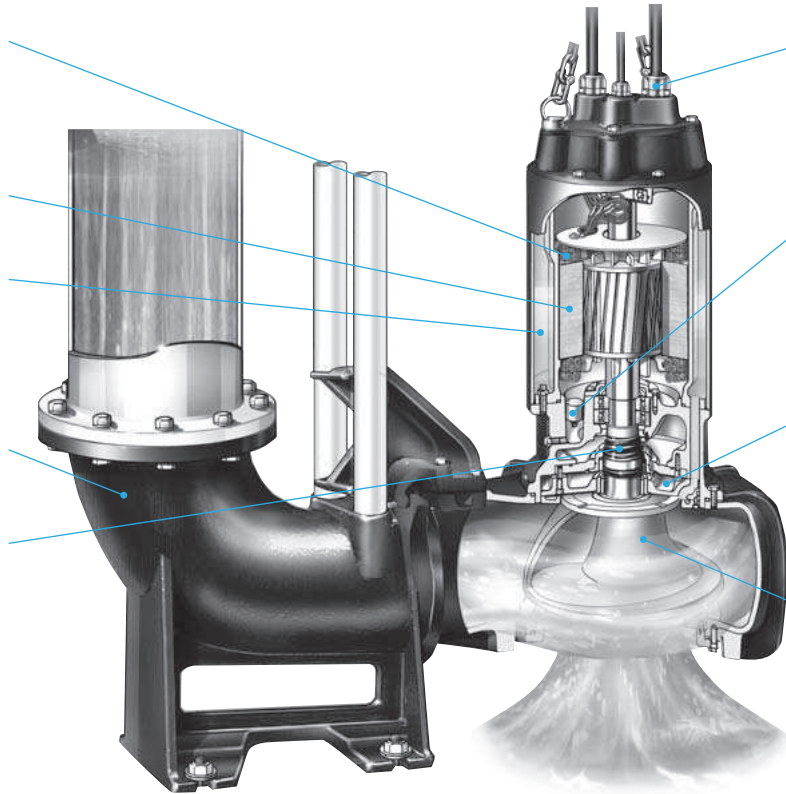
Motor is always cooled during the operation by the water surrounding the motor which is part of the pumped liquid and circulated by the differential pressure in the pump.

● Discharge connection

The submersible pump is automatically connected to the discharge pipe with the discharge connection.

● Shaft seal

A highly wear resistant upper and lower two stage double mechanical seal positively prevents the water from penetrating into the motor chamber.



● Cable entry

This cable entry employs a core seal that effectively prevents water from wicking down the cable even when the cable end is soaked or the cable sheath is damaged. This feature prevents water from penetrating the motor chamber.

● Leakage detector

The moisture detector is activated to cut off the power supply when the water or oil containing the moisture penetrates into the motor chamber thus preventing deterioration of the motor insulation.

● Pressure relief construction

The service life of the mechanical seal is remarkably extended because the high pressure pulsation flow generated by the impeller is fully relieved in here. (Applicable range : part of 18.5/22kW models and all models from 30kW and over)

● Impeller

Channel type impeller is specially adopted to prevent overloading at any permissible flow rate of the pump.

CN

- Lightweight
- Both free standing type and guide rail installation type are available.



● Motor protector

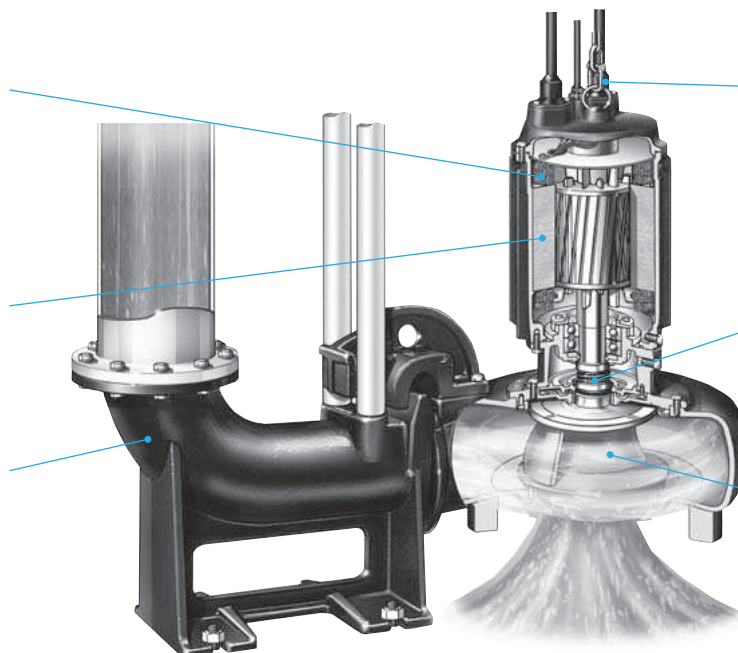
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● Motor

Air-filled type submersible motor with Class E or F insulation is employed.

● Discharge connection

The submersible pump is automatically connected to the discharge pipe with the discharge connection.



● Cable entry

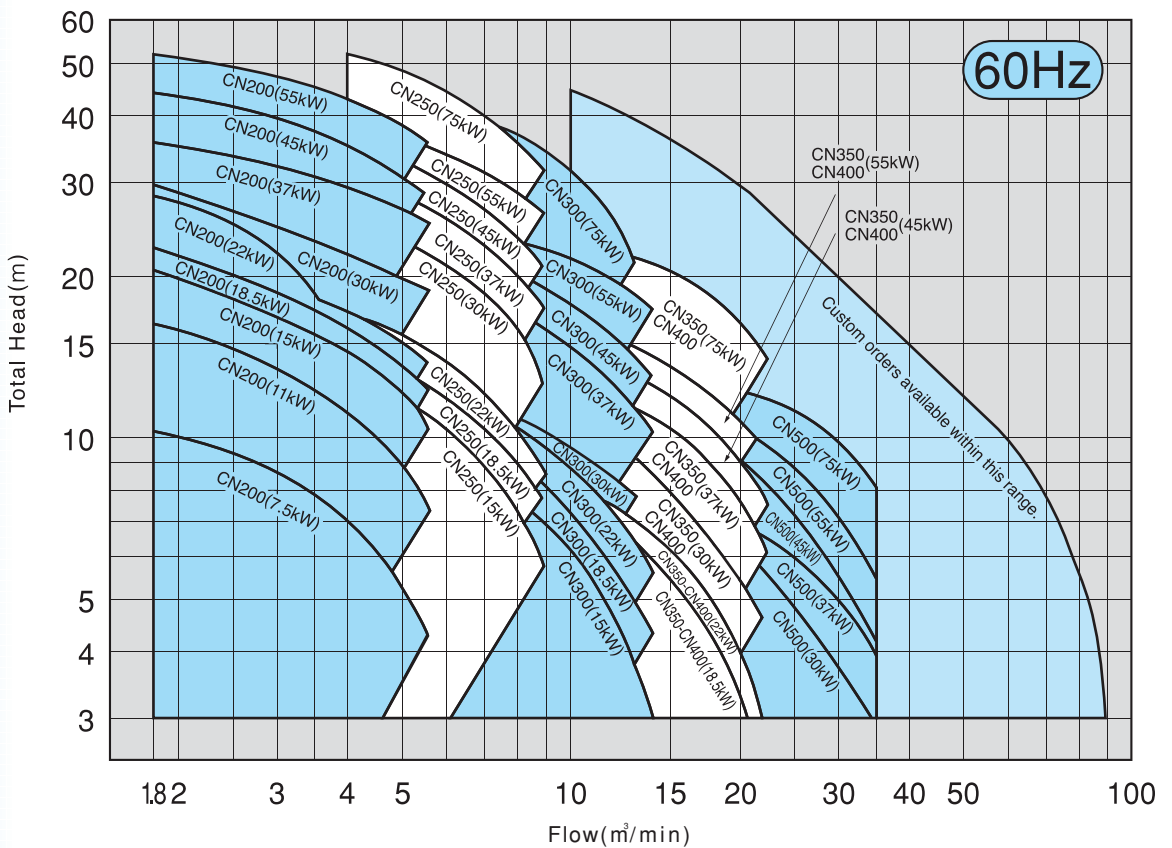
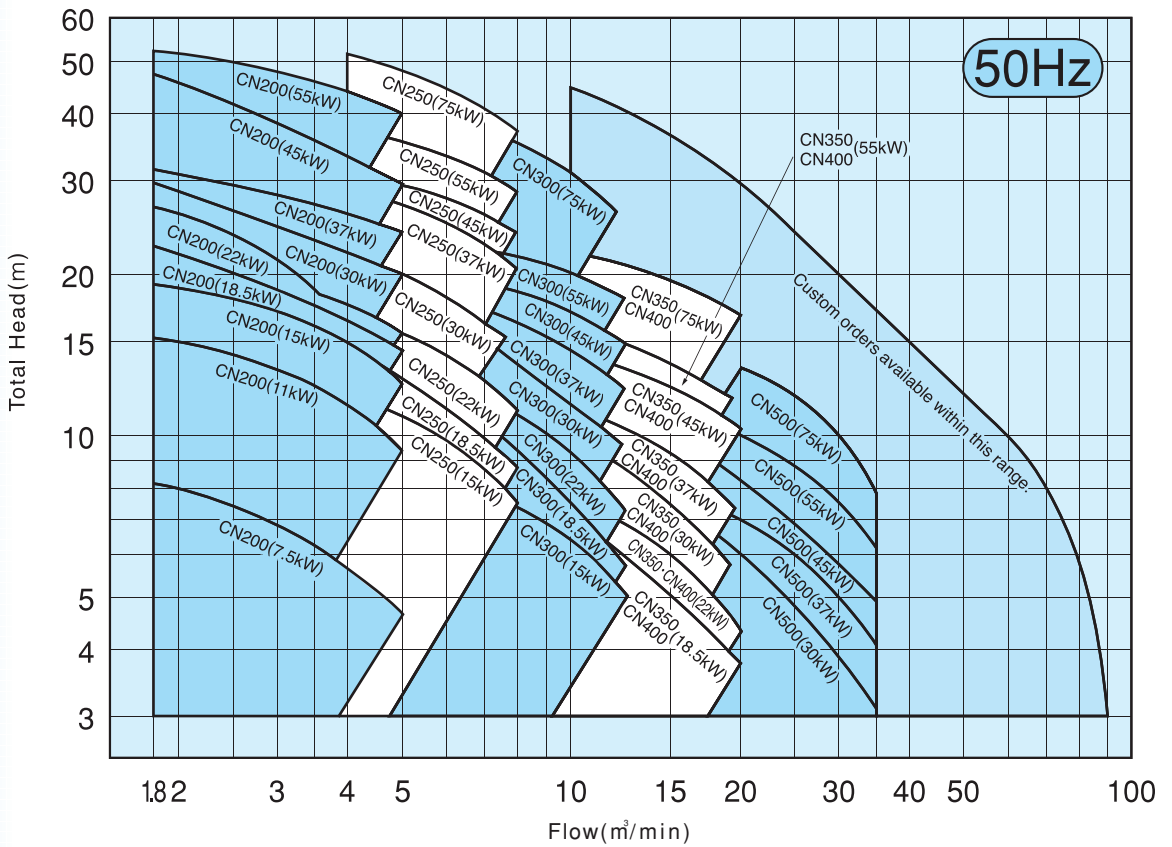
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● Shaft seal

A highly wear resistant upper and lower two stage double mechanical seal positively prevents the water from penetrating into the motor chamber.

● Impeller

Channel type impeller is specially adopted to prevent overloading at any permissible flow rate of the pump.



Standard Specifications

Bore mm	Pump Model	output kW	Solid Passage Dia.(Soft Solid)(mm) () : Impeller No.		No. of poles	Weight (kg)	Motor Insulation Class	Starting Method	Power Cable		Mechanical Seal	
			50Hz	60Hz					Material	Length(m)	Upper	Lower
200	CN200-P	7.5	(263DY) φ85	(215Y) φ60	6	400	E	Direct	2PNCT	8	SiC/SiC	Carbon/SiC
		11	(211A) φ65	(212) φ65	4	390					Carbon/Hard Metal	Hard Metal / Hard Metal
		15	(215) φ70	(216) φ60	4	410						
		18.5	(620Y) φ124	(630Y) φ110	6	540	F	Star-Delta				
			(610AY) φ123	(480Y) φ75	4							
		22	(470Y) φ75	(640) φ115	6							
			(640) φ113	(630) φ120								
			(630) φ120	(630) φ120								
			(620) φ124	(480) φ75								
		(610A) φ123	(470) φ75	4								
30	(251AY) φ75	(252AY) φ75	900									
37	(251A) φ75	(252A) φ75										
45	(205AY) φ40	(206AY) φ45										
55	(205A) φ40	(206A) φ45		930								
250	CN250-P	15	(259) φ90	(250) φ80	4	415	E	Star-Delta	2PNCT	8	Carbon/Hard Metal	Hard Metal / Hard Metal
		18.5	(253Y) φ80	(254Y) φ75	6	615						
		22	(253) φ80	(254) φ80								
		30	(251AY) φ70	(252AY) φ70	4	900	F					
		37	(251A) φ70	(252A) φ70								
		45	(255Y) φ65	(256Y) φ70								
		55	(255) φ65	(256) φ70								
75	(257B) φ60	(258A) φ60	1,440									
300	CN300-P	15	(315) φ115	(316) φ100	6	520	E	Star-Delta	2PNCT	8	Carbon/Hard Metal	Hard Metal / Hard Metal
		18.5	(321AY) φ95	(322AY) φ105		640						
		22	(321A) φ95	(322A) φ105								
		30	(301Y) φ130	(302AY) φ95		975						
		37	(301) φ130	(302A) φ95								
		45	(303) φ110	(304) φ140		1,040						
		55	(305) φ110	(306) φ105	1,280							
75	(307) φ80	(308) φ80	4	1,500								
350	CN350-P	18.5	(411Y) φ150	(412Y) φ135	8	1,090	F	Star-Delta	2PNCT	8	Carbon / SiC	Hard Metal / Hard Metal
		22	(411) φ150	(412) φ135								
		30	(351Y) φ135	(352Y) φ105	6	1,150						
		37	(351) φ135	(352) φ105								
		45	(353) φ140	(354) φ125								
		55	(405) φ150	(406) φ130								
75	(401) φ135	(402) φ120	1,930									
400	CN400-P	18.5	(411Y) φ150	(412Y) φ135	8	1,090	F	Star-Delta	2PNCT	8	Carbon / SiC	Hard Metal / Hard Metal
		22	(411) φ150	(412) φ135								
		30	(351Y) φ135	(352Y) φ105	6	1,150						
		37	(351) φ135	(352) φ105								
		45	(353) φ140	(354) φ125								
		55	(405) φ150	(406) φ130								
75	(401) φ135	(402) φ120	1,930									
500	CN500-P	30	(511Y) φ175	(511Y) φ175	50Hz:10	2,160	F	Star-Delta	2PNCT	8	Carbon / SiC	Hard Metal / Hard Metal
		37	(511) φ175	(511) φ175	60Hz:12							
		45	(505Y) φ180	(506Y) φ160	8	2,000						
		55	(505) φ180	(506) φ160								
75	(628Y) φ160	(614Y) φ150	8	2,400								

※Motor insulation class F also available
2PNCT : EPR insulated PCP sheathed cable

Standard Accessories

- Discharge connection (with bolts and nuts) ..1 set
- Guide holder (with bolts and nuts)1 set
- Sliding bracket1 set
- Cable (8m)3pcs.
- Lifting chain (6m).....1pc.

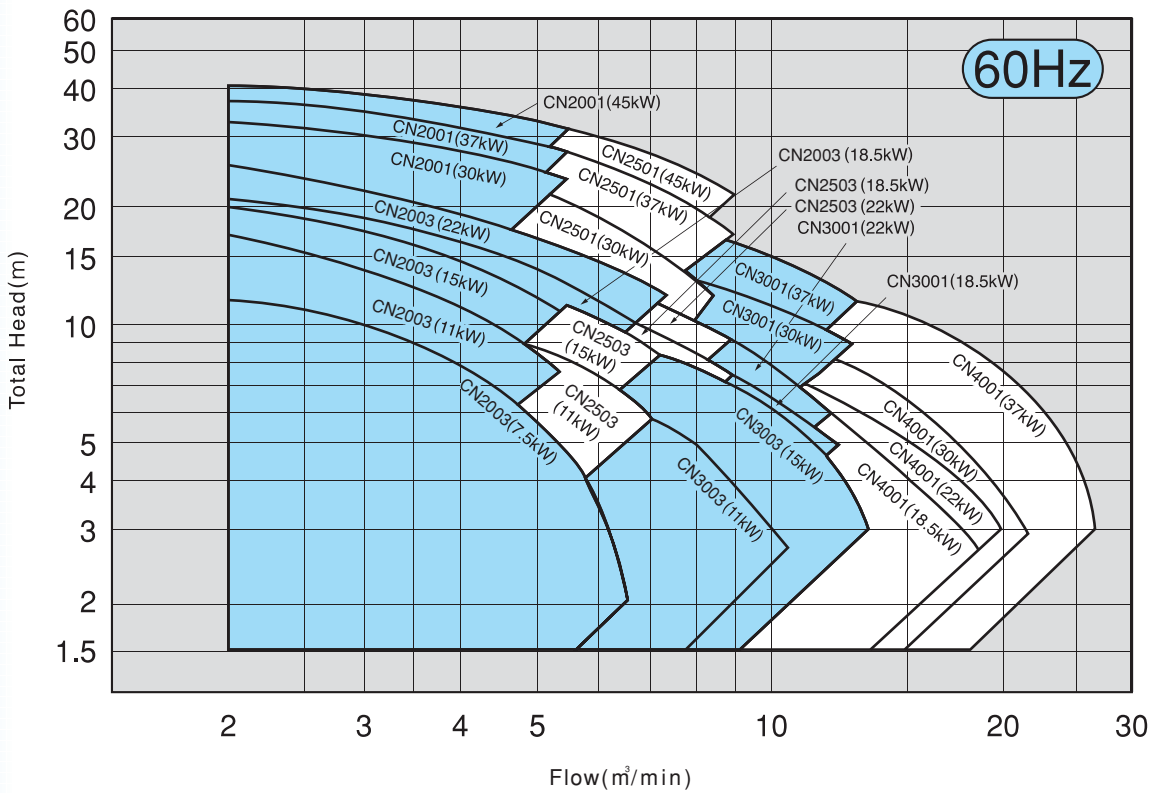
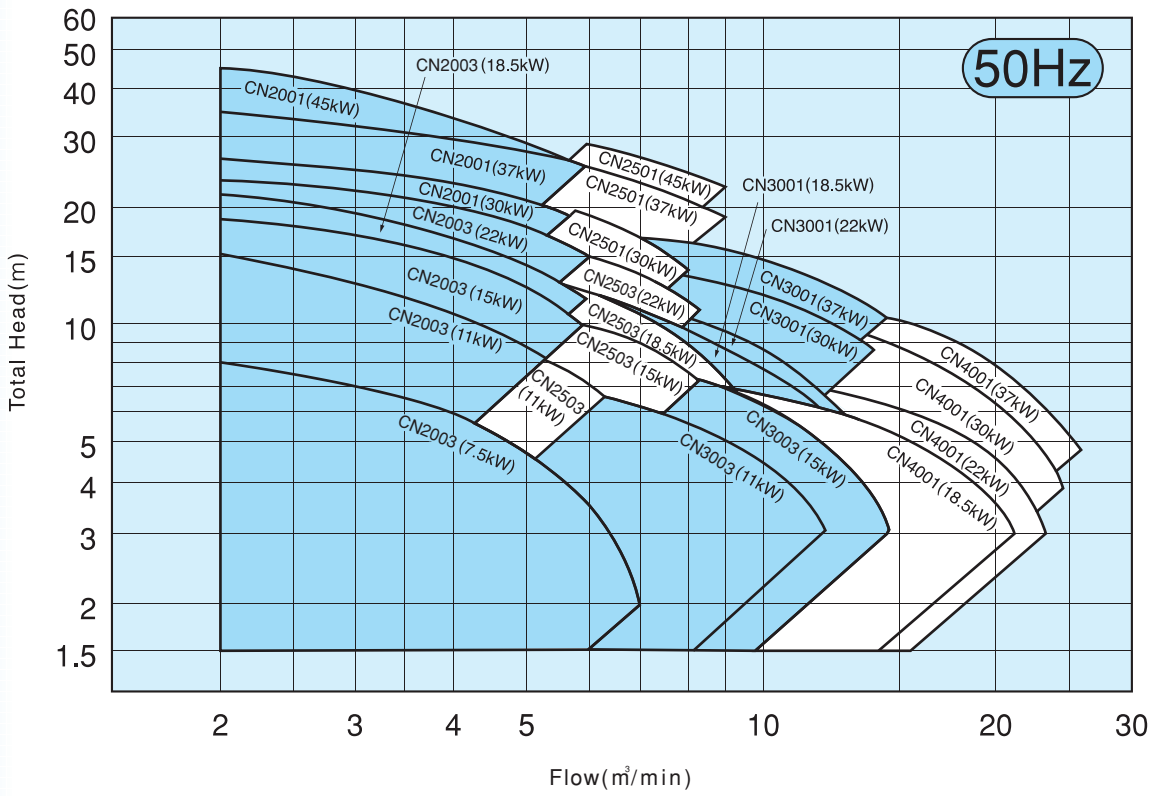
※7.5kW : Cable (8m)2pcs.

Weight of Discharge connection

Bore (mm)	Weight (kg)	Remarks
200	190(90)	():18.5·22kW
250	195	
300	215(250)	():37·45kW
350	310(400)	():75kW
400	310(400)	():75kW
500	830	



Performance Curves



Standard Specifications

Bore mm	Model		output kW	Solid Passage Dia.(Soft Solid)(mm) ():Impeller No.				No. of poles	Weight(kg)		Motor Insulation Class	Starting Method	Power Cable		Mechanical Seal Material	
	Guide Rail Installation	Free Standing		50Hz	60Hz	Guide Rail Installation	Free Standing		Material	Length(m)			Upper	Lower		
200	CN2003-P200G	CN2003-F200	7.5	(263DY) φ85	(A215Y) φ70	6	255	300	E	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			11	(A211A) φ65	(A212) φ50											
			15	(A215) φ70	(A216) φ50											
			18.5	(221DY) φ70	(222DY) φ55											
			22	(221D) φ70	(222D) φ55											
	CN2001-P	CN2001-F	30	(251AY) φ75	(252AY) φ75	4	650	730	F	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
37			(251A) φ75	(252A) φ75												
45			(205AY) φ40	(244A) φ45												
250	CN2503-P250G	CN2503-F250	11	(A211A) φ65	(A250Y) φ70	4	270	320	E	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			15	(A259) φ90	(A250) φ70											
			18.5	(263DY) φ85	(264DY) φ80											
			22	(263D) φ85	(264D) φ80											
	CN2501-P	CN2501-F	30	(251AY) φ70	(252AY) φ70	4	650	735	F	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			37	(251A) φ70	(252A) φ70											
45			(251B) φ65	(244A) φ70												
300	CN3003-P300G	CN3003-F300	11	(A315DY) φ115	(A316DY) φ90	6	370	435	E	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			15	(A315D) φ115	(A316D) φ90											
			22	(331D) φ95	(332D) φ70											
	CN3001-P	CN3001-F	18.5	(321AY) φ95	(322AY) φ100	6	790	895	F	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			22	(321A) φ95	(322A) φ100											
			30	(301Y) φ130	(302AY) φ95											
37			(301) φ130	(302A) φ95												
400	CN4001-P	CN4001-F	18.5	(411Y) φ150	(412Y) φ135	8	830	1,030	F	Star-Delta	2PNCT	8	Sic/Sic	Sic/Sic		
			22	(411) φ150	(412) φ135											
			30	(351Y) φ135	(352Y) φ105	6	850	1,090								
			37	(351) φ135	(352) φ105											

※Motor insulation class F also available
2PNCT : EPR insulated PCP sheathed cable

Standard Accessories

Guide rail installation

- Discharge connection (with bolts and nuts) ··· 1 set
- Guide holder (with bolts and nuts) ······· 1 set
- Sliding bracket ······················· 1 set
- Cable (8m) ························· 3 pcs.
- ※7.5kW : Cable (8m) ················· 2 pcs.
- Pump lifting chain (6m) ············· 1 pc.

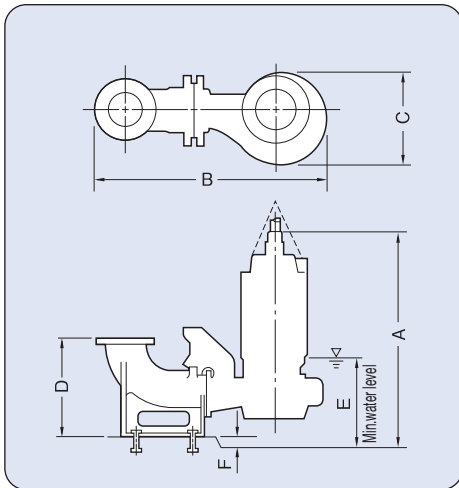
Free Standing

- Cable (8m) ······················· 3 pcs.
- ※7.5kW : Cable (8m) ··············· 2 pcs.

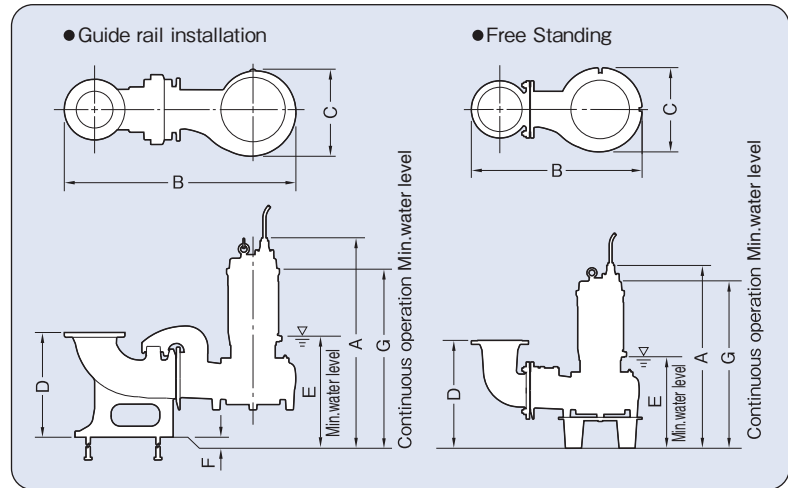
Weight of Discharge connection

Bore (mm)	Output (kW)	Weight (kg)
200	7.5~22	110
	30~45	120
250	11~22	160
	30~45	195
300	11~22	190
	18.5~37 (6P)	215
400	18.5~37	310

CN Forced Cooling



CN Natural Cooling



Pump Model	Output kW	A		B		C		D		E		F
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	
CN200-P	7.5	1,127	1,118	1,308	1,307	461	458	570	550	60	-	
	11 · 15	1,118	1,307	458								
	18.5 · 22	1,284	1,378	674								
	30 · 37	1,524	1,519	603								
	45 · 55	1,492	1,646	583								
CN250-P	15	1,145	1,391	461	663	650	75					
	18.5 · 22	1,307										
	30 · 37	1,542	1,602	603								
	45 · 55	1,519										
	75	1,662	1,729	583								
CN300-P	15	1,231	1,528	587	805	750	80					
	18.5 · 22	1,442										
	30 · 37	1,677	1,682	755								
	45	1,614										
	55	1,703										
CN350-P	18.5 · 22	1,747	1,847	819	910	1,000	70					
	30 · 37	1,825										
	45	1,762										
	55	1,851										
	75	2,165						2,133	857	870		
CN400-P	18.5 · 22	1,747	1,912	819	750	1,000	245					
	30 · 37	1,825										
	45	1,762										
	55	1,851										
	75	2,165						2,168	857	870		
CN500-P	30 · 37 · 45 · 55	2,389		997	1,220	1,300	155					
	75	2,434						1,500	200			

Pump Model	Output kW	A	B	C	D	E	F	G	
									50Hz
Guide rail installation	CN2003-P200G	7.5 · 11.15	974	1,260	474	570	550	-	880
		18.5 · 22	1,068						975
	CN2001-P	30 · 37	1,253	1,519	603	570	550	-	1,055
		45	1,344						609
	CN2503-P250G	11 · 15	1,000	1,327	505	563	650	75	900
		18.5 · 22	1,094						1,000
	CN2501-P	30 · 37	1,271	1,602	600	663	650	75	1,200
		45	1,347						1,300
	CN3003-P300G	11 · 15	1,181	1,433	604	775	750	45	1,090
		22	1,578						612
CN3001-P	18.5 · 22	1,482	1,682	755	805	750	80	1,395	
	30 · 37								
CN4001-P	18.5 · 22	1,630	1,912	819	750	1,000	245	1,540	
30 · 37									
Free Standing	CN2003-F200	7.5 · 11.15	999	1,021	504	645	550	-	905
		18.5 · 22	1,093						1,000
	CN2001-F	30 · 37	1,258	1,201	700	625	550	-	1,245
		45	1,334						1,320
	CN2503-F250	11 · 15	1,008	1,095	530	645	660	-	915
		18.5 · 22	1,101						1,005
	CN2501-F	30 · 37	1,258	1,275	700	625	660	-	1,245
		45	1,334						1,320
	CN3003-F300	11 · 15 · 22	1,159	1,232	604	703	730	-	1,070
	CN3001-F	18.5 · 22	1,368	1,381	755	723	730	-	1,355
30 · 37		1,444	1,430						
CN4001-F	18.5 · 22	1,660	1,631	934	1,295	1,000	-	1,645	
	30 · 37								

Please provide the following information with your inquiry on the pump:
 ● Actual and total pump head ● Flow rate ● Bore ● Intended uses

Specifications and dimensions are subject to change without notice.

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ShinMaywa ONO PLANT

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