

ShinMaywa

Submersible Pumps

Large Size (Non-Clogging Type) CN Series



CN

CN Large Bore and Forced Cooling

Bore:200~800mm/Output:7.5~75kW



Automatic connection type

The automatic connection 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 pump in direct-coupling.

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

CN Large Bore and Natural Cooling

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

Automatic connection type

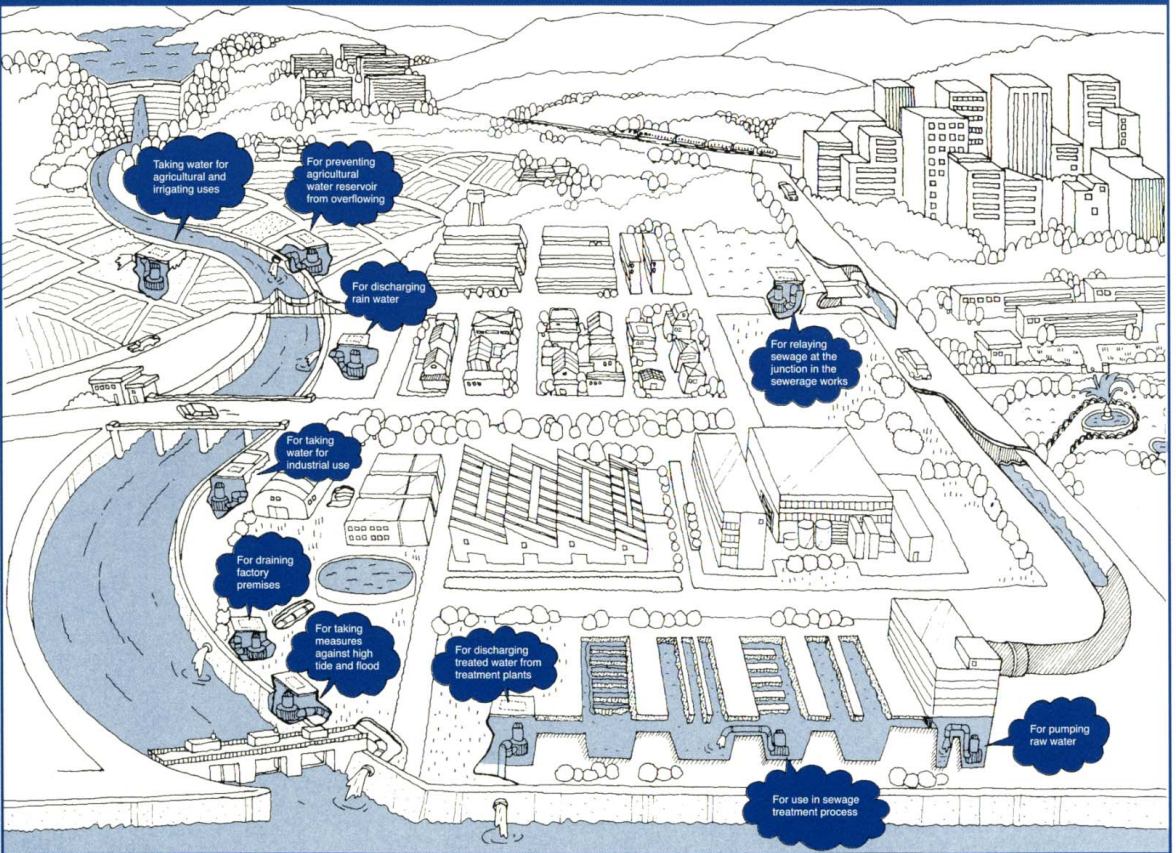
The automatic connection type CN-P pump can be taken out of the pit by just pulling it up to the ground requesting no manual works inside the pit and then be automatically connected with the discharge pipe again by just letting it down to the bottom of the pit along with the guide pipe.

Flange connection type

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



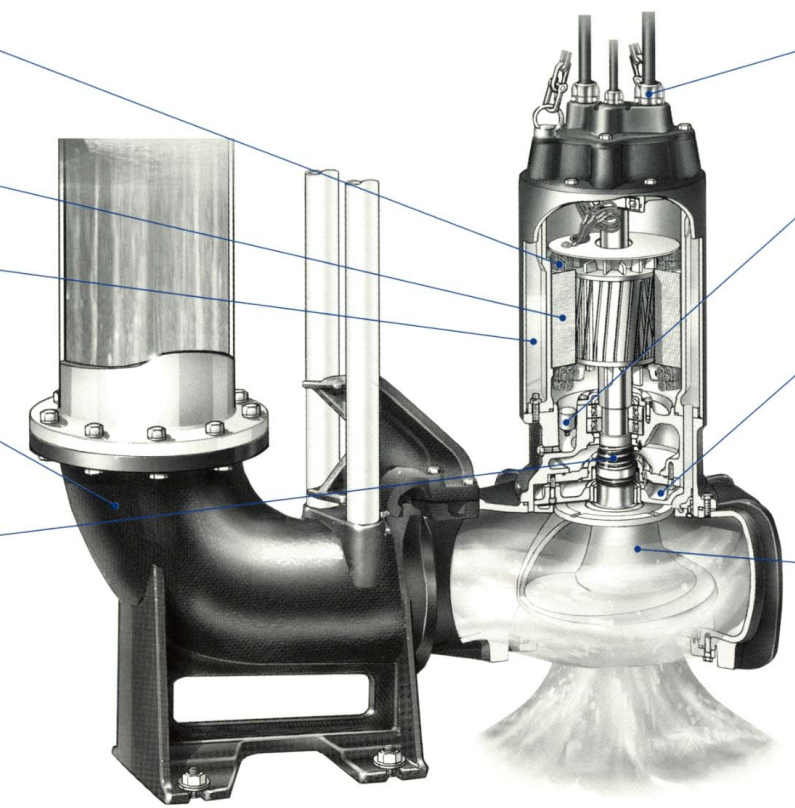
A wide variety of applications are self-evident for our customer's reliance on our submersible pumps



CN •Built-in moisture detector •Adoption of forced cooling system for motor

The minimum water level can be set low.

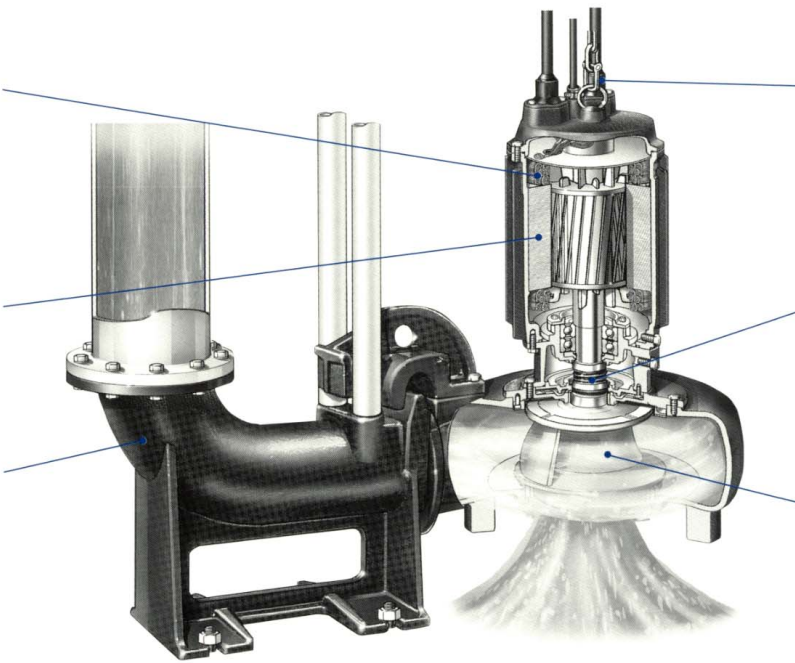
- **Micro-thermal protector**
The built-in micro-thermal protector (motor protector) positively prevents the motor from burning due to overloading, impeller clogging or open phase operation.
- **Motor**
Dry type motor with Class E or F insulation is employed.
- **Forced cooling system**
Motor is always cooled during the operation by the water surrounding the motor through which part of the sewage is allowed to pass by making good use of the pressure difference 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 outlet with core sealer**
The self-contained core sealer of the cable outlet shuts out the water from penetrating into the motor chamber through the core wires even if the cable tip is immersed in water or the sheath is damaged.
- **Moisture 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**
Non-clogging type impellers are specially adopted to prevent overloading at any permissible flow rate of the pump.

CN •Lightweight •Both flange connection type and automatic connection type are available.

- **Micro-thermal protector**
The built-in micro-thermal protector (motor protector) positively prevents the motor from burning due to overloading, impeller clogging or open phase operation.
- **Motor**
Dry type motor with Class E insulation is employed.
- **Discharge connection**
The submersible pump is automatically connected to the discharge pipe with the discharge connection.

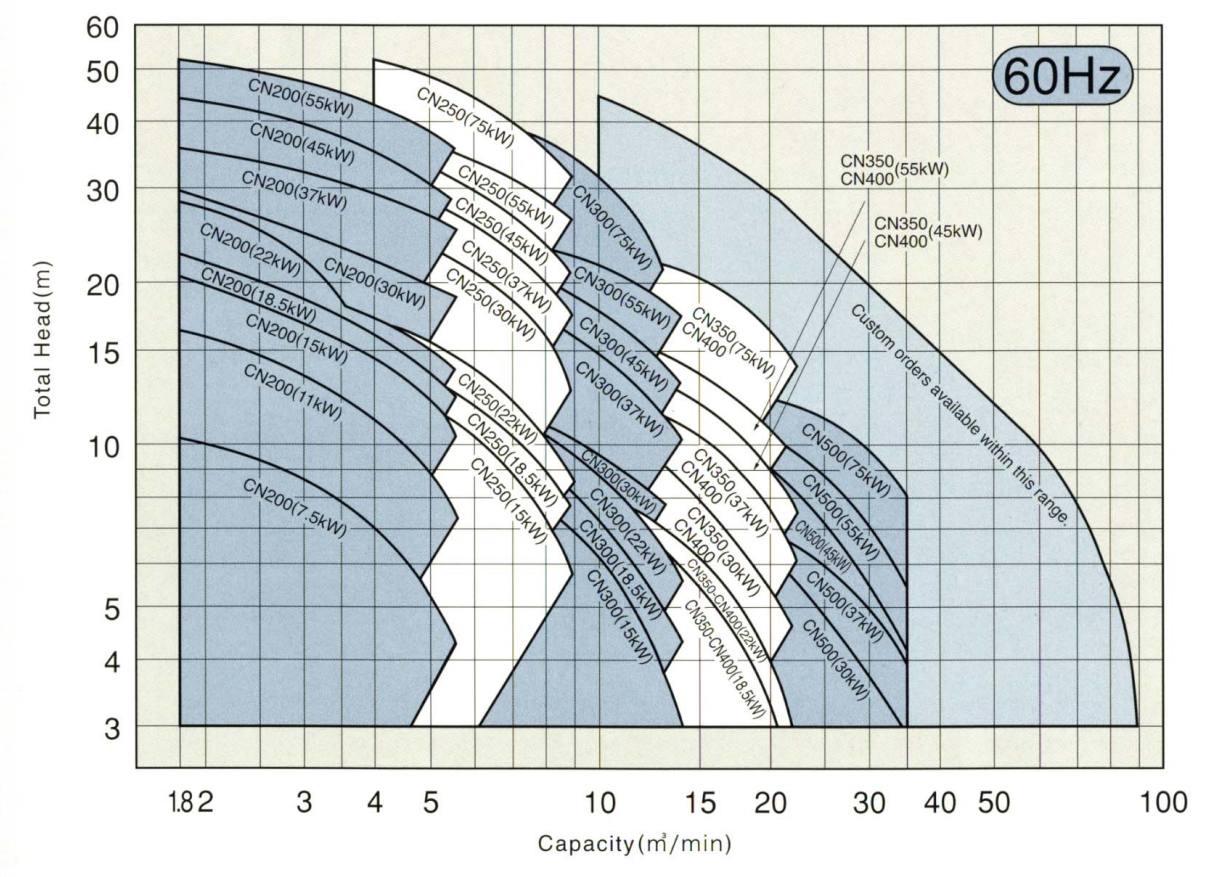
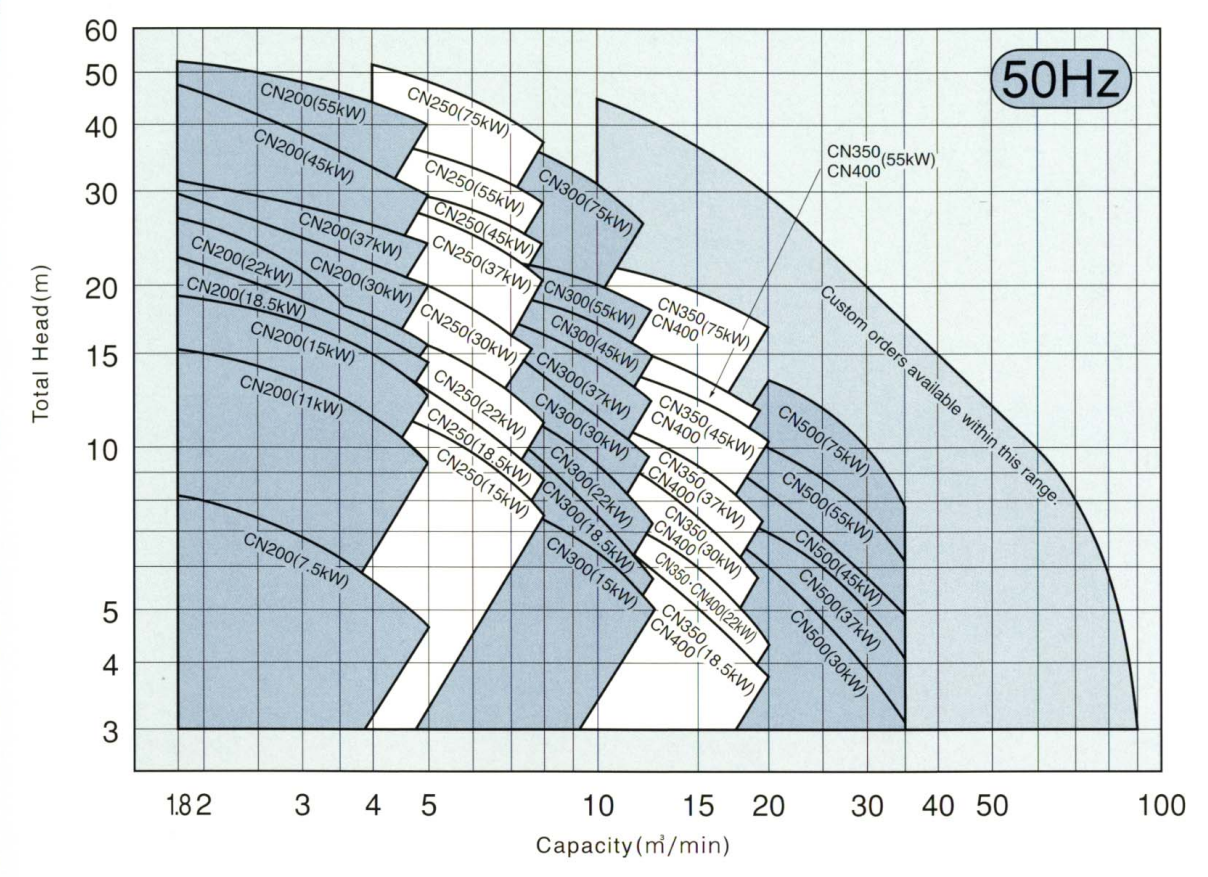


- **Cable outlet with core sealer**
The self-contained core sealer of the cable outlet shuts out the water from penetrating into the motor chamber through the core wires even if the cable tip is immersed in water or the sheath is damaged.
- **Shaft seal**
A highly wear resistant upper and lower two stage double mechanical seal positively prevents the water from penetrating into the motor chamber.
- **Impeller**
Non-clogging type impellers are specially adopted to prevent overloading at any permissible flow rate of the pump.





Performance Curves



Standard Specifications

Bore mm	Model	output kW	Impeller Passage Size(mm) () Impeller No.		Poles P	Weight kg	Motor Insulation Class	Actuating System	Power Cable		Mechanical Seal Material					
			50Hz	60Hz					Class	Length(m)	Upper	Lower				
200	CN200-P	7.5	(263DY) 110 × 70	(215Y) 85 × 70	6	400	E	Direct	2PNCT	8	SiC/SiC	Carbon/SiC				
		11	(211A) 95 × 65	(212) 95 × 65	4	390					Carbon/Hard Metal	Hard Metal/Hard Metal				
		15	(215) 85 × 70	(216) 75 × 60	6	410					Carbon/SiC					
		18.5	(620Y) 125 × 124	(630Y) 125 × 120	6	540						F	Star-Delta	2PNCT	8	Carbon/SiC
			(610AY) 125 × 123	(480Y) φ75	4											
			(640) 115 × 113	(640) 115 × 115	6											
			(630) 125 × 120	(630) 125 × 120	6											
		22	(620) 125 × 124	(630) 125 × 120	6	900					4	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal
			(610A) 125 × 123	(480) φ75	4											
			(470) φ75	(480) φ75	4											
(251AY) 75 × 100	(252AY) 75 × 75		4													
37	(251A) 75 × 100	(252A) 75 × 75	4	930	Star-Delta	2PNCT	8	Carbon/Hard Metal	Hard Metal/Hard Metal							
45	(205AY) 40 × 70	(206AY) 45 × 90	4													
55	(205A) 40 × 70	(206A) 45 × 90	4	930	Star-Delta	2PNCT	8	Carbon/Hard Metal	Hard Metal/Hard Metal							
15	(259) 115 × 90	(250) 100 × 80	4	415						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
18.5	(253Y) 80 × 110	(254Y) 80 × 90	6	615	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
22	(253) 80 × 110	(254) 80 × 90	6	615						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
30	(251AY) 70 × 95	(252AY) 75 × 70	4	900	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
37	(251A) 70 × 95	(252A) 75 × 70	4	940						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
45	(255Y) 65 × 110	(256Y) 70 × 95	4	940	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
55	(255) 65 × 110	(256) 70 × 95	4	940						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
75	(257B) 60 × 150	(258A) 60 × 120	4	1,440	Star-Delta	2PNCT	8	Carbon/Hard Metal	Hard Metal/Hard Metal							
15	(315) 145 × 115	(316) 130 × 100	6	520						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
18.5	(321AY) 175 × 95	(322AY) 140 × 105	6	640	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
22	(321A) 175 × 95	(322A) 140 × 105	6	640						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
30	(301Y) 180 × 130	(302AY) 135 × 95	6	975	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
37	(301) 180 × 130	(302A) 135 × 95	6	1,040						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
45	(303) 135 × 110	(304) 140 × 145	6	1,280	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
55	(305) 110 × 140	(306) 105 × 125	6	1,500						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
75	(307) 80 × 85	(308) 85 × 80	4	1,500	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
18.5	(411Y) 185 × 150	(412Y) 165 × 135	8	1,090						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
22	(411) 185 × 150	(412) 165 × 135	8	1,090	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
30	(351Y) 185 × 135	(352Y) 185 × 105	6	1,150						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
37	(351) 185 × 135	(352) 185 × 105	6	1,200	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
45	(353) 185 × 140	(354) 180 × 125	6	1,400						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
55	(405) 150 × 190	(406) 130 × 170	6	1,930	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
75	(401) 135 × 165	(402) 120 × 150	6	1,930						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
18.5	(411Y) 185 × 150	(412Y) 165 × 135	8	1,090	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
22	(411) 185 × 150	(412) 165 × 135	8	1,090						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
30	(351Y) 185 × 135	(352Y) 185 × 105	6	1,150	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
37	(351) 185 × 135	(352) 185 × 105	6	1,200						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
45	(353) 180 × 140	(354) 180 × 125	6	1,400	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
55	(405) 150 × 190	(406) 130 × 170	6	1,930						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
75	(401) 135 × 165	(402) 120 × 150	6	1,930	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
30	(511Y) 175 × 250	(511Y) 175 × 250	50Hz:10	2,160						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
37	(511) 175 × 250	(511) 175 × 250	60Hz:12	2,000	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
45	(505Y) 220 × 180	(506Y) 200 × 160	8	2,000						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		
55	(505) 220 × 180	(506) 200 × 160	8	2,000	Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal							
75	(628Y) 210 × 160	(614Y) 200 × 150	8	2,400						Star-Delta	2PNCT	8	Carbon/SiC	Hard Metal/Hard Metal		

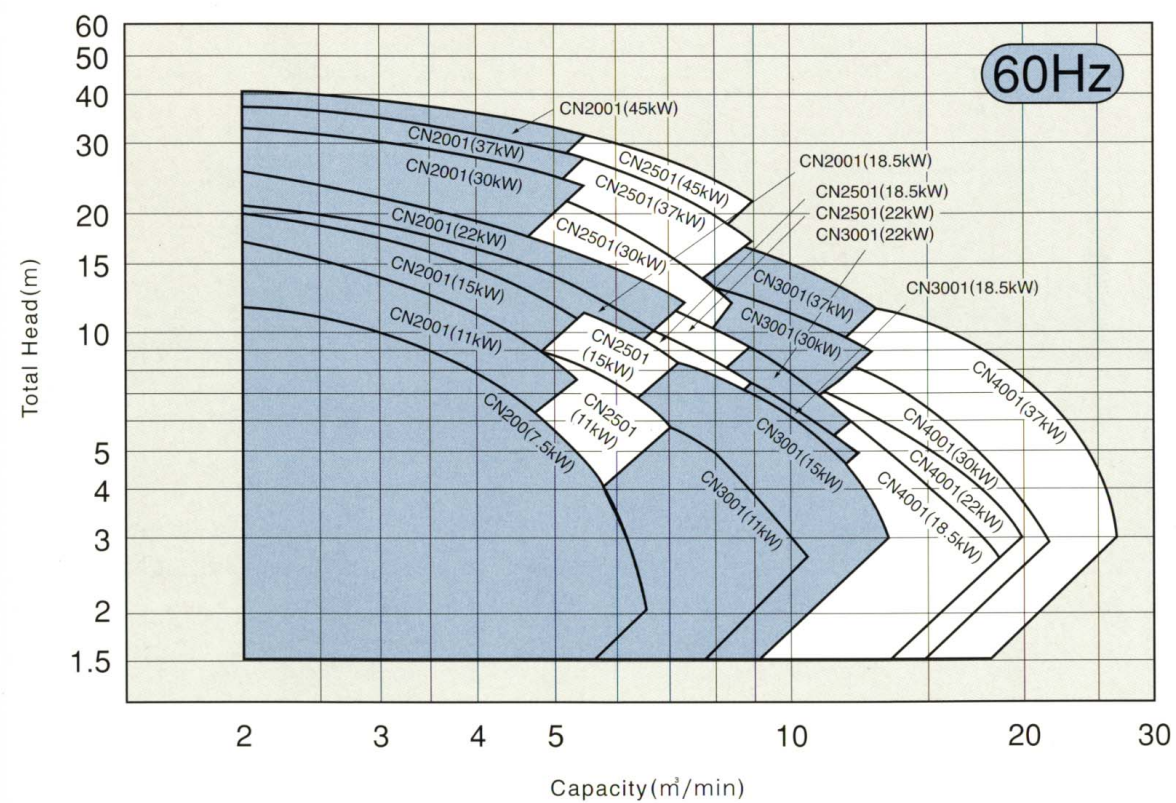
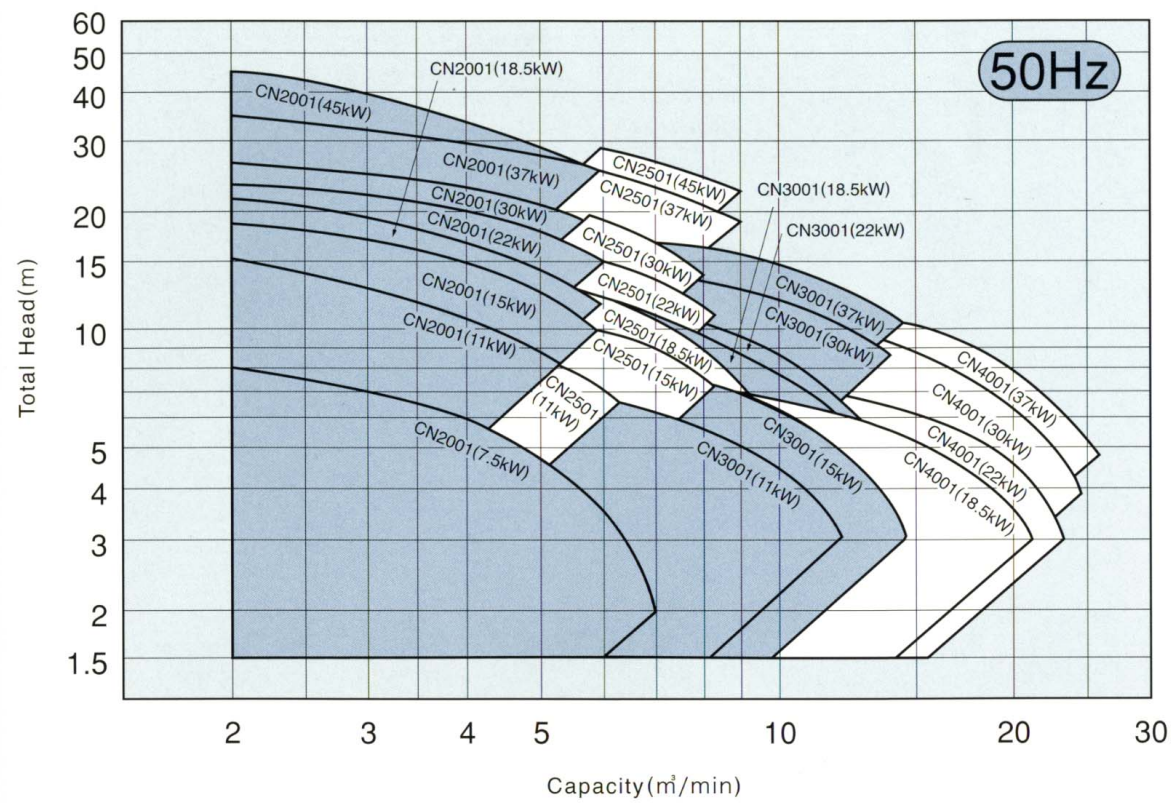
Standard Accessories

- Connection (with bolts and nuts)1set
- Guide holder (with bolts and nuts)1set
- Sliding bracket1set
- Cable (8m)3pcs.
- Pump lifting chain (6m)1pc.
- ※7.5kW:Cable (8m)2pcs.

Connection Weight		
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	Impeller Passage Size(mm) () : Impeller No.		Poles P	Weight(kg)		Motor Insulation Class	Actuating System	Power Cable		Mechanical Seal Material		
	Automatic Connection	Flange Connection		50Hz	60Hz		Automatic Connection	Flange Connection			Class	Length(m)	Upper	Lower	
200	CN2001-P	CN2001-F	7.5	(263DY) 110 × 70	(A215Y) 85 × 70	6	270	315	E	Star-Delta	2PNCT	8	SiC/SiC	SiC/SiC	
			11	(A211A) 95 × 65	(A212) 95 × 65	4	340	385							
			15	(A215) 85 × 70	(A216) 85 × 60										
			18.5	(221DY) 75 × 70	(222DY) 100 × 75										
			22	(221D) 75 × 70	(222D) 100 × 75										
			30	(251AY) 75 × 100	(252AY) 75 × 75										
			37	(251A) 75 × 100	(252A) 75 × 75										
45	(205AY) 40 × 70	(244A) 45 × 90	700	780											
250	CN2501-P	CN2501-F	11	(A211A) 115 × 90	(A250Y) 100 × 80	4	270	315	E	Star-Delta	2PNCT	8	SiC/SiC	SiC/SiC	
			15	(A259) 115 × 90	(A250) 100 × 80		275	325							
			18.5	(263DY) 115 × 85	(264DY) 100 × 90		345	395							
			22	(263D) 115 × 85	(264D) 100 × 90		650	735							
			30	(251AY) 70 × 95	(252AY) 75 × 70										
			37	(251A) 70 × 95	(252A) 75 × 70										
45	(251B) 65 × 110	(244A) 70 × 95	700	785											
300	CN3001-P	CN3001-F	11	(A315Y) 145 × 115	(A316Y) 130 × 100	6	385	450	E	Star-Delta	2PNCT	8	SiC/SiC	SiC/SiC	
			15	(A315) 145 × 115	(A316) 130 × 100		4	420							475
			18.5	(321AY) 175 × 95	(322AY) 140 × 105										
			22	(321A) 175 × 95	(322A) 140 × 105										
			30	(301Y) 180 × 130	(302AY) 135 × 95										
			37	(301) 180 × 130	(302A) 135 × 95										
400	CN4001-P	CN4001-F	18.5	(411Y) 185 × 150	(412Y) 165 × 135	8	830	1,030	E	Star-Delta	2PNCT	8	SiC/SiC	SiC/SiC	
			22	(411) 185 × 150	(412) 165 × 135		6	850							1,090
			30	(351Y) 185 × 135	(352Y) 185 × 105										
			37	(351) 185 × 135	(352) 185 × 105										

※Motor insulation class F also available

Standard Accessories

Automatic Connection

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

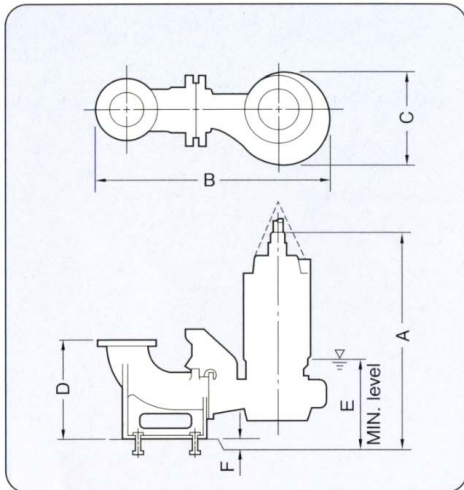
Flange Connection

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

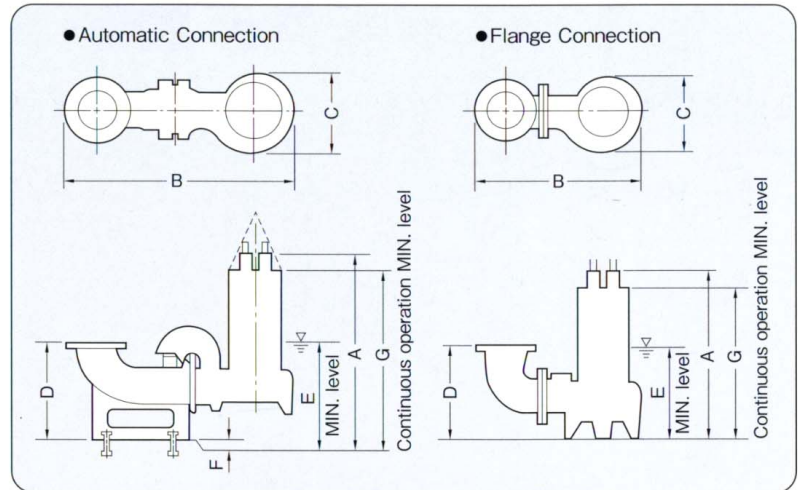
Connection Weight

Bore (mm)	Weight (kg)
200	120
250	195
300	215
400	310

CN Forced Cooling



CN Natural Cooling



Model	Output kW	A (mm)						D (mm)			E (mm)			F (mm)			
		50Hz	60Hz	50Hz	60Hz	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									
	11 · 15	1,118	1,307	458	60												
	18.5 · 22	1,284	1,378	674	555	550	60										
	30 · 37	1,524	1,519	603	570												
	45 · 55	1,492	1,646	583													
CN250-P	15	1,145	1,391	461	663	650	75										
	18.5 · 22	1,307		603													
	30 · 37	1,542	1,602	603													
	45 · 55	1,519															
	75	1,662	1,729	583			100										
CN300-P	15	1,231	1,528	587	805	750	80										
	18.5 · 22	1,442		755													
	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		270										
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		270										
CN500-P	30 · 37 · 45 · 55	2,389	2,485	997	1,220	1,300	155										
	75	2,434				1,500	200										

Model	Output kW	A (mm)						D (mm)			E (mm)			F (mm)			G (mm)					
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz			
Automatic Connection CN2001-P	7.5	974	1,364	478	570	550	-												880			
	11 · 15																					
	18.5 · 22	1,068																	975			
	30 · 37	1,253	1,519	603																1,055		
	45	1,344	1,519	609																1,215		
Automatic Connection CN2501-P	11 · 15	1,000	1,444	497	663	650	75													900		
	18.5 · 22	1,094																				
	30 · 37	1,271	1,602	603																1,000		
	45	1,347	1,602	603																	1,200	
	75	1,662	1,729	583																	1,300	
Automatic Connection CN3001-P	11 · 15	1,181	1,528	601	805	750	45	1,090														
	22[4P]																				1,675	603
	18.5 · 22[6P]	1,482	1,682	755																	80	
	30 · 37	1,482	1,682	755																		1,395
	45	1,344	1,519	609																		1,395
Automatic Connection CN4001-P	18.5 · 22	1,630	1,912	819	750	1,000	245	1,540														
	30 · 37																					
Flange Connection CN2001-F	7.5(50Hz)	1,008		527	645	550	-															
	7.5(60Hz)																				999	528
	11 · 15	999	1,021	508																	915	
	18.5 · 22	1,101	1,021	508																		905
	30 · 37	1,241	1,021	508																		1,000
45	1,334	1,021	508																		1,045	
Flange Connection CN2501-F	11 · 15	1,008	1,095	527	645	660	-															
	18.5 · 22	1,101																				
	30 · 37	1,258	1,275	700	625																915	
	45	1,334	1,275	700	625																	1,005
	75	1,662	1,729	583																		1,170
Flange Connection CN3001-F	11 · 15	1,159	1,227	601	703	730	-															
	22[4P]																					1,368
	18.5 · 22[6P]	1,368	1,381	755	723																1,070	
	30 · 37	1,444	1,381	755	723																	1,280
	45	1,334	1,021	508																		1,360
Flange Connection CN4001-F	18.5 · 22	1,660	1,631	934	1,295	1,000	-															
	30 · 37																					

Please let us know the following information when you have an inquiry on the pump;
 ●Actual and total pump head ●Capacity ●Bore ●Intended uses

Specifications and dimensions are subject to change without notice.

ShinMaywa Industries, Ltd.

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ShinMaywa ONO PLANT
 ISO 9001(No.956445)/ISO 14001(No.771888)