

ShinMaywa

Submersible Pumps

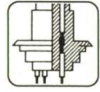
(Non-Clogging Type) CN/CNH·CNL Series



Features And Construction

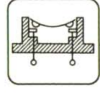
Cable outlet with core sealer

The self-contained core sealer of the cable outlet shuts the water out from penetrating into the motor chamber through the core wires even if the cable tip is immersed in water or the sheath is damaged.



Motor protector

A built-in automatic reset type motor protector (automatic cutoff or thermal protector) positively protects the motor from burnout due to overload, impeller clogging and open phase.

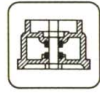


Motor

Dry type motor with Class E insulation is employed.

Shaft seal

A highly wear resistant silicon carbide double mechanical seal positively prevents the water from penetrating into the motor chamber. Besides, combined use of an oil seal further extends the service life of the mechanical seal.

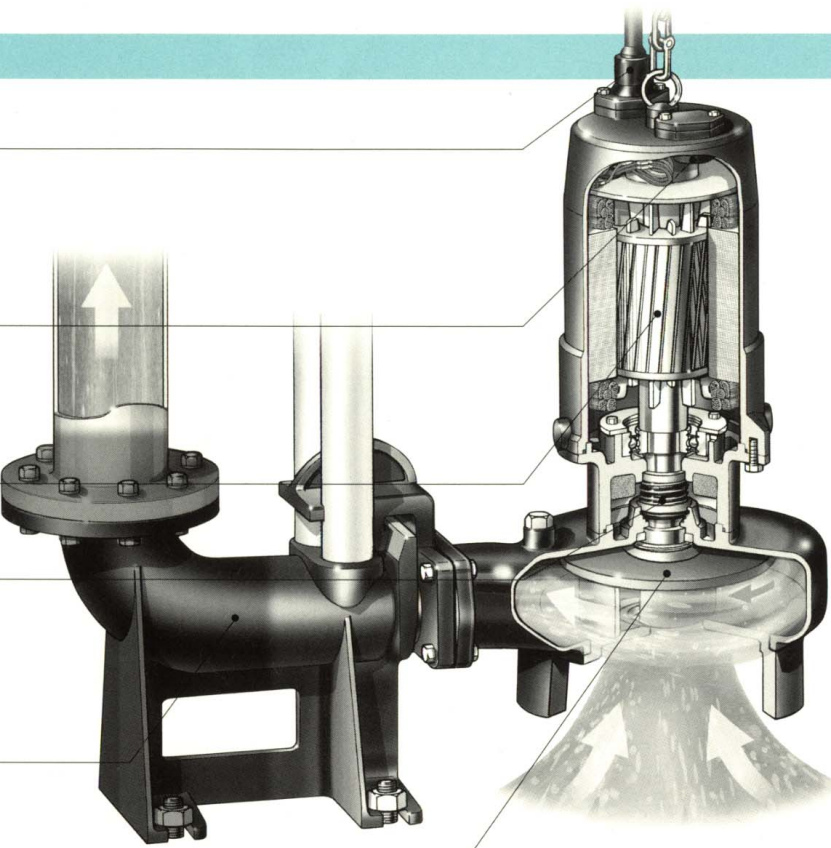


Discharge connection

When the automatic connection type submersible pump is lowered along with the guide pipe, the pump is automatically connected to the discharge pipe with the Discharge connection.

Impeller

Impellers most suitable for respective pump applications are employed. For example, the non-clogging type impellers are 100% subject to the dynamic and static balance adjustment at factory.



Semi-open type

CN40T-501(T)-651-80-100
CNL Series



Closed type

CNH100
CN150

An Improved Pump Efficiency and Non-clogging Operation

There are **MANY ADVANTAGES** with ShinMaywa Submersible Pump.

Uses

- For treatment processes at sewage treatment plants
- For relaying sewage at the junctions in the sewage works
- For drainage and sanitary equipment of buildings
- For discharging rain water or water from roads or the roads under elevated railroads or overpasses
- For industrial waste water treatment processes at factories, etc.

Main Specification

Handling Liquid	Kind of Liquid	Waste Water and Sewage including Sludge
Material	Cable	VCT(Over 11kW:2PNCT)
	Motor Shaft	SUS 420J2
	Pump Casing	Gray Cast Iron
	Impeller	Gray Cast Iron
Electric Motor	Type	Dry-type Submersible Induction Motor
	Insulation Class	Class E
	Enclosure	IP68
	Phase	Three Phase
	Voltage	According to the specifications

Special Specification

Cable Extension	Length of Cable 15·20·30m	
Material Change	Impeller	stainless steel casting or According to the specifications
	Base Cover	stainless steel (SUS304)
	Lifting Chain	stainless steel (SUS304)
Motor Protector	Micro-Thermal Protector Moisture Detector	
Starting Method	Star-delta Starting (5.5kW-7.5kW) (Over 11kW models are standard specifications)	
Insulation Class	Class F	

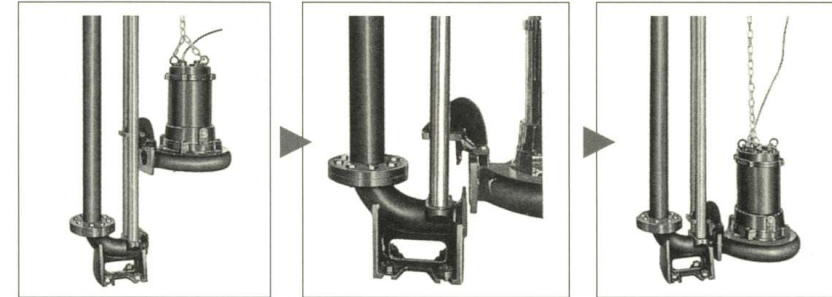
AUTOMATIC CONNECTION SIMPLIFIES MAINTENANCE



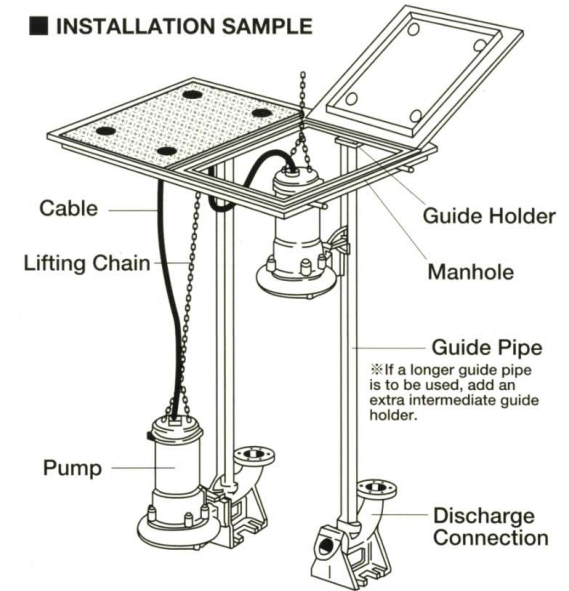
One of the main reasons why ShinMaywa submersible pumps are so popular in Japan is because ShinMaywa Industries, Ltd., a pioneer manufacturer of submersible pumps first introduced its original automatic connection type pumps into the country.

When the pump is lowered along with the guide pipe, it is automatically connected to the discharge pipe with discharge connection. To remove the pump, simply lift it up out of the tank. No bolt, nut and packing are required for the connection.

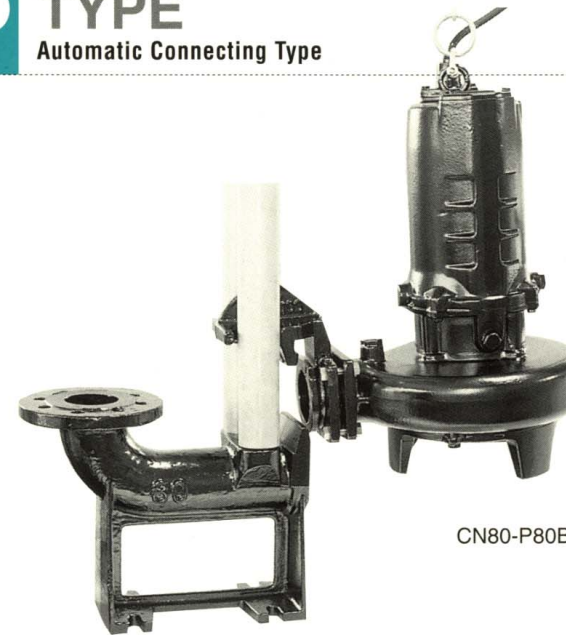
The automatic connection system has simplified the maintenance. It is not necessary to enter the tank or evacuate the tank for removing the pump or loosening or tightening the bolts.



INSTALLATION SAMPLE

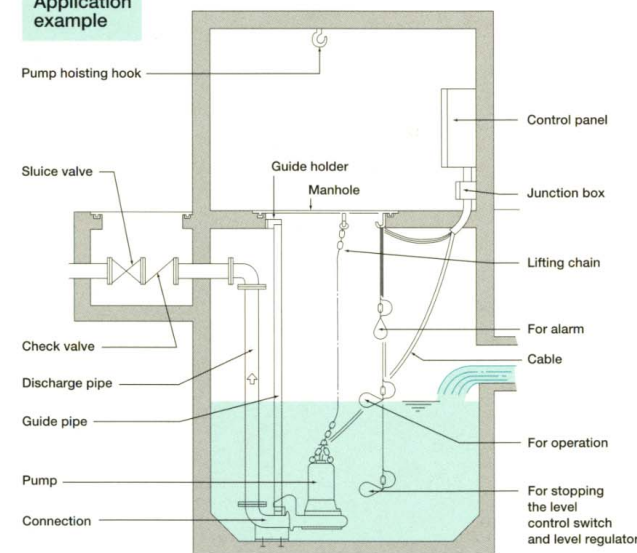


P TYPE Automatic Connecting Type



CN80-P80B

Application example

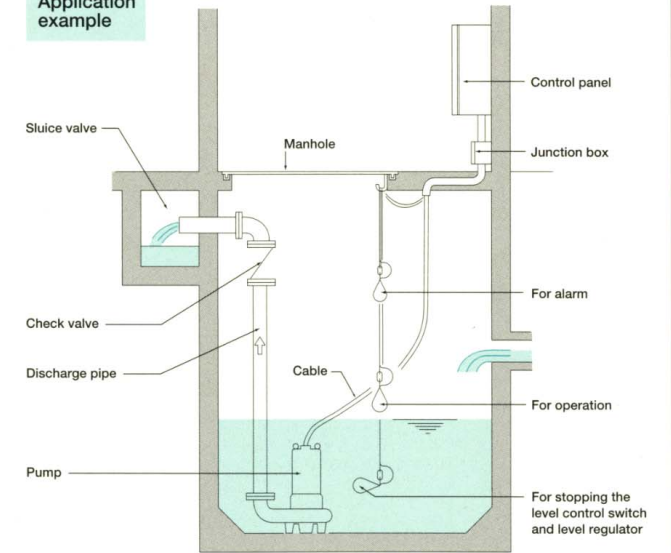


F TYPE Flange Connecting Type



CN80-F80

Application example



CN/CNH Series

<Bore> 40~150mm
<Output> 0.25~22kW
<Phase> 3ph



Standard Specifications

Bore mm	Pump Model	Connection Part No.		Out Put kW	Pole	Capacity-Total Head		Impeller Passage Size		Weight (Pump) kg
		Automatic connection	Flange connection			m ³ /min-m	m	50Hz	60Hz	
40	CN40T	P40	F40	0.25	2	0.1 - 5.5	0.1 - 5.5	φ23	φ23	15.5
50	CN501T	P50	F50	0.4	2	0.15 - 6.0	0.15 - 6.0	φ32	φ32	17
	CN501			0.75		0.2 - 8.2	0.2 - 7.5			18
65	CN501T	P65B	F65B	0.4	2	0.15 - 6.0	0.15 - 6.0	φ32	φ32	17
	CN501			0.75		0.2 - 8.2	0.2 - 7.5			18
	CN651			1.5		0.4 - 10.6	0.4 - 10.0			43×41
	CN80	P65	F65	2.2	4	0.8 - 8.4	0.8 - 8.6	54×60	53×60	58
				3.7		[1] 1.0 - 11.8	1.0 - 11.8	53×60	54×60	70
				[3] 0.8 - 14.4						
80	CN651	P80	F80	1.5	2	0.4 - 10.6	0.4 - 10.0	43×41	43×36	29
	CN80			2.2		0.8 - 8.4	0.8 - 8.6	54×60	53×60	58
	CN100			5.5		[1] 1.0 - 11.8	1.0 - 11.8	53×60	54×60	70
	P80B	F80	3.7	4	[1] 1.2 - 12.9	[2] 1.2 - 13.6	61×60	53×60	95	
			[3] 0.9 - 18.0		[4] 0.9 - 18.0	54×60	53×60			
			[1] 1.4 - 15.2		[2] 1.4 - 16.7	67×60	60×60	108		
100	CN80	P100B	F100	2.2	4	[3] 1.0 - 21.8	[4] 1.0 - 22.5	56×60	62×60	108
				3.7		[1] 1.0 - 11.8	1.0 - 11.8	53×60	54×60	70
				[3] 0.8 - 14.4						
	CN100	P100B	F100	5.5	4	[1] 1.2 - 12.9	[2] 1.2 - 13.6	61×60	53×60	95
				[3] 0.9 - 18.0		[4] 0.9 - 18.0	54×60	53×60		
				[1] 1.4 - 15.2		[2] 1.4 - 16.7	67×60	60×60	108	
CNH100	P100C	F100B	11	4	[3] 1.0 - 21.8	[4] 1.0 - 22.5	56×60	62×60	108	
			15		1.57 - 22	1.58 - 22	60×54	56×54	216	
			22		1.9 - 26	1.86 - 26	69×54	60×55	230	
150	CN150	P150	F150	5.5	4	1.8 - 35	1.96 - 35	75×55	65×58	290
				7.5		2.0 - 10	1.96 - 10	70×80	65×80	122
				11		2.48 - 12	2.33 - 12	75×85	70×80	134
				15		2.54 - 16	2.6 - 16	64×100	57×100	215
				22		2.87 - 19	3.0 - 19	70×95	62×100	228
						3.6 - 22	3.86 - 22	76×100	62×105	326

*Starting method: Direct-on-line (7.5kW or under), Star-delta (11kW or over). (Note) Specify both pump model and connection part No. to contact our dealer.

Standard Accessories

•Cable (under 7.5kW) 1pc. 6m for under 0.75kW
(over 11kW) 3pcs. 8m for over 1.5kW

Automatic Connection Set

•Connection
•Guide holder (with bolts and nuts)
•Sliding bracket
•Pump lifting chain (6m)

Bore mm	Connection Part No.	Set Weight kg	Connection Weight kg
40	P40	11	4.5
50	P50	11	4.5
65	P65B	20	14.5
	P65	24	15
80	P80B	31.5	18
100	P100B	40.5	27
	P100C	55	37
150	P150	60	42

Flange Connection Set

•Discharge side flange
•Companion flange (with bolts, nuts and packing)

Bore mm	Connection Part No.	Set Weight kg
40	F40	☆
50	F50	☆
65	F65B	5.5
	F65	7
80	F80	9.5
100	F100	11
	F100B	12
150	F150	30

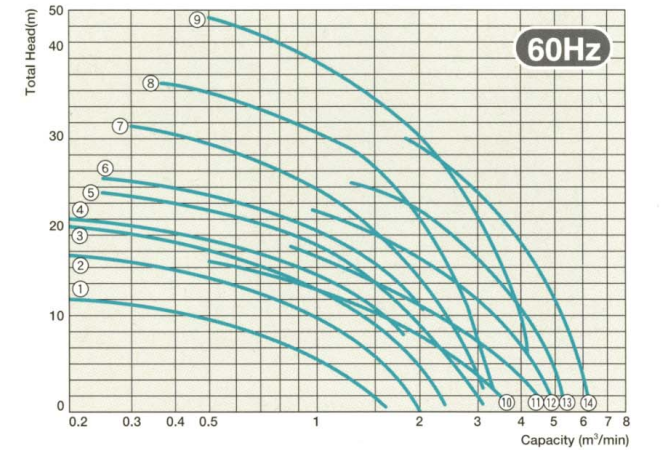
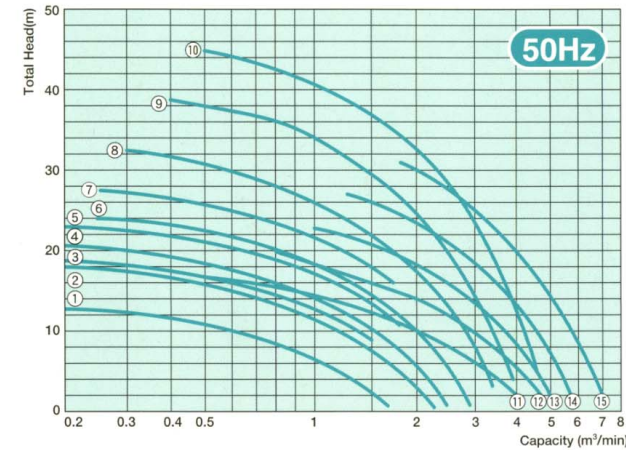
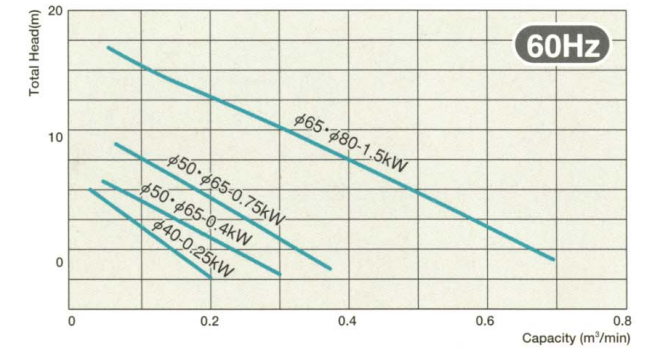
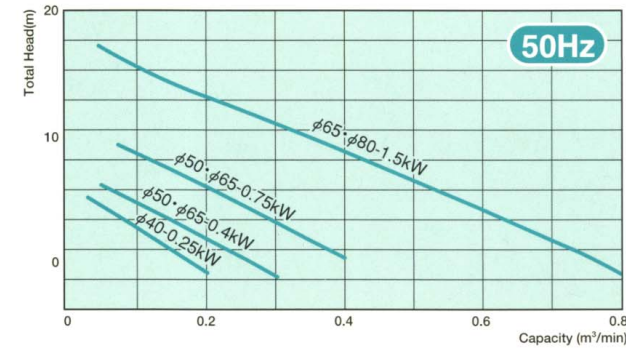
☆Built-in with the pump proper.

Packing Size

Model	Length mm	Width mm	Height mm	
CN40T	285	205	475	
CN501T				
CN501	280	195	460	
CN651	550	260	295	
CN80	2.2kW	440	388	655
	3.7kW	470	410	727
CN100	545	455	788	

* If you would like to know packing size of CNH100 and CN150, please contact to our local sales agent.

Performance Curves

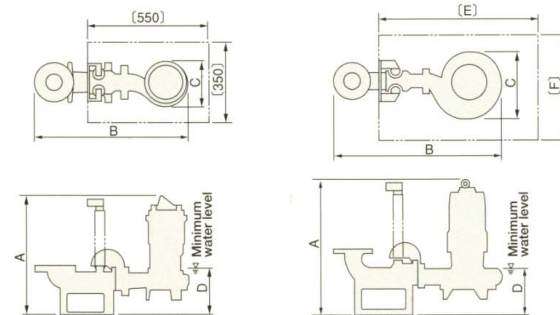


- ① CN80 #65-#80-#100-2.2kW
② CN80 #65-#80-#100-3.7kW (1)
③ CN80 #65-#80-#100-3.7kW (3)
④ CN100 #80-#100-5.5kW (1)
⑤ CN100 #80-#100-5.5kW (3)
⑥ CN100 #80-#100-7.5kW (1)
⑦ CN100 #80-#100-7.5kW (3)
⑧ CNH100 #100-11kW
⑨ CNH100 #100-15kW
⑩ CNH100 #100-22kW
⑪ CN150 #150-5.5kW
⑫ CN150 #150-7.5kW
⑬ CN150 #150-11kW
⑭ CN150 #150-15kW
⑮ CN150 #150-22kW
(): Number of impeller

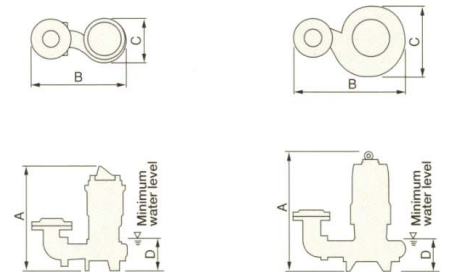
- ① CN80 #65-#80-#100-2.2kW
② CN80 #65-#80-#100-3.7kW
③ CN100 #80-#100-5.5kW (2)
④ CN100 #80-#100-5.5kW (4)
⑤ CN100 #80-#100-7.5kW (2)
⑥ CN100 #80-#100-7.5kW (4)
⑦ CNH100 #100-11kW
⑧ CNH100 #100-15kW
⑨ CNH100 #100-22kW
⑩ CN150 #150-5.5kW
⑪ CN150 #150-7.5kW
⑫ CN150 #150-11kW
⑬ CN150 #150-15kW
⑭ CN150 #150-22kW
(): Number of impeller

Dimensions

Automatic Connection



Flange Connection



Pump Model	Connection Parts No.	Output kW	A	B	C	D	E	F	
CN40T	P40	0.25	431	431	164	180	550	350	
CN501T	P50	0.4-0.75	460	447	170	180	550	350	
			460	520					
CN651	P65	1.5	530	663	192	215	550	350	
			570	739		255			
CN80	P65	2.2	580	754		220			
			620	830	292	260	600	500	
	P80B	3.7	682	849	331	260	700	600	
			682	862					
CN100	P80B	5.5	710	907		260	700	600	
			710	920	335				
			745	922	387				
CNH100	P100C	11	861	1110	486	335	900	700	
			15	955	1132	529			
			22	955	1132	529			
CN150	P150	7.5	779	1094	400	325			
			814						
			871	1148	450	345	900	700	
			11-15	871	1148	450	345		
			22	967	1188	489	345		

Pump Model	Connection Parts No.	Output kW	A	B	C	D	
CN40T	F40	0.25	377	233	164	125	
CN501T	F50	0.4-0.75	414	249	170	135	
			414	344			
CN651	F65	1.5	454	418	192	140	
			454	433			
			509				
CN80	F65	2.2	550	524	292	190	
			550	541			
	F80	3.7	612	543	331		
			612	560			
CN100	F80	5.5	640	601	335	190	
			640	618			
			675	616	387		
CNH100	F100B	11	782	848	486	256	
			15	876	870		529
			22	876	870		529
			5.5	713	836		400
CN150	F150	7.5	748	836	400	260	
			804	890	450	280	
			11-15	804	890	450	280
			22	915	930	489	295

CNL Series

<Bore> 50~80mm

<Output> 0.25~1.5kW

<Phase> 3ph

**Built-in Chopper
4 Poles type**



CNL501-P50



CNL501-F50

Standard Specifications

Bore mm	Pump Model	Connection Part No.		Out Put kW	Pole	Capacity-Total Head		Impeller Passage Size		Weight (Pump) kg
		Automatic connection	Flange connection			m ³ /min-m		mm × mm		
						50Hz	60Hz	50Hz	60Hz	
50	CNL501	P50	F50	0.25	4	0.17 - 4	0.17 - 4.4	34 × 30	28 × 32	19
				0.4		0.25 - 4.5	0.24 - 4.5	35 × 35	28 × 40	26
				0.75		0.34 - 6.5	0.34 - 6.5	44 × 40	34 × 42	27
65	CNL501	P65B	F65B	0.4	4	0.25 - 4.5	0.24 - 4.5	35 × 35	28 × 40	26
				0.75		0.34 - 6.5	0.34 - 6.5	44 × 40	34 × 42	27
				1.5		0.6 - 7.4	0.6 - 7.8	51 × 48	39 × 53	45
80	CNL651	P80	F80	1.5	4	0.6 - 7.4	0.6 - 7.8	51 × 48	39 × 53	45

Standard Accessories

• Cable 1pc. 6m for under 0.75kW 8m for 1.5kW

Automatic Connection Set

• Connection • Sliding bracket
• Guide holder (with bolts and nuts) • Pump lifting chain (6m)

Bore mm	Connection Part No.	Set Weight kg	Connection Weight kg
50	P50	11	4.5
65	P65B	20	14.5
	P65	24	15
80	P80	31.5	20.5

Flange Connection Set

• Discharge side flange
• Companion flange (with bolts, nuts and packing)

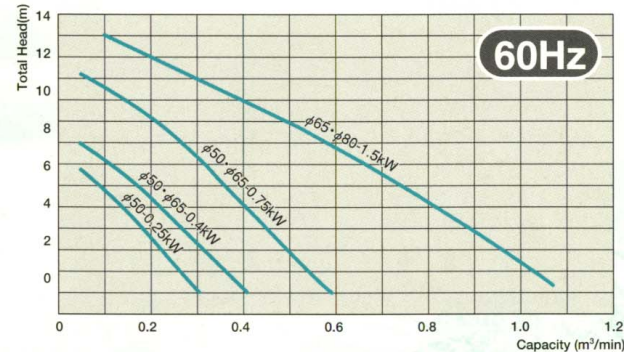
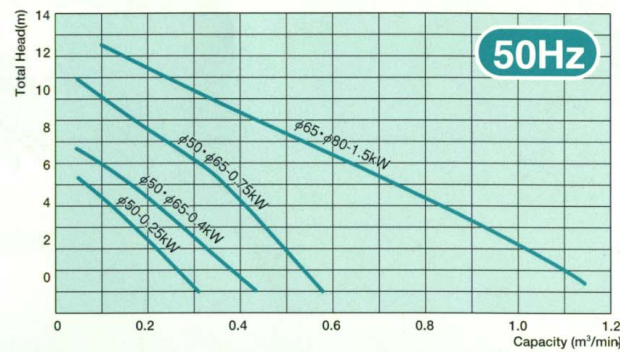
Bore mm	Connection Part No.	Set Weight kg
50	F50	☆
65	F65B	5.5
	F65	7
80	F80	9.5

☆ Built-in with the pump proper.

Packing Size

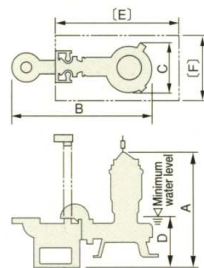
Model	Length mm	Width mm	Height mm
CNL501	0.25kW	310 ×	280 × 450
	0.4-0.75kW	350 ×	305 × 510
CNL651	350 ×	320 ×	580

Performance Curves



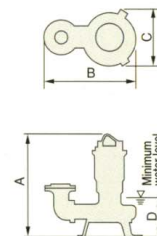
Dimensions

Automatic Connection



Pump Model	Connection Parts No.	Output kW	A	B	C	D	E	F
CNL501	P50	0.25	418	465	220	160	550	350
	P65B	0.4-0.75	469	506	246	165		
CNL651	P65	1.5	564	725	302	215	550	350
	P80		604	801		255		

Flange Connection

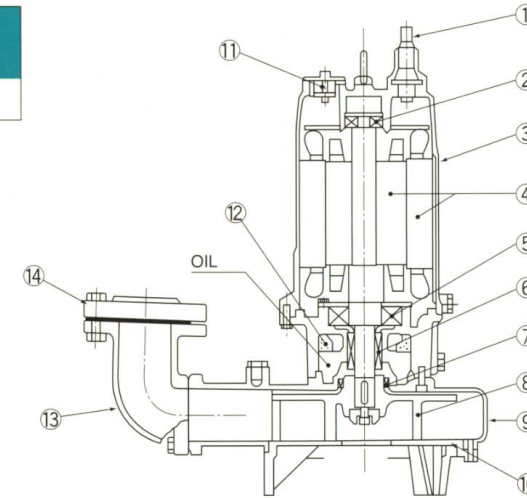


Pump Model	Connection Parts No.	Output kW	A	B	C	D
CNL501	F50	0.25	378	267	220	120
	F65B	0.4-0.75	445	308	246	140
F65	480					
CNL651	F80	1.5	529	495	302	180

Sectional View

CN Series

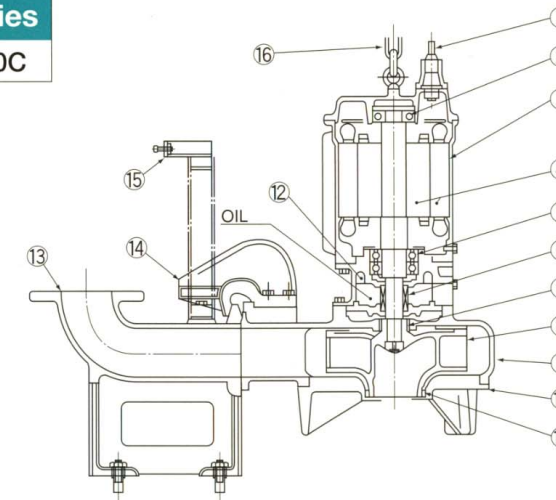
CN80-F80



No.	Part Name	Material
1	Cable	VCT
2	Ball Bearing (Upper)	-
3	Stator Casing	FC200
4	Motor	Shaft=SUS420J2
5	Ball Bearing (Lower)	-
6	Mechanical Seal	-
7	Oil Seal	N.B.R.
8	Impeller	FC200
9	Pump Casing	FC200
10	Base Cover	FC200
11	Thermal Protector	-
12	Equalizer	N.B.R.
13	Discharge Side Flange	FC200
14	Companion Flange	FC200

CNH Series

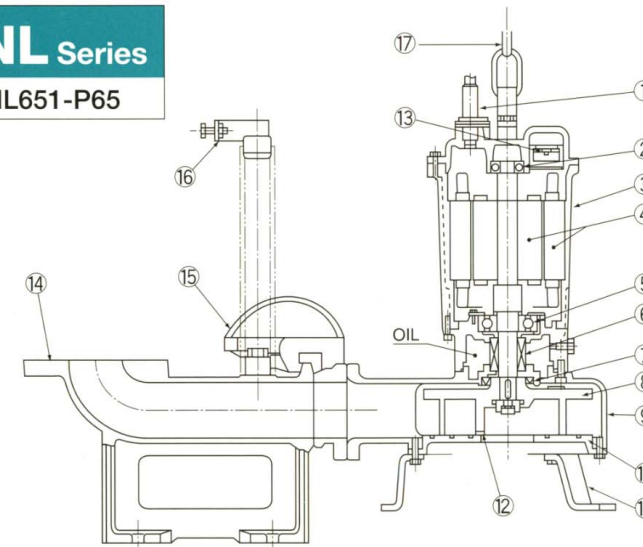
CNH100-P100C



No.	Part Name	Material
1	Cable	2PNCT
2	Ball Bearing (Upper)	-
3	Stator Casing	FC200
4	Motor	Shaft=SUS420J2
5	Ball Bearing (Lower)	-
6	Mechanical Seal	-
7	Oil Seal	N.B.R.
8	Impeller	FC200(22kW:FCD500)
9	Pump Casing	FC200
10	Suction Cover	FC200
11	Wearing	CAC406
12	Equalizer	N.B.R.
13	Connection	FC200
14	Sliding Bracket	FC200
15	Guide Holder	SCS13
16	Lifting Chain	SS400

CNL Series

CNL651-P65



No.	Part Name	Material
1	Cable	VCT
2	Ball Bearing (Upper)	-
3	Stator Casing	FC200
4	Motor	Shaft=SUS420J2
5	Ball Bearing (Lower)	-
6	Mechanical Seal	-
7	Oil Seal	N.B.R.
8	Impeller	FC200
9	Pump Casing	FC200
10	Base Cover	FC200
11	Stand	SS400
12	Cutting Chip	WC
13	Thermal Protector	-
14	Connection	FC200
15	Sliding Bracket	FC200
16	Guide Holder	SCS13
17	Lifting Chain	SS400

※Note VCT: Polyvinyl-chloride sheathed cable SUS: Stainless steel SS: Mild steel FC: Gray iron casting WC: Tungsten carbide N.B.R: Nitril Rubber SCS: Stainless steel casting

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

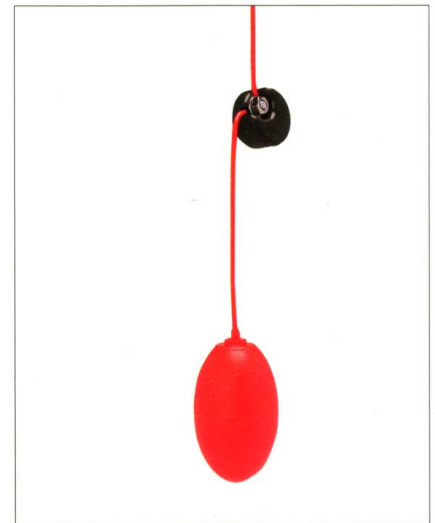
LC "Level Switch"



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	Polypropylene resin
	Cable	VCTFK	PVC resin (soft type)
	Others	Chain: SUS304	Sinker: Cast iron with PVC resin coating

Specifications and dimensions are subject to change without notice.

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