

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.

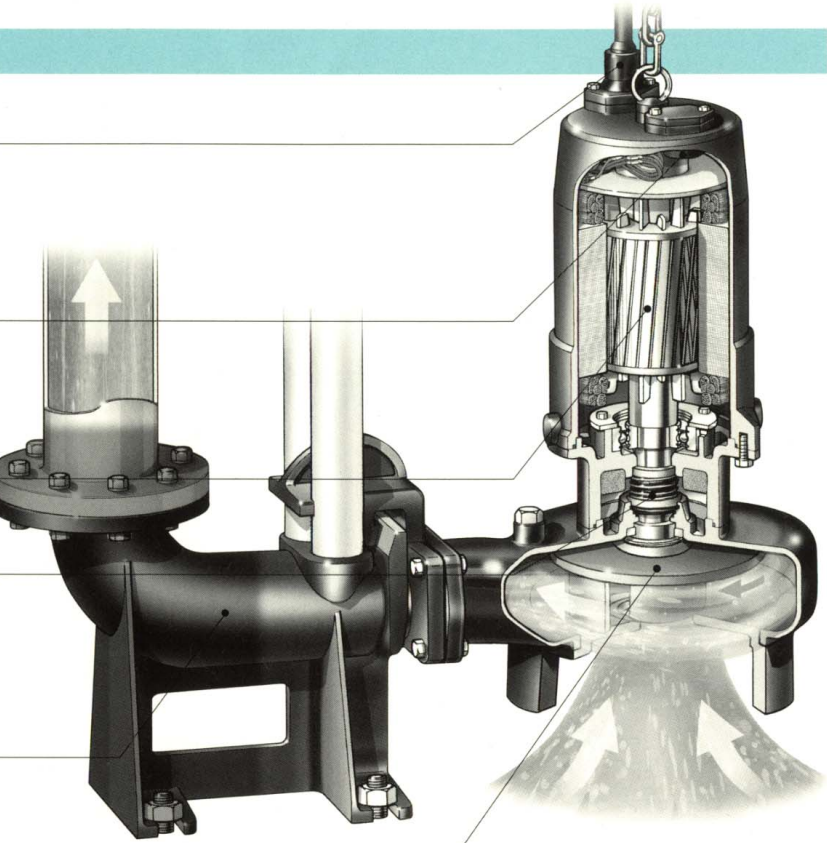


Discharge connection

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	

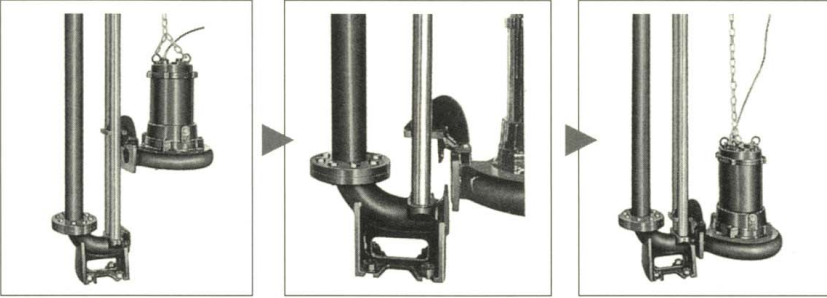
AUTOMATIC CONNECTION SIMPLIFIES MAINTENANCE



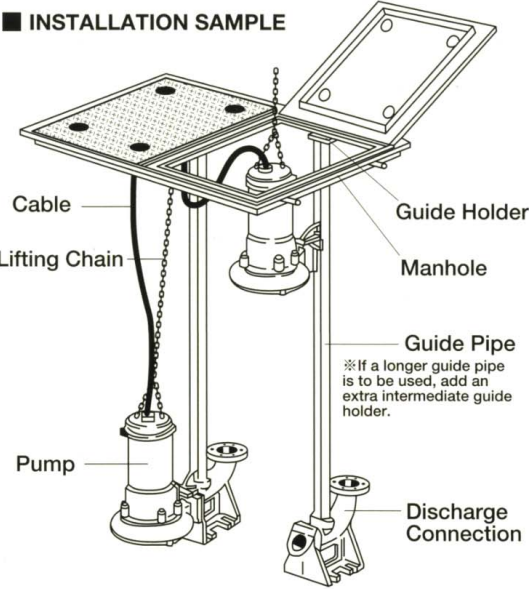
One of the main reasons why ShinMaywa submersible pumps are so popular in Japan is because ShinMaywa Industries, Ltd., a pioneer manufacturer of submersible pumps first introduced its original automatic connection type pumps into the country.

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.

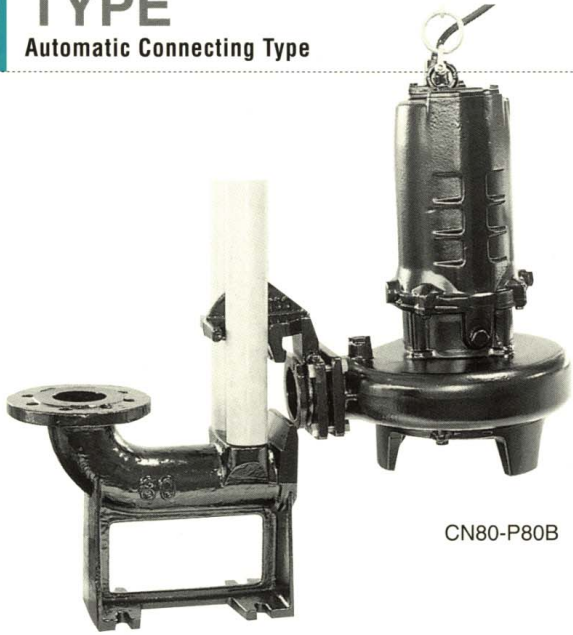
The automatic connection system has simplified the maintenance. It is not necessary to enter the tank or evacuate the tank for removing the pump or loosening or tightening the bolts.



INSTALLATION SAMPLE



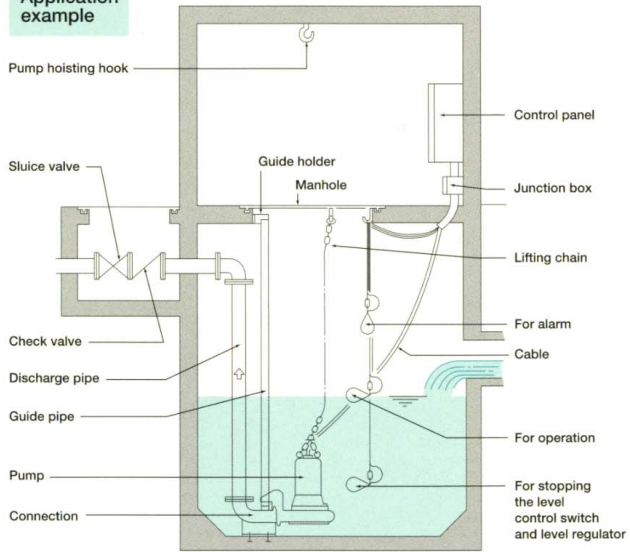
P TYPE Automatic Connecting Type



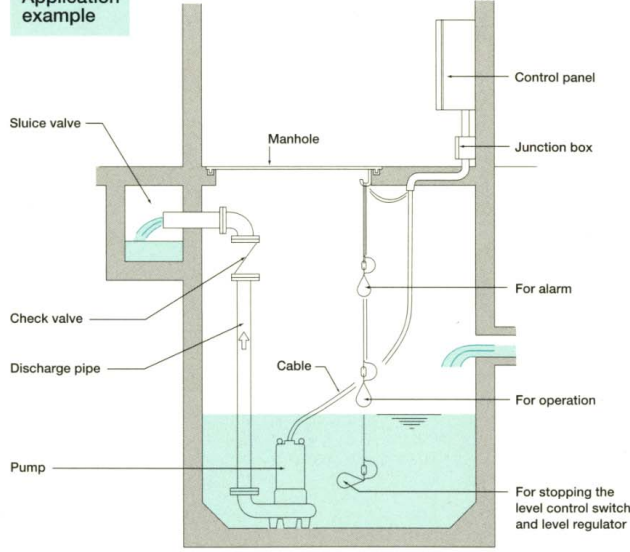
F TYPE Flange Connecting Type



Application example



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			m³/min-m		mm		
40	CN40T	P40	F40	0.25	2	0.1 -5.5	0.1 -5.5	φ 23	φ 23	15.5
50	CN501T	P50	F50	0.4	2	0.15 -6.0	0.15 -6.0	φ 32	φ 32	17
	CN501			0.75		0.2 -8.2	0.2 -7.5			18
	CN501T	P65B	F65B	0.4	2	0.15 -6.0	0.15 -6.0	φ 32	φ 32	17
65	CN501			0.75		0.2 -8.2	0.2 -7.5			18
	CN651	P65	F65	1.5	4	0.4 -10.6	0.4 -10.0	43×41	43×36	29
				2.2		0.8 -8.4	0.8 -8.6			58
	CN80			3.7		[1] 1.0 -11.8	1.0 -11.8			70
						[3] 0.8 -14.4				
80	CN651	P80		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			58
		P80B	F80	3.7	4	[1] 1.0 -11.8	1.0 -11.8	53×60	54×60	70
						[1] 1.2 -12.9	[2] 1.2 -13.6			
						[3] 0.9 -18.0	[4] 0.9 -18.0			95
	CN100			5.5		[1] 1.4 -15.2	[2] 1.4 -16.7			108
				7.5		[3] 1.0 -21.8	[4] 1.0 -22.5			
100						0.8 -8.4	0.8 -8.6	54×60	53×60	58
	CN80	P100B	F100	2.2	4	[1] 1.0 -11.8	1.0 -11.8	53×60	54×60	70
				3.7		[3] 0.8 -14.4				
						[1] 1.2 -12.9	[2] 1.2 -13.6			95
	CN100			5.5		[3] 0.9 -18.0	[4] 0.9 -18.0			108
		P100C	F100B	7.5		[1] 1.4 -15.2	[2] 1.4 -16.7			
						[3] 1.0 -21.8	[4] 1.0 -22.5			
				11		1.57 -22	1.58 -22	60×54	56×54	216
	CNH100			15		1.9 -26	1.86 -26	69×54	60×55	230
				22		1.8 -35	1.96 -35	75×55	65×58	290
150		P150	F150	5.5	4	2.0 -10	1.96 -10	70×80	65×80	122
				7.5		2.48 -12	2.33 -12	75×85	70×80	134
				11		2.54 -16	2.6 -16	64×100	57×100	215
				15		2.87 -19	3.0 -19	70×95	62×100	228
				22		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

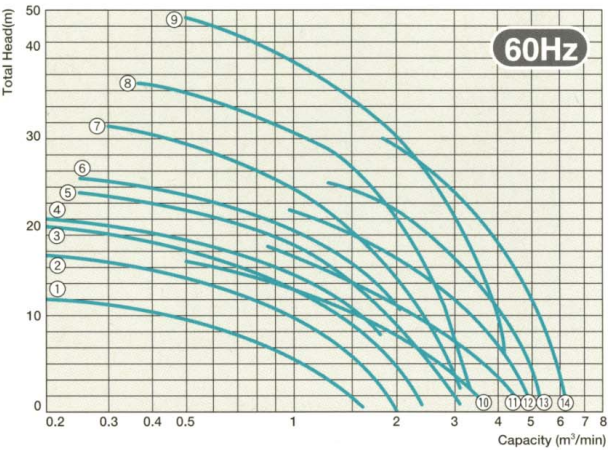
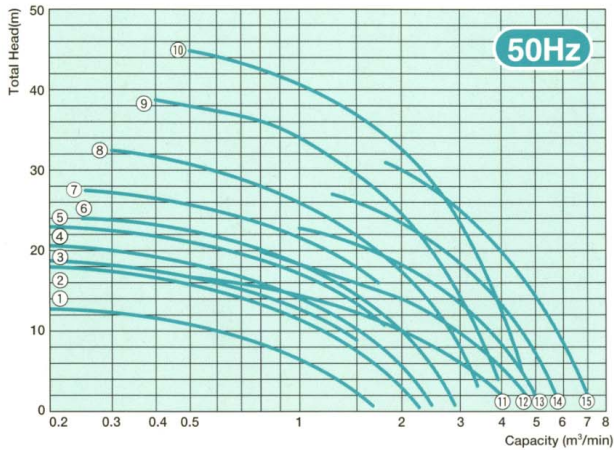
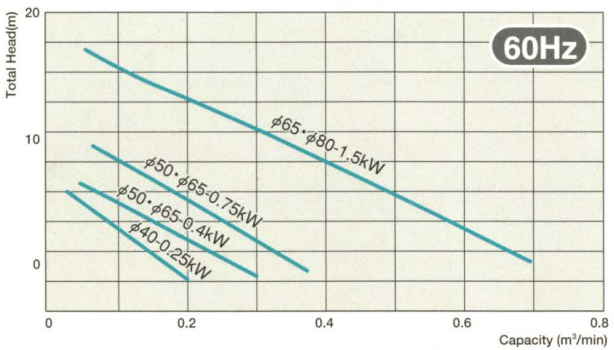
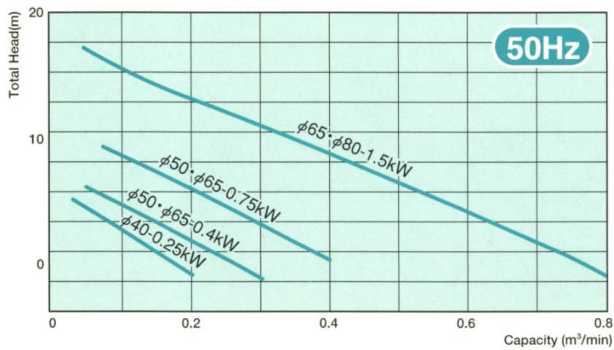
※Built-in with the pump proper.

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
	3.7kW	470	410
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

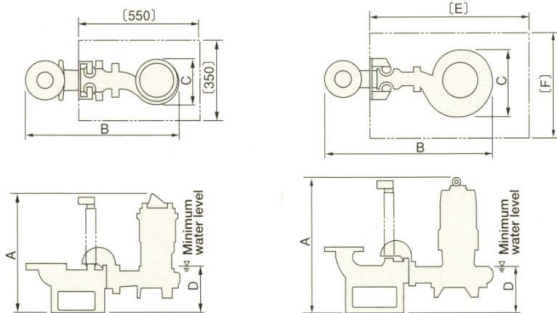


- ① CN80 φ65-φ80-φ100-2.2kW
- ② CN80 φ65-φ80-φ100-3.7kW (1)
- ③ CN80 φ65-φ80-φ100-3.7kW (3)
- ④ CN100 φ80-φ100-5.5kW (1)
- ⑤ CN100 φ80-φ100-5.5kW (3)
- ⑥ CN100 φ80-φ100-7.5kW (1)
- ⑦ CN100 φ80-φ100-7.5kW (3)
- ⑧ CNH100 φ100-11kW
- ⑨ CNH100 φ100-15kW
- ⑩ CNH100 φ100-22kW
- ⑪ CN150 φ150-5.5kW
- ⑫ CN150 φ150-7.5kW
- ⑬ CN150 φ150-11kW
- ⑭ CN150 φ150-15kW
- ⑮ CN150 φ150-22kW
- (): Number of impeller

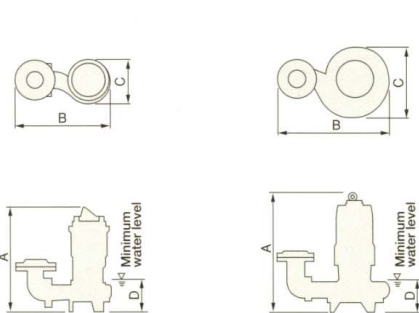
- ① CN80 φ65-φ80-φ100-2.2kW
- ② CN80 φ65-φ80-φ100-3.7kW
- ③ CN100 φ80-φ100-5.5kW (2)
- ④ CN100 φ80-φ100-5.5kW (4)
- ⑤ CN100 φ80-φ100-7.5kW (2)
- ⑥ CN100 φ80-φ100-7.5kW (4)
- ⑦ CNH100 φ100-11kW
- ⑧ CNH100 φ100-15kW
- ⑨ CNH100 φ100-22kW
- ⑩ CN150 φ150-5.5kW
- ⑪ CN150 φ150-7.5kW
- ⑫ CN150 φ150-11kW
- ⑬ CN150 φ150-15kW
- ⑭ CN150 φ150-22kW
- (): 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
CN501	P65B		520	520				
CN651	P65	1.5	530	663	192	215	550	350
	P80		570	739		255		
CN80	P65	2.2	580	754		220	600	500
	P80B		620	830	292	260		
	P100B	3.7	620	843		260		
	P65		642	773		220		
CN100	P80B	5.5	682	849	331	260	700	600
	P100B			862				
	P80B	7.5	710	907				
	P100B			920	335	260		
CNH100	P100C	11					260	700
		15	861	1110	486	335		
		22	955	1132	529			
		5.5	779					
CN150	P150	7.5	814	1094	400	325	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
CN501	F65B			344		
CN651	F65	1.5	454	418	192	140
	F80			433		
	F65	2.2	550	509	292	190
	F80			524		
CN80	F100	3.7	612	541	331	190
	F65			528		
	F80	5.5	640	601	335	190
	F100			618		
CN100	F100B	7.5	675	616	387	190
				633		
		11	782	848	486	256
		15				
CN150	F150	22	876	870	529	260
		5.5	713	836	400	
		7.5	748			
		11-15	804	890	450	
		22	915	930	489	

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			m³/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
	CNL651	P65	F65	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
- Guide holder (with bolts and nuts)
- Sliding bracket
- 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)

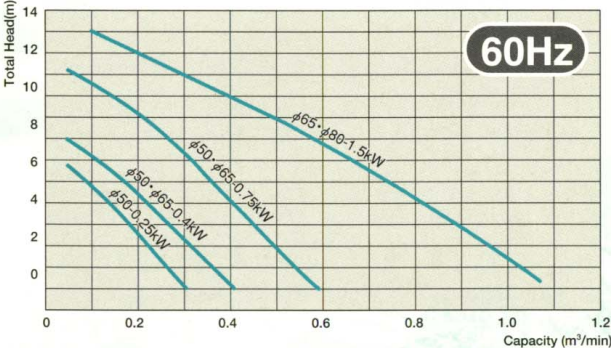
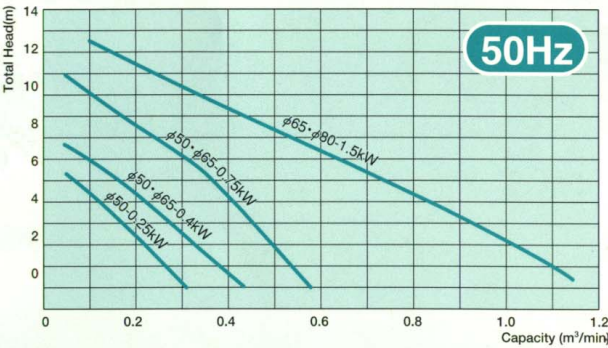
Bore mm	Connection Part No.	Set Weight kg
50	F50	☆
65	F65B	5.5
	F65	7
80	F80	9.5

☆Built-in with the pump proper.

Packing Size

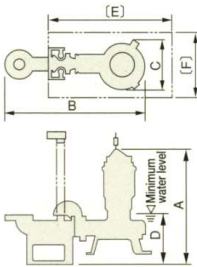
Model	Length mm	Width mm	Height mm
CNL501	0.25kW	310 ×	280 × 450
	0.4-0.75kW	350 ×	305 × 510
CNL651		350 ×	320 × 580

Performance Curves



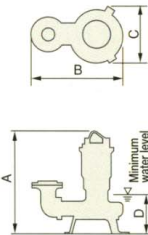
Dimensions

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	600	500

Flange Connection

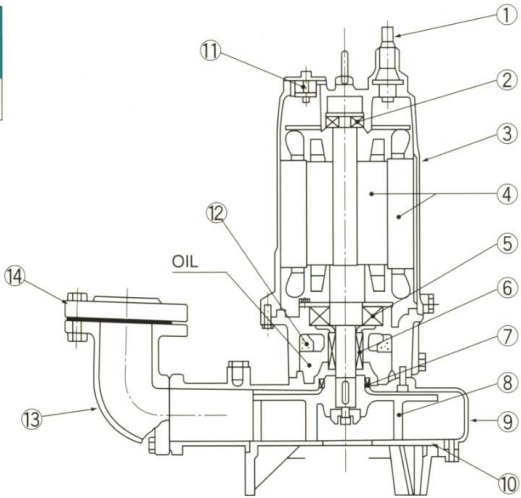


Pump Model	Connection Parts No.	Output kW	A	B	C	D
CNL501	F50	0.25	378	267	220	120
	F65B	0.4-0.75	445	308	246	140
CNL651	F65	1.5	529	480	302	180
	F80			495		

Sectional View

CN Series

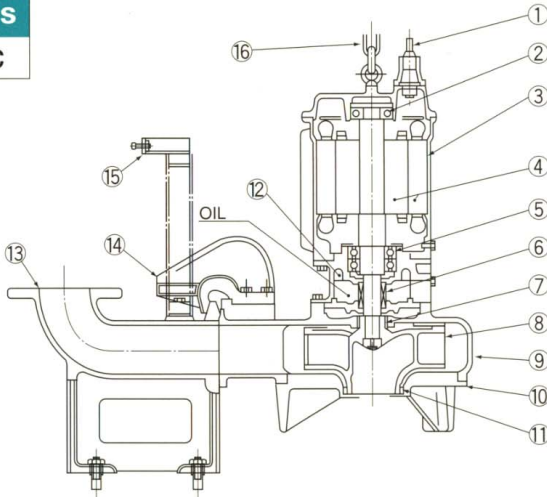
CN80-F80



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

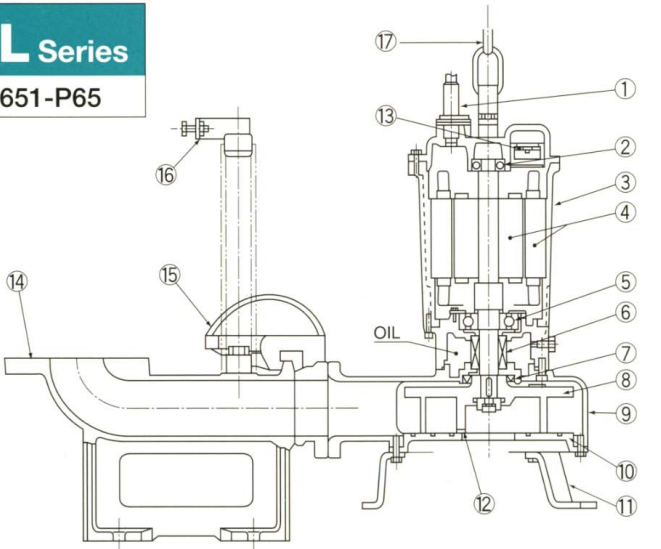
CNH100-P100C



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 cabtyre 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.

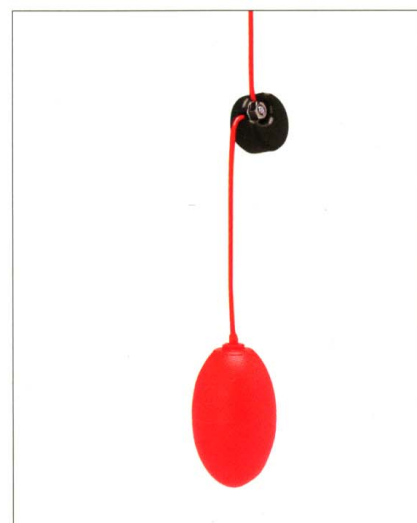
LC "Level Switch"



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	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.9564451)/ISO 14001 (No.771888)



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