

**ShinMaywa**

# **Submersible Pumps**

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

**50**  
Hz



# **A**n Improved Pump Efficiency and Non-clogging Operation

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

## ● 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.

### 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.

### Motor protector

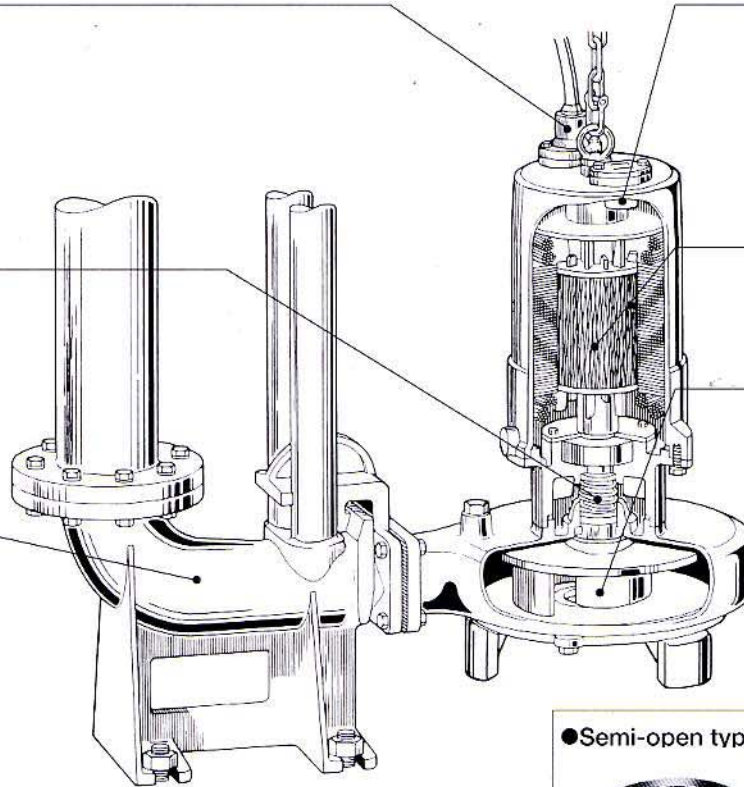
A built-in automatic-reset type motor protector (automatic cutoff or thermal protector) positively protects the motor from burnout due to overload, impeller clogging and open phase.

### Motor

Dry type motor with Class E (or Class F) insulation is employed.

### 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

## Uses

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

## Main Specification

|                 |                  |  |
|-----------------|------------------|--|
| Handling Liquid | Kind of Liquid   | Waste Water and Sewage of Water 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(or Class F)                              |
|                 | Enclosure        | IP68   |
|                 | Phase            | Three Phase                                      |
|                 | Voltage          | According to the specifications.                 |

## Special Specification

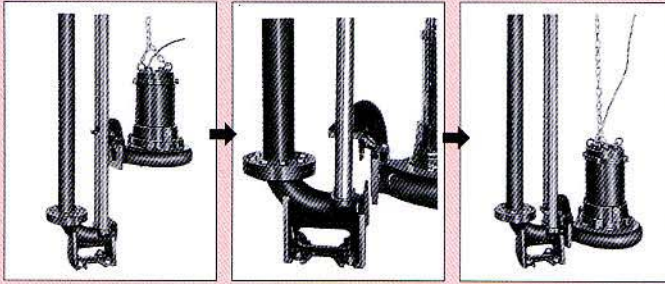
|                 |  |  |
|-----------------|--|--|
| Cable Extension | Length of Cable  | 15 · 20 · 30m  |
| Material Change | Impeller   | stainless steel casting or According to the specifications |
|                 | Base Cover   | stainless steel (SUS304)                                   |
| 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

## ● AUTOMATIC CONNECTION SIMPLIFIES MAINTENANCE

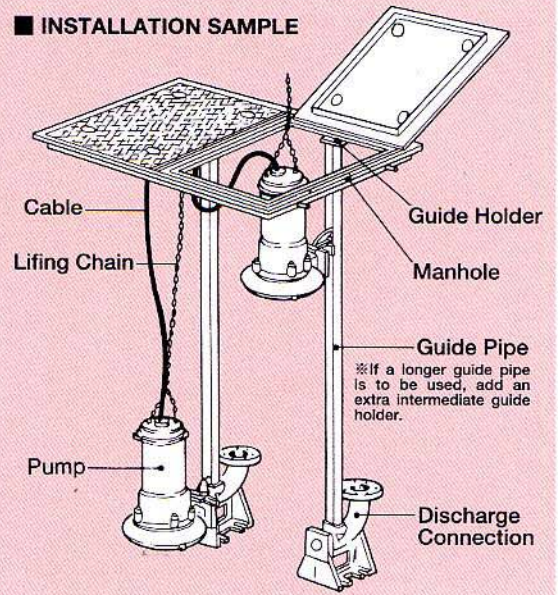


One of the main reason why ShinMaywa submersible pumps are so popular in Japan is because ShinMaywa Industries, Ltd., a pioneer manufacturer of submersible pumps first introduced its original automatic connection type pumps into the country.

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.

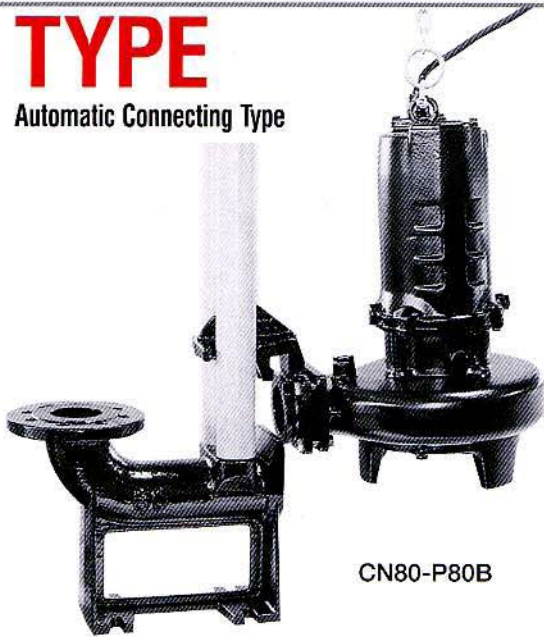


## ■ INSTALLATION SAMPLE



## P TYPE

Automatic Connecting Type



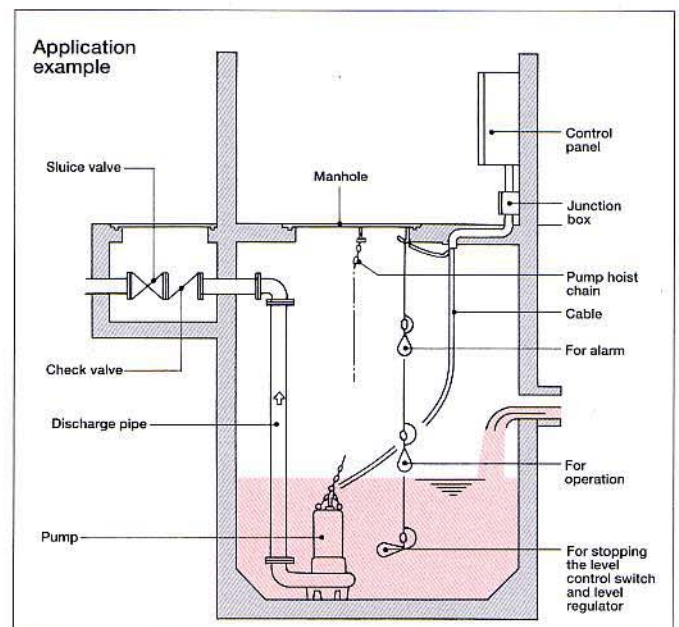
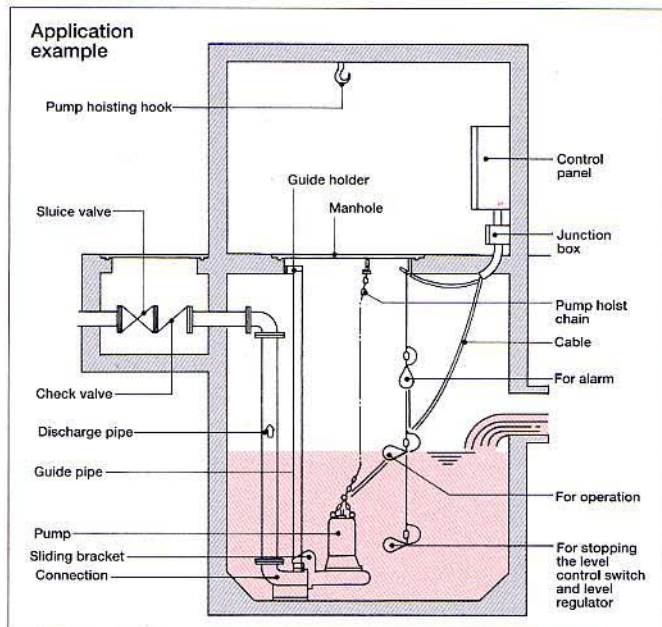
CN80-P80B

## F TYPE

Flange Connecting Type



CN80-F80



# CN/CNH Series

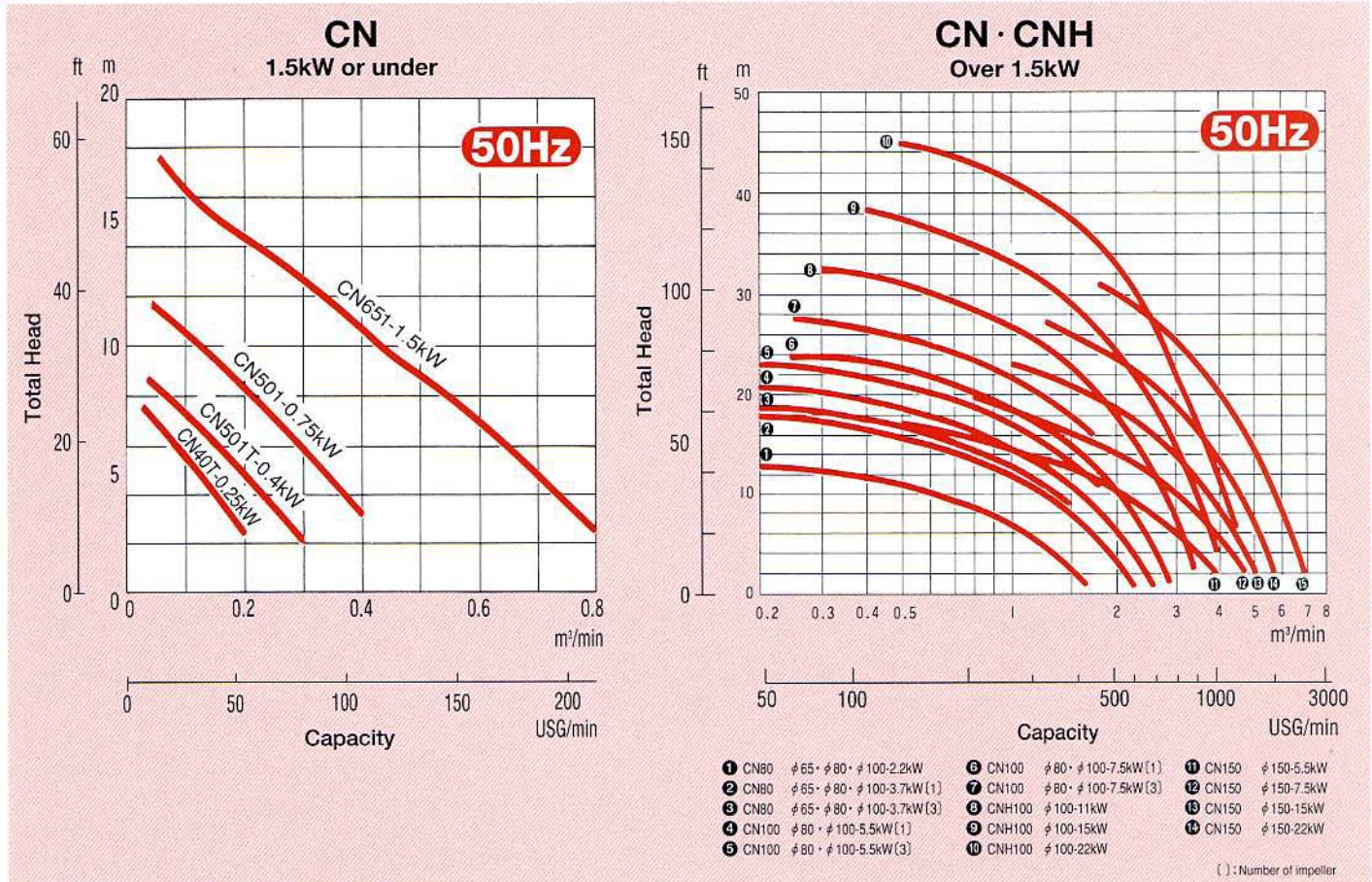
< Bore > 40 to 150mm (1 1/2 to 6")  
 < Output > 0.25 to 22kW

## Standard Specifications

| Bore   |              | Pump Model | Connection Part No.  |                   | Phase | Output kW | Pole         | Capacity-Total Head | Impeller Passage Size | Weight (Pump Proper) |                       |              |       |    |
|--------|--------------|------------|----------------------|-------------------|-------|-----------|--------------|---------------------|-----------------------|----------------------|-----------------------|--------------|-------|----|
| mm     | (in)         |            | Automatic Connection | Flange Connection |       |           |              |                     |                       |                      | m <sup>3</sup> /min-m | mm           | kg    |    |
| 40     | 1 1/2        | CN40T      | P40                  | F40               | Three | 0.25      | 2            | 0.1-5.5             | φ 23                  | 15.5                 |                       |              |       |    |
| 50     | 2            | CN501T     | P50                  | F50               | Three | 0.4       | 2            | 0.15-6.0            | φ 32                  | 17                   |                       |              |       |    |
|        |              | CN501      |                      |                   |       | 0.75      |              | 0.2-8.2             |                       | 18                   |                       |              |       |    |
|        |              | CN501T     |                      |                   |       | 0.4       |              | 0.15-6.0            |                       | 17                   |                       |              |       |    |
| 65     | 2 1/2        | CN501T     | P65B                 | F65B              | Three | 0.4       | 2            | 0.15-6.0            | φ 32                  | 17                   |                       |              |       |    |
|        |              | CN501      |                      |                   |       | 0.75      |              | 0.2-8.2             |                       | 18                   |                       |              |       |    |
|        |              | CN651      |                      |                   |       | 1.5       |              | 0.4-10.6            |                       | 29                   |                       |              |       |    |
|        |              | CN80       | P65                  | F65               |       | 2.2       | 4            | 0.8-8.4             | 54×60                 | 58                   |                       |              |       |    |
|        |              |            |                      |                   |       | 3.7       |              | (1) 1.0-11.8        | 53×60                 | 70                   |                       |              |       |    |
|        |              |            |                      |                   |       |           |              | (3) 0.8-14.4        | 53×60                 |                      |                       |              |       |    |
| 80     | 3            | CN651      | P80                  | F80               | Three | 1.5       | 2            | 0.4-10.6            | 43×41                 | 29                   |                       |              |       |    |
|        |              | CN80       |                      |                   |       | 2.2       |              | 0.8-8.4             | 54×60                 | 58                   |                       |              |       |    |
|        |              | CN100      | P80B                 |                   |       | F80       | 3.7          | 4                   | (1) 1.0-11.8          | 53×60                | 70                    |              |       |    |
|        |              |            |                      |                   |       |           | 5.5          |                     | (3) 0.8-14.4          | 53×60                |                       |              |       |    |
|        |              |            |                      |                   |       |           | 7.5          |                     | (1) 1.2-12.9          | 61×60                | 95                    |              |       |    |
|        |              |            |                      |                   |       |           |              |                     | (3) 0.9-18.0          | 54×60                |                       |              |       |    |
|        |              | 100        | 4                    |                   |       | CN80      | P100B        | F100                | Three                 | 2.2                  | 4                     | (1) 1.0-11.8 | 53×60 | 70 |
|        |              |            |                      |                   |       |           |              |                     |                       | 3.7                  |                       | (3) 0.8-14.4 | 53×60 |    |
| 5.5    | (1) 1.2-12.9 |            |                      | 61×60             | 95    |           |              |                     |                       |                      |                       |              |       |    |
| 7.5    | (3) 0.9-18.0 |            |                      | 54×60             |       |           |              |                     |                       |                      |                       |              |       |    |
| CNH100 | P100C        |            |                      | F100B             | 11    | 4         | (1) 1.4-15.2 | 67×60               |                       | 108                  |                       |              |       |    |
|        |              |            |                      |                   | 15    |           | (3) 1.0-21.8 | 56×60               |                       |                      |                       |              |       |    |
|        |              |            |                      |                   | 22    |           | 1.57-22      | 60×54               |                       | 216                  |                       |              |       |    |
|        |              |            |                      |                   |       |           | 1.9-26       | 69×54               |                       | 230                  |                       |              |       |    |
| 150    | 6            | CN150      | P150                 | F150              | Three | 5.5       | 4            | 2.0-10              | 70×80                 | 122                  |                       |              |       |    |
|        |              |            |                      |                   |       | 7.5       |              | 2.48-12             | 75×85                 | 134                  |                       |              |       |    |
|        |              |            |                      |                   |       | 11        |              | 2.54-16             | 64×100                | 215                  |                       |              |       |    |
|        |              |            |                      |                   |       | 15        |              | 2.87-19             | 70×95                 | 228                  |                       |              |       |    |
|        |              |            |                      |                   |       | 22        |              | 3.6-22              | 76×100                | 326                  |                       |              |       |    |

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

## Performance Curves



## Standard Accessories

- Cable (Under 7.5kW) .....1pc.
- (Over 11kW) .....3pcs.

6m for under 0.75kW  
8m for over 1.5kW

## Automatic Connection Set

- Connection
- Guide holder (with bolt and nuts)
- Sliding bracket
- Pump lifting chain (6m)

| Bore |       | Connection Part No. | Set Weight |      |
|------|-------|---------------------|------------|------|
| mm   | in    |                     | kg         | kg   |
| 40   | 1 1/2 | P40                 | 11         | 4.5  |
| 50   | 2     | P50                 | 11         | 4.5  |
| 65   | 2 1/2 | P65B                | 20         | 14.5 |
|      |       | P65                 | 24         | 15   |
| 80   | 3     | P80B                | 31.5       | 18   |
| 100  | 4     | P100B               | 40.5       | 27   |
|      |       | P100C               | 55         | 37   |
| 150  | 6     | P150                | 60         | 42   |

## Flange Connection Set

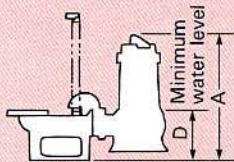
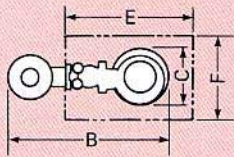
- Discharge side flange
- Companion flange (with bolts, nuts and packing)

| Bore |       | Connection Part No. | Set Weight |    |
|------|-------|---------------------|------------|----|
| mm   | in    |                     | kg         | kg |
| 40   | 1 1/2 | F40                 | ☆          |    |
| 50   | 2     | F50                 | ☆          |    |
| 65   | 2 1/2 | F65B                | 5.5        |    |
|      |       | F65                 | 7          |    |
| 80   | 3     | F80                 | 9.5        |    |
| 100  | 4     | F100                | 11         |    |
|      |       | F100B               | 12         |    |
| 150  | 6     | F150                | 30         |    |

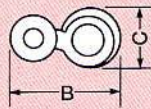
☆Built-in with the pump proper.

## Dimensions

### Automatic Connection



### Flange Connection



## Packing Size

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

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

mm

| Pump Model      | Connection Parts No. | Output kW | A   | B    | C   | D   | E   | F   |
|-----------------|----------------------|-----------|-----|------|-----|-----|-----|-----|
| CN40T           | P40                  | 0.25      | 431 | 431  | 164 | 180 | 550 | 350 |
| CN501T<br>CN501 | P50                  | 0.4-0.75  | 460 | 447  | 170 | 180 | 550 | 350 |
|                 | P65B                 |           | 520 |      |     |     |     |     |
| CN651           | P65                  | 1.5       | 530 | 663  | 192 | 215 | 550 | 350 |
|                 | P80                  |           | 570 | 739  |     |     |     |     |
| CN80            | P65                  | 2.2       | 580 | 754  | 292 | 220 | 600 | 500 |
|                 | P80B                 |           | 620 | 830  |     |     |     |     |
|                 | P100B                | 3.7       | 642 | 773  | 331 | 260 |     |     |
|                 | P65                  |           | 682 | 849  |     |     |     |     |
| CN100           | P80B                 | 5.5       | 710 | 907  | 335 | 260 | 700 | 600 |
|                 | P100B                |           | 920 |      |     |     |     |     |
|                 | P80B                 | 7.5       | 745 | 922  | 387 | 260 |     |     |
|                 | P100B                |           | 935 |      |     |     |     |     |
| CNH100          | P100C                | 11        | 861 | 1110 | 486 | 335 | 900 | 700 |
|                 |                      | 15        | 955 | 1132 | 529 |     |     |     |
|                 |                      | 22        | 967 | 1188 | 489 |     |     |     |
| CN150           | P150                 | 5.5       | 779 | 1094 | 400 | 327 | 900 | 700 |
|                 |                      | 7.5       | 814 | 450  | 345 |     |     |     |
|                 |                      | 11-15     | 871 | 450  | 345 |     |     |     |
|                 |                      | 11-15     | 871 | 450  | 345 |     |     |     |
|                 |                      | 22        | 967 | 1188 | 489 |     |     |     |

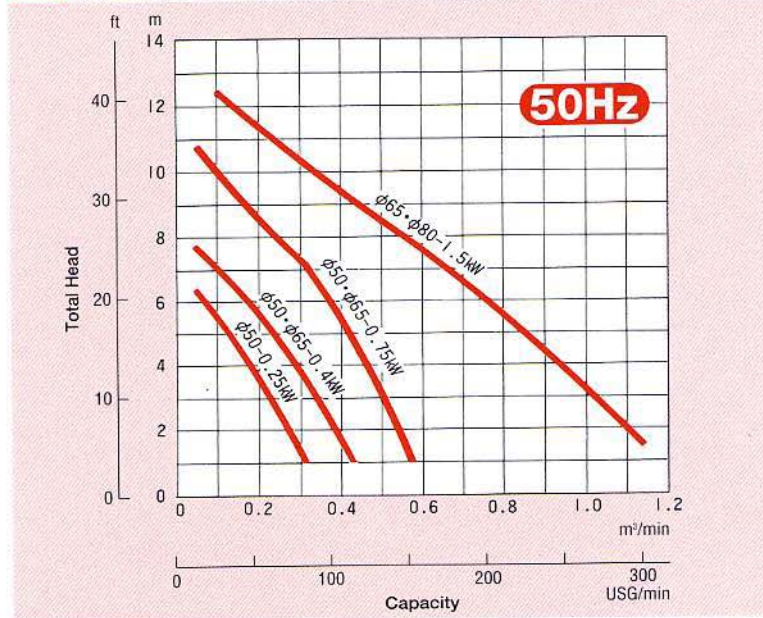
mm

| Pump Model    | Connection Parts No. | Output kW | A     | B    | C   | D   |
|---------------|----------------------|-----------|-------|------|-----|-----|
| CN40T         | F40                  | 0.25      | 377   | 233  | 164 | 125 |
| CN50T<br>CN50 | F50                  | 0.4-0.75  | 414   | 249  | 170 | 135 |
|               | F65B                 |           |       | 344  |     |     |
| CN651         | F65                  | 1.5       | 454   | 418  | 192 | 140 |
|               | F80                  |           |       | 433  |     |     |
| CN80          | F65                  | 2.2       | 550   | 509  | 292 | 190 |
|               | F80                  |           |       | 524  |     |     |
|               | F100                 | 541       |       |      |     |     |
|               | F65                  | 3.7       | 612   | 528  |     |     |
| F80           | 543                  |           |       |      |     |     |
| CN100         | F100                 | 5.5       | 640   | 560  | 331 | 190 |
|               |                      |           |       | F80  |     |     |
|               |                      | F100      | 618   |      |     |     |
| CN100         | F80                  | 7.5       | 675   | 616  | 387 | 190 |
|               |                      |           |       | F100 |     |     |
|               |                      | CNH100    | F100B | 11   |     |     |
| 15            |                      |           |       |      |     |     |
| 22            |                      |           |       |      |     |     |
| 22            |                      |           |       |      |     |     |
| CN150         | F150                 | 5.5       | 712   | 836  | 400 | 260 |
|               |                      | 7.5       | 747   | 890  | 450 | 278 |
|               |                      | 11-15     | 804   | 890  | 450 | 278 |
|               |                      | 11-15     | 804   | 890  | 450 | 278 |
|               |                      | 22        | 914   | 930  | 489 | 294 |

## Standard Specifications

| Bore |       | Pump Model | Connection Part No.  |                   | Phase | Output kW | Pole    | Capacity-Total Head   | Impeller Passage Size | Weight (Pump Proper) |
|------|-------|------------|----------------------|-------------------|-------|-----------|---------|-----------------------|-----------------------|----------------------|
| mm   | (in)  |            | Automatic Connection | Flange Connection |       |           |         | m <sup>3</sup> /min-m | mm X mm               | kg                   |
| 50   | 2     | CNL501     | P50                  | F50               | Three |           | 4       | 0.25                  | 34X30                 | 19                   |
|      |       |            |                      |                   |       |           |         | 0.4                   | 35X35                 | 26                   |
|      |       |            |                      |                   |       |           |         | 0.75                  | 44X40                 | 27                   |
| 65   | 2 1/2 | CNL501     | P65B                 | F65B              | Three |           | 4       | 0.4                   | 35X35                 | 26                   |
|      |       |            |                      |                   |       |           |         | 0.75                  | 44X40                 | 27                   |
|      |       | CNL651     | P65                  | F65               | Three | 1.5       | 0.6-7.4 | 51X48                 | 45                    |                      |
| 80   | 3     | CNL651     | P80                  | F80               | Three | 1.5       | 4       | 0.6-7.4               | 51X48                 | 45                   |

## Performance Curves



## Standard Accessories

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

## Automatic Connection Set

- Connection
- Guide holder (with bolt and nuts)
- Sliding bracket
- Pump lifting chain (6m)

| Bore | Connection | Set Weight | Connection Weight |      |
|------|------------|------------|-------------------|------|
|      |            |            |                   | mm   |
| 50   | 2          | P50        | 11                | 4.5  |
| 65   | 2 1/2      | P65B       | 20                | 14.5 |
|      |            | P65        | 24                | 15   |
| 80   | 3          | P80        | 31.5              | 20.5 |

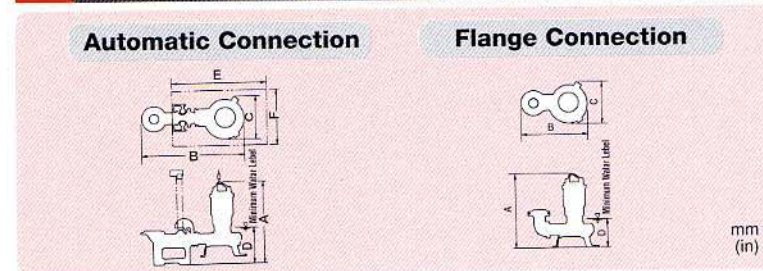
## Flange Connection Set

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

| Bore | Connection | Set Weight |     |
|------|------------|------------|-----|
|      |            |            | mm  |
| 50   | 2          | F50        | ☆   |
| 65   | 2 1/2      | F65B       | 5.5 |
|      |            | F65        | 7   |
| 80   | 3          | F80        | 9.5 |

☆Built-in with the pump proper.

## Dimensions



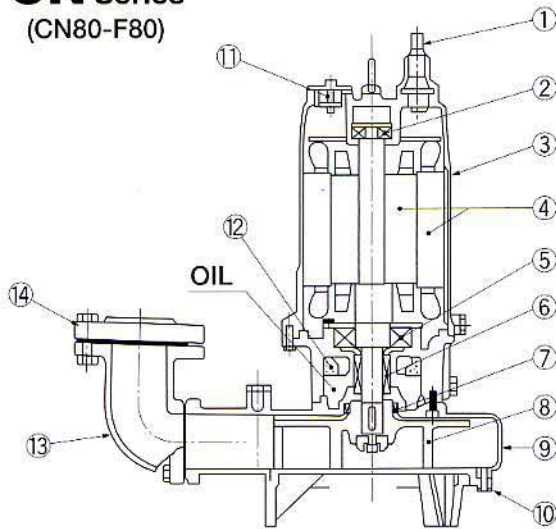
|                      | Pump Model | Connection Parts No. | Output kW | A   | B   | C   | D   | E   | F   |
|----------------------|------------|----------------------|-----------|-----|-----|-----|-----|-----|-----|
| Automatic Connection | CNL501     | P50                  | 0.25      | 418 | 465 | 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    | CNL501     | F50                  | 0.25      | 378 | 267 | 220 | 120 | —   | —   |
|                      |            | F65B                 | 0.4·0.75  | 445 | 308 | 246 | 140 | —   | —   |
|                      | F65        | 1.5                  |           | 529 | 480 |     | 302 | 180 | —   |
|                      | F80        |                      | 495       |     |     |     |     |     |     |

## Packing Size

| Model   | Length L   | Width W | Height H |       |
|---------|------------|---------|----------|-------|
| CNL 501 | 0.25kW     | 310mm   | 280mm    | 450mm |
|         | 0.4·0.75kW | 350mm   | 305mm    | 510mm |
| CNL651  | 350mm      | 320mm   | 580mm    |       |

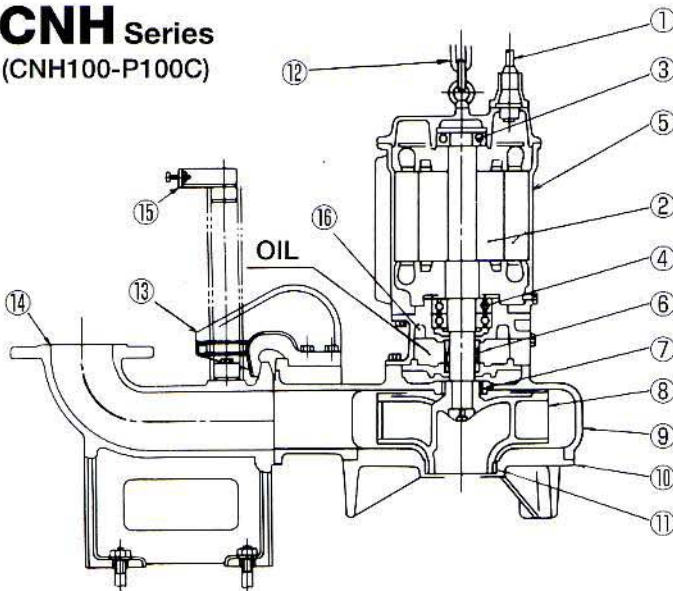
# Sectional View

## CN Series (CN80-F80)



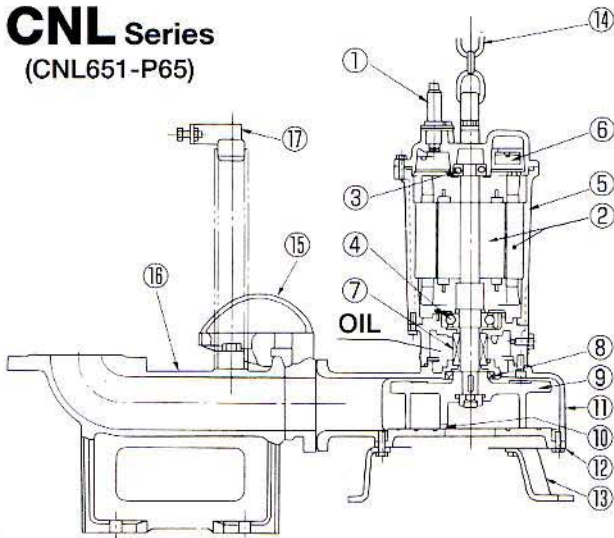
| No. | Part Name             | Material      |
|-----|-----------------------|---------------|
| 1   | Cable                 | VCT           |
| 2   | Ball Bearing(Upper)   | —             |
| 3   | Stator Casing         | FC200         |
| 4   | Motor                 | Shaft=SUS420J |
| 5   | Ball Bearing(Lower)   | —             |
| 6   | Mechanical Seal       | —             |
| 7   | Oil Seal              | N.B.R.        |
| 8   | Impeller              | FC200         |
| 9   | Pump Casing           | FC200         |
| 10  | Base Cover            | FC200         |
| 11  | Auto Cut              | —             |
| 12  | Equalizer             | N.B.R         |
| 13  | Discharge Side Flange | FC200         |
| 14  | Companion Flange      | FC200         |

## CNH Series (CNH100-P100C)



| No. | Part Name           | Material      |
|-----|---------------------|---------------|
| 1   | Cable               | 2RNCT         |
| 2   | Motor               | Shaft=SUS420J |
| 3   | Ball Bearing(Upper) | —             |
| 4   | Ball Bearing(Lower) | —             |
| 5   | Stator Casing       | FC200         |
| 6   | Mechanical Seal     | —             |
| 7   | Oil Seal            | N.B.R.        |
| 8   | Impeller            | FC200         |
| 9   | Pump Casing         | FC200         |
| 10  | Suction Cover       | FC200         |
| 11  | Wearing             | CAC406        |
| 12  | Lifting Chain       | SS400         |
| 13  | Sliding Bracket     | FC200         |
| 14  | Connection          | FC200         |
| 15  | Guide Holder        | SS400         |
| 16  | Equalizer           | N.B.R.        |

## CNL Series (CNL651-P65)



| No. | Part Name           | Material      |
|-----|---------------------|---------------|
| 1   | Cable               | VCT           |
| 2   | Motor               | Shaft=SUS420J |
| 3   | Ball Bearing(Upper) | —             |
| 4   | Ball Bearing(Lower) | —             |
| 5   | Stator Casing       | FC200         |
| 6   | Auto Cut            | —             |
| 7   | Mechanical Seal     | —             |
| 8   | Oil Seal            | N.B.R.        |
| 9   | Impeller            | FC200         |
| 10  | Cutting Chip        | WC            |
| 11  | Pump Casing         | FC200         |
| 12  | Base Cover          | FC200         |
| 13  | Stand               | SS400         |
| 14  | Lifting Chain       | SS400         |
| 15  | Sliding Bracket     | FC200         |
| 16  | Connection          | FC200         |
| 17  | Guide Holder        | 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

# Special Accessories

## LC "LEVEL SWITCH" Liquid Level Regulator

The "LEVEL SWITCH" [LC12] is a liquid level regulator that is most suitably used for detecting the liquid levels of the fresh water, sewage and waste water containing a few debris.

Most part of the "LEVEL SWITCH" directly exposed to the liquid is made of polypropylene. In addition, stainless steel is partly used. As a result, the "LEVEL SWITCH" is hardly affected by corrosion or rust even if it is immersed in a corrosive liquid for a long time.

As illustrated in the drawing below, various beneficial design concepts are fully incorporated into the simple construction of the "LEVEL SWITCH".

|                                    |  |
|------------------------------------|--|
| Model                              | LC12   |
| Specific gravity of liquid handled | 0.95~1.15  |
| Temperature                        | 0°C~60°C   |
| Voltage                            | AC/DC30V or under  |
| Current                            | 5A or under  |
| Cable length                       | 6m, 13m, 20m (further cable extension at an interval of 10m) |
| Cable type                         | Flat type, 3 cores x 0.75mm <sup>2</sup>                     |
| Weight(including cable)            | 6m : 1.2kg 13m : 1.6kg 20m : 2.0kg                           |
| Case                               | PP(polypropylene)resin                                       |
| Cable                              | VCTFK  |
| Chain                              | SUS304   |



## FV "OVAL FLOAT" Liquid Level Regulator

"OVAL FLOAT" is a liquid level regulator that is most suitably used for detecting the liquid levels of the fresh water as well as waste water not containing debris. A single "OVAL FLOAT" is able to control both the upper and lower liquid levels. The range between those two levels can be set easily on site. Combined use the "RELAY UNIT" EL is highly recommended.



## MS "MINI SWITCH" Liquid Level Regulator

"MINI SWITCH" is a liquid level regulator equipped with a lead switch and a contact.

It is most suitably used for detecting the liquid levels of the sewage. The "MINI SWITCH" which moves up and down being supported at one end by the sinker or cable tying band is made on or off electrically whenever the float inclination reaches the preset upper or lower angle limits.

The "MINI SWITCH" is available in two types, MS11(single float) and MS21 (double floats). The MS11 is used to detect one liquid level while the MS21 is used to detect two liquid levels. If three or more levels are to be detected, the combined use of the MS11 and MS21 are recommended.



Specifications and dimensions are subject to change without notice.

### ShinMaywa Industries, Ltd.

Overseas Operations Department 2-43, Shitte 3-chome, Tsurumi-ku, Yokohama 230-0003, Japan  
Telephone : 045-584-1321 Facsimile : 045-584-1320  
e-mail : overseas@sb.shinmaywa.co.jp

#### ShinMaywa (America), Ltd.

1603 Barclay Blvd. Buffalo Grove  
Illinois 60089, U.S.A.  
Telephone : 847-808-1261  
Facsimile : 847-808-1286  
e-mail : ShinMaywa@aol.com

#### ShinMaywa (America), Ltd. El Paso Office

10737 Gateway West, Suite 112  
El Paso, Texas 79935, U.S.A.  
Telephone : 915-594-9862  
Facsimile : 915-594-9866  
e-mail : salelpasso@aol.com

#### ShinMaywa (Asia) Pte. Ltd.

51 Goldhill Plaza #14-01  
Singapore 308900  
Telephone : 6224-0728  
Facsimile : 6224-9678  
e-mail : sapsin@mbox3.singnet.com.sg

#### ShinMaywa (Malaysia) Sdn. Bhd.

Suite 7.3, 7th Floor Menara Aik Hua, Changkat  
Raja Chulan, 50200 Kuala Lumpur, Malaysia  
Telephone : 03-20262388  
Facsimile : 03-20262399  
e-mail : srmsb@tm.net.my



ShinMaywa ONO PLANT

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

<http://www.shinmaywa.co.jp>

'02. 11. Z-E065C

Printed on recycled paper.  
Printed in Japan 2.4(E)