ShinMaywa

Lightweight Submersible Pumps

Output : 0.15~2.2kW NORUS series

The combination of "engineering plastic" and "stainless steel" makes the pumps lighter in weight and greater in toughness.

New Generation of Pumps

NORUS® series

The combination of "engineering plastic" and "stainless steel" makes the pumps lighter in weight and greater in toughness.

Air vent valve

A ball-shaped air vent valve installed at the bottom of the companion flange releases air that resides in the pump chamber, thereby preventing an air lock.

Prevention of water leakage during automatic connection

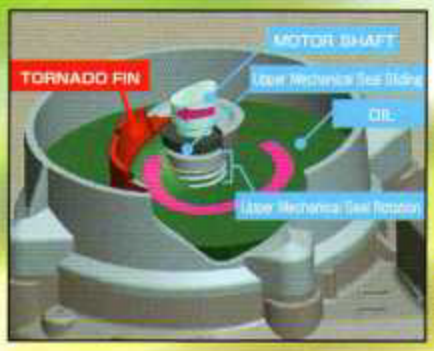
The top of the pump chamber is provided with many holes for releasing air, thereby stably installing the pump in place. This also serves to prevent the leakage of water during automatic connection.

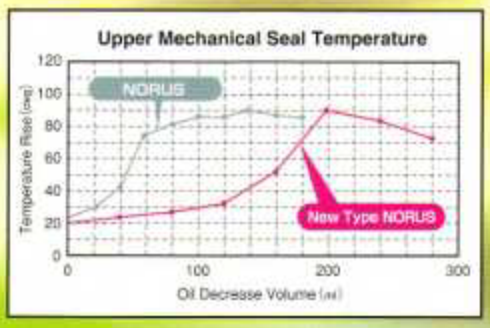
TORNADO FIN

Achieved long life of mechanical seal (Over 250W)
(Applicable : CR & CRS 0.25~0.75kW)

NEW

Equipped with TORNADO FIN to cool mechanical seal chamber temperature so that deterioration of mechanical seal can be prevented. Also, oil volume is increased 66% (from 240cc to 400cc), therefore, more long life can be achieved.





Rubber protector fitted to important parts

The important parts which are made of a special-grade resin having high impact strength are provided with a rubber protector to further improve against impact resistance.

One-point lifting for easy installation

The pump can be easily hanged up and down using a single hole in the handle.

Screws which hardly become loose

The use of glass fiber and a specially designed screw taking into consideration the pump deformation with the lapse of time and due to heat prevents the leakage of water caused by loose screws.

Excellent corrosion resistance

SUS 304 and engineering plastic are also used for the stator casing and wet part, offering better corrosion resistance than the cast iron ones in conventional models. As a result, the "NORUS" of pumps achieves good corrosion resistance even under severer working conditions. In addition, the "NORUS" is hardly damaged by rust. Normally, only maintenance required of the "NORUS" is washing.

NEW

Seamless Stator Casing Structure

No welded area, improved corrosion resistance by enlarged seal width

(Applicable : CR & CRS 0.15~0.75kW)

Seamless stator casing structure is employed by press process so that no welded area on stator casing to prevent rust from junction.
Also, packing seal width is enlarged to prevent rust between gap.

Upper Motor Seal

Lower Motor Seal

Tough for in the air operation

Low temperature rise motor achieves 30 minutes continuous in the air operation at low water level. Low exothermic of motor and low bearing temperature rise.

Wear resistant vortex impeller which is hardly clogged with foreign matter

Model CR and CRS employ a vortex type impeller. Since the vortex impeller reduces the tangling of fibrous matter, the CR series is comparable or superior in pumping performance to conventional vortex type pumps. The impeller is made of engineering plastic having excellent wear resistance. It is more than 100 times as strong as impellers made of ordinary ABS resin against the wear caused by sand, detergents, solids, etc. contained in sludge. Therefore, the "NORUS" can be used even in raw water containing considerable amounts of solids.

Impeller made of engineering plastic

After 200 hours of pump operation Loss of impeller weight:3.3%

Impeller made of ordinary ABS resin

After 24 hours of pump operation Loss of impeller weight:46%

*Test condition:Pump was operated in 500 liters of water containing 125 kg of sand.

■ Principal Specifications

Applicable liquid	Liquid type	Waste water or raw water containing sludge	
	Liquid temperature	0~40℃	
Material	Pump shaft	SUS420J₂ or SUS304	
	Stator casing	SUS304	
	Pump casing	Engineering Plastic (reinforced with glass fiber)	
	Impeller		
Structure	Impeller	Vortex:CR,CRS Closed:CRC	
	shaft seal	Double mechanical seal Wet side:SiC x SiC Motor side:Ceramic x Carbon (0.15~0.75kW) SiC x SiC (1.5~2.2kW)	
Motor	Type	Dry-type submersible induction motor	
	Insulation class	Class E	
	Phase	Single phase (0.15~0.4kW)	Three phase (0.15~2.2kW)
	Starting method	Condenser-run	Direct-on-line

High Pumping Capability with Automatic Connection

Line up with automatic connection type for easy installation and maintenance. Anti floating mechanism is provided for connection. Also, in combination with special packing to prevent water leakage so that pumping loss is prevented.

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

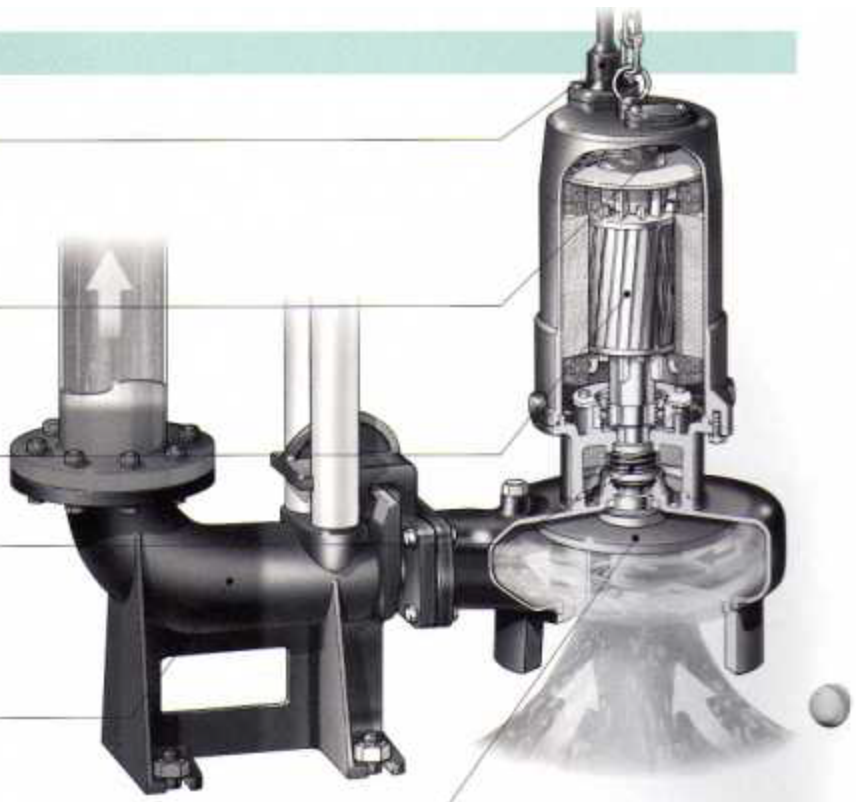
A highly wear resistant silicon carbide double mechanical seal positively prevents the water from penetrating into the motor chamber. Besides, combined use of an oil seal further extends the service life of the mechanical seal.

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 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
	Enclosure	IP68
	Phase	Three Phase
	Voltage	According to the specifications

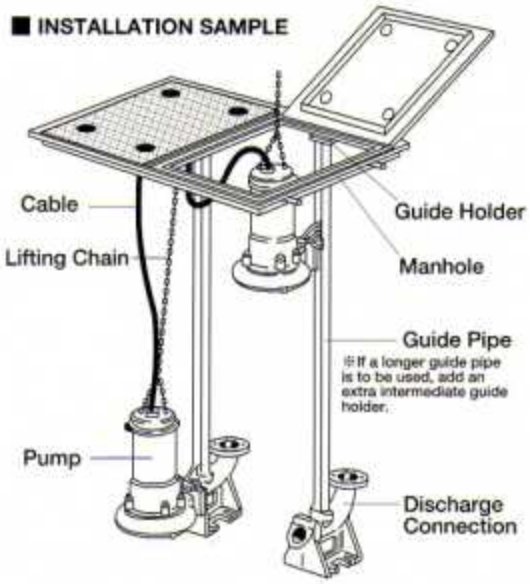
Special Specification

Cable Extension	Length of Cable 15·20·30m	
Material Change	Impeller	stainless steel casting or According to the specifications
	Base Cover	
	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)	

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.

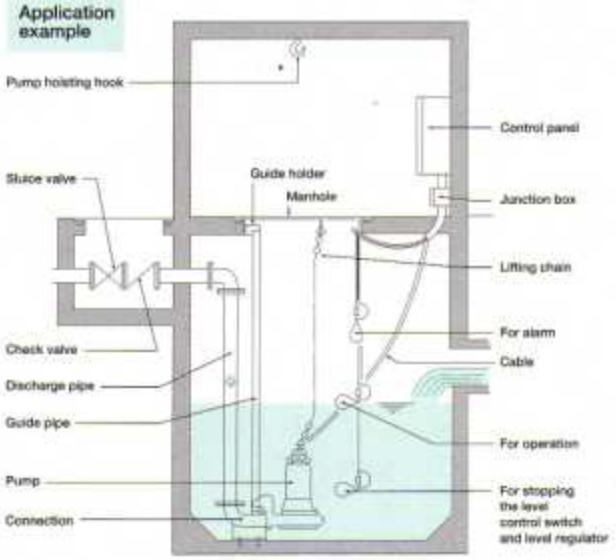
■ INSTALLATION SAMPLE



P TYPE
Automatic Connecting Type

CN80-P80B

Application example



F TYPE
Flange Connecting Type

CN80-F80

Application example