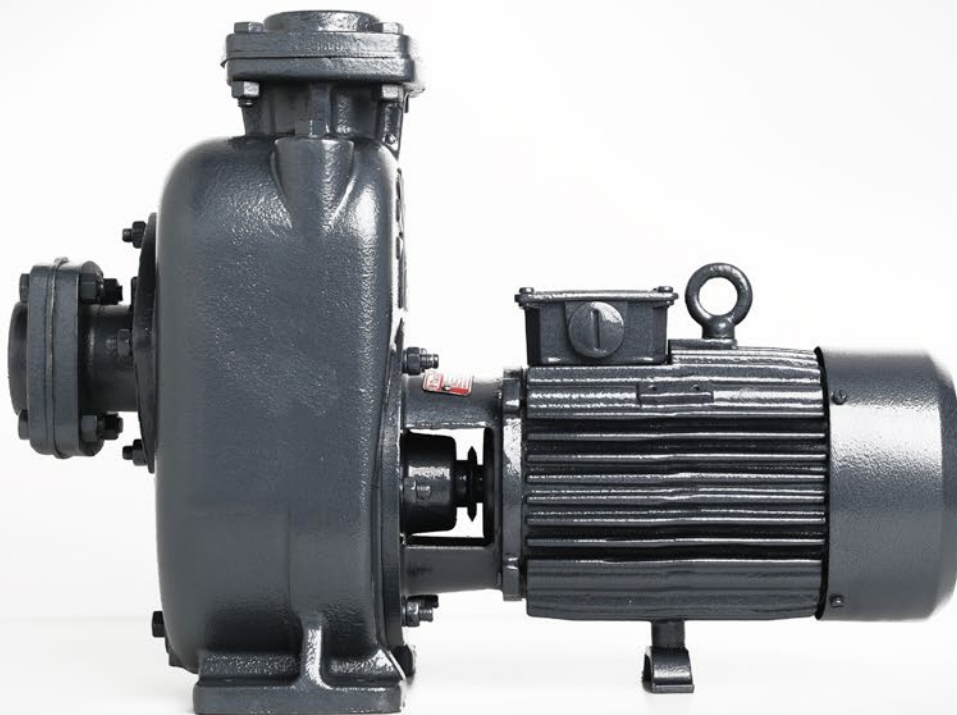


Non-Clog Sewage Pumps

Instruction &
Operating Manual



**Texmo
Industries**
Est. 1956



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1. Introduction

Thank you for choosing a quality product manufactured by Texmo Industries. We request you to read this manual carefully to ensure that the system you have purchased will be operated correctly.

This manual is intended to provide you with information on your product and information on installation and operation. You will also find information on how you could contact Texmo Industries, should you need further information or help and support.

2. Warranty information

Please refer to your warranty card or visit **www.taropumps.com** for more information on your warranty.

3. Complying with standards

IS 996: Single Phase a.c. Induction Motors for General Purpose

IS 3043: Code of Practice for earthing - Specification

IS 4029: Guide for testing three - phase motors

IS 7538: Three Phase Squirrel - cage Induction Motors for Centrifugal Pumps for Agricultural Applications - Specification

IS9079: Electric Monoset Pumps for Clear cold water for Agricultural and Water Supply Purposes - Specification

IS13730: Specifications for Particular Types of Winding Wires

4. Contents of the packing box

Based on model you have purchased, your Non-clog Sewage Pump is packed along with instruction manual and warranty card in either a corrugated box or in a wooden crate.

5. Information about your pump

Taro Non-clog Sewage Pumps are manufactured using high quality raw materials and components using state-of-the-art manufacturing facilities and will give trouble-free performance if they are properly installed and maintained. The Non-clog Sewage Pumps are centrifugal pumps with inbuilt self-priming mechanism. After installation, once the pump casing is filled initially with the pumped liquid, the pump is ready to use. The specialty of such pumps is that they permit the pumping out of mud, dirt, and suspended solids. These pumps are suitable for handling water and non-corrosive liquids.

The self-priming action of the pump works on the principle of diffusion. After installation, the pump casing is completely filled with the pumping liquid which is retained by the flap valve assembly. When the pump is started, the flap valve opens and air from the suction pipe is mixed with the casing liquid. The mixture of air and liquid is transferred into the larger casing outside the pumping chamber and air escapes into the delivery branch from there. This process continues until all the air in the suction line is eliminated and the pump works as a centrifugal pump.

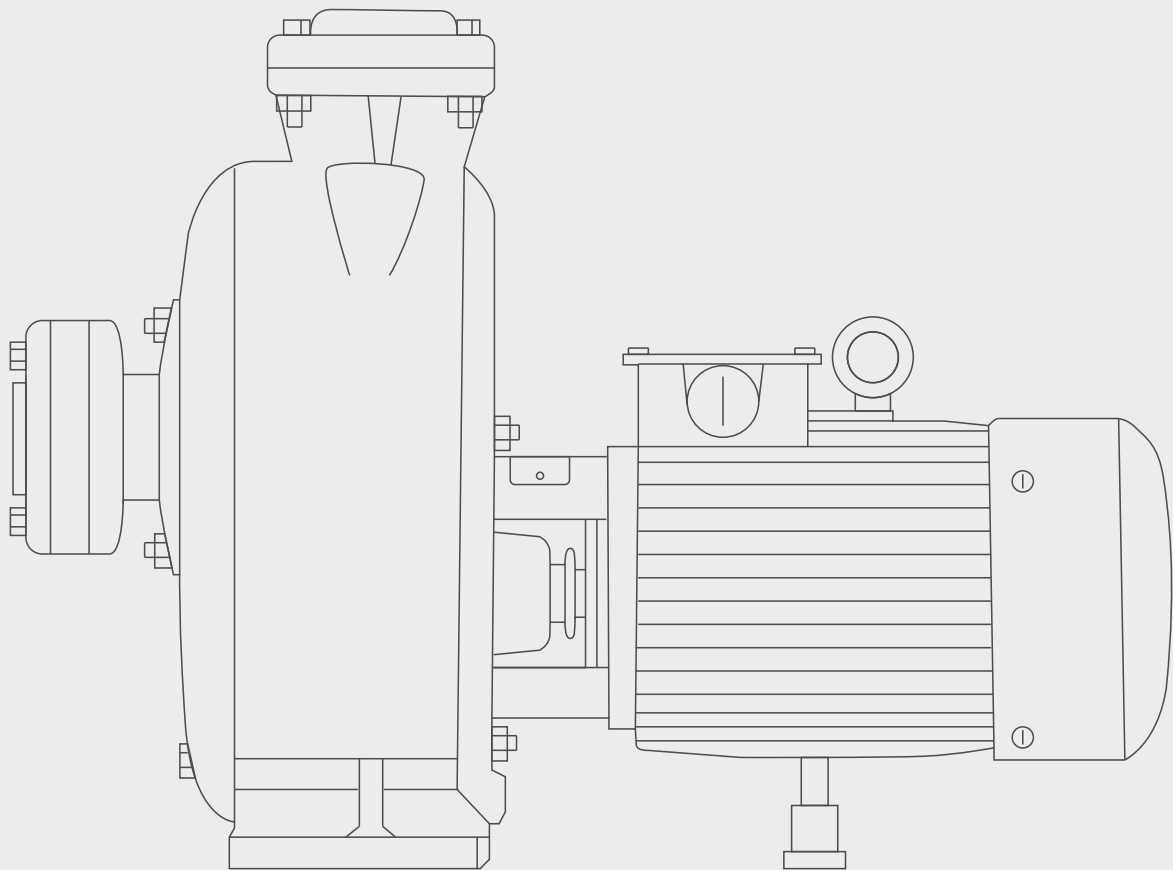
Non-clog Sewage Pumps find wide application for Pumping of sewage and effluents in Bungalows, Apartments, Office, Public Buildings, Schools, Hotels, Restaurants and Hospitals, Water recycling plants, Pumping of surface rain water, De watering of trenches and pits.

Prior to installation, read this manual thoroughly and follow the instructions for installation and maintenance of our Non-clog Sewage Pump to ensure reliable operation. The pump should be installed by technically qualified personnel in compliance with national and local electrical codes and as per our instructions in order to avoid electrical shocks, unsatisfactory performance, and / or equipment failure.

6. Schematic drawing

View of a Non-clog Sewage Monoblock is shown below in Fig. 1:

Fig. 1 View of Non-clog Sewage Monoblock



7. Key specifications & features

Standard Specification of Monoblock is shown below in TABLE 1:

Phase and Power	Single Phase – 2 Pole: 1.0, 2.0 HP
	Three Phase – 2 Pole: 1.0, 2.0, 3.0 HP
	Three Phase – 4 Pole: 5.0 HP
Motor Type	Dry
Starting method	Single phase : CSR Three phase : DOL
Operating Voltage	Single phase : 350 - 440 V Three phase : 180 - 240 V
Frequency	50 Hz
Speed	2P: 2850 rpm
	4P: 1440 rpm
Duty	S1 Continuous
Insulation Class	Refer name plate
Max. Fluid Temperature	33°C
Impeller Type	Semi Open
Type of Enclosure	TEFC
Thermal Overload Protection (TOP)	Provided for Single-phase pumps

Product Performance Specification

Product performance data are provided in TABLE 2 below:

NMH SERIES - THREE PHASE NON-CLOG SEWAGE MONOBLOCKS

Approximate performance values of NMH series at 415 V (-15% to +6%), 50 Hz, AC power supply

Model Name	Motor Rating		Pipe Size (mm)		Total Head Values																	SHP in mm	Power consump. Max.
	KW	HP	Suc.	Del.	Metres	6	7	8	9	10	11	12	12.5	13	14	15	16	18	20	22	24		
					Feets	20	23	26	30	33	36	39	41	43	46	49	52	59	65	72	78		
NMH 7040 □	0.75	1	40	40	Discharge value in l/s	4.4	4.2	3.9	3.6	3.2	2.8	2.2	1.8	1.4	0.6							7	
NMH 1550 □	1.5	2	50	50		7	6.8	6.5	6.2	5.8	5.4	4.8	4.5	4.2	3.4	2.4	1.4					9	
NMH 2250	2.2	3	50	50					7.5	7.5	7.4	7.3	7.3	7.2	7	6.8	6.4	5.5	4.2	2.6		10	

NCH SERIES - THREE PHASE NON-CLOG SEWAGE COUPLED SET

Approximate performance values of NCH series at 415 V (-15% to +6%), 50 Hz, AC power supply

Model Name	Motor Rating		Pipe Size (mm)		TOTAL HEAD VALUES																	SHP in mm	Power consump. Max.
	KW	HP	Suc.	Del.	Metres	6	7	8	9	10	11	12	13	14	15	16	18	20	22	24	26		
					Feets	20	23	26	30	33	36	39	43	46	49	52	59	65	72	78	85		
NCH 2250	2.2	3	50	50	Discharge value in l/s				7.5	7.5	7.4	7.3	7.2	7	6.8	6.4	5.5	4.2	2.6	1.05		10	
NCS 3775	3.7	5	75	75		22.4	20.2	19.1	17.9	15.4	12.5	8.9	4.5	2.1								15	

Performance conforming to IS : 9079

□ - Singel phase version also available

SHP - Solid handling particle size

PRODUCT TYPE KEY

N M H - S 15 50 - Non clog Sewage Monoblock High speed - Single phase (15 - Power code, 50 - Delivery pipe size)

N C H 22 50 - Non clog Sewage Coupled High speed (22 - Power code, 50 - Delivery pipe size)

N C S 37 75 - Non clog Sewage Coupled Slow speed (37 - Power code, 75 - Delivery pipe size)

Key features: Motor



The motor houses shielded type Deep Groove Ball Bearings pre-filled with grease, to take up the radial and axial thrust loads



The rotors are dynamically balanced



Adequate motor surface area is provided for effective cooling



To protect the single-phase pump from overload, Thermal Overload Protector (TOP) is provided

Key features: Pump

- ✓ The pump is designed with semi-open impeller to prevent clogging of the impellers during pumping
- ✓ A small clearance is maintained between the impeller blade surface and the replaceable wear plate so that high heads can be developed
- ✓ The pump by virtue of its design does not require a foot valve.
- ✓ The impeller is dynamically balanced
- ✓ Water slinger provided to prevent water entry into the front bearing
- ✓ Stainless steel sleeve within the stuffing box provides additional protection to the shaft

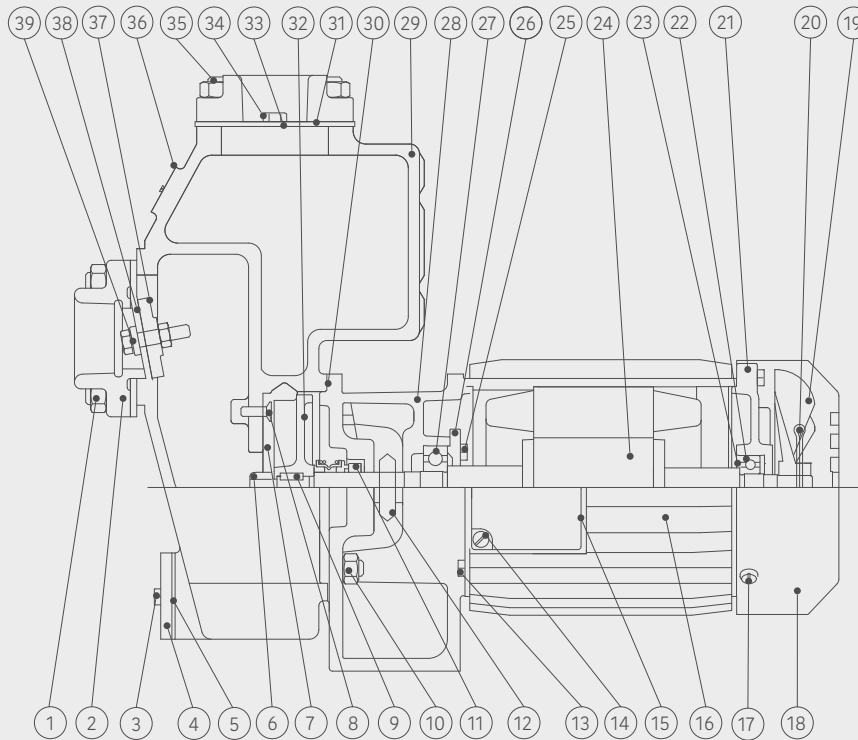
Electrical Connection

- ✓ For single phase pumps, simply connect the supply to the two terminals
- ✓ For three phase pumps, connect the three wires from the Direct On-Line starter to the three terminals on the motor

8. Cross-section view

Cross-section view of single phase Capacitor Start and Run High Speed Monoblock is shown below in Fig. 2:

Fig. 2 Cross-section view of a Non-clog Sewage Monoblock – NMH 7040 / NMH 1550



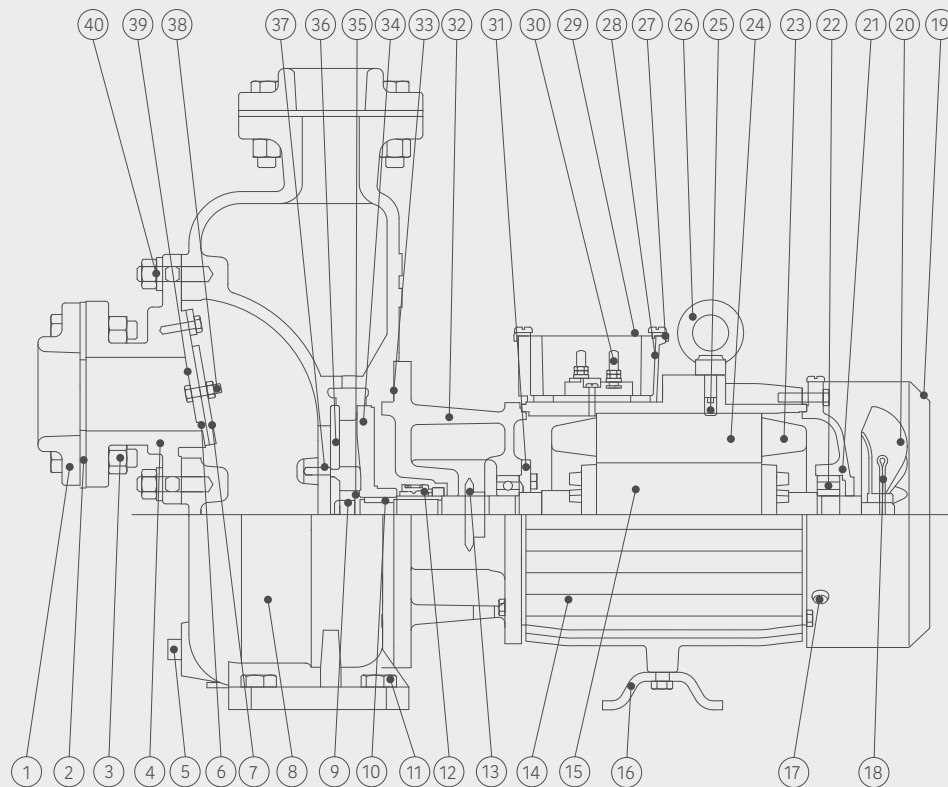
No.	PART NAME
1	Stud & Hex Nut
2	Flange Square
3	Hexagon Head Bolt
4	Drain Cover
5	Gasket - Irregular - Drain Cover
6	Hexagon Nylock Nut
7	Wear Plate
8	Csk Head Hex.Socket Screw
9	Parallel Key
10	Stud & Hex Nut
11	Mechanical Seal
12	Water Slinger

No.	PART NAME
13	Hex Head Bolt
14	C.H Screw
15	Terminal Box
16	Body
17	C.H Screw & Spring Washer
18	Fan Shield
19	Fan
20	Split Cotter Pin
21	Rear Cover
22	Deep Groove Ball Bearing
23	Shield
24	Rotor With Shaft
25	Hexagon Head Bolt
26	Cap

No.	PART NAME
27	Deep Groove Ball Bearing
28	Cover Dome
29	Casing
30	Gasket Circular
31	Gasket Square
32	Hex Stud & Nut
33	O-Ring
34	Drain Plug
35	Stud & Hex Nut
36	Hammer Drive Screw
37	NRV Disc Face
38	NRV Flap
39	Washer

Cross-section view of a three-phase Non-clog Sewage Monoblock set is shown below in Fig. 3:

Fig. 3 Cross-section view of a Non-clog Sewage Monoblock – NMH 2250



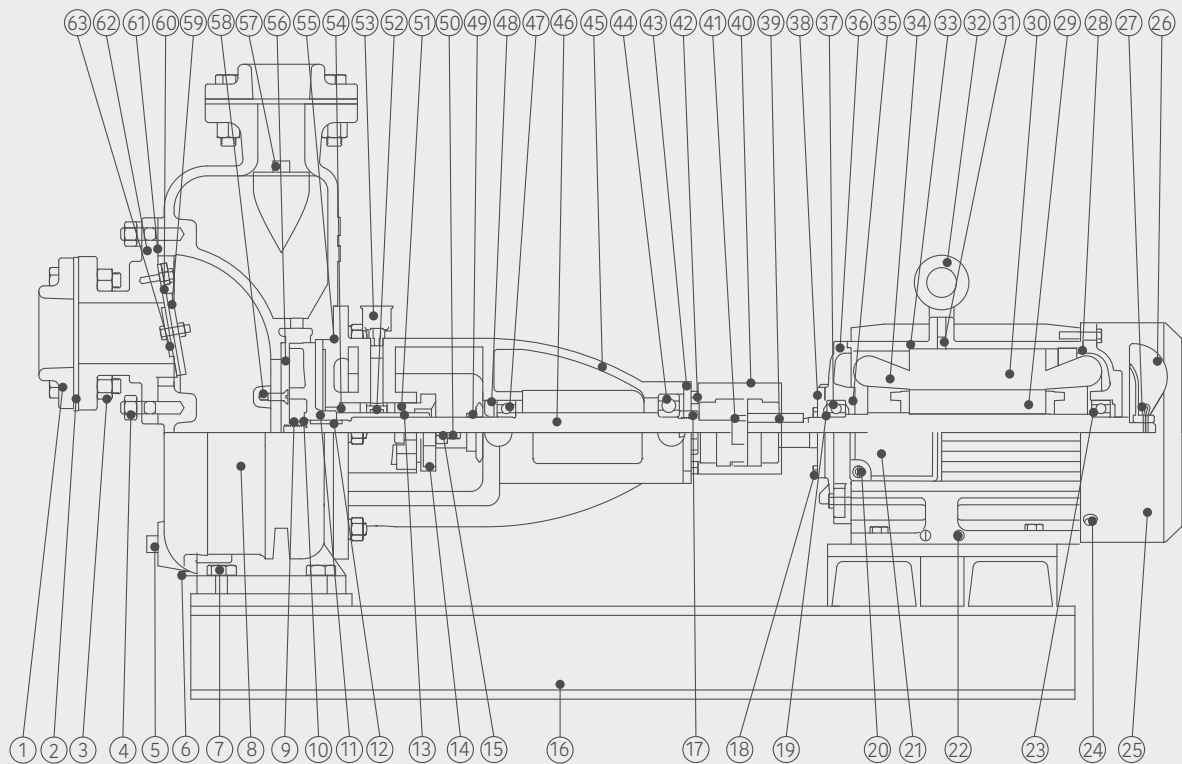
No.	PART NAME
1	Flange Square
2	Gasket Square
3	Hex Head Bolt & Nut
4	Flange Cum Nrv Seat
5	Drain Plug
6	Nrv Disc Face - Swing
7	Nrv Disc Face - Fixed
8	Casing
9	Hex Nylock Nut
10	Parallel Key
11	Hex Head Bolt
12	Mechanical Seal
13	Water Slinger
14	Body

No.	PART NAME
15	Rotor With Shaft
16	Support For Body
17	C.H Screw & Spring Washer
18	Split Cotter Pin
19	Fan Shield
20	Fan
21	Rear Cover
22	Deep Groove Ball Bearing
23	Coil
24	Stator Stack
25	Hex Socket Set Screw
26	Eye Bolt
27	Gasket
28	Terminal Box

No.	PART NAME
29	Terminal Box Cover
30	Terminal Board
31	Cap
32	Cover Dome
33	Gasket Circular
34	Impeller
35	Washer
36	Wear Plate
37	CSK Head Hex.Socket Screw
38	Hex Head Bolt & Nut
39	Washer
40	Stud & Hex Nut

Cross-section view of a three-phase Non-clog Sewage Coupled Pump is shown below in Fig. 4:

Fig. 4 Cross-section view of a Non-clog Sewage coupled set



No.	PART NAME
1	Flange Square
2	Gasket Square
3	Hex Bolt & Nut
4	Stud & Hex Nut
5	Plug - 1/2" Bsp
6	Plug - 1-1/2" Bsp
7	Hex Bolt
8	Casing - NCH 2250
9	Hexagon Nylock Nut
10	Washer
11	Impeller
12	Parallel Key
13	Sleeve
14	Gland
15	Hexagon Nut
16	Base Plate
17	Lock Nut
18	Hex Head Bolt
19	Circlip
20	C.H Screw
21	Terminal Box

No.	PART NAME
22	C.H Screw & Washer
23	Deep Groove Ball Bearing
24	C.H Screw And Spring Washer
25	Fan Shield
26	Fan
27	Split Cotter Pin
28	Rear Cover
29	Rotor With Shaft
30	Stator Stack
31	Hexagon Socket Set Screw
32	Eye Bolt
33	Body
34	Coil
35	Cap
36	Front Cover
37	Deep Groove Ball Bearing
38	Cap
39	Parallel Key
40	Love Joy Coupling Set
41	Spider
42	Hex Head Bolt & Spring Washer

No.	PART NAME
43	Cap
44	Deep Groove Ball Bearing
45	Bearing Bracket
46	Shaft
47	Deep Groove Ball Bearing
48	Sheild
49	Water Slinger
50	Square Bolt
51	Gland Packing Rope
52	Lantern Ring
53	Grease Cup
54	Plain Washer
55	Gasket Circular
56	Wear Plate
57	Plug - 1/2" Bsp
58	CSK Head Hex. Socket Screw
59	NRV Disc Face - Fixed
60	NRV Flap
61	Gasket Square
62	Flange Cum Nrv Seat
63	Washer

9. Pre-installation requirements

Arrangement for Installation






- ✓ Engage a professional and trained mechanic with experience in erecting Non-clog Sewage Pumps
- ✓ Ensure proper safety precautions during installation
- ✓ Ensure that a level foundation is ready before erection of the pump. Contact the dealer from whom the pump was purchased for the motor mounting details for preparing the foundation
- ✓ Use appropriate lifting equipment during installation.

General Installation Precautions

- ✓ Open the packaging and note down the Serial number and Model for future reference
- ✓ Ensure all fasteners are tightened properly
- ✓ Use prescribed pipe sizes as mentioned on the product name plate
- ✓ Use a quality foot valve with strainer to ensure proper priming
- ✓ Immediately on installation, prime the set before starting the pump
- ✓ Do not install the pump with high static suction lift
- ✓ It is recommended to install the pump on a level base with foundation bolts to prevent the pump and piping from getting stressed
- ✓ Use a single power cable for three phase from the pump to the starter. It is not recommended to use a power cable with large number of joints as this can result in a significant voltage drop
- ✓ While installing the pump, ensure the pump is not subject to shock loads which can damage the pump parts
- ✓ As the pump is air cooled, ensure that air flow to the cooling fan, located at the rear side of the motor, is not blocked
- ✓ Leakage past the gland is necessary to ensure that the heat generated due to friction between the rotating sleeve and stationary packing rope is carried away. About 20 drops / minute is normal

 Note	<p>If you detect damage or discrepancy in the product, contact the dealer from whom the pump was purchased</p>
 Warning	<p>Do not use this pump for oil or toxic, acidic, corrosive, and flammable liquids. Pumping flammable liquids could cause explosion</p>
 Caution	<p>Use appropriate equipment for lifting / lowering the pump. Ensure suitable precautions are taken while lifting and lowering the product</p>
 Caution	<p>Use trained professionals to install the pump</p>
 Warning	<p>Use a power supply cable that has sufficient rating. Factor in low-voltage operation</p>
 Warning	<p>Provide proper Earthing as improper Earthing can cause electrical shock</p>
 Caution	<p>Do not place the pump in a location subject to flooding as water can enter the motor and damage the windings and bearings</p>
 Warning	<p>Mount the pump with its axis horizontal</p>
 Note	<p>It is recommended to use a starter for three phase models</p>

Operation Precautions

 Caution	The shaft of the pump passes through a gland and stuffing box arrangement. Do not attempt to run the pump dry as the sleeve / oil seal can get damaged during dry rotation. Ensure the pump is primed first and then run it
 Warning	Switch OFF the power before working on electrical lines
 Caution	Do not use this pump for pumping liquid exceeding 33°C as this may lead to product failure
 Warning	Do not switch ON the pump if there is any human contact with the pumped medium. If any electrical leakage occurs, this could be fatal
 Note	For three phase models use a starter

10. Installation procedure

Please follow the below procedure to install the pump.



Caution

The supply voltage should be within the specified voltage range. Water temperature for operation of the pump should not exceed 33°C. Failure to observe the precautions given above could cause the pump to malfunction and may lead to current leakage or electrical shock



Warning

If you find any abnormalities like vibration, noise, smell, etc. from the pump during trial operation, switch OFF the pump and contact the dealer from whom this pump was purchased

Installation:

The following steps are executed prior to installation



Measure the Insulation Resistance using a Megger of 500 VDC



Ensure contact points are clean



Connect the measuring cable to the ground conductor



Connect the other measuring cable to every core of the motor cable in succession

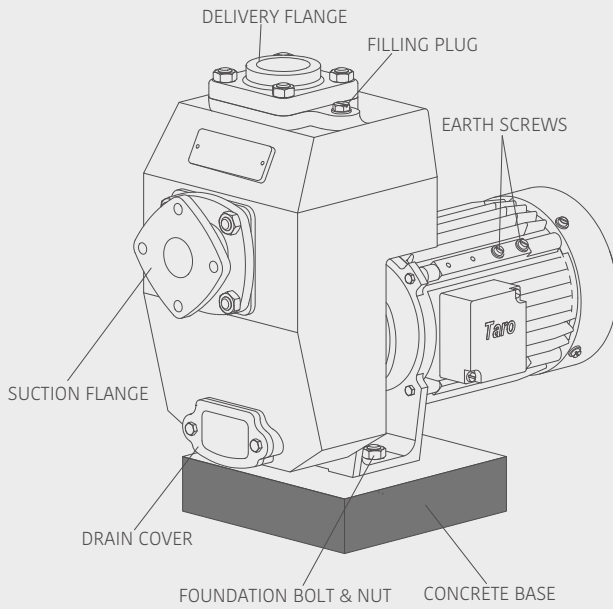


Ensure that the insulation resistance as shown on the Megger is a minimum of 20 mΩ

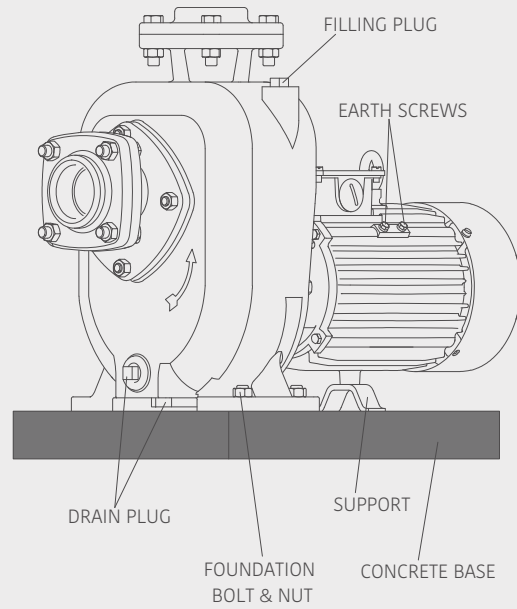


Prepare a level concrete foundation for mounting the pump and tighten the motor base using the foundation bolts as shown in Fig. 5 below:

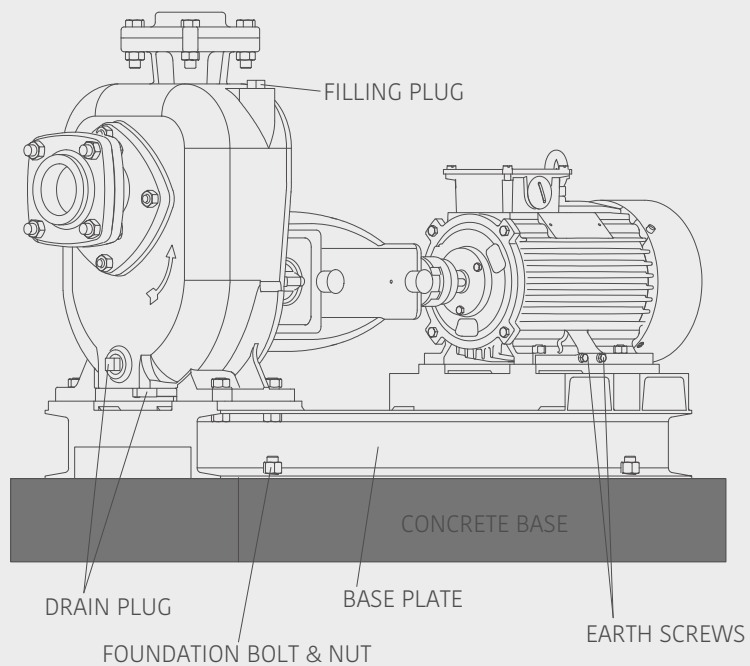
➤ **Fig. 5 Non-Clog Sewage Pump on a concrete foundation - installation**



(a) NMH 7040 / NMH 1550



(b) NMH 2250



(c) NCH 2250 / NCS 3775



Use prescribed pipe sizes as mentioned on the product name plate



Place the pump centre line as close as possible to the water surface and with the free end of the suction pipe fixed above the bottom of the well. Refer Fig. 6, shown below, for recommendations:

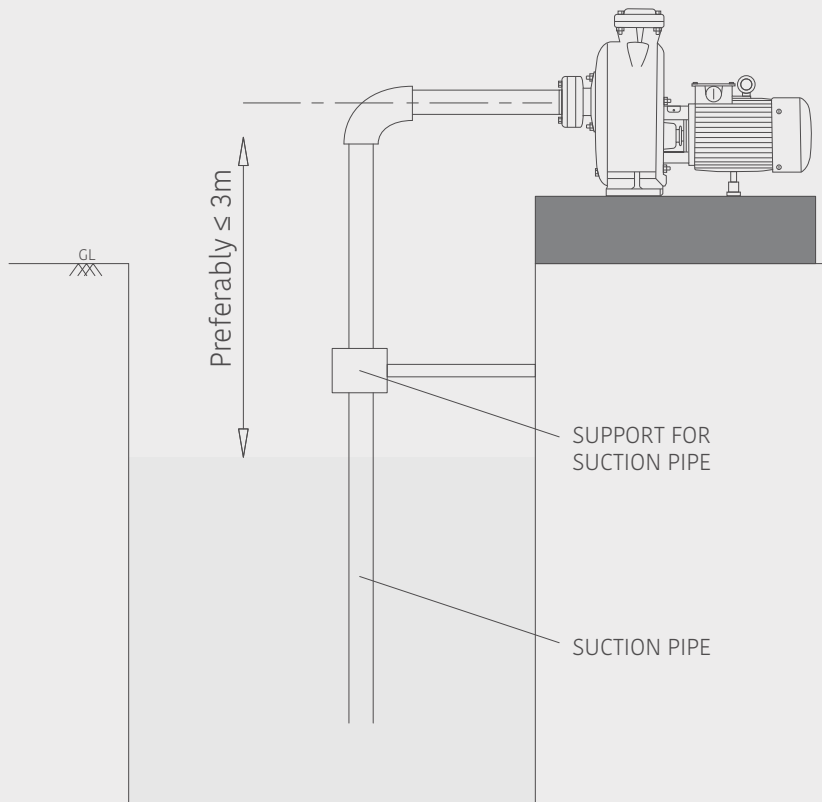


Fig. 6 Recommendations for locating the pump and foot valve



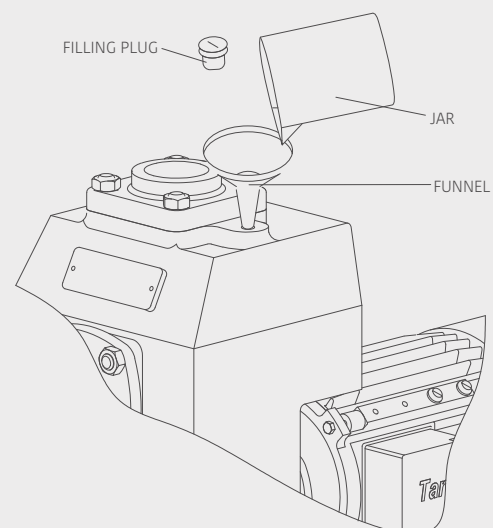
Use as few pipe fittings as possible in the suction line



Remove the filling plug and pour water, as shown in Fig. 7 below into the casing until it overflows. Replace the filling plug and tighten it.

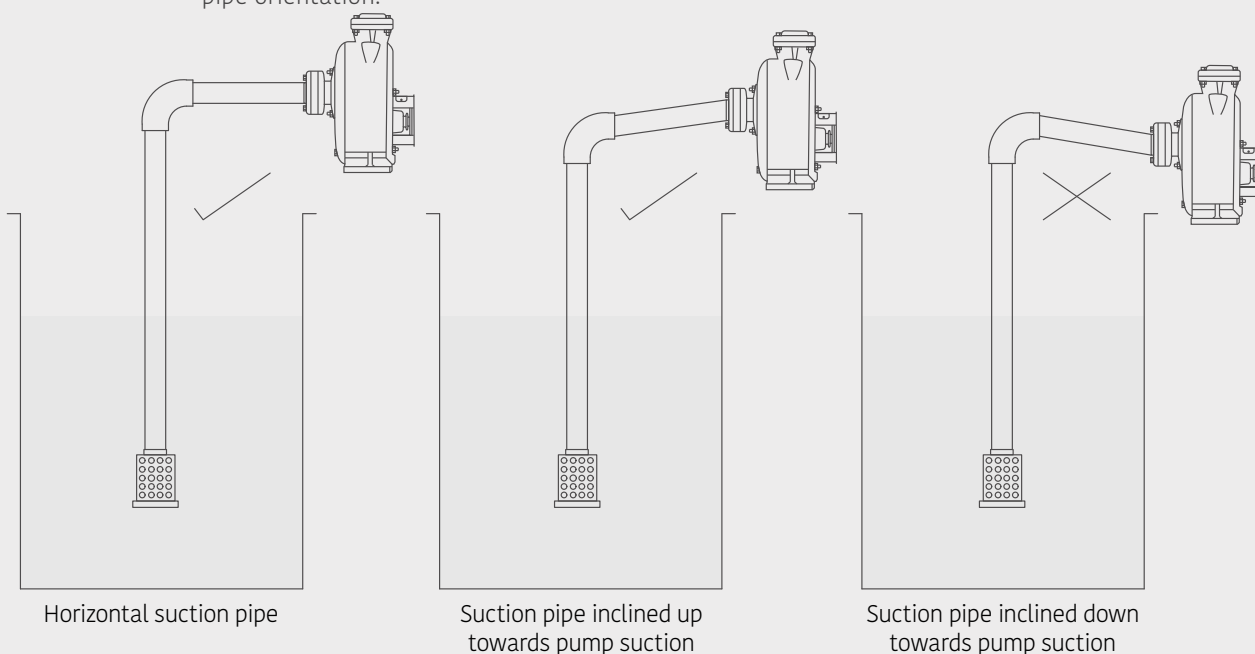
Fig. 7 Priming arrangement for Non-Clog Pumps

During priming, check the pump suction pipe for leakages.





Ensure that the suction pipe connected to the pump suction flange is horizontal or sloping upwards towards the pump suction flange to prevent air lock. A pipe sloping downwards towards the pump suction flange will result in air lock. Refer Fig. 8, shown below, for the preferred suction pipe orientation.



Horizontal suction pipe

Suction pipe inclined up towards pump suction

Suction pipe inclined down towards pump suction

Fig. 8 Preferred orientation of suction pipe for Non-Clog Pumps

Checking direction of rotation of Non-Clog Pumps



Danger

Hazardous voltage will cause death, serious injury, electrocution.

All electrical work must be performed by an authorised electrician, in compliance with local electrical equipment standards and internal wiring codes.



Ensure pump is primed



For three phase connect the pump to the starter and power up the pump



Check the direction of rotation of the motor shaft



If the direction of rotation is in the same direction as that marked on the casing, the connections are right










For Single Phase products in case the direction of rotation of the motor shaft does not match the marking on the casing, bring this to the notice of the dealer from whom the purchase was made and get the set repaired



For Three Phase products in case the direction of rotation of the motor shaft does not match the marking on the casing, interchange any two lead wires at the starter and confirm the direction of rotation as before

Electrical Installation

-  Check the power supply voltage and frequency and compare with the product requirements specified on the nameplate
-  Observe relevant EB regulations while providing power supply to the motor
-  As far as possible, do not use multiple joints in the electrical cabling while connecting the starter to the pump
-  Ground the pump using the two earth screws provided on the leg of the motor body
-  Ensure electrical joints, if any, are properly and adequately insulated
-  Connect the cable properly to the starter terminals to avoid loose connections
-  Factor in low-voltage operation while selecting cable size

Electrical wiring work



Warning

All electrical work must be performed by an authorised electrician in compliance with local electrical equipment standards and internal wiring codes. Improper wiring can lead to current leakage, electrical shock, or fire.

Earthing



Warning




Be sure to install the ground wire securely. Failure to observe this precaution could damage the pump and cause current leakage, which may lead to electrical shock



Caution

Do not connect the ground wire to a gas pipe, water pipe, lightning rod, or telephone ground wire. Improper grounding could cause electrical shock

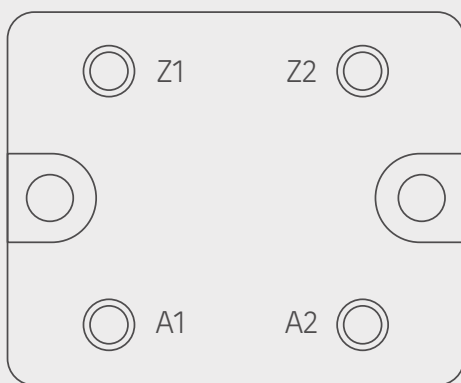
Connecting the Power Supply

 Caution	<p>Observe relevant Electricity Board regulations while powering up the pumpset</p>
 Warning	<p>Before inserting the power plug or connecting the wires to the terminal board, make sure the power supply is properly disconnected. Failure to do so may lead to electrical shock, short, or injury caused by the unintended starting of the pump</p>
 Caution	<p>Do not use damaged cables, power plugs, or loose power outlets. Failure to observe this precaution could lead to electrical shock, short circuit or fire</p>

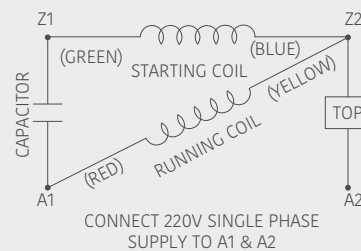
Power cable connection to Non-clog Sewage Pump

Refer Fig. 9a and 9b, shown below, for connecting the lead wires to the Terminal Board of Single-phase and Three-phase Non-clog Sewage Pumps.

Fig. 9 Cable lead wire connections



Connection diagram for capacitor start and run motor



Note: If top fails, interconnect Z2 & A2 using 1.5 mm² wire

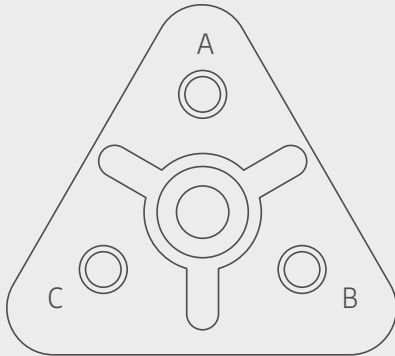
Fig. 9(a) Single-phase - NMH-S 7040 / NMH-S1550

▼ **Fig. 9(b) Three-phase**

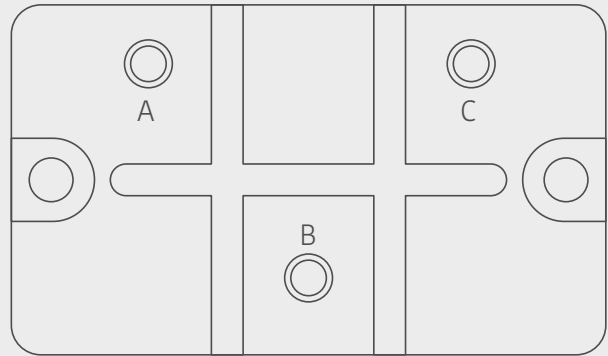
Connect three wires from the starter to the Motor Terminals marked A, B & C.

Interchange any two line leads for change of direction.

NMH 7040 / NMH 2250 / NCH 2250



NMH 1550 / NCS 3775



11. Basic troubleshooting





Warning

To prevent serious accidents, disconnect the power supply before inspecting the pump.

Read this Operation Manual thoroughly before requesting repair. Contact the dealer from whom this equipment was purchased. Servicing and troubleshooting must be handled by qualified persons with proper tools and equipment. Common faults, root causes for these, and suggested actions are provided in TABLE 3 below:

Fault	Possible causes	Suggested actions
Pump does not discharge water	Pump not primed	Prime the pump
	Faulty foot valve / blocked strainer (if used)	Check and replace foot valve / clean strainer if required
	Air leakage on the suction side	Check and correct for leakages
	Suction lift too high	Reduce the static suction lift
	Suction pipe free end / foot valve not sufficiently submerged	Lower the suction pipe free end / foot valve and ensure that the foot valve is submerged at least 1 metre below the free surface of water
	NRV is jammed	Check and replace
	Motor coil burnt	Rewind the motor
	Single-phase pump capacitor weak	Check and replace capacitor
	Low-voltage operation	Operate in the recommended voltage range
	The motor starter overload tripped	Reset the motor starter overload. If it trips again, check the voltage
	Fuse has blown	Replace fuse
	Loose connections	Tighten the electrical connections
	Shaft has sheared	Replace the shaft



Fault	Possible causes	Suggested actions
Less discharge from pump	Low-voltage operation	Operate in the recommended voltage range
	Wrong direction of rotation	Interchange the supply connections of any two phases for three phase pumps
	Static suction lift high	Position the pump within recommended suction lift
	Total head higher than specified head	Ensure delivery head within specified value
	Leaky pipes	Check the piping system and rectify the faults
	Smaller pipe size used when compared to nameplate recommendations	Use recommended size of pipes
	Discharge pipe internally coated with depositions	Clean the pipe
	Foreign bodies lodged in impeller / casing	Check the impeller / casing and remove the foreign bodies
	The valve in the discharge pipe is partly closed / blocked	Check and clean / replace the valves if necessary
	Impeller is worn out	Check and replace
Total head developed is too low	Clearance between pump impeller and wear plate increased	Check and replace worn out parts
	Abrasive and or corrosive wear of pump hydraulics	Change the worn out pump parts
Current consumption in excess	Single phasing	Check line fuses / availability of three phase supply
	Voltage too low	Check the voltage
	Defective rotor	Change the rotor
	Rotor rubbing against stator ID due to bend	Check and replace the rotor
	Low system head and therefore higher discharge	Throttle the discharge

Fault	Possible causes	Suggested actions
Pump runs rough and noisy	Bearings worn out	Dismantle and replace worn out bearings
	Pump cavitating due to high suction lift	Reduce static suction lift.
	Pump not grouted	Grout the pump
	Rotor shaft is bent resulting in rotor rubbing against stator bore	Replace rotor shaft
	Excessive wear and tear	Check impeller. If excessive, replace impeller.
Pump leaks excessively	Gland not adequately tightened	Tighten the gland
	Packing rope and oil seal worn out	Replace packing Rope and Oilseal
	Casing gaskets damaged	Check and replace gaskets
	Pipeline damaged	Check and replace piping
	Mechanical Seal damaged	Check and replace Mechanical Seal
 Note	Conduct trial operation after maintenance	
 Warning	Do not try to solve unspecified troubles of pump as it may lead to severe damage to the pump or injury to personnel. Contact the dealer from whom this pump was purchased	





12. Preventive maintenance checks

Precautions to be taken

 Warning	Disconnect power supply before starting maintenance or inspection of the pump to avoid electrical shock
 Note	If you find any damages or abnormalities, switch OFF the pump and report the problem to the dealer from whom the set was purchased

NOTE: The manufacturer assumes no responsibility for damage or injury due to disassembly in the field.

A definite schedule of preventive maintenance inspections should be established to avoid breakdown, serious damage, and / or extensive downtime. The schedule will depend on operating conditions and experience with similar equipment. The below checklist does not represent an exhaustive survey of maintenance steps necessary to ensure safe operation of the Non-clog sewage pump.

 Warning	The pump must not be operated with the delivery valve shut-off for more than a few seconds; otherwise the motor will overheat, possibly causing permanent damage
 Warning	Engage the services of an electrician to carry out electrical measurements / checking the functioning of the control panel

It is good practice to monitor the conditions and performance of the pumpset. Diagnosis may be carried out by checking the following:



Closing the delivery valve for a few seconds only and check the shut-off head generated by the pump. Do not run at shut-off conditions for a prolonged period of time as the water in the casing will get hot



Checking the current drawn by the pump at the duty flow rate

- ✓ Both these data should be compared to corresponding data recorded when the unit was initially installed
- ✓ Any reduction in shut-off head may indicate wear of the pump hydraulics
- ✓ Any increase in motor current at duty flow rate indicates a possible overload condition
- ✓ Measure the insulation resistance of the winding to check the condition of the motor

Monthly checks

- ✓ Priming time
- ✓ All pump connections
- ✓ Pump noise

Six monthly checks

- ✓ Open the pump and check and clean internal parts
- ✓ Replace gland packing if worn out
- ✓ Replace shaft sleeve if worn out
- ✓ Inspect the integral NRV and replace if necessary

Yearly checks

- ✓ Remove the impeller and inspect for wear and tear. Replace if wear is excessive
- ✓ Inspect the wear plate and replace if worn out
- ✓ Replace gland packing if worn out
- ✓ Replace shaft sleeve if worn out
- ✓ Inspect the integral NRV and replace if necessary

13. Do's and don'ts

Do's	Don'ts
Foot valve is not required. However, a quality foot valve with strainer can be used to prevent rags, leaves, etc. from being sucked into the pump and thereby clogging the pump	Do not install the pump with high static suction lift
Ensure leak proof joints on the suction side to prevent air entry and therefore loss of priming	Do not use piping smaller than what is mentioned on the nameplate
Use as few joints as possible on the suction line	Provide sufficient space around the pump set so as to ensure proper airflow
After installation, prime the pump	Restrict the number of joints on the cable. More the number of cable joints, more will be the voltage drop
Rotate the shaft to ensure that pump is not jammed	Do not place the foot valve right near the bottom of the well / tank / river as there is possibility for solids to be entrained with water
Ensure proper earthing is provided	Do not over tighten the gland. Tighten so that at least 20 drops of water continuously flows past the gland, thereby ensuring cooling of the shaft
Mount the pumpset on a level foundation	Do not restrict the space behind the cooling cover as this will obstruct the flow of air required for cooling of the motor
Check the direction of rotation of the pumpset matches the arrow mark cast on the casing	Do not use to pump corrosive and flammable liquids
Rubber gaskets assembled on the pump do not have a central hole. Cut out the central hole and re-install	Do not earth to a water line or gas line
Check all fasteners are tight	Do not use undersized electric cables between Pump and Starter Panel. Factor in low-voltage usage
Motor portion of pump set is IP44 protected. Provide protection from rain	Do not cover the product as this will prevent effective cooling of the motor
Use a starter with Inbuilt Single-phase Preventer, Overload protection and High-Voltage and Low-Voltage protection for three phase	Do not keep the pump suction tapering down towards the pump suction to prevent air lock

14. Important safety instructions

Only qualified personnel should be involved for inspection, maintenance, and/or repairs. The successful and safe operation of such a product depends on proper handling, installation, and maintenance. It is suggested that in case of non-functioning of the product, the customer is requested to contact the dealer through whom the purchase was made.



Danger

Hazardous voltage will cause death, serious injury, electrocution.
Disconnect all power before working on this equipment.
Maintenance should be performed by only qualified personnel.

15. Storage & Handling



The Non-clog Sewage Pumps are supplied from the factory in proper packing in which they should remain until they are to be installed



The product should be stored in a closed, dry, and well-ventilated room



Do not store the products under direct sunlight



Handle the pumps with care and do not expose the product to unnecessary impact and shocks



During unpacking and prior to installation, care must be taken while handling the pump to ensure that the product is not subjected to shock loads



If the product has been stored for a very long period, check the condition of the rubber components and the condition of grease in the ball bearings



Caution

If the Non-clog Sewage Pumps are stored, the shaft must be turned by hand at least once a month



Caution

If the Non-clog Sewage Pump has been stored for more than one year before installation, dismantle the motor and check the rotating parts before use. Ensure the impeller can rotate freely when turned by hand



Caution

Non-clog Sewage Pump sealing is effected by means of a mechanical seal / gland and stuffing box arrangement. Do not attempt to run the pump dry as the mechanical seal can get damaged / overheating of the shaft in the location of the stuffing box can occur. Ensure the pump casing is filled with water before operating the pump

16. Company contact information

For most up to date information on Texmo Industries, please visit www.taropumps.com



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