

Tauchpumpen

Submersible pump

Pompe immergées

Pompe sommersa

Bombas sumergibles

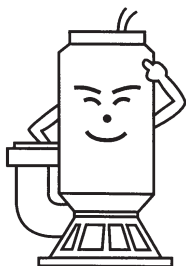
ASM



- Ⓓ Bedienungsanleitung
- ⒼⒷ Operating instructions
- Ⓕ Mode d'emploi
- Ⓘ Libretto istruzione
- Ⓔ Instrucciones de uso



1. PRIOR INSTALLATION



(1) First of all, check the model, outlet discharge, rated output, frequency, phase, voltage, head and the flow on the name plate of the pump to make sure the specification is corresponded to what you required.

Check the accuracy of the model on the name plate



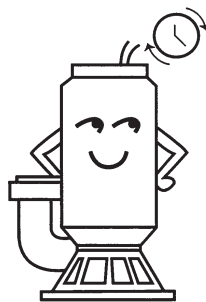
Careful transportation to avoid collision

(2) Check the pump to ensure that there was no damage during transportation. Especially focused on whether the cable was broken or loosen bolts and nuts.



(3) Check the type and the numbers of accessories. If you have any inquiry, please contact your distributors.

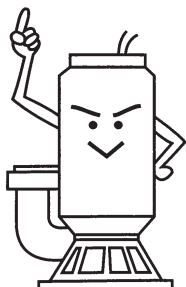
All attachments are corresponded to requirement.



Running in clockwise direction.

(4) Please note that the pump must be rotated in clockwise direction. Never operated in reverse to prevent from danger. (As operated in 3PH)

Single Phase/Three Phase



(5) It is necessary to supply adequate electricity during operation. As rotated in insufficient power, the pump may fail to start.

appropriate power supply.

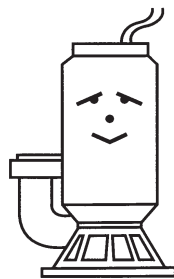
2. DURING INSTALLATION

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- (1) Make sure the frequency and voltage which you applied are corresponded to that of the name plate. (Esp. the electricity is supplied by generator, pay more attention in the fluctuation of voltage and frequency.

Check the power supply (frequency, voltage)



$\pm 10\%$

- (2) The pump must be operated in rated voltage. 10% fluctuation of voltage is allowed.

10% fluctuation of voltage is allowed.



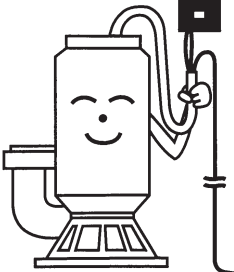
- (3) Do not operate the pump in extended cable freely as it may cause the allowable voltage drop. Besides, do not submerge the electrical joint of cable into water to prevent from the danger of electrical leakage. (Ref. Table 1.)

Do not extend the cable freely and submerge the electrical joint into water.



- (4) Do not move pump by pulling the cable. It may lead to breakage in the cable core, decrease the insulation and cause the leakage of electricity.

Do not move the pump by pulling the cable.



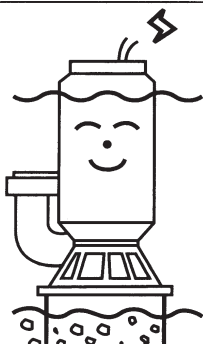
- (5) For safety cause, please operate the pump, with ground wire properly.

The earth wire is green.



- (6) It's necessary to install ELCB (electric leakage circuit breaker) to prevent from electrical shock.

Please install ELCB to ensure your safety.



Avoid clogging strainer by particles.

(7) Neither bury the pump in mud/sand nor clogged the pipe by miscellaneous particles.

It is suggested to expose the strainer by suspend or elevate the pump.



Select the proper size of hose pipe.

(8) Take the proper size of hose pipe which can fit the pump. If the hose pipe is smaller than the discharge of the pump, it would cause the head loss increasing and the flow decreasing. On the contrary, the hose pipe would be clogged by particles.

Table 1. The allowable safety length of extend cable(Meter)

Start Method	Phase Voltage	Hose Power HP(kW)	Diameter of conductor (mm ²)							
			1.25	2.0	3.5	5.5	8.0	14	22	30
Direct Start Capacitor start	Single Phase 110v	0.5(0.4)	23	37	68					
		1(0.75)	15	24	44					
Direct Start Capacitor start	Single Phase 230V	0.5(0.4)	46	74	136					
		1(0.75)	30	48	88					
		2(1.5)		24	44	69				
		3(2.2)			30	49	70			
Direct Start	Three Phase 230V	0.5(0.4)	208	326						
		1(0.75)	118	186						
		2(1.5)	62	97	179					
		3(2.2)		68	126	198				
		5(3.7)			70	109	155			
		7.5(5.5)			50	78	110	198		
		10(7.5)				56	79	142		
		15(11)					59	106	162	
Y-△	Three Phase 230V	20(15)					78	119	161	
		15(11)				84	118	160		
		20(15)				63	89	128		
		25(19)					71	107	195	
		30(22)							163	220

NOTE:

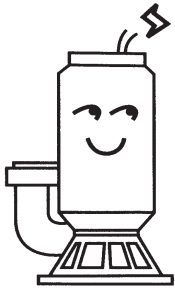
(1) The cable length is calculated from motor outlet cable.

(2) It's calculated under the circumstance of around temperature at 30°C degree.

(3) Safety length of cable in three phase 380V is about $1.7 \times$ length in three phase 230V.

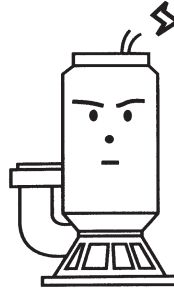
3. OPERATION

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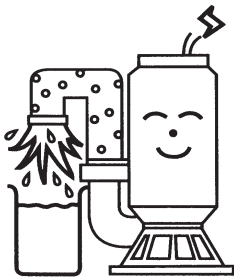
(1) Switch on power supply.

Switch on the supply



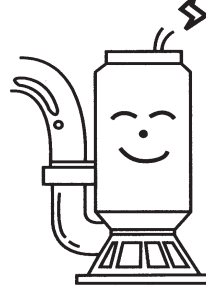
(2) If the discharge pipe uses a hose and the hose is sharply bent, reduce the number of bends and make their angle as obtuse as possible to keep the flow smoothly.

Make the flow smoothly



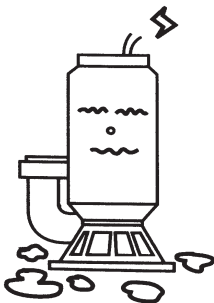
(3) Check the water discharge condition to ensure it meet capacity of the pump.

Make sure the water flow has achieved the requirement.



(4) Check that the pump is free from any vibration and noise, and operated smoothly.

Check and see if there are any abnormal phenomenon



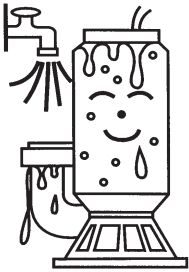
(5) The water level must be higher than pump body, otherwise the motor may burn out due increased temperature.

Never run dry

4. INSPECTION AND MAINTENANCE



INSPECTION AND MAINTENANCE: make sure to turn the power off before proceeding inspection in jobsite.



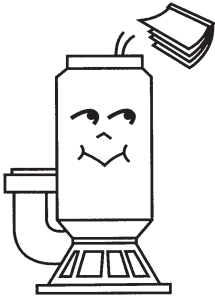
Cleaning inside particles of pump body.

(1) Cleaning of particles: after pumping the water containing mud and sand, esp. cement, run the pump by fresh water for a few minutes before stop operation. Without this step, the impeller will be clogged by dirt, cement or miscellaneous particles to cause the starting failure in next operation.



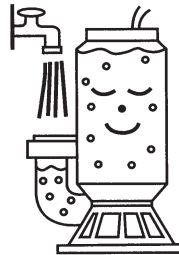
Check the insulation regularly

(2) Insulation resistance: check out monthly. Measure the insulation resistance between each phase and earth core of the power cable with a 500v megger to check that the resistance is $10M\Omega$ or higher. (If the resistance is lower than $10M\Omega$, check and repair immediately.)



Regularity Maintenance

(3) Lubricant and mechanical seal : the mechanical seal endures the operation for a long period of time. It's better to check the lubricant once per half year by manufacture or distributor. When the lubricant shows the symptom of opaque or bubbling, replace the lubricant and mechanical seal right away.



Check and clean the pump before storage.

(4) Storage : It is recommendable to check the lubricant, wearing and abrasion parts and insulation resistance before storing the pump so the next operation can start immediately without waiting. After washing the inside body and outside surface of the pump with fresh water, store the pump in a dry indoor place after completely dried.

ASM PUMP provides you reliable quality assurance.

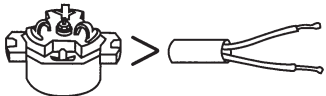
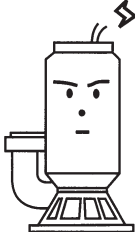
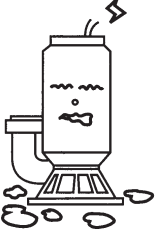
Our benefits:

DRY MOTOR: Without cooling oil to meet enviromental protection demand, high efficiency, eneergy saving.

AUTO-CUT:Protecting motor from burning in abnormal conditions.

DOUBLE MECHANICAL SEAL:Strong leakproof effect to ensure long operation.

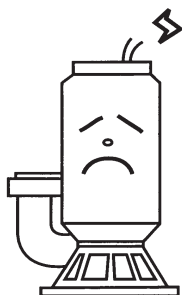
What is AUTO-CUT ?

INTRODUCTION	Abnornai syptoms always lead to burning of motor, It is very costly and cause much inconvenience to the customer, therefore, the pump must be equipped with AUTO-CUT to prolong pump operation life. AUTO-CUT is better than thermostat, the thermostat can only be functioncd on overheat motor, but AUTO-CUT can protect motor from burning by electrical and mechanical problems.	 AUTO-CUT THERMOSTAT
AUTO-CUT IN ACTION	Abnormal symptom in electricity 	Phase failure, voltage fluctuation over 10% voltage mistake
	Abnormal symptom in operation 	Lower water level, run dry locking of impeller. strainer clogging. fluid temperature is high
AUTOMATIC RECYCLING	Equipped with automatic motor protector, AUTO-CUT will be functioned and stop pump operation caused by electrical and mechanical factors to prevent motor from burning. when temperature come to normal, the pump will start operation automatically. In this case, please check and improve the real cause of abnormal syptoms as soon as possible, otherwise, the AUTO-CUT will be functioned continuously.	

5. TROUBLESHOOTING GUIDELINE



SYMPTOM 1



No buzzing and failure in running after switch on the power

PROBABLE CAUSE

CORRECTIVE ACTION

NO electricity

Arrange power supply

Break in the cable

Replace a new one

Defective connection

Complete the connection

Disconnection in motor coil

Rewinding the coil

Auto - cut in action

Trace the cause and take appropriate action

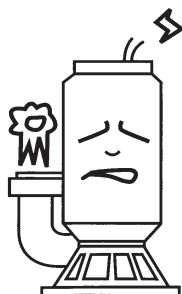
Auto - cut failure

Replace a new one

Fuse broken

Replace a new one

SYMPTOM 2



Buzzing but failure in running

PROBABLE CAUSE

CORRECTIVE ACTION

Connection is defective/incomplete

Complete the connection

Defective cable

Replace the cable

Defective motor

Rewinding the coil

Bearing are worn/defective

Replace a new one

Trouble in capacitor(Single Phase)

Replace a new one

Trouble in centrifugal switch(Single Phase)

Replace a new one

Trouble in auto - cut

Replace a new one

Locking of impeller

Overhaul and clean the impeller

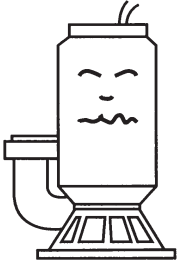
Voltage drop

adjust the power supply

Insufficiency of generator capacity

Replace the generator with a larger one

SYMPTOM 3



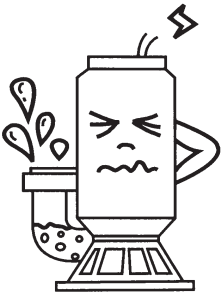
Operation stop soon after
staring

PROBABLE CAUSE

CORRECTIVE ACTION

Voltage drop	Adjust the power supply and voltage
Insufficiency of generator capacity	Replace the generator with a larger one
Voltage unbalance(Three Phase)	Adjust the power supply
Trouble in auto - cut	Replace a new one
Trouble in motor coil	Replace or rewinding the coil
High liquid viscosity	Consult with manufacturer
High liquid specific gravity	Consult with manufacturer
Too high liquid temperature	Consult with manufacturer
Reverse rotation(Three Phase)	Interchange two of the three phases

SYMPTOM 4



Insufficient pumping liquid or
failure in pumping

PROBABLE CAUSE

CORRECTIVE ACTION

Head is too high	Replace pump with one of appropriate size
Reverse rotation(Three Phase)	Interchange two of the three phases
Hose pipe clogging	Check and eliminate the particles
Abrasion of impeller	Replace a new one
Strainer clogging	Clean strainer