

# HITACHI DUAL VOLTAGE SUBMERSIBLE MOTORS


**F 2**


Date: 11/01/17


Supersedes: 07/01/90

## SAFETY PRECAUTIONS

Before performing work, be sure to carefully read this instruction manual and all other included documents, and use the product properly. Familiarize yourself with knowledge of the device, information for safety, and all precautions before using the device. In this manual, the rank of cautions is distinguished as **WARNING** and **CAUTION**.


 **WARNING** Indicates a potentially hazardous situation may happen, which, if not avoided, can result in death or serious injury.


 **CAUTION** Indicates a potentially hazardous situation may happen, which, if not avoided, can result in injury or damage of product.


Note that even a  **CAUTION** level situation may lead to a serious consequence according to circumstances. Be sure to follow every instruction, which contains important safety information. Also focus on and observe the items and instructions described under “Notes” in the text.


After reading these documents, be sure to store them in a place where those using the device can refer to them easily.


## HANDLING AND INSTALLATION INSTRUCTIONS


 **WARNING** Replacing voltage plug must be performed by qualified personnel. Failure to do so could cause electric shocks, injuries, or fires.

 **WARNING** Never modify the motor other than replacing voltage plug. Doing so can cause a defect in motor characteristics, structure and strength, resulting in injury, electric shock or motor damage.

 **WARNING** Do not work with energized power lines. Be sure to turn the power off before performing work. Failure to do so could cause electric shocks.

 **WARNING** When measuring insulation resistance, do not touch the terminals. Doing so could cause electric shocks.

 **CAUTION** Always verify that the voltage of the plug installed in the motor is correct required voltage even if you made no change. Improper installation of the voltage plug voids all warranties.

 **CAUTION** Do not reuse voltage plug removed for replacement. Failure to do so could cause inundation.

1. Before Installation, verify that the motor is the correct required voltage. (If not, refer to step 4 below; CHANGING MOTOR VOLTAGE)  
Check that coil resistance in each two phases is equal to values in TABLE 1.

2. Select the proper overload relay or heaters per TABLE B of standard Handling and Installation Instructions (F1 manual) furnished with each motor.

3. Check that the insulation has a resistance of at least 50 megohms prior to installation and at least 1 megohm at running.

4. CHANGING MOTOR VOLTAGE  
Motor voltage can be changed from 460V to 230V or from 230V to 460V by changing the voltage plug as follows.

A. Remove the existing voltage sticker from the voltage plug.

B. Remove the two Allen screws and carefully pull the voltage plug up and out using two screwdrivers as shown in Fig.1.

C. Check to be sure the new plug is not damaged and that it is the correct required voltage.

D. Verify that the plug and the socket in the motor housing are clean and dry.

E. Coat the sealing surface of the voltage plug with Dow Corning 732-3 as shown in Fig.2.

F. Insert the new voltage plug as shown in Fig.3. Note that the top of the numerals are toward the shaft and the bottom is near the outer side of the motor.

G. Secure the new voltage plug into the motor with the two Allen screws. Tighten the screws until the outer stainless steel portion of the plug contacts the motor housing.

H. Mount one new voltage sticker furnished with the new plug over the plug. The second sticker is for mounting in the motor control panel or starter.

5. Refer to the Handling and Installation Instructions (F1 manual) packed with each motor for more general information on Hitachi submersible motors.

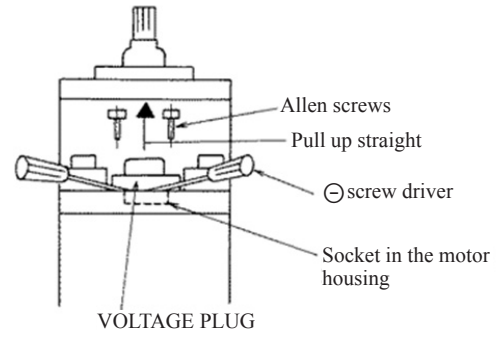


Fig.1

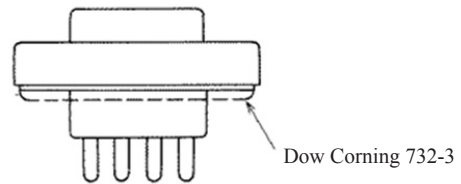


Fig.2

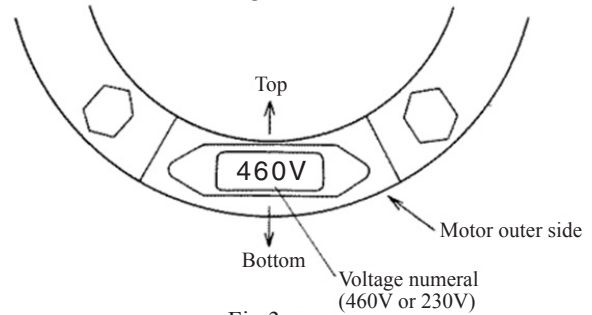


Fig.3

TABLE 1. RESISTANCE DATE

HP	PHASE	Hz	* resistance in each two phases of 460 VOLTS	* resistance in each two phases of 230 VOLTS
5	3	60	3.021	0.776
7.5	3	60	2.400	0.621
10	3	60	1.590	0.418
15	3	60	1.044	0.282
20	3	60	0.832	0.229
25	3	60	0.636	0.180
30	3	60	0.530	0.147

Values are for normal temperature 68°F (20°C) and with motor lead wire resistance.