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OPERATING INSTRUCTIONS
RAJAMANE MAKE COOLANT PUMPS

(FOR DETAILED OPERATION AND MAINTENANCE MANUAL, WRITE TO US WITH MODEL/SERIES)

1. RECEIVING AND STORING.

1.1. Store the pump in a clean and dry place if it is not to be installed immediately

1.2. Keep the pump **horizontally** only and see that no solid **particles or waste** enter into the pump suction or delivery side.

1.3 If the pump / motor is not to be used immediattely (storing beyoned 3 months) then it is adviced to rotate the Pump / motor shaft once a while to aviod bearing rusting as per bearing manufacturers advice.

2. APPLICATIONS :

2.1 Rajamane make coolant pumps are centrifugal pumps designed for pumping liquids for machine tools, liquid transfer in industrial washing machines and many similar applications. The pump & the motor are designed for continuous operations. If the application calls for more than **10 on/off per hour,** the suitability has to be checked with the factory.**in case of motor KW more than 4.0 KW**

2.2. The pump must **not be used** for transfer of inflammable liquids such as diesel oil, Petrol, etc., Unless it is specifically designed and supplied for the same. Special versions of coolant pumps are available for such applications.

2.3. The liquid to be pumped must **not contain** fibrous materials. When pumping liquids with higher density or viscosity other than that of water, the motor capacity (size) should be taken into consideration.

3. INSTALLATION

3.1 Qualification and training of operating personnel:

The personnel responsible for operation, maintenance, inspection &assembly must be adequately qualified. Scope of responsibility and supervision of the personnel must be exactly defined by the plant operator. If the staff does not have the necessary knowledge, they must be trained and instructed, which may be performed by the machine manufacturer or supplier on behalf of the plant operator. Moreover, the plant operator should make sure that the contents of the operating manual are fully understood by the personnel.

3.2 Installation:

The coolant pump is designed for tank mounting in vertical position. The pump is positioned in a hole cut into the cover of the tank (Upper side) and is secured to the tank by 4 screws through the holes in the mounting flange. It is recommended to fit a sealing gasket between the pump flange and tank. In case of fitting on small height tank, following care should be taken :

a) The **minimum level** of liquid is maintained while starting the pump. (For deeper tanks, minimum and maximum levels as shown in the catalogue are to be maintained)

b) Maintain a gap of **min 25mm** from the tank bottom to pump section end for 150 lpm discharge capacity coolant pumps **for other smaller capacity pumps min 10 mm gap required'**

c) The **maximum liquid level** be such maintained that it stays 20mm below the mounting flange, so that the liquid will not enter the motor portion of the pump.

3.3 To test the pump on no load either before installation or at inspection, check for the "DO NOT RUN DRY" warning nameplate. If it is there then DO NOT run on no load (Without being immersed in liquid).

4. A. ELECTRICAL CONNECTION:

WARNING:- DO NOT CONNECT THE PUMP DIRECTLY TO THE SUPPLY LINES, CONNECT THROUGH PROPER SWITCH & PROVIDE SUITABLE PROTECTION.

Check the voltage and frequency marked on the pump name plate, make sure that the motor is suitable for the electricity supply on which it will be used, Three phase motors must be connected to a motor starter with suitable overload relay and single phase preventor.

Do not start the pump without pump portion immersed in the liquid (except for RV, Rk300, series pumps). (Check for Do not Run / Dry Name Plate)

For motors 5.5 K.W. And above Star / Delta starter to be used.

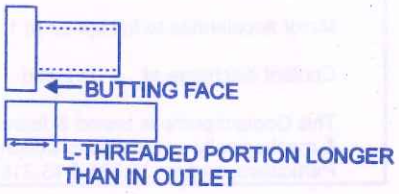
B. PIPE CONNECTION TO THE OUTLET :

a) For outlet connection use nipple or other fitting having the Shown dimension & type for proper connection. Use only "ISI" Marked pipe connectors or else the outlet may get damaged.

b) Try not to fit a bend immediately after the outlet.

c) Use GI pipe fittings rather than hydraulics fittings which have Sharp bends & small openings.

d) Use the maximum (outlet) dia pipe, as far as possible to Reduce hydraulic losses.



5. STARTING THE PUMP :

Before starting the pump) Make sure that the direction of rotation is as per the arrow on the motor/pump body (start the pump for the short period and check the direction of rotation) looking from the motor top/ fan cover end.

b) The pump portion is partly filled with the liquid. (Partially submerged)

c) The pipe connections are tight.

d) The tank is clean.

e) There is a gap below the suction, as said in (4)

f) DO NOT RUN / TEST IN WATER, UNLESS IT IS ORDERED FOR PUMPING WATER.

6. OPERATION AND MAINTENANCE

6.1 LUBRICATION AND MAINTENANCE :

Pumps installed as per these instructions need little maintenance. Also the design of the pump, ensures a trouble free run for a long period. The motor surface must be kept free of dust. While the pump is taken out for some maintenance work, take care that the liquid from the pump portion does not drain down to motor portion. For this keep the pump either horizontally or motor portion up.

The motor bearings are grease packed (zz) and sealed for life.

6.2 PERIODIC CHECKS :

To ensure smooth operation of pump and correct flow of liquid, following checks should be made ;

a) Check the quantity of liquid and the operating pressure.

b) Check that the motor is not overheating. In self (surface) cooled motors the body temperature, when felt by the bare hand, may be hot. In such cases, check the temperature with a thermometer both ambient and motor body and report to the manufacturer.

c) Check the tripping of over load Protector

d) Check the Liquid level in the Tank

8. SERVICE :

Spare parts are available all over the country through our dealers network. Pump can also be sent to us for servicing with proper report and documents, on freight paid basis, to K. R. Puram (Bangalore) branch, by any reputed transporter.

While ordering spares, please mention the type/model/frame & machine number, as on the name plate. Also mention the suffixes or prefixes given with the type/mode/frame, on the nameplate.

TROUBLE SHOOTER'S GUIDE

Fault	Cause	Remedy
Motor does not start	At least two of the supply leads have failed or disconnected.	Check fuses,terminals and supply leads.
Motor does not start, humming noise	One of the supply leads has failed. impeller fault Motor bearing faulty.	See above Replace impeller, Check for foreign particles in the impeller cover. Replace bearing
Pump does not pump (Discharge not sufficient)	Liquid level too low Pump mechanism faulty/suction choked	Fill up liquid. Replace pump mechanism/clean suction mesh
In sufficient flow and pressure	Wrong direction of rotation Pump mechanism silted up Worn out pump Parts	Interchange and two supply leads Clean Pump portion/mechanism Replace worn out pump parts
Power consumption is too high	Metalic deposits Mechanical friction	See above Repair pump

TEST CERTIFICATE **MACHINE No.-**

ACTUAL TEST DETAILS

Insulation resistance : 500M Ω

H. V. Test at 2 KV : **Passed**

No load current at 415/ V : **A**

Motor accelarates to full speed at 1/ 3 rated voltage.

Coolant discharge at m Head : **LPM**

This Coolant pump is tested & found to be electrically & mechanically sound and in working order in all Particulars, as per : IS:325 & IS:2161

GUARANTEE CERTIFICATE

This coolant pump is guaranteed against manufacturing defects TWELVE calendar months from the date of commissioning or FIFTEEN calendar months from the date of dispatch whichever is earlier. This guarantee is subject to the condition that no tempering or repair is done to the coolant pump. Failure due to single phasing, coolant entry are not covered by this guarantee. For repair/replacement the coolant pump must be sent to our works in Bangalore, through any reputed transport having delivery godown in K.R. Puram, Bangalore FREIGHT PAID In case of any complaints furnish full name plate details & the party from whom this coolant pump was purchased.

DATE : SIGN.

MP200x20P