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RIPL-MNFG-002

OPERATING INSTRUCTIONS
RAJAMANE MAKE REFUELING PUMPS

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 **covered by the given polythene bag** only and see that **no solid particles** or waste enter into the pump suction or delivery side.

2. APPLICATIONS :

2.1 Rajamane make Refueling pump is a vane pump designed for pumping diesel / kerosene transfer in automobile or DG sets or similar applications.The pump & the motor are designed for short duration operations-of maxm. 30mins. continuous. If the application calls for continuous running suitability has to be checked with the factory.

The pump is suitable for fuels like diesel & kerosene. For any other liquids/fuels, factory should contacted to check the suitability &/or alternate suggestions.

The liquid to be pumped must **not contain** fibrous materials & solid dusts of more than 50 microns size.

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 refueling pump is designed for mounting in vertical position- pump portion down or in horzontal position make sure that the suction strainer is tightly fixed to the suction line. Oil the pump before connecting the pipes, to avoid dry running for the first time running. The suction pipe to be airtight. Use teflon tape for connecting suction pipe. Connect the outlet pipe similarly.

The pump sucks from a maximum height of 1.5 meters with DC motor & from one meter in case of AC three or single-phase motors. The pump should never be allowed to run DRY & WITHOUT SUCTION STRAINER. For direction of rotation refer to section (4) below.

These pumps do not need initial printing for the suction depths specified above.

4. ELECTRICAL CONNECTION:

WARNING:- FOR PUMPS SUPPLIED WITH AC MOTORS 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.

In case of DC motor connect the two leads - **red to positive terminal & black to the negative/ground of DC source.** In case of 1 ph motor Connect the supply leads to a single - phase supply point with proper plug. Similarly connect to a three-phase supply for three phase motor Pump. The motor has to be properly earthed & suitable protection has to be given to the motors like overload protector through MCB or OLR with contactors.

Check the direction of rotation before using. For this put 5-10 drops of oil in to the pump housing throuh delivery pipe, switch-on momentarily & check the direction from the motor fan end. For 3 phase motors, inter change any 2 supply leads to reverse the direction. For single-phase motors, interchange the main winding leads-between the capacitor & common supply line.

For DC motors check the air pressure on the delivery pipe. If it is sucking, then the direction is reverse. To correct it interchange the two supply lines.

6. STARTING THE PUMP

a) Before starting the pump a) Make sure that the direction of rotation is as per the arrow on the motor/pump-refer section (4) above
b) The liquid level is at the suction capacity of the pump-refer section (3)
c) The pipe connections are tight.
d) The tank is clean.
e) The suctions trainer is fitted.
f) pump is oiled with few drops of oil as explained in section (3).

6. OPERATION AND MAINTENANCE :-

6.1 LUBRICATION AND MAINTENANCE :

Pumps installed as per these instructions need very 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.

The motor bearings are grease packed (zz) and sealed for life. No further lubrication is necessary.

6.2 PERIODIC CHECKS :

To ensure smooth operation of pump and correct flow of liquid, following checks should be made ;
a) Check the liquid level in the tanks while start of the pump.
b) The suction strainer is clean

7. 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.

8. TROUBLE SHOOTER'S GUIDE

Fault	Cause	Remedy
Motor does not start, no motor noise DC motor Single phase motor Motor does not start, humming Noise-three-phase motor Noise in Motor	At least two of the supply leads have failed or disconnected-three ph. Motor. fuse in the pump blown Capacitor faulty One of the supply leads has failed Vanes faulty Motor bearing faulty.	Check fuses,terminals and supply leads. Replace the fuse (15A-for 12 V/10A for 24 V) Replace the capacitor See above Replace vanes, check for foreign particles in The housing. Replace bearing
Pump does not pump / discharge not suffient	Suction depth more than specified pump mechanism faulty/suction choked Wrong direction of rotation	Lower the pump or heighten the tank Replace pump mechanism/clean suction strainer interchange any two supply leads
Insufficent flow and pressure	Suction strainer clogged Worn out/scoring on pump parts	Clean /replace suction strainer Replace worn out pump parts
Power consumption is too high	Liquid is viscous Mechanical friction	Contact factory with liquid details Repaire pump.

TEST CERTIFICATE : **MACHINE No.-**

ACTUAL TEST DETAILS

Motor type	3Ph AC	1Ph AC	Dc12	DC 24
Insulation resistance :	500 MW	500 MW	500 MW	500 MW
H.V. Test Passed @	2 KV	1.5 KV	500VDC	500VDC
No. Load current at	415 V	230 V	12	24
A	0.4	0.8	4	2

Motor accelerates to full speed at 1/√3 rated voltage
Refueling pump discharge at 1m Head : 24/20 LPM
This refueling pump is tested & found to be electrically & mechanically sound and in working order in all particulars

GUARANTEE CERTIFICATE

This refueling 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 refuelingpump. Failure due to single phasing, refueling entry are not covered by this guarantee. For repair/replacement the refueling 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 refueling pump was purchased.

DATE : SIGN.