PM & PMCH" SERIES SEAL-LESS CENTRIFUGAL PUMPS

INSTALLATION RUNNING AND MANTENANCE INSTRUCTIONS

TO OBTAIN THE BEST PERFORMANCE FROM YOUR "PM & PMCH" PUMP,

PLEASE READ THESE NOTES CAREFULLY

Failure to observe the recommended procedures may result in early and severe damage to your pump and may also invalidate the guarantee.

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INSTALLATION

a) Locate the pump close to the liquid source, below the liquid level. Keep the inlet line as short and straight as possible. Use rigid or reinforced pipe that will not deform c collapse under suction conditions.

b)The inlet pipe should not be any smaller in diameter than the nominal bore of the pur inlet port. Restriction of the inlet is liable to cause the pump to cavitate, leading to loss of efficiency and rapid wear.

c) Use of an electrical starter is recommended. A simple switch in often inadequate for ok starting and stopping mains voltage electric motors.

APPROPRIATE STARTER WILL:

- ✔ prevent accidental restarts after power-failure;
- ✔ provide a safe, waterproof switch enclosure;
- ✔ protect the motor with a correctly set overload cut-out (a fuse protects only the wiring);
- ✔ withstand the heavy starting current of the motor, preventing arcing and rapid cont wear.

ESSENTIAL RUNNING PRECAUTIONS

a) *DO NOT RUN THE PUMP DRY*

Severe damage is liable to result from lack of lubrication to the shaft and bushes.

b) *AVOID PUMPING LIQUIDS CONTAINING SUSPENDED SOLIDS*

Magnet driven pumps are designed to handle clean liquids. The use of an inlet strainer is strongly recommended.

In particular, avoid pumping liquids containing iron oxides or other ferromagnetic particles, however small.

If in doubt, please contact Your Area Distributor.

c) *NEVER RESTRICT EITHER THE INLET OR DISCHARGE PIPE*

Restriction of the inlet is liable to cause the pump to cavitate leading to loss of efficiency and rapid wear. Restriction of the discharge is not advisable, reduced flo can be obtained, if required, by a valve on the discharge pipe.

d) *IF THE PUMP IS TO BE SHUT DOWN FOR AN EXTENDED PERIOD, IT IS ADVISABLE TO CIRCULATE CLEAN WATER FOR SEVERAL MINUTES TO AVOID THE RISK OF INTERNAL INCRUSTATIONS OR PRECIPITATIONS.*

STARTING & RUNNING

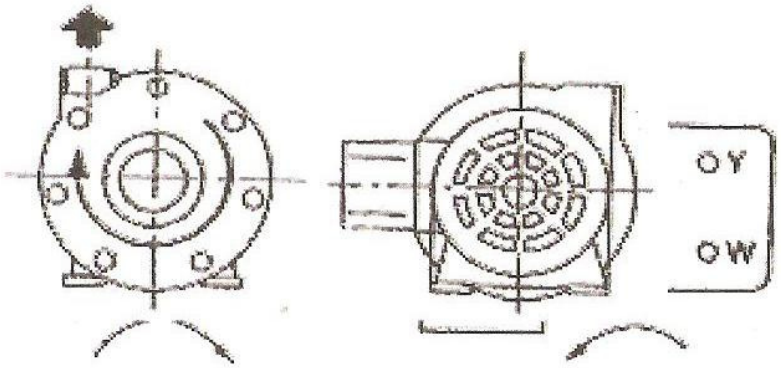
a) Check that motor voltage and frequency correspond to Your main power supply.

b) Fill the pump body with liquid before starting the pump.

THIS PROTECTS THE SHAFT AND BUSHES AGAINST DRY RUNNING

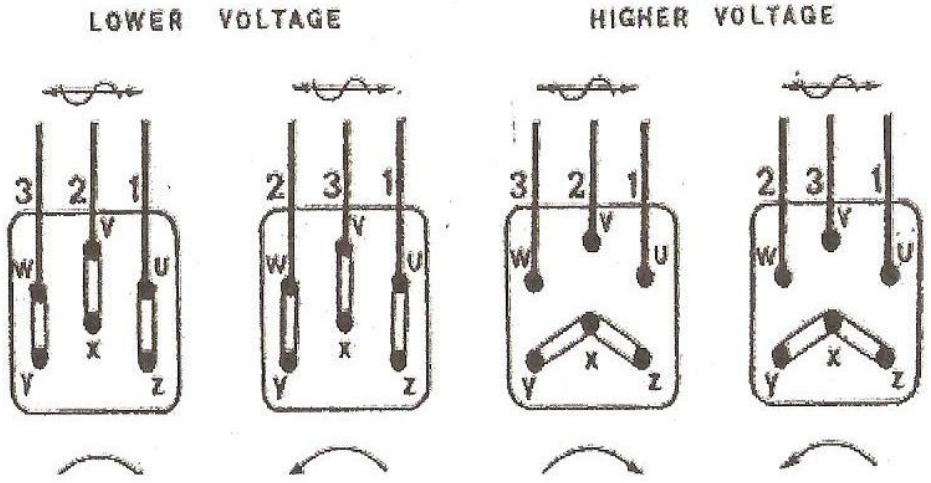
c) Start the pump briefly to check the direction of running. The motor should rotate in th direction shown below. (See Fig. 1).

Fig. 1



To alter the direction of rotation of a three-phase motor changes any two connections. (See Fig. 2).

Fig. 2

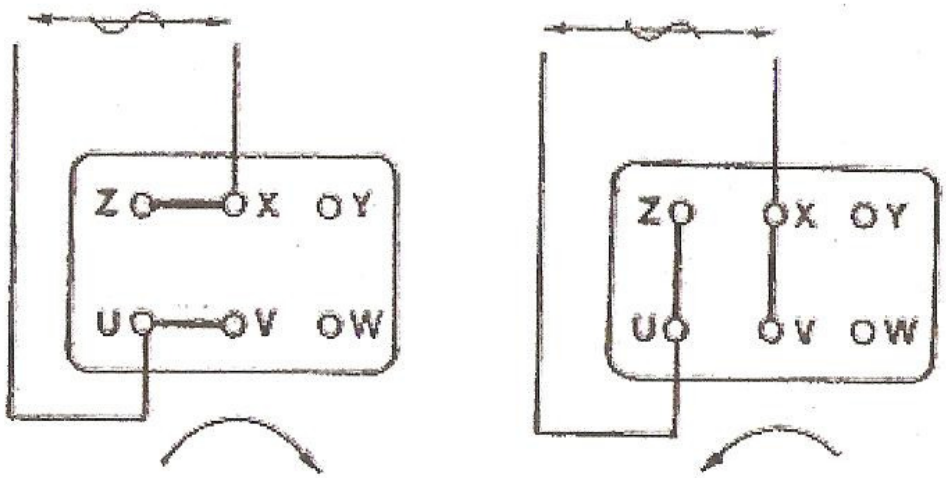


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or a single-phase motor, reverse the polarity of the start winding in relation to the main winding.

(See Fig. 3).

Fig. 3



IF IN DOUBT, OBTAIN THE ASSISTENCE OF A QUALIFIED ELECTRICIAN

MAINTENANCE OF MAGNET DRIVEN "PM & PMCH" PUMPS PUMPS

In general, magnet driven pumps require no routine maintenance and do not need to b dismantled frequently.

It is advisable though, to make periodic checks on the state of the impeller and shaft support bearings, and to check that the pump remains in good condition internally.

DISMANTLING THE PUMP

The pump can be dismantled either by disconnecting the pipework and removing the pump body, or by leaving the pump body and pipework in position and withdrawing mo and internal assembly from the back.

NOTE THE CORRECT POSITIONS OF THESE PARTS:

a) drain the pump or isolate it from the rest of the liquid system;

b) remove the bolts securing the end cover and pump body to the motor adaptor;

c) carefully separate end cover, pump body and internal assembly;

d) carefully slide the impeller / magnet assembly off the shaft;

e) examine the shaft and bushes for wear, checking for minimal play.

RE-ASSEMBLY THE PUMP

Follow the above procedure in reverse order. If the pump has been dismantled leaving pump head and pipework in place, take particular care when re-assembling not to distort or damage the pump.

PUMPING DENSE AND/OR VISCOUS LIQUIDS

The flow rates and discharge heads quoted for the pumps apply to water pumped at room temperature. If liquids of higher temperature or viscosity or density are to be pumped, the performance of the pump will be correspondingly reduced.

These pumps will perform satisfactorily with liquids up to 100 cps viscosity and 1.9 S.G.

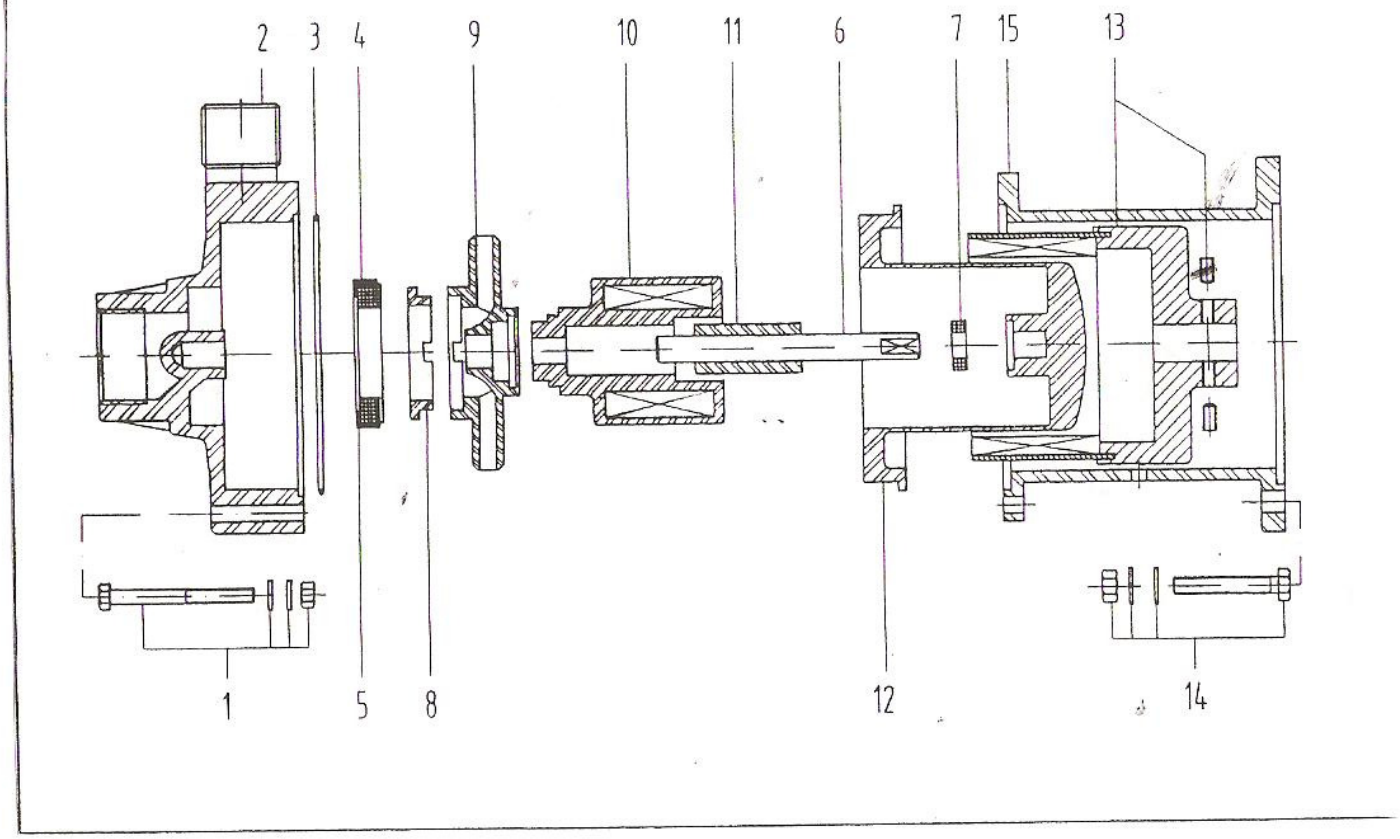
THESE VALUES ARE PURELY INDICATIVE. CONTACT YOUR AREA TECHNICAL DEPARTMENT FOR ADVICE ON PARTICULAR APPLICATIONS

SPARE PARTS FOR MAGNET DRIVEN "PM & PMCH" PUMPS

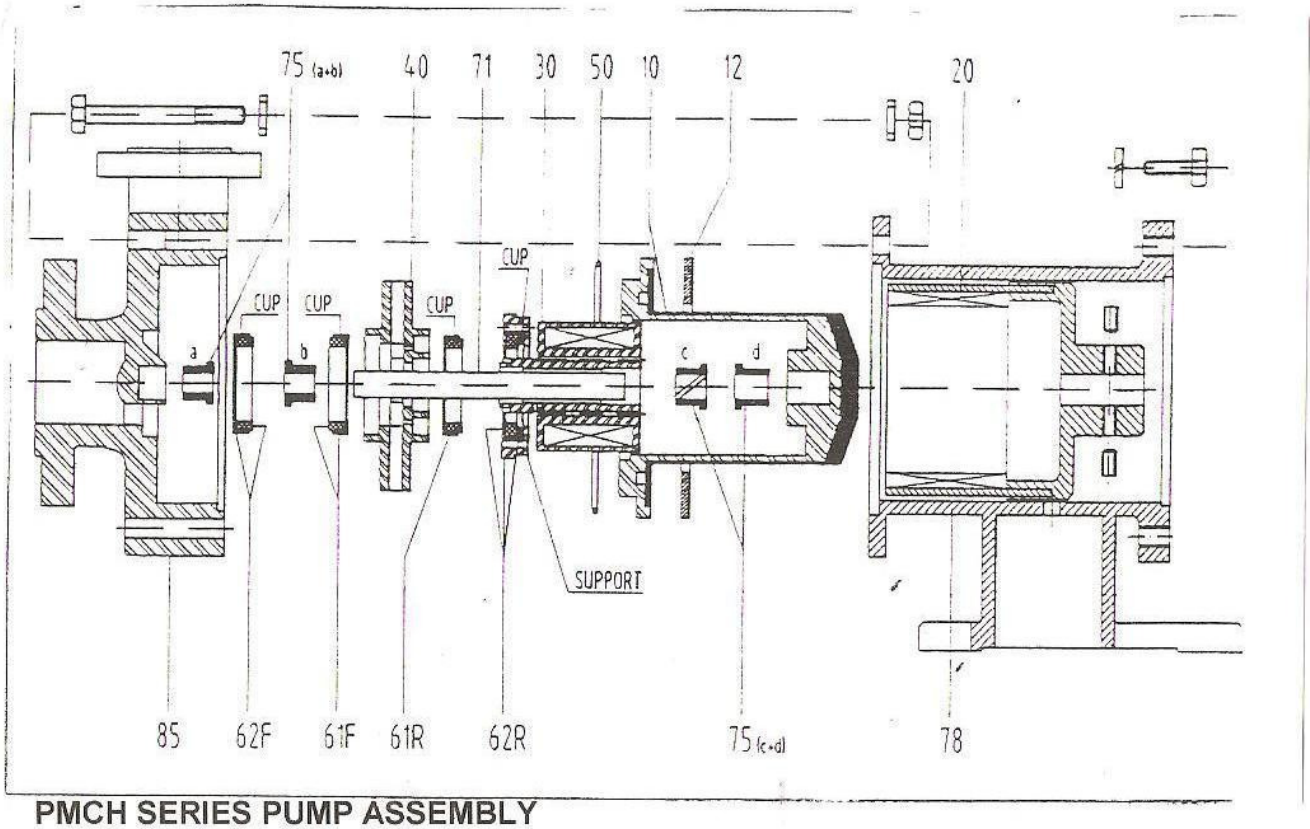
A full range of spare parts for Your pumps is available from Your Area Distributor. Please quote pump model and description or part numbers of items required.

SEE DATA SHEET AND SECTIONAL DRAWING FOR PUMP MODEL CONCERNED

PM SERIES PUMP ASSEMBLY

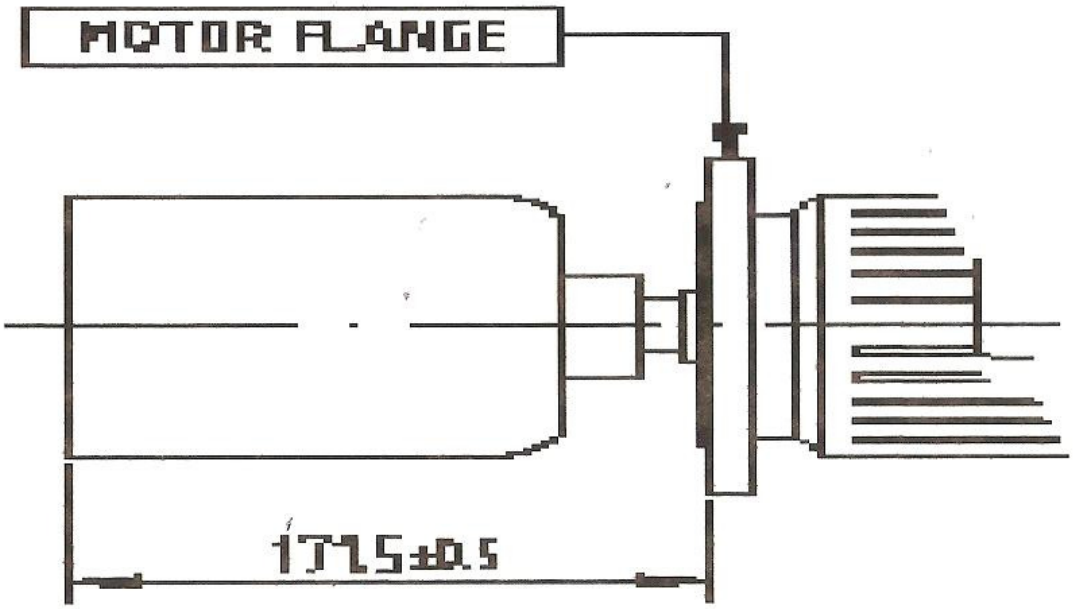


POS	*PART DESCRIPTION*
1	SCREW
2	PUMP HEAD
3	O-RING
4	THRUST BEARING
5	SHAFT& RING
6	IMPELLER THRUST BEARING
7	IMPELLER
8	INT.MAGNET COMPLETE WITH BUSHING
9	REAR CASING
10	EXT MAGNET
12	BRACKET
13	ADAPTOR FLANGE



PMCH SERIES PUMP ASSEMBLY

REF	DESCRIPTION	MATERIAL
10	Rear Casing + Rearforc.FC	PP + FC
12	Rear Casing Flange	SS 304
20	Ext.Magnet	Ferrite / Alum
30	Internal Magnet	PP / Neodym
40	Impeller	PP
50	O-Ring 228 (628)	EPDM
61F	Imp. Front Brg + Cup	PTFEC
61R	Imp. Rear Thrust Brg + Cup	PTFEC
62F	Casing Thrust Brg + Cup	Ceramic
62R	Rear Thrust Brg + Cup + Support	Ceramic
71	Shaft	Ceramic
75	Bearings	PTFEC
78	Bracket (250-180-28)	Cast Iron
85	Pump Head	PP
88	Rear Wet End (10+30+40+50+61F+62R+71+75)	/
90	Rear Wet End (10+30+40+50+61F+62R+71+75+85)	/



external magnet

Model	*Motor Frame*	*Kw (HP)*	*Magnet Distance*	*Impeller Diameter*
PM 4-54	56 B3 B5	0.12	59	780mm
PM 6-109	63 B3 B5	0.25(0.37)	64	70mm
PM 10-183	71 B3 B5	0.55(0.75)	90	85mm
PM 10-218	80 B3 B5	0.75(1)	100	98mm
PM 15-270	80 B3 B5	1.1(1.5)	120.5	90mm
PM 15-341	80 B3 B5	1.1(1.5)	120.5	108mm
PM 15-391	90 B3 B5	1.5KW(2)	130	123mm
PM 31-517	90 B3 B5	1.5KW(2)	132	110mm
PM 31-550	90 B3 B5	2.2KW(3)	132	122mm
PM 31-575	100 B3 B5	3KW(4)	142	134mm
PMCH 06550	100-112B5	-	171.5	-
PMCH 06550	132 B5	-	176	-
PMCH 08065	132 B5	-	188	-
PMCH 10080	160 B5	-	235	-

REPAIR OF MAGNET DRIVEN "PM & PMCH" PUMPS

Your Area Distributor offer a comprehensive repair service, should You require it.

PLEASE CONTACT THEIR TECHNICAL DEPARTMENT FOR DETAILS

REMARKS ON THE USE OF THE PUMP PERFORMANCES CURVES

"PM & PMCH" PUMPS SERIES MAGNETIC DRIVE CENTRIFUGAL PUMPS

A. Performances are valid for homogeneous liquids with specific gravity of 1 Kg/dmc. If the liquid has a specific gravity different curve multiplied by the specific gravity. For liquids having S.G. higher than 2 ask the manufacturer.

B. Performances are valid for homogeneous liquids with viscosity of 1 cps. If the liquid has a viscosity different from one, the Q/H curve will be altered, also efficiency decreases. For liquids having a viscosity lower than 0.5 cps, or, higher than 150 cps ask the manufacturer.

C. The NPSH values given in the curves are lowest required values. As a rule the NPSH value available on the plant should be 0.5 m (2 ft.) higher for safety reasons.

D. The given efficiency is achieved by pump-prototypes; efficiency is lower with pumps produced in series and for standard constructions. Reduce as follows:

pumps with discharge nozzle up to 25 mm 3 points

pumps with discharge nozzle over 25 mm 2 points

E. Performances are guaranteed with manufacture clearance according to (UNI 6871-71P) (ISO 3555) Category II specification. The subjection to other specification requiring closer tolerances should be pointed out in the request of quotation; in this case the selection of the proper model and the exposition of the guaranteed values shall be consequent.

F. The maximum temperatures advised are:

- 65 °C (150 °F) - 82 °C (180 °F).....for polypropylene (PP);
- 90 °C (195 °F) - 110 °C (230 °F).....for polyvynylydenfluoride (PVDF);
- 150 °C (300 °F) - 180 °C (350 °F).....for Stainless Steel (SS);

THE FIRST FIGURE REFERS TO CONTINUOUS USE

THE SECOND FIGURE REFERS TO INTERMITTENT USE.

IF FOR ANY REASON THE REQUIRED HYDRAULIC POWER IS HIGHER THAN THE MAX ALLOWED MOTOR-POWER, THE SELECTED PUMP IS NOT SUITABLE FOR THE APPLICATION. PLEASE CONSULT THE FACTORY.