

# Operation and Maintenance

P X - D , P X - D - N , P X - D - F , P I - Z - D Series

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### 1. Unpacking and inspection

- (1) Does the description on the name plate comply with your order?
- (2) Are all items delivered?
- (3) Is there any damage to the pump or part caused by an accident during transport ?
- (4) Are all bolts tightened?

### 2. Precaution for operation

#### ※ Do not operate the pump without liquid !

As the self-lubricating abrasion parts are cooling by the pumped liquid, dry running, no positive pressure in pump inside, misoperation such as the suction valve closed may damage seriously the internal part.

#### ※ Do not spray water or chemical onto pump.

#### ※ Influence of temperature.

The performance of the pump is not affected by any change in temperature. Liquids may change in viscosity, vapor pressure, and corrosiveness under temperature change.

Allowable operation temperature range is as the following.

PX-D series: 0 to 60 °C

PX-D-N series: 0 to 80 °C

PX-D-F series: 0 to 80 °C

PI-Z-D series: 0 to 60 °C

Ambient temperature range required: 0 to 40°C

#### ※ Allowable specific gravity and viscosity.

Specific gravity: 1.1 kg/L

Viscosity : 20 C.P.

### 3. Preparations before operation

- (1) Prepare transformer and AC-DC converter for DC power supply.
- (2) Please isolate electric facility such as welding machine, large transformer to minimize outside surge noise into electronics circuit.
- (3) Please install noise absorber such as capacitor between AC power supply and inlet of adapter.
- (4) Install fuse between AC power supply and adapter to protect electronics circuit from over current.
- (5) Clean the inside of the piping, tank or equipment.
- (6) Retighten the flange connection bolts, hose band and base mounting bolts.
- (7) Prime the pump until the pump is filled with liquid.
- (8) Turn the motor fan by using a screwdriver to expel remaining air from the impeller.

(9) Verify the direction of rotation of the pump. (C.W. from front view).

4. Precautions during operation

(1) To start up the pump, close the discharge valve.

When no discharge from pump is found, check wiring to correct the fault.

(2) After the pump is started on operation, gradually open the discharge valve as use a flow meter and pressure gauge to make that the pump is been operating under the required specification.

5. Cease of operation

(1) Gradually close the discharge valve. Do not close the discharge by using a solenoid valve or in the other quick way.

(2) Stop the motor. Check whether motor is stopping smoothly or not. If not, inspect the internals of the pump.

(3) When the operation of the pump is stopped for along period, to prevent freezing or crystallization, be sure to drain all the liquid from the pump and piping.

(4) When a power failure occurs, the power switch should be turned off immediately.

6. Maintenance and inspection

(1) Verify that pump is running without vibration or any abnormal noise.

(2) Check the discharge pressure, flow rate whether the pump operating condition is normal.

(3) If a stand-by pump is installed, operate it from time to time to make sure that it can operate at any time.

7. Preventive maintenance

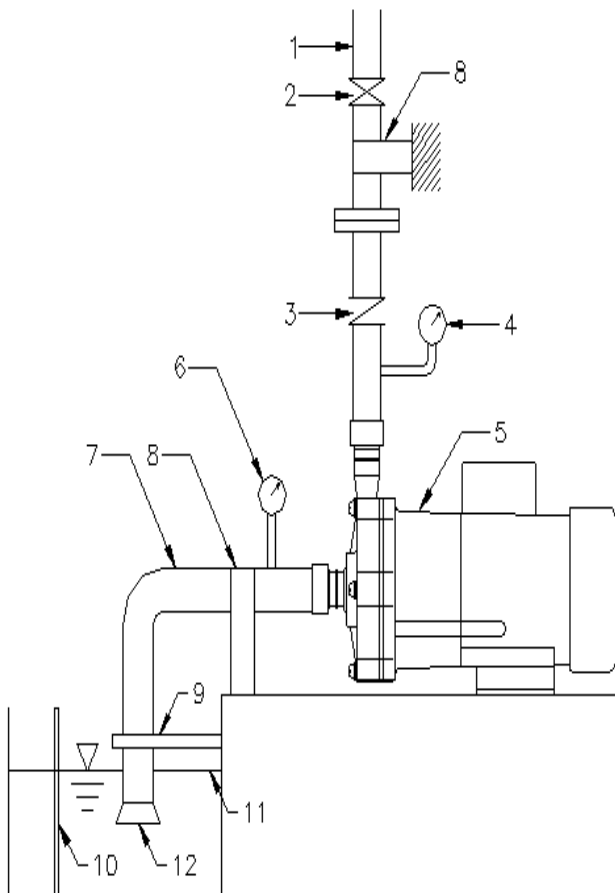
Part name	Inspection items	Measures
Magnet housing	Evidence of rubbing	Pursue the cause
Rear casing	Evidence of rubbing on the inner surface	Replace
	Evidence of cracking	Replace
Magnet Capsule	Evidence of scrub on the end part and cylindrical housing	Pursue the cause
	Evidence of cracks in the plastics end face and/or cylindrical housing	Replace Magnet capsule
Impeller	Existence of traces of cavitation	Pursue the cause
	Contamination and clogging on the blades	Pursue the cause and clean
Electronics circuit	No need	

## 8. Disassembly

- (1) Drain the liquid from the pump and flush pump inside.
- (2) Remove the bolts from the front casing and remove the front casing from the bracket.
- (3) Pull the impeller forward for removal.
- (4) Pull the rear casing forward for removal.

## 9. Re-assembly

- (1) Assemble the pump in the reverse order of disassembly.
- (2) Carefully handle as the parts are not scratched or be damaged.
- (3) Always replace new O-ring on each re-assembly.
- (4) Tighten all bolts equally but not be over-tightened.



1. Discharge pipe
2. Valve
3. Non-return valve
4. Pressure gauge
5. Pump
6. Vacuum gauge
7. Absorbent pipe
8. Pipe support
9. Absorbent pipe shock absorber support
10. Screen
11. Reservoir
12. Bottom valve