

Models FRX 50 & FRX 50-R are high performance centrifugal pumps. The pumps are ideal for marine, industrial, agricultural or commercial applications. The FRX 50 model features all 316 stainless steel components for superior corrosion resistance when pumping chemical compounds. FRX 50-R has polyphenylene sulfide housing & cover. A carbon/ceramic/viton bellows seal is standard. FRX 50 ports are 1/2" NPT/1" Hose. FRX50-R has 1" hose connections.

**FRX 50****FRX 50-R****GENERAL SAFETY INFORMATION:**

THE FOLLOWING WARNINGS ARE USED TO NOTIFY AND ADVISE THE USER OF THIS PRODUCT OF PROCEDURES THAT MAY BE DANGEROUS TO THE USER OR RESULT IN DAMAGE TO THE PRODUCT.

THIS BULLETIN MUST BE READ COMPLETELY BEFORE INSTALLING, OPERATING, OR SERVICING, THE PUMP.

- **DO NOT perform service or maintenance when the pumping system is pressurized. Injury or death may occur.**
- **DO NOT operate the pump in a manner that it was not intended to be used.**
- **DO NOT mount the pump such that high piping loads exist on the pump flanges, or in a rigid piping system that does not allow the pipe to expand and cause the pump to be strained.**
- **DO NOT continue to operate the pumping system when a known leak exists.**
- **DO NOT continue to operate the pump when unusual noise or vibration occurs.**
- **DO NOT operate beyond the pressure or temperature limits stated in the product literature. See Form 8110.**
- **DO NOT allow severe temperature changes to occur in a short time period within the pumping system.**

**INSTALLATION:**

Install the pump where the inlet is below the liquid level. A valve may be used to isolate the pump for service. The pump is not self-priming and needs the inlet to be flooded at start-up. The motor is splash resistant, not submersible, and should be located in a dry environment.

**PIPING/MOUNTING:**

The pump inlet and outlet has 1/2" NPT - 1" hose connections. Use pipe sealant on the threads and other connections. The base does not require direct mounting if one of the pipe flanges is rigid mounted. Do not rigid mount both the flanges and the base to avoid mounting tolerances that may distort the motor base. Install the pump with the shaft in a horizontal direction.

Never install the pump vertical with the motor below the pump.

**ELECTRICAL:**

The motor must be protected from over current by using a fuse or circuit breaker (see chart below for correct protection). The proper minimum wire size is stated for each voltage application. Make sure that the pump has the proper voltage rating to match the installation power. Do not use or install if the voltage on the label is different than the installation. All wire connections must be secure and sealed to protect arcing. Follow all local installation codes.

<u>MOTOR VOLTAGE</u> <u>ON NAME PLATE</u>	<u>FUSE/CB</u> <u>AMPS</u>	<u>WIRE SIZE</u> <u>AWG</u>
12VDC	15	14
24VDC	10	16
110VAC	2	18
230VAC	1	18

**OPERATION:**

The pump should be operated with liquid in the pump otherwise seal damage may occur. If an inlet valve is present, the valve should always be completely open during operation to avoid cavitation. An outlet valve may be used to throttle the flow rate. Avoid repeated starts and stops; the pump can operate for a long period of time without any flow. DC motors are brush type and may emit a noise from the brush that can sound like a squeal, this is normal. The pump will be extremely quiet unless there is air in the system.

**REPAIR AND MAINTENANCE:**

The pump has a carbon/ceramic seal that may last several thousand hours based upon the application. The motor is not rebuildable after the brushes (DC) have worn to the limits. A seal that leaks will show leakage through the slot between the pump housing and the motor. Extreme leakage may damage the motor bearings and contaminate the inside of the motor.



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