

## SECTION 2 INSTALLATION & OPERATING INSTRUCTIONS

### FOR GARDNER DENVER FXF, FXG, FXX, FXD and FXE DUPLEX POWER PUMPS

**INSTALLATION** – The pump should be installed as close to the fluid supply as possible. Whenever possible, ample space should be provided around the pump to facilitate inspection and adjustment with particular attention to the space required for removal and installation of piston rods, liners and jackshafts.

Pump should be properly leveled and securely fastened to whatever type of foundation is provided.

The drive must be accurately aligned.

#### PIPING

#### CAUTION

**All piping must be supported independently of the pump to insure that no strain is imposed on the pump by misalignment or improperly fitted pipe.**

**Fluid Inlet or Suction Piping** – Inlet piping should be as direct and short as possible and should be laid out so that air pockets are eliminated. The inlet pipe must never be smaller than the pump inlet and lines longer than 20 feet (6 meters) (including friction) must never be exceeded. To protect the pump from foreign matter, an inlet strainer should be installed with a net area of four times the inlet pipe.

**Fluid Discharge Piping** – It is advisable to use an ample size discharge line to prevent excessive friction. The use of an air chamber is recommended and ample size chambers are available for all pumps.

**RELIEF VALVE** – Pump must be protected from excess pressure by a discharge pressure relief valve. The valve must be installed near the pump, preferably in the opening provided for it in the discharge manifold on models where applicable. Never install a shutoff valve in the line between the relief valve and pump cylinder. The relief valve should be set to operate at approximately 1–1/4 times the discharge pressure, but must not exceed system equipment tolerances.

CRANKCASE OIL REQUIREMENTS			
API-GL5 Oil Grade	Ambient Temperature	Crankcase Operating Oil Temperature *	Minimum Startup Oil Temperature
75W-90	-20° F to 90° F (-29° C to 32° C)	60° to 170° F (16° C to 77° C)	20° F (-7° C)
80W-140	10 F to 120 F (-12° C to 49° C)	90° F to 200° F (32° C to 93° C)	50° F (10° C)
80	-10° F to 60° F (-23° C to 16° C)	70° F to 140° F (21° C to 60° C)	30° F (-1° C)
90	20° F to 100° F (-7° C to 38° C)	100° F to 180° F (38° C to 82° C)	60° F (16° C)
140	50° F to 120° F (10° C to 49° C)	130° F to 200° F (54° C to 93° C)	80° F (27° C)

\* An 80° F (27° C) crankcase oil temperature rise over ambient air temperature is typical for the pumps covered by this manual when operating at or near rated horsepower.

FIGURE 1 – CRANKCASE OIL REQUIREMENTS