OVAL INSTRUCTIONS

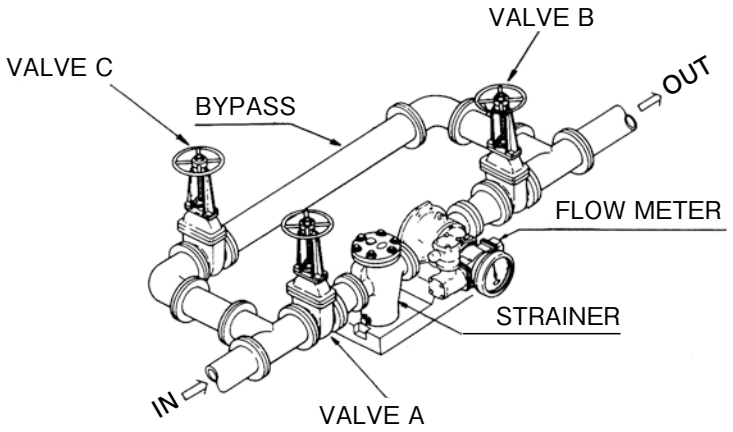
Ins. No. G-011-E

INITIAL RUN IMMEDIATELY AFTER INSTALLATION

AIR/LIQUID SUBSTITUTION RUN PROCEDURE

Please read the following instruction carefully to ensure troubles often encountered during first time operation — rotor shaft and bearing overheating — are avoided and many years of trouble free high performance can be attained.

■ STANDARD PIPING ARRANGEMENT



■ AIR/LIQUID SUBSTITUTION RUN PROCEDURE

1. Prior to meter operation, make sure the IN-LINE segment contains no air or air/liquid mixture.
2. In case air or an air/liquid mixture is present, close VALVE A and VALVE B while keeping VALVE C open to purge air from line.
3. When the IN-LINE is filled with liquid, open VALVE A and VALVE B to such an extent that the register's pointer revolves very slowly. (NOTE: One half to one third of the minimum flowrate for your particular meter model is a rough guideline.) Maintain this low speed operation while the air between VALVE A and VALVE B is purged and the piping assembly is completely filled with liquid.

⚠ **〈CAUTION〉 Allowing normal operating flowrate with air or an air/liquid mixture will cause the meter's rotor to spin a high speed, which could damage the meter.**

4. When the piping assembly is filled with liquid, slowly open VALVE A to a greater degree while maintaining a low flowrate (VALVE B position remains unchanged.) Allow the liquid to flow for a period of no less than ten minutes to complete the air/liquid substitution in the meter's shafts and bearing.
   Increasing the flowrate while the substitution process has not reach a satisfactory level may result in a dry touch run which may cause bearing overheating.
5. When you have completed the substitution run without any problems, you may move to normal operating flowrate by slowly increasing the flowrate while making sure the pointer is moving smoothly.

■ PIPELINE DOWNTIME

In cases where the pipeline is down for a long period or where in the process of changing liquids, air may have entered the line, follow the same procedure.

■ FLOWMETER REMOVAL

If the liquid is to be purged from the line by feeding air under pressure prior to flowmeter removal, allow the meter to run at a very low flowrate to prevent the rotor shaft from overheating, which may occur during dry runs and damage the flowmeter. Dry runs should be for as short a duration as possible.