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## **GREAT PLAINS INDUSTRIES, INC.**

“A Great Plains Ventures Subsidiary”  
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## **Industrial Grade Metering Products Installation Guidelines**

6/00 ML-1261-3

### **Screen Specifications**

#### **Models S050, S075, and S150**

Maximum Particulate Size	
Inches:	0.005
Microns:	125
Mesh:	55
Standard Sieve:	125 $\mu\text{m}$
Alternative Sieve:	No. 120

#### **Models S100 and S200**

Maximum Particulate Size	
Inches:	0.018
Microns:	500
Mesh:	28
Standard Sieve:	500 $\mu\text{m}$
Alternative Sieve:	No. 35

These are general guidelines for the installation of the Industrial Grade Metering Products and your specific application may vary somewhat. Contact your Sales Representative to answer specific questions.

All GPI turbine housings are designed to measure flow in only one direction. The arrow cast-molded in the turbine outlet indicates the direction of the flow. If the opposite direction is desired, rotate the computer electronics 180 degrees prior to installation.

Flow altering devices such as elbows, valves, and reducers can effect the accuracy of this metering device. The following recommended guidelines are given to enhance accuracy and maximize performance. Distances given here are minimum requirements; double them for desired straight pipe lengths.

Upstream from the turbine, allow a minimum straight pipe length of at least 10 times the internal diameter of the turbine. For example, with the S100 turbine, there should be 10 inches (25.4 cm) of straight pipe immediately upstream. The desired upstream straight pipe length is 20 inches (50.8 cm).

Downstream from the turbine, allow a minimum straight pipe length at least 5 times the internal diameter of the turbine. For example, with the S100 turbine, there should be 5 inches (12.7 cm) of straight pipe immediately downstream. The desired downstream distance is 10 inches (25.4 cm).

A typical back pressure of 5 to 50 PSI (0.34 to 3.4 bar) will prevent cavitation. Create back pressure by installing a control valve on the downstream side of the meter at the proper distance detailed above.

Foreign material in the liquid being measured can clog the turbine's rotor and adversely effect accuracy. If this problem is anticipated or experienced, install screens to filter impurities from incoming liquids. See recommended screen specification above left.

All GPI turbines are Factory Mutual Approved and carry a Class 1, Division 1 Approval for hazardous environments. They are tested and calibrated at the factory using state-of-the-art calibration procedures and test equipment.

GPI is a registered trademark of Great Plains Industries, Inc.  
U.S. Patents 4,856,384; 4,700,579; and 5,046,370. Australian Patent 572,494. Canadian Patent 1,223,464. European Patent EU0147004. German Patent P3478494.2-08. Italian Patent 68074-BE/89.