



PRODUCT APPLICATION REVIEW

Industry: Semiconductor
Technical Bulletin APP002
March 2005

McMillan Corporate Headquarters:

Post Office Box 1340
Georgetown, TX 78627-1340
United States of America

Toll-Free: 800.861.0231
Direct: 512.863.0231
Fax: 512.863.0671

<http://www.mcmflow.com>
sales@mcmflow.com

Part Cleanliness Testing

APPLICATION

A metrology lab tests components for cleanliness and/or particle release using deionized water, a particle counter and flow controller equipped with a rotameter. The particle counter requires a constant accurate flow of 100mLpm. Tests are occasionally performed at flow rates higher than 100mLpm.

MCMILLAN PRODUCTS UTILIZED

S-111-4 Liquid FLO-METER
S-111-7 Liquid FLO-METER
110-00-08T Power Adapter

DESCRIPTION

The McMillan S-Series Liquid FLO-METERS provide reliable, accurate measurement of liquid flow. A digital display reports current flow rate in mLpm, and a simultaneous analog output can be used to log flow meter output. The 110-00-08T power adapter plugs into a standard 115VAC outlet and provides power to the FLO-METER, as well as output wires for the datalogger.

OPERATION

The example shown in this application note will be a component test using 500mL flow. When testing components above 100mL/min an additional Model S-111 will be used to measure flow that bypasses the controller. The particle counter will have a sustained flow of 100mL and the bypass flow will be 400mL.

ADVANTAGES

The Model S-111 is equipped with a local display and an output signal (0-5VDC) for data recording if needed. NIST Traceable calibration certificate and recalibration service is available from McMillan. Rotameters are not always repeatable, do not have an output signal and can be read incorrectly by the operator.

DIAGRAMS

Figure 1 illustrates the flow path of the fluid system. Figure 2 illustrates the wiring of the system.

FIGURE 1 – Flow Path of Fluid System

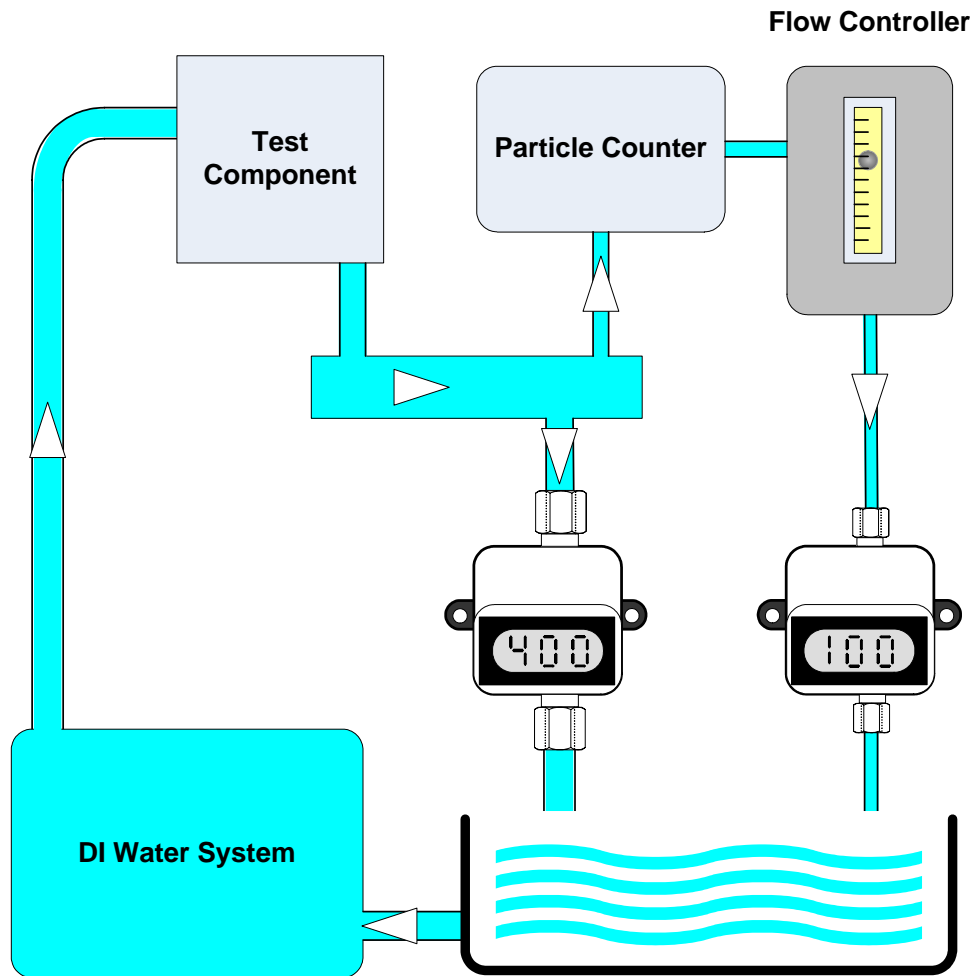


FIGURE 2 – System Wiring

