NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Meter Indicating Volume
Positive Displacement Water Meter

Model: Altair 20
Size(s): 5/8" x 3/4"
Minimum/Maximum Flow Rates: 0.25 gal/min – 20 gal/min

Submitted By:
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Standard Features and Options

Standard Features:

- Unit(s): U.S. gallons (Gal) or cubic feet (Ft^3)
- Digital LCD register; resolution: 0.01 Gal or 0.001 Ft^3
- Nylon composite (polyamide12) meter body
- External threaded pipe connections
- Magnetic drive register
- Flow-direction arrows are cast on the meter body
- Maximum operating pressure: 230 psi

Options:

- Automatic Meter Reading (AMR) pulse output (functions were not evaluated)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages. *Editorial changes, not affecting the type or metrological content, corrected this certificate.

Hal Prince
Chairman, NCWM, Inc.

Craig VanBuren
Committee Chair, NTEP Committee
Issued: October 23, 2020

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Metron Farnier

Meter Indicating Volume / Altair 20

Application: Certified for use as a domestic water meter in a horizontal position with the register facing up or in a vertical up-flow position for legal sub-metering installations.

Identification: The model number, serial number, meter measuring chamber size in inches, and the National Type Evaluation Program (NTEP) Certificate of Conformance (CC) number are on the inlet of the meter body (***Figure 1***). The unit of measure in gallon or cubic foot is part of the liquid crystal display (LCD) and next to the digital LCD registration (***Figure 2***). The name, Metron Farnier, is located on the side of the register casing (***Figure 3***). Lastly, the flow-direction arrow indications are cast on the casing of the meter body (***Figure 4***).

Sealing: The meter has a Category 2 sealing provision with two wire security sealing provisions. The two wire security seals are threaded through drilled screw heads and an eye hook on both the inlet and the outlet sides of the meter (***Figure 4***). These two wire security seals block access to an optical switch. The optical switch is the physical hardware required to allow access to a remote computer or tablet to make metrological changes. When the optical switch on the meter and an optical switch on the remote tablet or computer are within one to two inches of each other, the register displays "ConF iG" (***Figure 5***). Before a meter is security sealed, ensure the word "ConF iG" is gone from the register display.

Operation: The device is a positive-displacement meter where in-flowing water passes through a piston with known volume per rotation. The meter's register accumulates the number of rotations into total flow indicated in a volumetric gallon or cubic feet unit of measure.

Test Conditions: The emphasis of the evaluation was on the device design, marking requirements, accuracy, repeatability of the meter, and sealing provisions. One 5/8" x 3/4" gallon meter was tested horizontally with the register facing up, one 5/8" x 3/4" gallon meter was tested vertically in the up-flow position, and one 5/8" x 3/4" cubic foot meter was also tested horizontally. The meters were subjected to three tests each at the maximum, intermediate, and minimum flow rates with cold water with a ten cubic foot and a one cubic foot volumetric provers. After initial testing, throughput of 200 000 gallons of cold-water flowed through the meters. All tests were then repeated.

Evaluated By: J. Roach (CA)

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2020 Edition. *NCWM Publication 14 Measuring Devices*, 2020 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: D. Flocken (NCWM)

Examples of Device:

Figure 1. Photo showing some of the required identification (ID) information.

Figure 2. Top view of the meter with registration on a gallon unit of measure meter.

Metron Farnier

Meter Indicating Volume / Altair 20

Figure 3. Photo showing the Metron Farnier name.

Figure 4. The red square shows the flow-direction arrow. The photo also shows one of the wire security sealing provisions.

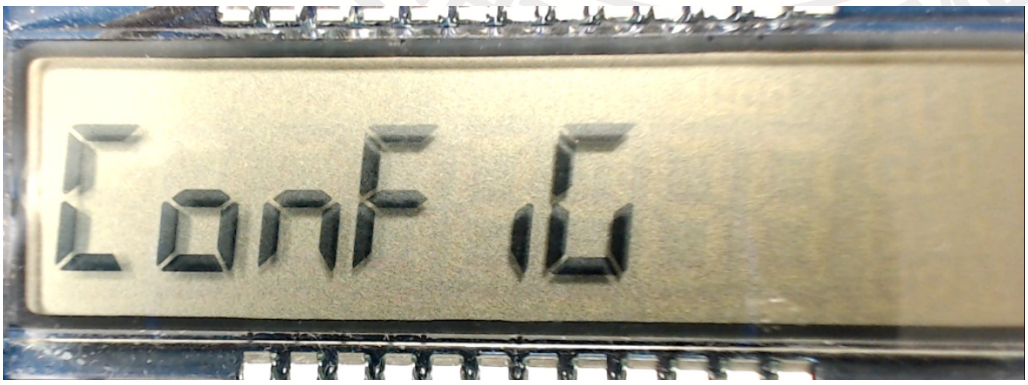

Figure 5. An example of the register display when the optical switch is communicating with the remote capable device.