



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Meter Indicating Volume
Retail Dispenser for Diesel Exhaust Fluid (DEF)
Model: EXXXX
Flow Rate: 2-10 GPM

Submitted By:

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Standard Features and Options

Standard Features:

Post pay, prepay and stand alone transactions
Programmable units of measurement
Remote price setting
Non-resettable electronic totalizer
Remote console interface

Options:

Local preset volume or money
Programmable pulser output
High hose configuration
Electronic meter calibration
Card reader

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.

Stephen Benjamin
Chairman, NCWM, Inc.

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Bennett Pump Co.
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Application: For dispensing Diesel Exhaust Fluid (DEF) (also known as AUS-32). This device may be used with approved and compatible equipment. This device is intended to be an optional side mount for the Bennett model 38XX (Certificate of Conformance Number 05-069). It may be added as a new installation or as an upgrade to an existing device.

It may also be installed as a DEF only device. As the DEF only device the electronics are contained in the adjacent housing (for the Bennett 38XX). There are no meters or piping inside this housing.

Note: Diesel Exhaust Fluid (DEF) is a highly corrosive mixture of urea and water. DEF is not an engine fuel. It should not be mixed with diesel fuel or other motor fuels and may result in contamination of product and/or damage to test equipment. A dedicated stainless steel prover should be used to verify the accuracy of the device.

Identification: The identification badge is attached inside the DEF cabinet near the nozzle. The Bennett model 38XX will also have an identification badge. (In a DEF only device, the identification badge will be near the nozzle in the DEF cabinet but none will be present in the 38XX housing. The main cabinet will only contain the electronics (no meters or other piping)).

The model number on this badge is a multi-digit alphanumeric sequence, which identifies the total construction of the dispenser (see table below). The first one or two digits of the serial number represents the month manufactured, (1 = January, 2 = February, 3 = March..... 12 = December). The letter that follows, A through Z represents the year manufactured; starting with the letter F = 2004, G = 2005, H = 2006, etc. excluding the letters I, O and Q followed by six numbers.

| Model Designation Chart | | |
|-------------------------|---------------------------------------|--|
| Position No. | Description | Suffixes |
| 1 | Series | E = Series designation |
| 2 | Computer Type | 4 = Retail Computer |
| 3 | Number of Hose Outlets (Diesel + DEF) | 1,2,3 or 4 |
| 4 | None | 0 (place holder not currently defined) |
| 5 | Dispenser Style | D = DEF only E = Diesel & DEF F = Combo (Diesel with Satellite) & DEF |
| 6 | Hydraulics Details | M = Master C = Combo (Diesel with Satellite) D = Combo (Diesel with Satellite) with Satellite in Use Light L = Master with Satellite in use light |
| 7 | Hydraulics | R = Remote |
| 8 | Fuel | S = Standard D = DEF |
| 9 | Unit of Measure | G= Gallons L = Liters |
| 10 | Valance/Canopy Options | L = Low Hose C = Cover HiHose V= Valance HiHose |
| 11 | Nozzle Boot Orientation | F = Front |
| 12 | Fueling Positions | 1 = One Side 2 = Two Sides |
| 13 | Electrical | Non-metrological feature |
| 14 | Card Readers | N = None C = Credit D = Debit E= Color Debit G = Credit Alpha Keyboard J = Color Credit Alpha Keyboard |



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| | | |
|---------|---------------------------|---|
| 15 | Vapor Recovery | N = None |
| 16 | Pulser | N= No pulse output P = Pulse Output Electronic Pump R = RS485 |
| 17 – 37 | Non-metrological features | |

Sealing: the Tuthill FPP TS meters have two bolts which may be sealed with a wire security seal on the meter. These bolts hold secure a plate which allows access to a linearization board. If the settings on this board are changed meter accuracy will be affected.

The model Bennett 38XX utilizes a category I audit trail for electronic calibration and may be accessed as follows; The pump handle must be off. Using the magnet supplied with each dispenser by the manufacturer, touch and hold on the glass at a spot ½ inch below the lower right hand digit of the gallons display until the audit trail shows then remove the magnet. The display will automatically cycle through the electronic totalizer and audit trail counters (audit trail information is described as below). It will then return to a normal operation mode in 30 seconds.

1028 computer (money & gallons) will show Product 1 (the product on the left side) Audit trAiL” then “ECALCh 00000X” (X is the number of calibration changes), then “UnitCh 00000Y” (Y is the number of changes to configuration parameters such as from gallons to liters to imperial gallons). It will then show Product 2 (the product on the right side) and the ECAL and UnitCh for that product.

Operation: This dispenser is designed to be added to an existing, or installed with a Bennett 38XX series (Certificate of Conformance Number 05-069). It may use the indications (total sale, gallon, and unit price display) of the main dispenser. As the DEF only device the electronics are contained in the adjacent housing (for the Bennett 38XX). There are no meters or piping inside this housing

Test Conditions: A Bennett model 3821LMSSGLFS1 was interfaced with a model E420EMRDGLF1A at the manufacturer’s facility using Diesel Exhaust Fluid (DEF) as the test liquid. The emphasis of the evaluation was on the design, operation and performance of the device. Five gallon test drafts were performed at the following flow rates; five tests at 9 gpm, three tests at 6 gpm and five tests at 2 gpm. This unit utilizes the same hydraulics as tested under Certificate of Conformance Number 10-053. The permanence test was waived based on the previous testing. Acceptance tolerance of 3 cubic inches and a repeatability requirement of 40% of the absolute value of the maintenance tolerance were applied as provided for in NIST Handbook 44.

Evaluated By: M.Frailer MD

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, 2013 Edition. NCWM Publication 14 Measuring Devices, 2012 Edition.*

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

Information Reviewed By: J. Truex (NCWM)



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Example of Device:



Example of a Bennett 38XX with DEF side mounts

