Electronic vs. Mechanical Dispensers

Commercial Fleet Fueling Dispensers

Bid specifications seem to have an indeterminate life. That old specification document written 20 years ago, just seems to keep chugging along year after year without regard to technology changes and improvements. These old spec documents often specify the use of a mechanical dispenser.

Supported by our cost of ownership data analysis, our current electronic platform is more reliable than the mechanical platform in our commercial fleet fueling dispensers. Maybe it's time to upgrade your specifications to the simple and reliable electronic technology of the Bennett 3000 series dispensers.

"At first glance most people are awed at the seemingly complicated construction…despite it's more than 700 parts..." [Source: Veeder-Root Service Manual]

**Note: Veeder-Root manufactures mechanical computers, electric reset devices, and pulsers*

"At first glance most people are awed at the simplicity of our electronics package...with less than five critical parts, uptime reliability is excellent...should repairs become necessary most failures can be fixed in less than 10 minutes." [Source: Gary Hanks, Bennett Pump Co.]

**Note: Bennett designs, manufactures, and tests it own electronic circuit boards and systems.*

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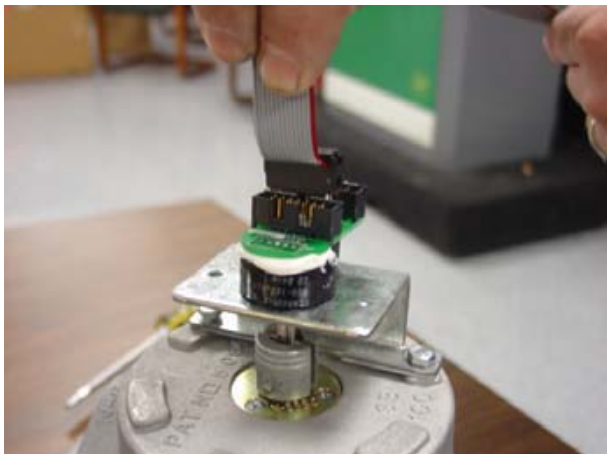
Our service techs' critical parts supply for electronic 3k dispensers:

CPU Board. Includes:
*Central Processing Unit (the intelligence).
*Power Supply.
*LCD Display.
*eCal (Electronic Calibration functions).
*RS485 communication interface to Fleet Management System.
*On-board electromechanical analog totalizer.
*Push button programming switches.
*Wiring terminal strip (part of a patented system).

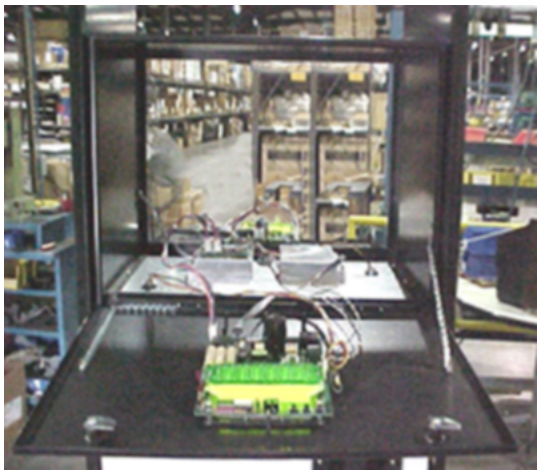
Satellite Interface Circuit Board. Used only when connecting a master dispenser to a satellite dispenser for simultaneous fueling on both sides of the vehicle.

Magnetic Handle Switch Board. By working with the intelligent CPU board, it performs and exceeds the functions of the 70+ part Veeder-Root electric reset device.

Spring for the handle lever



Electronic pulser. Direct drive connection to the meter's output shaft. No gears or cables.

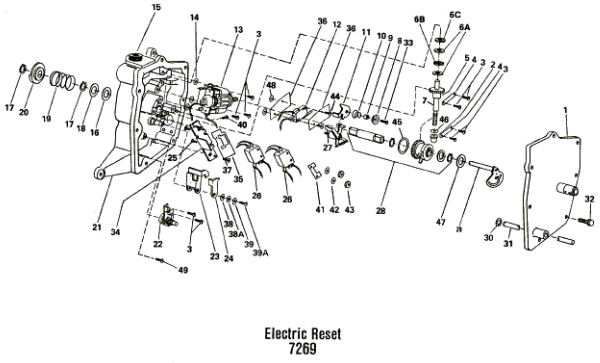


Simplicity in Action

Shown at left is two complete electronics packages in a single cabinet for a dual 2-sided 3k series electronic dispenser.

Resetting the dispenser display. Return to zero interlock required.

Mechanical

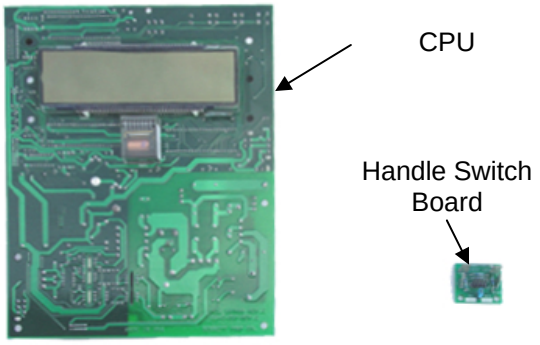


Veeder-Root Electric Reset

Recommended maintenance from VR Service Manual: Oil, grease, adjust switches with ohm meter & feeler gauge.

The electric reset mechanism shown above for mechanical dispensers contains over 70 Parts.

Electronic



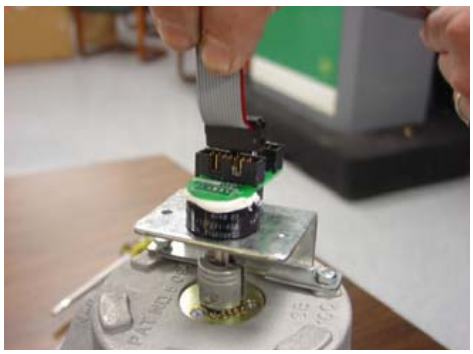
A lever and handle switch circuit board signals the CPU to reset the display to zero. The CPU performs data collection and safety issues before allowing the reset and activation of the next fueling transaction.

Transmitting data to Fleet Management Systems

Mechanical

Pulser options for mechanical dispensers:
10:1 ratio: $245 per hose
100:1 ratio: $345 per hose
Gear driven off of one of the shafts of the non-computer. The service manual provides instructions on adjusting the pulser to attempt to get agreement between the analog wheels of the non-computer and the electronic pulses being transmitted. Slight variations can occur between the fleet management system's volume totals collected and the analog totalizer of the mechanical non-computer.

Electronic



Electronic pulser is a standard feature of the electronic dispenser. Programmable through the CPU for 1:1, 10:1, 100:1, or 1000:1 resolution for extreme accuracy. The pulser transmits only to the dispenser's CPU board.

Transmission of data to a fleet management system (FMS) is performed through a simple 2-command RS485 communication protocol. Besides allowing authorization control to reside in the FMS, the dispenser provides updated accumulative electronic volume totals with each transaction. The FMS can "cross-check" the volume totals it has stored against the dispenser's volume totals to ensure that both systems are working accurately.

Should you need service… (approximate retail prices shown, exchange rebuilt if applicable)

Mechanical Parts	Retail Price without service	Time to Service*	Electronic Parts	Retail Price without service	Time to Service*
Non Computer w/electric reset & pulser	$650 to $750	90-minutes	CPU w/exchange	$383	10-minutes
Non-Computer only	$350	120-minutes	Handle Switch Bd	$41	3-minutes
Electric Reset only	$250	120-minutes	Pulser Assy	$181	10-minutes
Pulser 10:1 only	$200	60-minutes			
Pulser 100:1 only	$300	60-minutes			

**Service times are approximate to replace one unit of a twin dispenser. Current service rates average $50 to $75 per hour.*

Software Features

Mechanical

None

Nada

Zilch

Electronic

eCal (Electronic Calibration). More accurate than mechanical calibration and eCal recalibration takes 50% of the time compared to mechanical alibration. (see our white paper on the benefits of eCal).

Password Security.

Adjustable pre-charge time (remote dispensers) to allow leak detection to properly function and prevent false tripping.

No flow timeout (safety feature)

Diagnostic pulser errors.

Program master & satellite companions for simultaneous fueling allowed, or inhibit simultaneous fueling.

Program unit of measure (US Gallons, Liters, or Imperial Gallons).

Fleet Card Option In the Dispenser

Mechanical
Fleet Management Systems must be in their own cabinet with separate conduits

Electronic
Certain fleet management systems are certified to be field installed in the electronic door of our single-display-per-side commercial dispensers.

Upgrading dispensers AND adding a fleet management system where none existed before is easy with this option.

Extra conduits for the fleet management system are unnecessary since they will share our electronic power circuit.

No need to break concrete islands for a separate FMS cabinet.

Purchase Comparisons

Mechanical		**Electronic**	
1-Product, 2-Hose Remote Dispenser			
Mechanical Dispenser	$4,941	Electronic Dispenser	$5,229
Two 10:1 Pulsers	$ 546	RS485	$ 0
TOTAL	$5,487	TOTAL	$5,229

We can help you write your specification document or review what you've written before you distribute the document. Alternatively, you may want to use our free bid spec authoring tools available on our web site: www.bennettpump.com. We'll be happy to review those results for you as well.

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