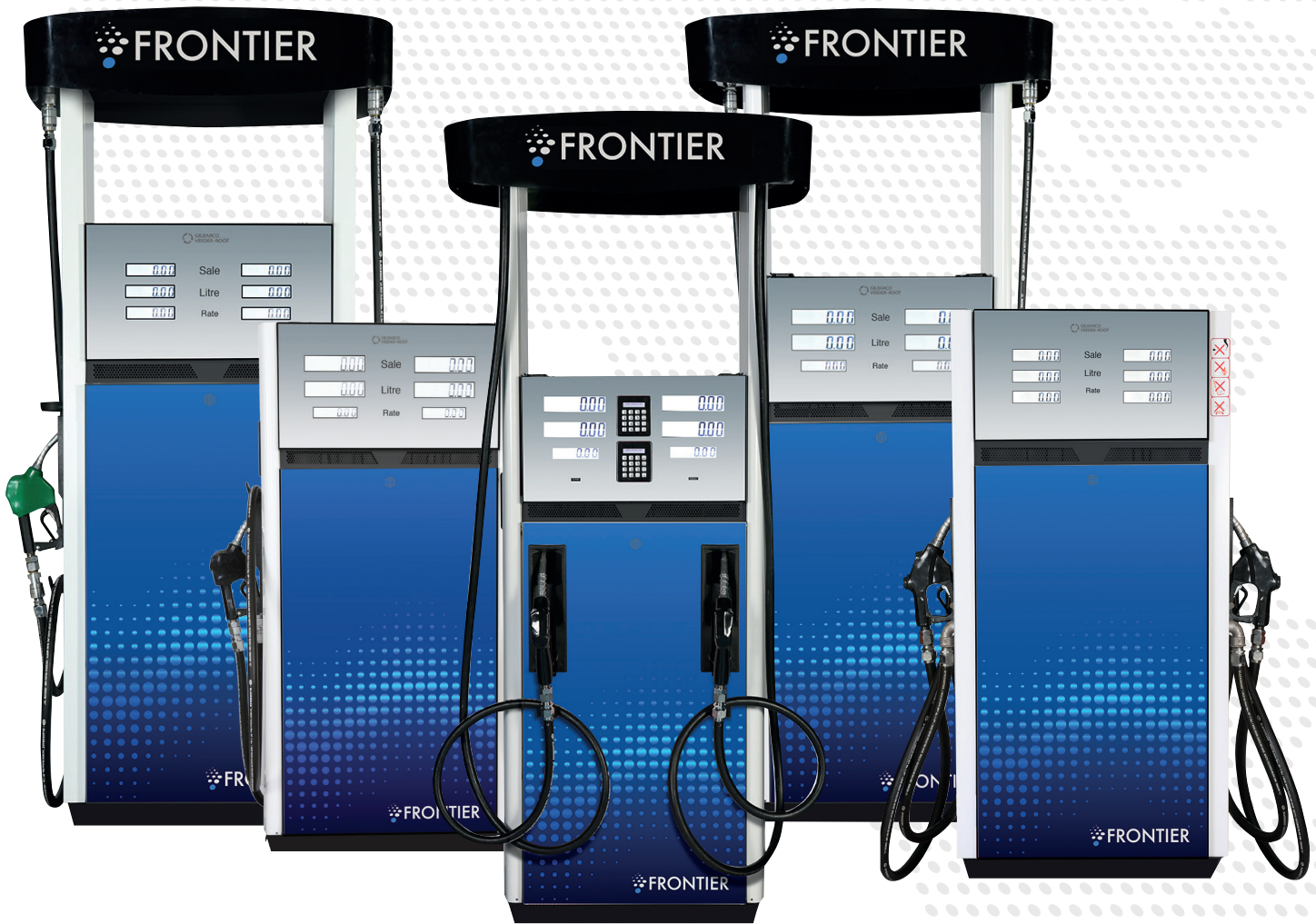


# FRONTIER

Accuracy | Security | Durability



# The World of Gilbarco Veeder-Root

**G**ilbarco Veeder-Root is a global industry leader in fuel dispenser technologies and integrated fueling solutions for retail and commercial partners. We make it our priority to understand your business challenges so you can deliver the best fueling experience to your customers.

We pride ourselves on providing the right products to our customers, maintaining a strong local presence to ensure customer service and timely delivery, and continuing to drive improvement and innovation.

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Gilbarco Veeder-Root has been a trusted partner since 1865, putting customers first for more than 150 years.

---

OUR LOGO OVER THE YEARS



*Veeder-ROOT*

*Gilbarco*



# Our History

1865

Charles Gilbert and John Barker partnered to build the "Springfield Gas Machine" that converted crude petroleum distillates into a gas vapor used to light buildings.

1910

Gilbert & Barker designed and manufactured its first petroleum pump, the T-1. This used a push-pull motion to draw gasoline from an underground tank for fueling automobiles.

1911

Gilbert & Barker introduced the first measuring gasoline pump.

1928

The Root and Veeder Manufacturing companies merged to form Veeder-Root, Incorporated.

1965

Gilbert & Barker Manufacturing Company officially changed its corporate name to Gilbarco.

1986

Pay-at-the-pump technologies pioneered, featuring a built-in credit/debit card reader system called CRIND®.

1979

Veeder-Root pioneered the automatic tank gauge and introduced the TLS-100. The Multi-Product Dispenser® (MPD®) is introduced by Gilbarco.

1994

Veeder-Root introduced the TLS-350R, which was then followed by the TLS-2, the TLS-450 and the more recent TLS-4.

2002

Gilbarco and Veeder-Root joined forces under a unified marketing brand as the world leader in retail petroleum products and services, submerged turbine pumps and retail automation systems.

2005

Gilbarco Veeder-Root introduced the industry's first integrated, contactless smart card reader for gas pumps.

2010

Gilbarco acquired the Petroleum Dispensing Pump Business Unit of Larsen & Toubro Limited, Mumbai, India.

2014

Launch of Insite360, Gilbarco Veeder-Root's unique, next generation wetstock management service.

2015

Gilbarco Veeder-Root celebrates its 150th anniversary, putting customers first since its inception.

**Gilbarco®**



**GILBARCO  
VEEDER-ROOT**



# The ART of Dispensing

**G**ilbarco Veeder-Root's Frontier Series captures the ART of Dispensing with trusted Asset Protection, tested Reliability and a Timeless Image. Frontier is designed as a flexible platform to meet a range of fuel dispensing needs.

Gilbarco's latest metering technology and wear-resistant materials provide long-lasting rust prevention. Series II offers superior performance and reliability. Series I serves the basic dispensing needs of modern service stations reliably and consistently.

Choose from a number of value-added options. Unit configurations include low or high hose, single or dual product grade, island or lane-orientation, and pressure or suction offerings.

## ASSET PROTECTION

- › More accurate, low drift meters.
- › Resilient hydraulics designed to perform in extreme environments.

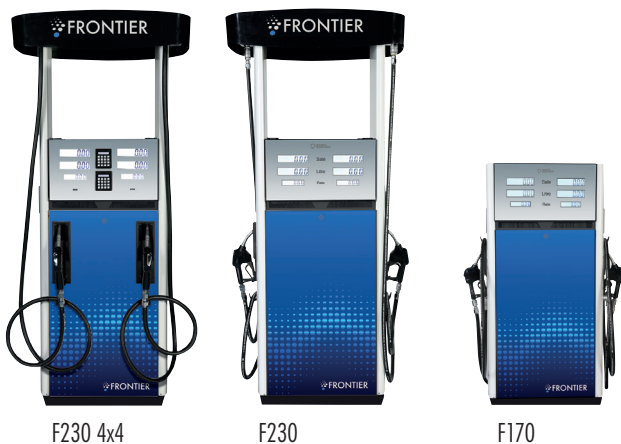
## RELIABILITY

- › Theft protection with personalized padlocks.
- › Extended lab & field testing ensures consistent performance.
- › Tamper-resistant electronics with proprietary interface protocol.
- › Global manufacturing facility assures world-class products and services, and state-of-the-art test facilities deliver quality and craftsmanship in every design.

## TIMELESS IMAGE

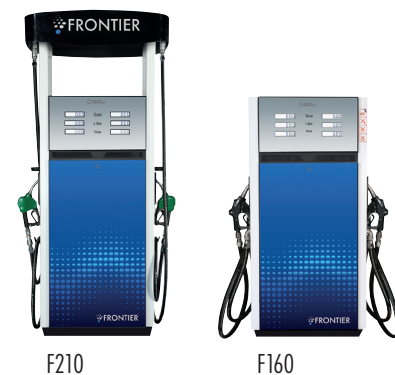
- › Durable frame construction and advanced materials.
- › Advanced materials and coatings for long-lasting consumer appeal.
- › Aggressive testing provides premium rust resistance and color endurance.

## A Frontier For Every Retail Site



The Frontier **Series II** line is designed for high throughput sites. Delivering high quality performance along with **security, reliability** and **image**, the Frontier Series II will help any site stand out from the competition.

High to medium throughput sites requiring **functionality** and **consistent reliability** find the **Series II low hose model** an excellent choice.

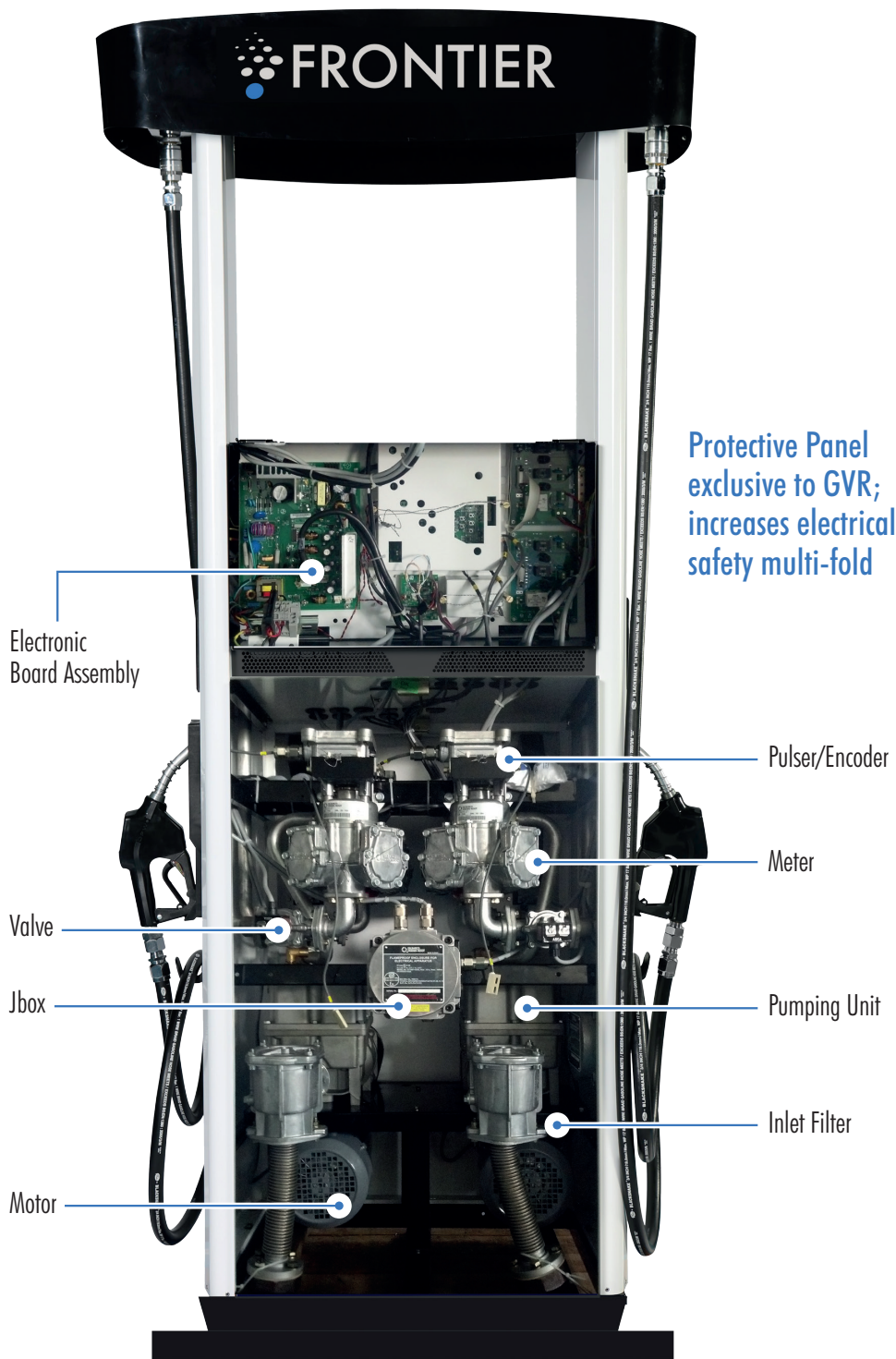


High to medium throughput sites requiring **functionality** find the **Series I high hose model** a reliable choice.

Low throughput sites or cost efficient independents find **Series I low hose model** best suited for their needs; offering a well-bundled package in terms of **price, functionality** and **reliability**.

# Frontier Series II

## Superior Class



### KEY FEATURES

#### FRAME AND GRAPHICS

- › Add-On Oval Canopy Option
- › Galvanized Sheathing and Panels
- › Side Panel Scuff Guard
- › F230: 30 Units High Hose; 40 ft. High Cube Container
- › F170: 34 Units Low Hose; 40 ft. Standard Container
- › Lane Option for High Hose 1 Grade Dual
- › 4x4 Option for High Hose
- › Pump Stop on Each Side

#### ELECTRONICS

- › 7-7-6 Sale-Vol-PPU Displays
- › 40mm Sale Volume Displays
- › 16 Digit Alphanumeric Preset Pin Pad
- › Quick Preset Key Options
- › 4KV Electrical Noise Resistance
- › 4x4 Option with 'My Preset'
- › Wide Voltage Band 180-250V
- › Transaction Logs
- › Diagnostic Error Logs
- › Sale Round-Up, Floating Sale Decimal

#### HYDRAULIC COMPONENTS

- › New, More Accurate GVR Fuel Meter
- › 1HP Motor
- › Global Suction Unit
- › Stainless Steel Washable Filters
- › High Hose Elevation 2.3 Meter

#### OPTIONS

- › Standard Flow-40LPM
- › High Flow-80LPM
- › Low Hose 1.6m Elevation

- › [Extended Warranty Programs Available](#)
- › [ATEX & OIML R117/118 Certified](#)

**F**rontier Series II combines performance, reliability and options. The range includes single and dual configurations. Big, bold displays, a rugged and more accurate meter as well as a great exterior image make this range an excellent choice.

# Frontier Series I

## Functional and Reliable

### KEY FEATURES

#### FRAME AND GRAPHICS

- › Add-On Oval Canopy Option
- › Galvanized Sheathing and Panels
- › Hand Crank Option for Low Hose
- › 34 Crates in Standard 40ft. Container

#### ELECTRONICS

- › 6-6-6 Sale-Vol-PPU Displays
- › 25mm Sale Volume Displays
- › 16 Digit Alphanumeric Preset Pin Pad
- › 4KV Electrical Noise Resistance
- › Wide Voltage Band 180-250V
- › Transaction Logs
- › Diagnostic Error Logs
- › Sale Round-Up, Floating Sale Decimal

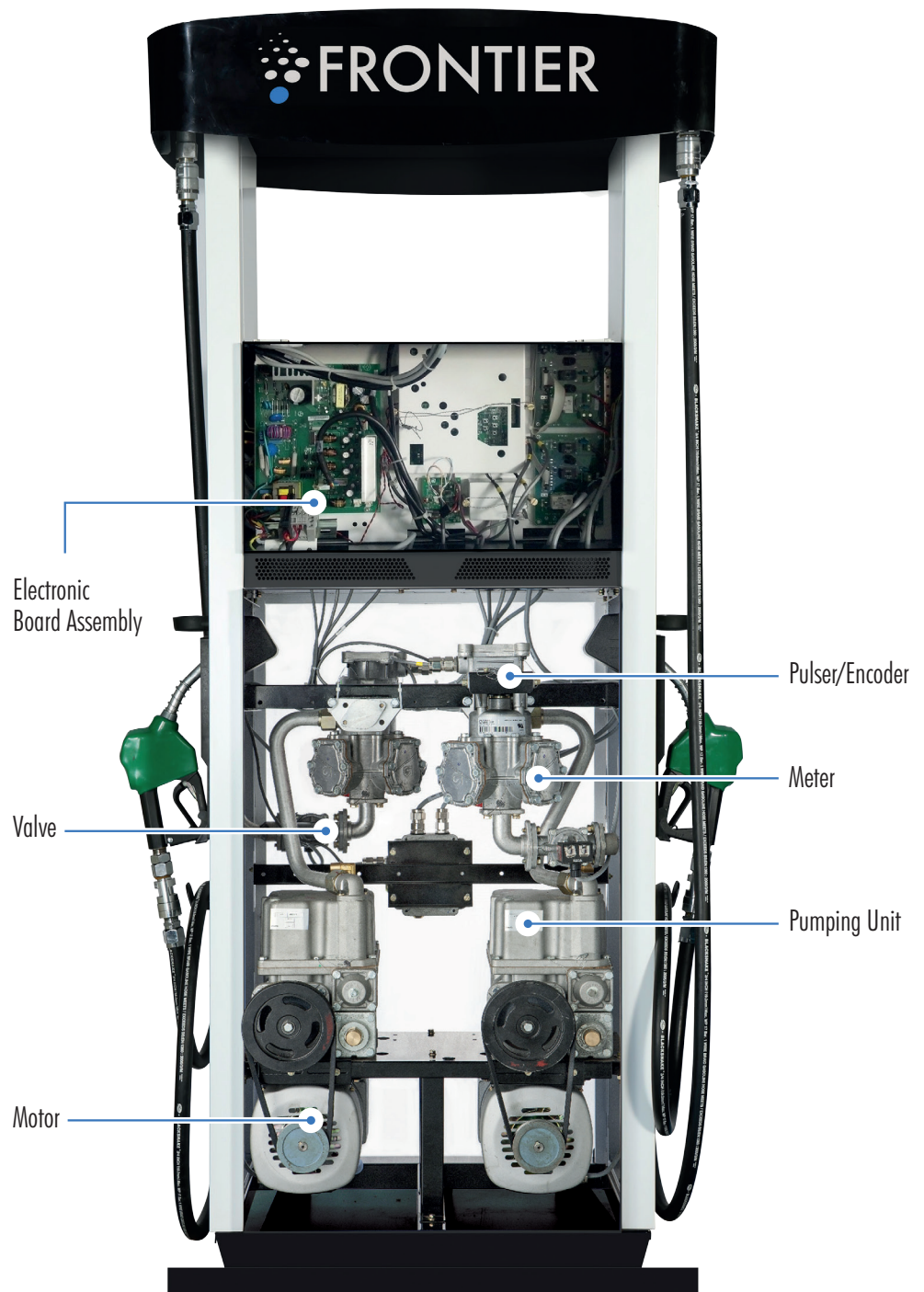
#### HYDRAULIC COMPONENTS

- › New, More Accurate GVR Fuel Meter
- › 1HP Motor
- › Global Suction Unit
- › High Hose Elevation 2.1 Meter
- › Stainless Steel Washable Filters

#### OPTIONS

- › Standard Flow-40LPM
- › High Flow-80LPM
- › Low Hose 1.6m Elevation
- › Extended Warranty Programs Available
- › ATEX & OIML R117/118 Certified

Frontier Series I offers functional and reliable single and dual configurations. Available as a suction or pressure type, it has rugged Gilbarco global components making it reliable even in harsh field conditions. This series is offered in Standard Flow-40LPM and High Flow-80LPM options.



# Adding More Value at Fueling Sites

## Lower Cost of Ownership

	FEATURES	VALUE
Series II & Series I	<ul style="list-style-type: none"><li>› New, More Accurate GVR Fuel Meter with eCalibration</li><li>› 2-Stage, Stainless Steel Washable Filters</li><li>› Surface Mounted Electronics with Self-Diagnostics Code for Remote Support</li></ul>	<ul style="list-style-type: none"><li>› Low frequency of calibration and accurate delivery saves on operating costs even in rugged operating conditions.</li><li>› Reduced maintenance cost and high operating efficiency.</li><li>› Quick turnaround time for technical support and problem diagnostics.</li></ul>

## Modern Image

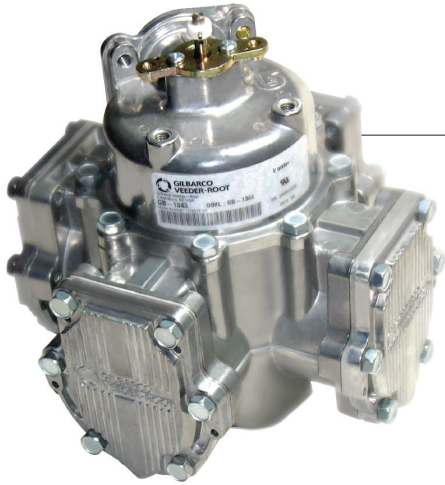
	FEATURES	VALUE
Series II	<ul style="list-style-type: none"><li>+ Premium High Hose Image – 2.3m Elevation</li><li>+ 7 Digit PPU Display</li><li>› Latest Edge Lit LED Display</li><li>› Surface Protection Decals</li></ul>	<ul style="list-style-type: none"><li>› Helps build site branding; attracts more drive-in.</li><li>› Adaptable in regions with 3 and 4 digit prices.</li><li>› Clear vision to customers – clean image.</li><li>› Extended graphic life up to 3 years.</li><li>› Extended paint life on external sheathings.</li></ul>
Series I	<ul style="list-style-type: none"><li>› Premium High Hose Image – Hose Outlet from Canopy</li><li>› 6 Digit PPU Display</li><li>› Graphics with Surface Protection</li></ul>	

## Security

	FEATURES	VALUE
Series II	<ul style="list-style-type: none"><li>+ Encoded Internal Data Transmission</li><li>+ Personalized Access to Electronic Box</li><li>› Standard eCalibration Meters</li><li>› Encoded Pulsers with Secured Proprietary Protocol</li></ul>	<ul style="list-style-type: none"><li>› Reduced theft due to mechanical adjustments.</li><li>› Reduced theft due to electrical interference.</li><li>› Improved image, yet secured with personalized padlock.</li></ul>
Series I	<ul style="list-style-type: none"><li>› Standard eCalibration Meters</li><li>› Data Transfer between Electronic Boards</li><li>› Encoded Pulsers with Secured Proprietary Protocol</li></ul>	<ul style="list-style-type: none"><li>› Reduced theft due to mechanical adjustments.</li><li>› Reduced theft due to electrical interference.</li></ul>

# Value Drivers

Gilbarco Veeder-Root's global standards provides the Frontier family consistency in field performance, security and reliability.



## Accuracy

The ART of Dispensing focuses on craftsmanship and quality. Our proprietary metering technologies provide solutions to your unmet forecourt needs.

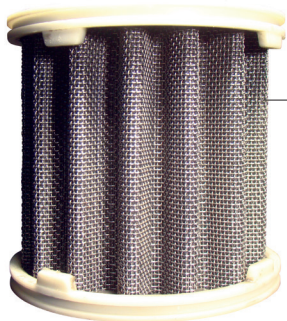
- › Gilbarco HD Meter with eCalibration
- › Minimal Pulse Resolution for Higher Accuracy
- › 2-Stage Valve for Accurate Delivery in < 1 Litre Transactions
- › Accurate in High Throughput Environments
- › Long-Lasting Deck Plate Provides Accuracy



## Security

Secure pulser technology with proprietary protocols enable secured dispensing.

- › Theft Protection through Personalized Padlocks
- › Tamper-Resistant Electronics with Proprietary Interface Protocol
- › Interactive Electronics – No Pulse, No Flow System



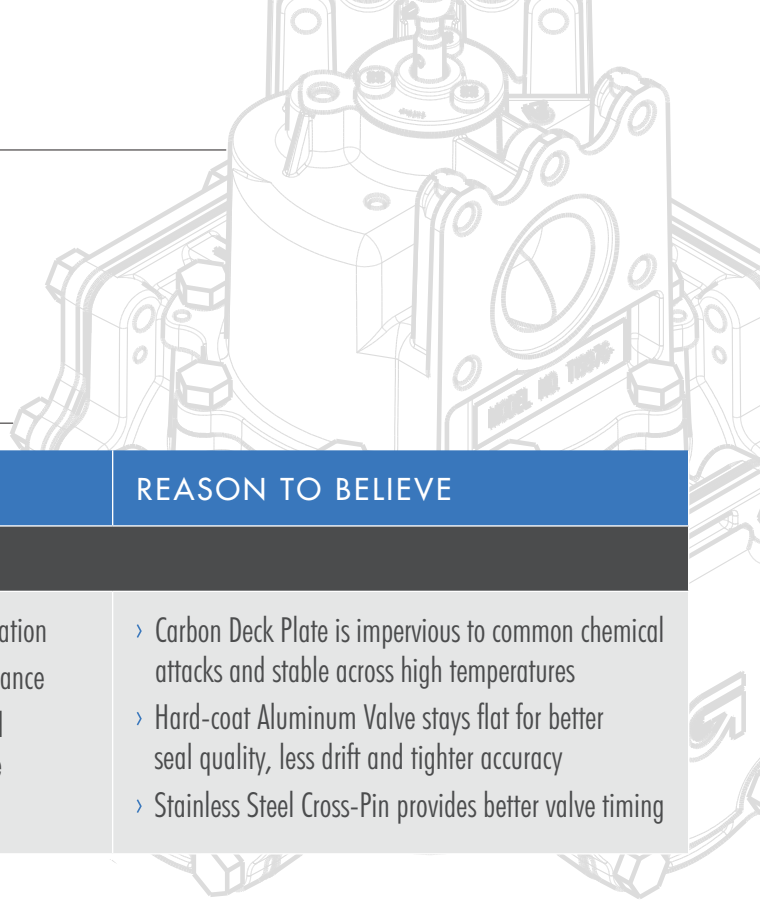
## Durability

New in-line filter and unique two-stage, stainless steel mesh for long-life, washable and re-useable filters.

- › High Visibility; Uniform Brightness 24hrs a Day
- › Self-Diagnostic Power Supply Safeguards Motor at < 180V
- › Surface Protection for Longer Image Life







PROBLEM	FEATURE/BENEFIT	REASON TO BELIEVE
<b>GVR HD METER</b>		
Calibration is needed more frequently in environments that have harsher fuels and extreme temperature swings.	<ul style="list-style-type: none"> <li>› Avoids loss of fuel due to drift in calibration</li> <li>› Saves money on fuel loss and maintenance</li> <li>› Stays calibrated for a longer time; field tolerance is 0.3% of measured volume as OIML R117/118</li> </ul>	<ul style="list-style-type: none"> <li>› Carbon Deck Plate is impervious to common chemical attacks and stable across high temperatures</li> <li>› Hard-coat Aluminum Valve stays flat for better seal quality, less drift and tighter accuracy</li> <li>› Stainless Steel Cross-Pin provides better valve timing</li> </ul>

PROBLEM	FEATURE/BENEFIT	REASON TO BELIEVE
<b>PULSER/ENCODER</b>		
Unit tampering and fraud cause serious security concerns.	<ul style="list-style-type: none"> <li>› Dual combination defends against and restricts fraudulent activity</li> <li>› Prevents manual intervention which could lead to manipulation of profits</li> <li>› Protects electronic board from failure due to improper handling</li> </ul>	<ul style="list-style-type: none"> <li>› Exclusive GVR Asset ID; unique Asset ID and position that is recognizable by the dispenser</li> <li>› Secure Encrypted Encoder prevents criminals from damaging the Encoder shaft through the air gap or meter coupling</li> <li>› Lift Off Detection feature offers enhanced security against unauthorized manipulation</li> </ul>

PROBLEM	FEATURE/BENEFIT	REASON TO BELIEVE
<b>STAINLESS STEEL WASHABLE FILTER</b>		
Filters needs frequent intervention for cleaning and replacement.	<ul style="list-style-type: none"> <li>› Large capacity washable filter—fewer cleanings required</li> <li>› Saves filter replacement costs over product life</li> <li>› Higher flow rate over longer duration enables faster fueling and high throughput at sites</li> </ul>	<ul style="list-style-type: none"> <li>› Unique filtering technology designed for durability and consistency in rugged environments</li> <li>› Stainless steel design for long-life with standard use</li> <li>› 70 micron mesh filter removes particles that cause the meter to lose calibration or clog</li> </ul>

Features and benefits provided here are tested within standard use and/or within typical operating environments. Fuel throughput may vary.

# Features Table

## Series II



F230 4x4



F230



F170

## Series I



F210



F160

ATTRIBUTES	VALUE	MODELS			
		Series II		Series I	
		High Hose	Low Hose	High Hose	Low Hose
Reliability	Heavy Duty 1HP Motor	●	●	●	●
	Motor with Wider Voltage Range - 180V to 250V, Single Phase	●	●	●	●
	High Electrical Noise Resistance - 4KVA	●	●	●	●
	Rugged Power Supply Board	●	●	●	●
	Globally Proven Suction Unit	●	●	●	●
	High Quality Cables - Shielded and Harnesses	●	●	●	●
	High Quality Builds for Electronic Boards with Surface Mounted Components	●	●	●	●
	IP54 Top Box - Rainproof/Dust Proof Electronic Enclosures	●	●	●	●
	2-Stage Filtering to Protect Key Components	●	●	●	●
	Washable and "Reusable for Life" Stainless Steel Filters	●	●	●	●
	Valve with Precise Preset Control	●	●	●	●
	High Temp & Humidity Rated Electronics	●	●	●	●
	High Quality UV Protected Anti-Fade Vinyl Decals with 3M Adhesive	●	●	●	●
	Standard Hydraulics Can Handle Ethanol Mix Up to 10%	●	●	●	●
	High Pull Strength Structure	●	●	●	●
	Extra Large Filter Bowl with Large Filtration Surface Area	●	●	○	○
More Accurate GVR Fuel Meter	●	●	○	○	

● Standard    ○ Optional    – Not Available

ATTRIBUTES	VALUE	MODELS			
		Series II		Series I	
		High Hose	Low Hose	High Hose	Low Hose
Security	Gearless Meter: Direct Drive Pulser Transmission	●	●	●	●
	Physically Secured and Inaccessible Pulser Shaft	●	●	●	●
	Secured Pulser with Pulse Encryption	●	●	●	●
	Flexible eCalibration - More Readings Can Be Taken for More Accuracy	●	●	●	●
	Secured Software Upgrade	●	●	●	●
	Personal Padlock Access Control	●	●	○	○
Functionality	16 Key Preset Alpha -Numeric Keypad with 2 Line LCD Display	●	●	●	●
	Transaction Logs	●	●	●	●
	Diagnostic Error Logs	●	●	●	●
	Floating Decimal for Sale (Standalone Mode Only)	●	●	●	●
	Sale Round Up	●	●	●	●
	My Preset (Attendant Can Set a Vol/Sale Preset for Sequential Deliveries)	●	●	●	●
	GVR 2 Wire Communication Interface Integration with Popular FCCs	●	●	●	●
	Flexible Suction Inlet	●	●	●	●
	7 Digit Electromechanical Totalizer	●	●	●	●
	Customized Bezel for Local Sale-Vol-PPU Units	●	●	●	●
	ATEX Approved Junction Box & Pulser Box	●	●	●	●
	ATEX Approved Components and Full ATEX Certified Pump Design	●	●	●	●
	6 Digit PPU Display	●	●	●	●
	7 Digit Sale-Vol Display	●	●	○	○
	Emergency Stop on Each Side	●	●	○	○
	Suction Unit Vent Tube	●	●	○	○
	4x4 - Fueling Simultaneously through All Four Hoses	●	○	○	○
Lane Oriented 1P 2H and Lane Oriented 2P 4H	●	○	○	○	
Image	LCD Displays with Edge Lit White Backlight	●	●	●	●
	Narrow Frame - 790mm Wide	●	●	●	●
	Large and Unobstructed Lower Panel Branding Area	●	●	●	●
	High Quality Polycarbonate Attractive Bezel Graphic with Flush Display Mounting	●	●	●	●
	Nozzle Boots with Guides	●	●	●	●
	Dual Tone Color Scheme	●	●	○	○
	Protective Scuff Guard Polycarbonate Decal on Side Panels	●	●	○	○
	Curved Panels and Corners	●	●	○	○
	Galvanized Sheathing and Panels Pre-Treated for Rust-Prevention	●	●	●	●
	Large Digits - 40mm Character Height	●	●	○	○
	High Hose - Hose Connected at the Top	●	○	●	○
	Custom Branded Decals on Canopy	●	○	●	○
	Extra High Elevation - 2.3 Meter	●	—	—	—
	Large Canopy Covers Hose Connections	●	○	○	○
Options*	High Flow-80LPM	●	●	●	●
	ATEX 3 Phase, 50Hz Motor	●	●	●	●
	Large Cover-Up Oval Canopy for Extra Image and Branding	●	○	●	○
	Hose Mast	○	●	○	●

Extended warranty programs are available on all Series II and Series I models.

# Gilbarco Veeder-Root Products

Gilbarco Veeder-Root is one of the largest suppliers of forecourt solutions in the world offering technologies that provide convenience, control and environmental integrity to retail fueling and adjacent markets.

## Pumps & Dispensers

Designed to be at the core of retail forecourt solutions centering on quality and innovation, Gilbarco Veeder-Root's broad portfolio of pumps and dispensers deliver profitability to our customers today and tomorrow.

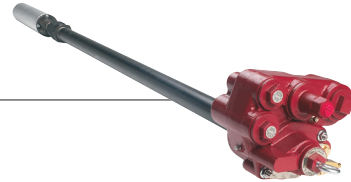


### FlexPay™

Secure and flexible payment solutions generate new business at the pump.

## Submersible Pumps

An efficient way to pump fuel on a forecourt; consistent flow rates, no vapor lock and minimal maintenance.



### Automatic Tank Gauging

Innovative tank monitoring and loss detection to automate wet stock management, environmental control and risk management across the network and allow centralized data management to optimize operational profitability.

## Retail Solutions

A leading provider of solutions and tools to support fuel retailers in improving profits and preparing businesses for tomorrow's challenges.

