



Franklin Fueling Systems

Solutions You Can Trust

Enhanced Vapor Recovery and In-Station Diagnostics

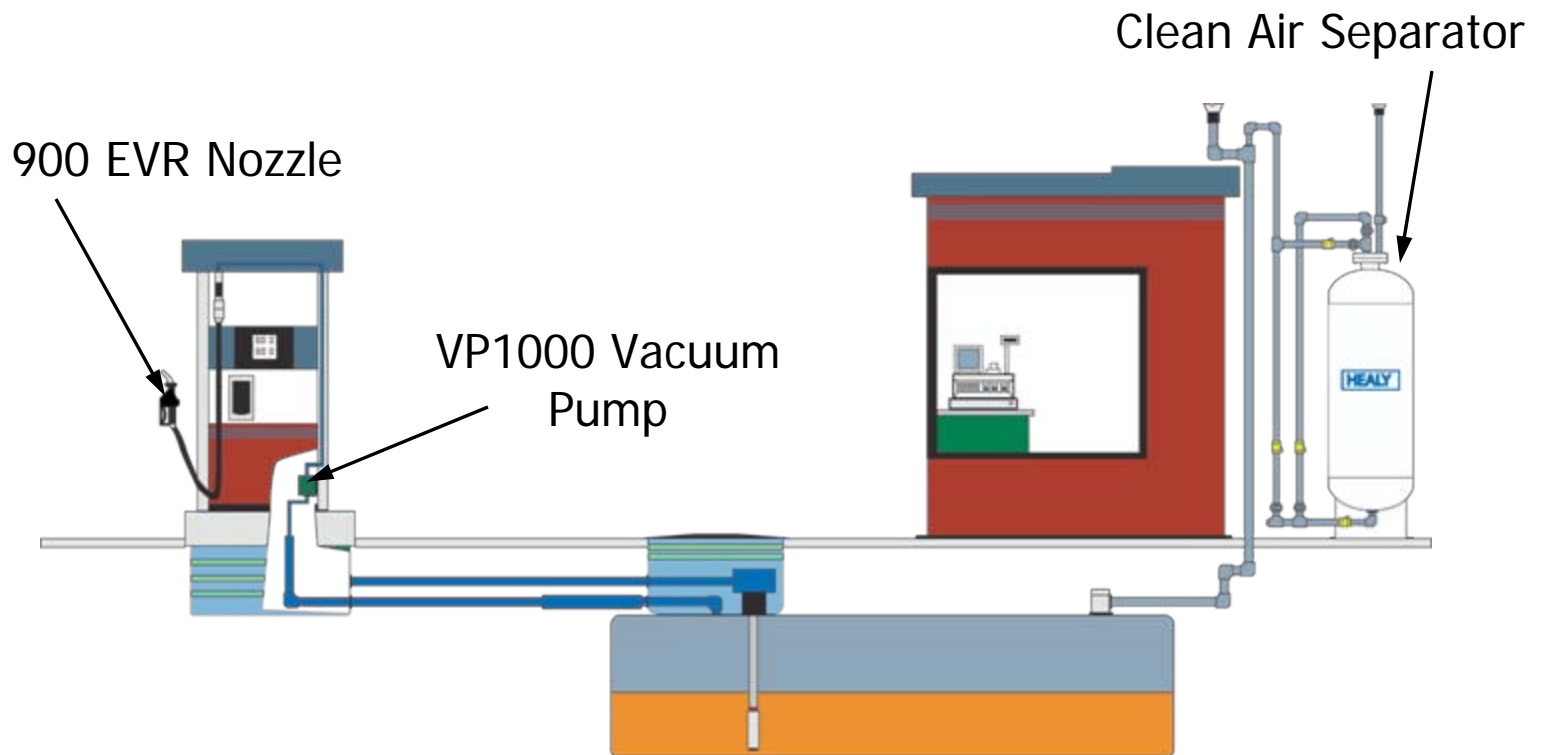


Presented by: Matthew Schuessler, N Cal Territory Mgr



The Healy EVR Phase II Vac-Assist solution

- Based on the August 1999 CARB ORVR certified Healy solution
- CARB EVR certified since April 2005 without In-Station Diagnostics
- CARB EVR certified since August 2005 with In-Station Diagnostics





Model 900 Series EVR/ORVR Nozzle

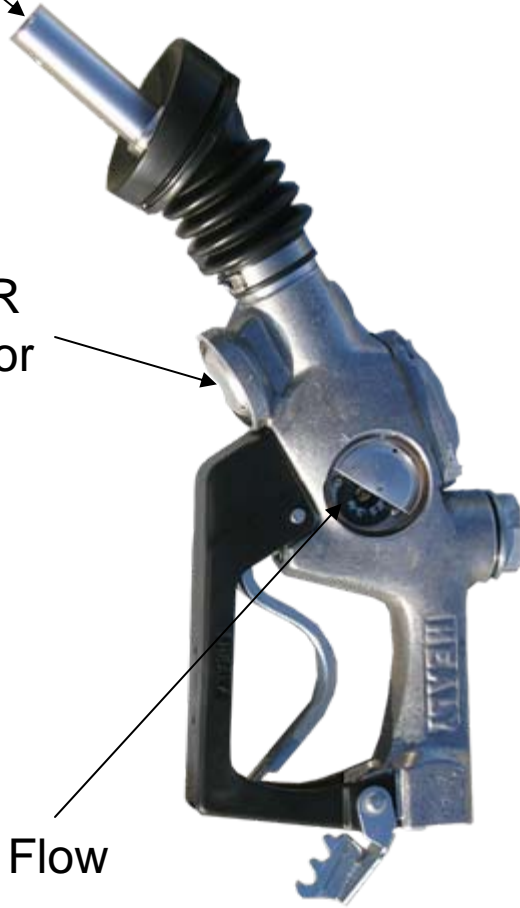
- Reliable, low maintenance design based on proven Model 800 Series ORVR Nozzle
- EVR Certified by CARB
 - Dripless
 - Spitless
 - Meets liquid retention specifications
 - No unintentional spillage
- Nozzles have field adjustable Vapor/Liquid ratio for long service life and accurate performance
- Nozzle is the brains of the Healy solution with state of the art “Smart Interface” design



Dripless
Spout

ORVR
Sensor

Vapor Flow
Control Valve



Model 900 Series Nozzle “Smart Interface”

- Simple nozzle-mounted device that senses difference in vehicle fillpipe pressure when fueling ORVR versus non-ORVR vehicles
- When ORVR vehicle is sensed, the air flow through the nozzle’s vapor return path to the UST is reduced, preventing fresh air from entering the UST
- Nozzle uses internal vapor flow control valve to regulate the V/L across a wide range of flows, independent of vacuum pump



Model 900 Series Nozzle Feature Summary

- Nozzles have field adjustable V/L for long and accurate service
- Healy spout attachment to the nozzle body have a sure mechanical seal that cannot loosen
- Spouts are made out of solid aluminum rod to prevent peeling and ensure long life
- Locking hold-open clips, hand guards, levers, spouts, face seals, and boots are all replaceable items
- Available in Full Service (FS = w/ hold open clip)
- Available in Self-Service (SS = w/o clip)



75 Series Coaxial Hoses

- Inverted coaxial design reduces hose diameter, while increasing flow rates
- Inner tube is specially produced for kinking resistance
- Steel braided, premium, abuse-resistant outer hose assures long service life
- EVR Certified for up to overall hose/breakaway length of 20 feet
- Manufactured with hose ends to fit any dispenser application





75 Series Coaxial Hose End Configurations

- 'S' = Swivel Hose End Fitting
 - Typically used at nozzle and dispenser outlet
- 'F' = Fixed Hose End Fitting
 - Typically used at breakaway connections



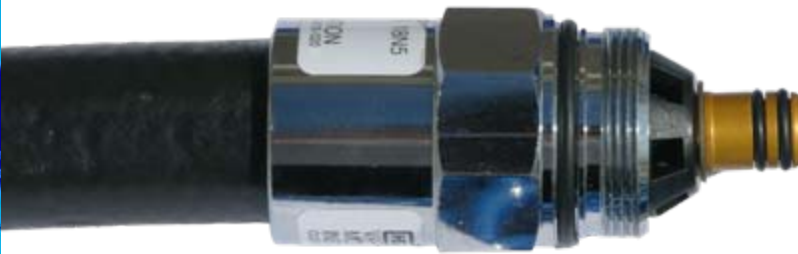
'4' = Balance-Type Thread

- Connects to Balance-Ready dispenser outlets



75 Series Coaxial Hose End Configurations

- 'S' = Swivel Hose End Fitting
 - Typically used at nozzle and dispenser outlet
- 'F' = Fixed Hose End Fitting
 - Typically used at breakaway connections



'3' = Metric Straight Thread (M34)

- Connects to WayneVac or VaporVac outlets
- Vapor adaptor anodized golden for easy identification



75 Series Coaxial Hose End Configurations

- 'S' = Swivel Hose End Fitting
 - Typically used at nozzle and dispenser outlet
- 'F' = Fixed Hose End Fitting
 - Typically used at breakaway connections



- '2' = Healy Straight Thread (1-1/4")
 - connects to Healy hardware and adaptors



8701VV Breakaway

- Full product and vapor shut-off, with 350 pound separation force
- Break-away is made from solid aluminum bar and designed to endure multiple drive-offs
- Spare shear screw allows ease of field repair in the event of a drive off





807 Swivel Breakaway

- Breakaway and nozzle swivel in one, allowing for easier far side fueling
- Full product and vapor path shut-off, with 350 pound separation force
- Spare shear screw allows ease of field repair in the event of a drive off





Flow Limiters

- Reduces flow to EPA required 10 GPM
- 1301 Flow Limiter
 - Installed on lower half of 8701VV
- 1302 Flow Limiter
 - Used with 807 swivel breakaway
- NOT REQUIRED with FFS Variable Speed Submersible Pump





Coaxial Hose and Hose Accessory Feature Summary

- Healy hoses are manufactured from a specially produced inner tube that is resistant to kinking
- Healy uses only steel braided, premium, abuse-resistant outer hose assures long service life, typical hose life is more than 5 years
- Healy is the only company to provide a spare shear screw in it's breakaway design
- Breakaway is re-connectable, with proven integrity even after numerous drive-offs and re-connects





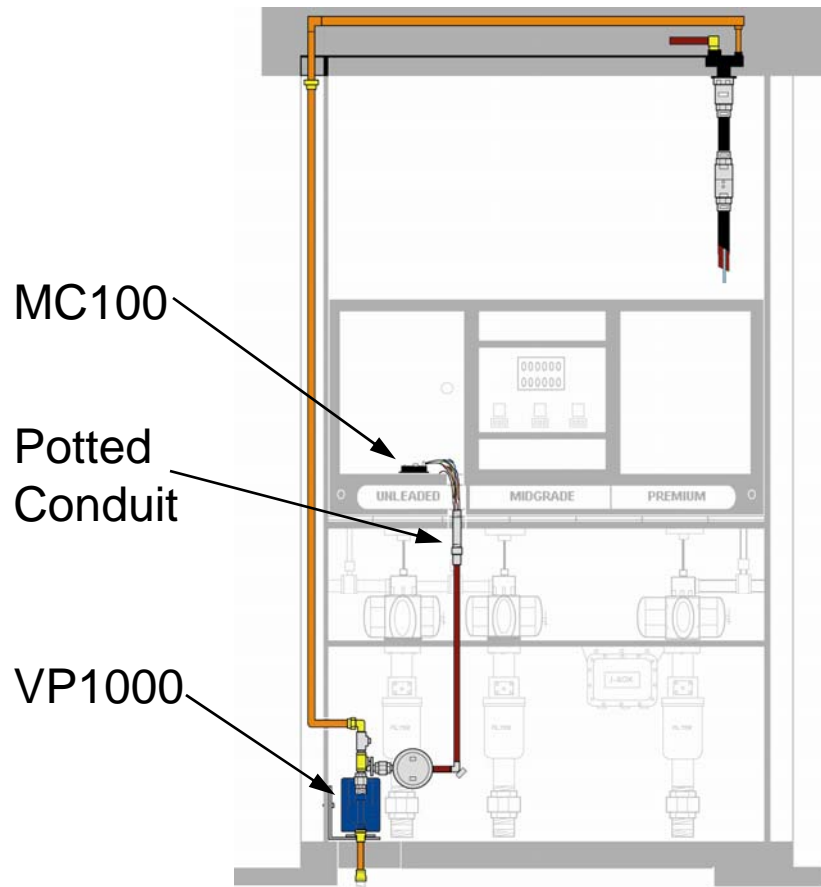
VP1000 Series Dispenser Mounted Vac-Assist Pump



- Electric driven, self-contained vane pump, which produces a vacuum level of 60-90 inches of water column
- Produces a vapor flow of 10 or 20 gallons per minute – dependant on the number of hoses in operation
- MC100 provides continuous running diagnostics



VP1000 Dispenser Mounted Vacuum Source



- Compatible with new and existing dispenser models
- Simple installation without excavation or dispenser software updates
- Compatible with new and existing dispenser models
- One VP1000 per dispenser satisfies vapor recovery needs for both sides of blender and non-blender applications



MC100 Interface Module

- Controls the ON/OFF operation of the VP1000 by receiving a signal from the dispenser solenoid circuit
- Authorization of a dispenser solenoid drive simultaneously signals the VP1000 pump to operate
- Provides continuous running diagnostics for ease of start-up and service





VP1000 Dispenser Mounted Vacuum Source

- VP1000 and MC100 kitted for ease of ordering:
- Model Specific (Gilbarco, Wayne, Tokheim)
 - Includes Wiring Harness, Mounting Hardware Kit, Vapor Kit, and Electrical Kit for complete installation of system
- “Universal” Kits for any dispenser
 - VP1000, MC100 with “Universal” Wiring Harness and Universal Mounting Hardware Kit



*Non-Inclusive kits require “Universal” Electrical Kit and Universal Vapor Kit for complete installation of system



VP1000 Dispenser Mounted Vacuum Source Feature Summary



- System easily installs into any new or existing dispensers without dispenser software updates
- VP1000 creates a high vacuum for proper nozzle operation and clearing liquid from hoses
- VP1000 repair or replacement does not effect V/L setting of nozzle
- One VP1000 per dispenser reduces installation and long term maintenance costs
- MC100 displays operating and faults status to expedite setup and service of system
- VP1000 Kits package equipment for easy and accurate ordering



Clean Air Separator (CAS)

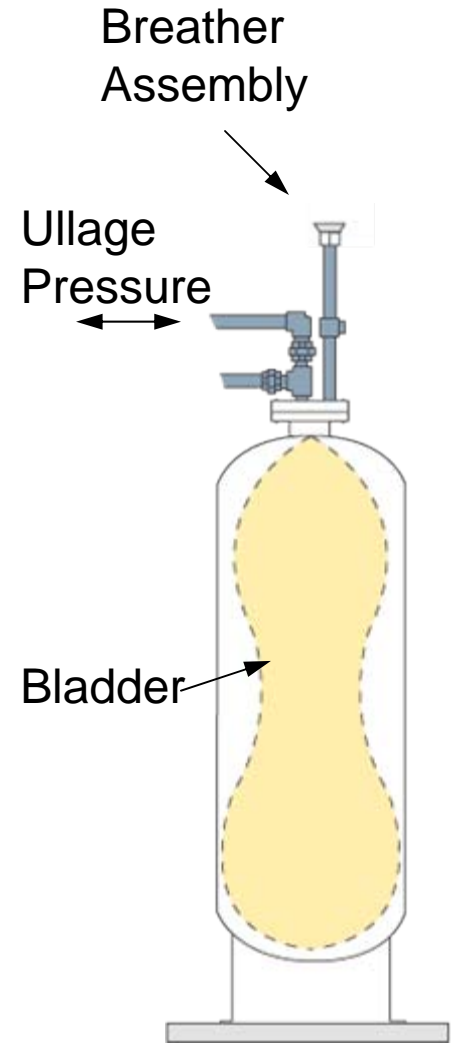
- Ships complete with Breather Assembly, Float Check, Lockable Ball Valve, Locks, and Keys
- Available for vertical (P/N 9961 shown at left) or horizontal (P/N 9961H) installation
- Connects within 100 feet of any new or existing vent riser(s) without excavation
- Installs without sensor or electrical wiring
 - NO WIRES
- Operates with only annual testing and inspection required
 - Maintenance Free
- Mechanical, passive management of underground storage tank pressure to eliminate fugitive emissions and evaporative product losses





Clean Air Separator (CAS)

- Inside the CAS outer shell is a bladder that is connected to the underground storage tank (UST) ullage space
- When UST ullage pressure rises towards atmospheric, the bladder begins to expand to manage the UST pressure
- As the bladder expands, the clean air surrounding the bladder is pushed out through the Breather Assembly
- When the UST ullage pressure is drawn negative by ORVR fueling, the bladder is collapsed inside of the CAS
- Industry's only ZERO emission processor



Clean Air Separator (CAS) Feature Summary

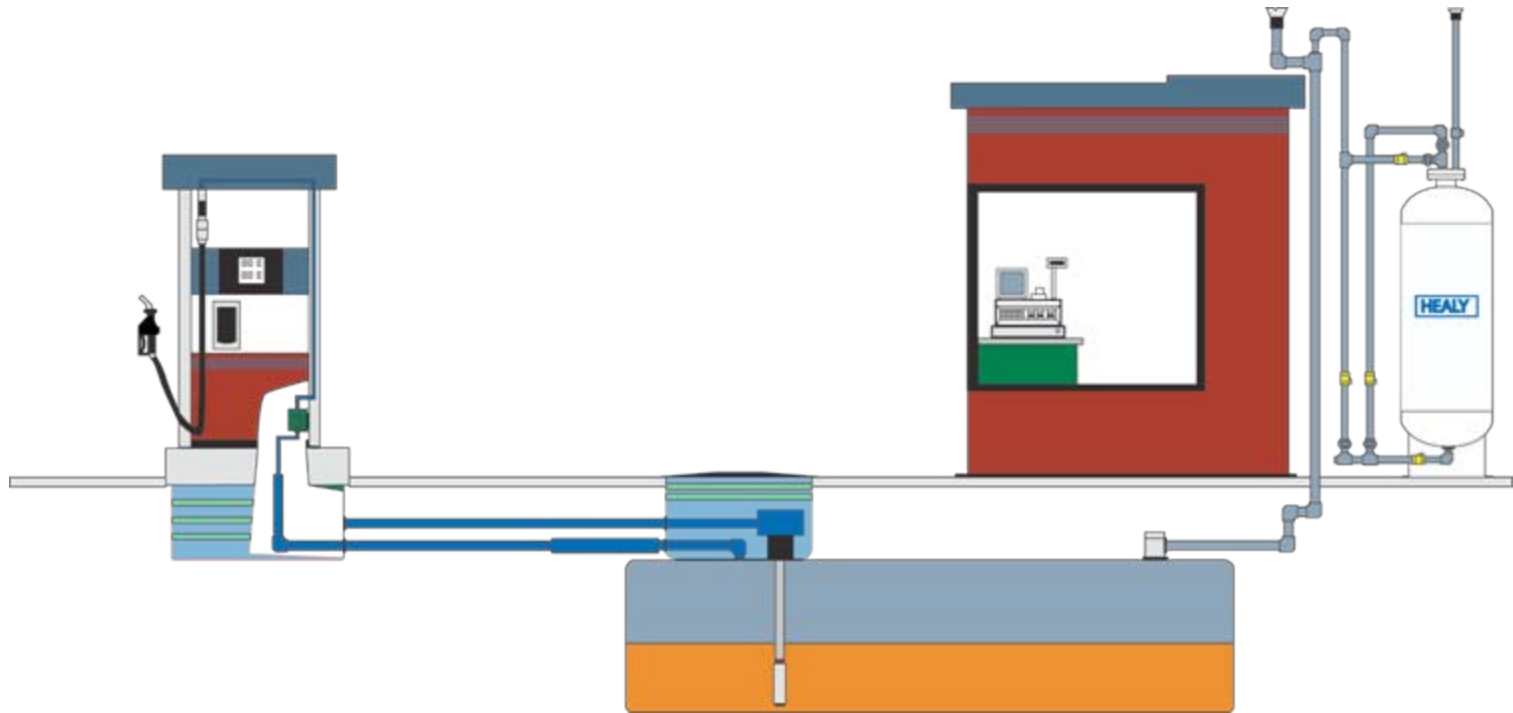


- Available for vertical or horizontal installation
- Can be installed at sites with manifolded or single vent riser pipe lines
- Simple installation into new or existing sites without excavation for vent riser connection of CAS
- No electrical installation or operational costs associated with CAS
- Maintenance free bladder operates within CAS outer shell to manage UST ullage space pressure
- 5 year warranty



Healy EVR Phase II Vac-Assist Feature Summary

- Easy installation into new or existing sites/dispensers
- Full line of long-lasting, field proven nozzles and hardware
- Maintenance free, passive CAS efficiently prevents product loss





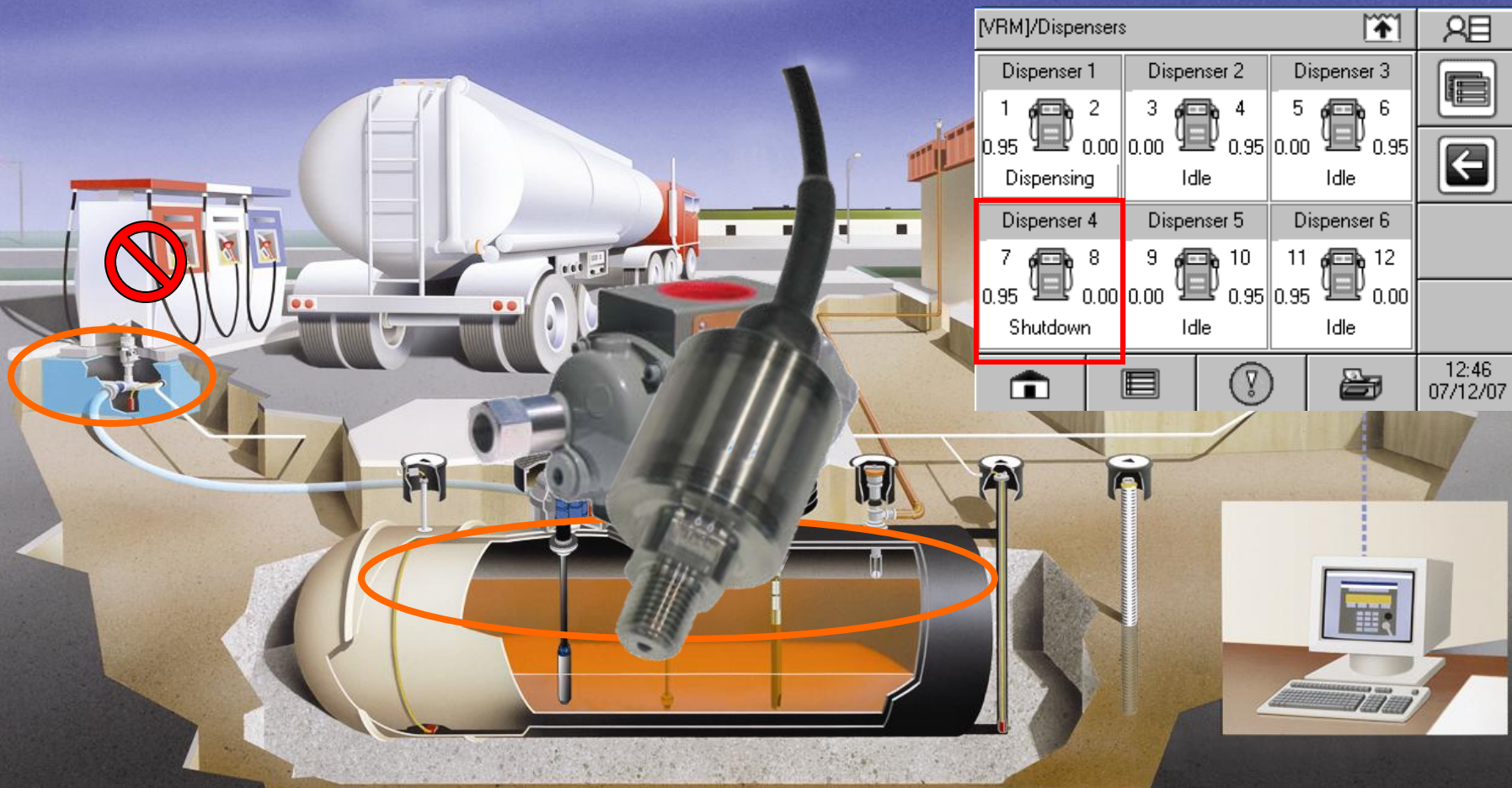
Franklin Fueling Systems

Solutions You Can Trust

VRM – Vapor Recovery Monitoring (In-Station Diagnostics)



Vapor Recovery Monitoring (VRM)



- ARB EO VR-202
- Vapor Collection

- Vapor Containment
- Dispenser Based Disabling



VRM – Vapor Recovery Monitoring

- Components
 - TS-VFM Vapor Flow Meter
 - TS-VPS Vapor Pressure Sensor
 - TS-550 or TS-5000 Fuel Management System (With VRM Option)
- OR
- TS-EMS Environmental Monitoring System (Comes Standard with VRM)





VFM Installation

- One Vapor Flow Meter per Dispenser
- Installed Either Above or Below Vapor Shear Valve
- Measures Vapors Recovered During Dispensing





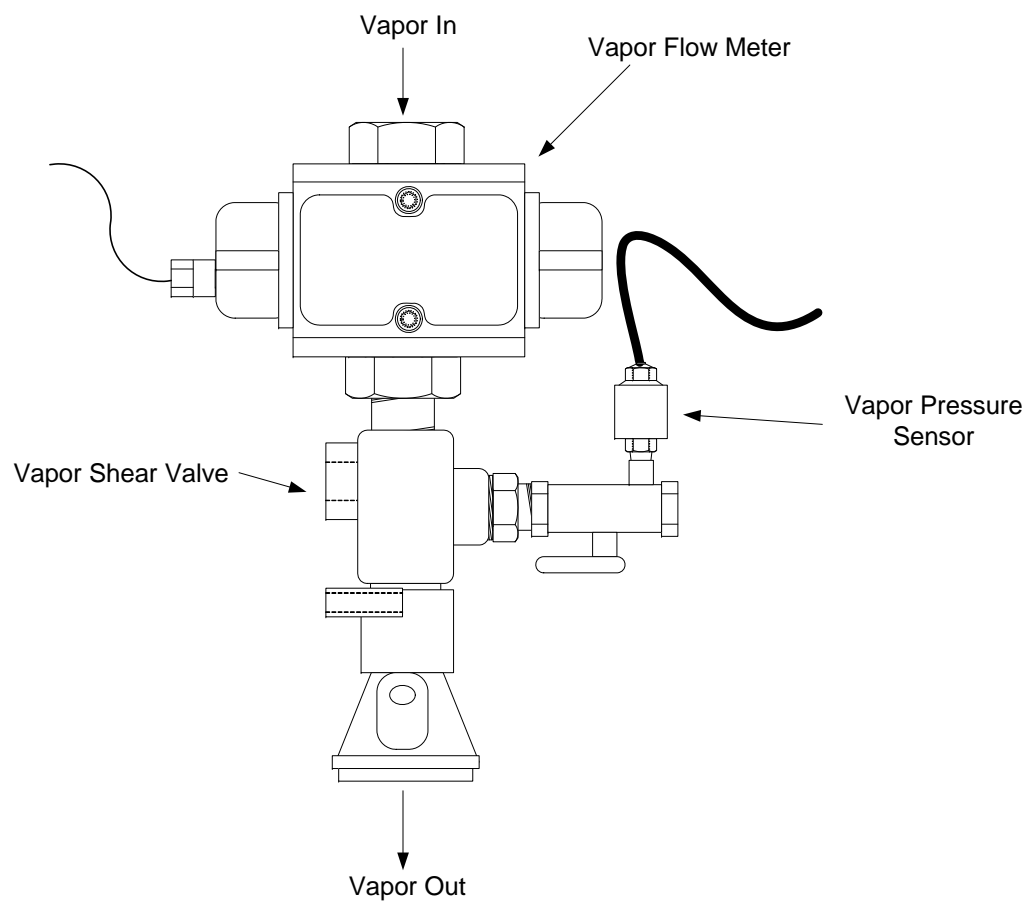
VPS Installation

- One Vapor Pressure Sensor per Site
- Installed in the Closest Dispenser to the Tanks
- Monitors the Pressure of the Entire Vapor Containment Space





VFM and VPS Typical Installation





INCON TS-5 Series Consoles

- TS-550, 5000, and **EMS**
- Communicates with Flow Meter and Pressure Sensor
- Dispenser Interface records liquid volume of each transaction
- Monitors efficiency of Healy Enhanced Vapor Recovery and Vapor Containment System
- Notifies User of System abnormalities
- Controls Dispenser Power





Interfacing with the Console

- Two different methods of interfacing with the console
 - LCD Touchscreen
 - Web browser

- Reports
 - Can be printed on the internal printer
 - Generated within the web browser

Northgate Arco AM/PM
4747 Northgate Blvd
Sacramento CA
ISD Certification Site
with Healy Systems

June 2007
07/11/2007 10:05:09

Daily ISD Report

ISD version 1.0.0

ISD Up Time 100%

pass ✓ fail ✗ warning ! insufficient * disabled ⓧ

Date	ISD Up Time	ISD Pass Time	Pressure				Fueling Points A/L Ratio							
			max	min	75th	95th	1	2	3	4	5	6	7	8
06/01/2007	100	100	-3.26	-8.40	-6.81	-5.65	✓0.93	✓0.92	✓0.98	✓0.98	✓0.96	✓0.98	✓0.98	✓1.02
06/02/2007	100	100	-1.08	-8.41	-6.61	-2.26	✓0.96	✓0.95	✓0.96	✓0.93	✓0.96	✓0.98	✓0.96	✓0.99
06/03/2007	100	100	-4.49	-8.41	-7.34	-5.65	✓0.98	✓1.00	✓0.95	✓0.99	✓0.98	✓0.96	✓1.00	✓1.03
06/04/2007	100	100	-2.77	-8.40	-4.51	-2.82	✓0.95	✓0.96	✓1.00	*0.00	✓0.91	✓0.96	✓0.96	✓0.95
06/05/2007	100	100	-5.62	-8.41	-7.56	-6.28	✓0.93	✓0.94	✓0.98	✓0.94	✓0.91	✓0.97	✓0.96	✓0.99
06/06/2007	100	100	-1.04	-8.45	-6.99	-1.69	✓0.95	✓0.97	✓1.00	✓0.99	✓0.99	✓0.96	✓0.99	✓1.02
06/07/2007	100	100	-0.97	-8.42	-7.15	-2.70	✓0.96	✓0.96	✓1.00	✓0.99	✓0.96	✓0.99	✓0.99	✓1.02
06/08/2007	100	100	-3.75	-8.41	-7.21	-3.82	✓0.97	✓0.94	✓0.99	✓0.95	✓0.97	✓0.99	✓0.96	✓0.99
06/09/2007	100	100	-3.15	-8.41	-5.06	-3.37	✓0.95	✓0.93	✓1.02	✓0.94	✓0.93	✓0.92	✓0.91	✓0.97
06/10/2007	100	100	-3.39	-8.39	-6.77	-5.32	✓0.96	✓0.84	✓0.90	✓0.97	✓0.97	✓0.95	✓0.93	✓1.03
06/11/2007	100	100	-3.08	-8.39	-6.26	-5.16	✓0.94	✓0.94	*0.00	✓0.95	✓0.98	✓0.92	✓0.97	✓1.03
06/12/2007	100	100	-4.43	-8.40	-6.79	-5.28	✓0.95	✓0.94	✓1.01	✓0.93	✓0.96	✓0.96	✓0.97	✓1.00
06/13/2007	100	100	-4.53	-8.39	-6.54	-5.22	✓0.88	✓0.92	✓0.87	✓0.90	✓0.91	✓0.88	✓0.84	✓0.98
06/14/2007	100	100	-3.57	-8.39	-7.68	-5.47	✓0.91	✓0.90	✓0.87	✓0.85	✓0.88	✓0.90	✓0.89	✓0.95



VRM Status Page

- Displays Ullage Pressure and test status
- Shows Dispenser state and status
- Shows Vapor / Liquid (V/L) result from last dispense

Northgate Arco AM/PM - Guest access level | inH2O | xml | en es ru zh_CN zh_TW

Franklin Fueling Systems VRM Status

Home System **VRM** Setup Preferences Auto Refresh

Status Alarms Control Reports 07/12/2007 11:21:15

Dispenser	Dispenser Status	TS-VFM	Fueling Point	Current Status	Last V/L
1	Dispensing	Operational	1	✓	0.97
			2	✓	0.66
2	[VRM]/Status			↑	0.21
3	Ullage Pressure		Operational Statistics		0.93
			Up Time %	100	0.27
4			Pass Time %	94	0.22
5			Version	1.0.0	0.22
6			Compliance		0.23
			Integrity	Pass	1.01

Pressure Sensor Ullage Pressure Weekly Ullage f Weekly Ullage f Monthly Ullage Operation Time Pass Time % Algorithm Version Collection Method Readiness State

[VRM]/Dispensers ↑

Dispenser 1		Dispenser 2		Dispenser 3	
1		2		3	
0.94	Idle	0.93	Idle	1.00	Idle
Dispenser 4		Dispenser 5		Dispenser 6	
7		8		9	
1.01	Idle	1.00	Idle	1.00	Idle
10		11		12	
1.00	Idle	1.00	Idle	1.00	Idle

17:04 09/05/06

Fuel Management System Architecture

- Hardware
- Each system is module based with each module having the ability to handle multiple devices
- All modules talk to each other over high speed bus network





Dispenser Hook Isolation

- Hook Signals are wired directly to the AC Input Module
- DHI Boxes are no longer needed
- Reduces cost and saves wall space





Rules Engine

- Rules can be used to customize the system to meet your needs
- Events like alarms, inputs, scheduled times can generate actions like email, print, sound external alarm, control power to a device.
- Notify System Sentinel AnyWare or Get Connected AnyWare immediately on alarms for real time monitoring of your entire network of sites.
- Your cell phone or blackberry can receive a text message moments after a VRM Warning on a dispenser

Rules	+		
Rule - Power On	»
Rule - Application Events	»
Rule - New Alarm Occurred	-	Name	New Alarm Occurred
		Enabled	Yes
Events	+		
Event	-	Type	New Alarm Occurred
		Category	Any
		Code	Any
		Device	Any
		State	Any
Actions	+		
Action	-	Type	Notify SSA
		Connection	Default
		Data Item Selection	Default

Tank Sentinel AnyWare 0.5.4.0 Copyright © 2004-2006 Franklin Fueling Systems. All rights reserved.



FFS/INCON VRM Advantages

- Dispenser based disabling won't take down the whole site
- Web access for local and remote monitoring and shooting
- Rules engine emails provide immediate notification
- User friendly icon based interface
- Scalable Open Architecture for future upgrades
- Complete Fuel Management System or EMS stand alone ISD System

Northgate Arco AM/PM - Guest access level

Franklin Fueling Systems VRM Status

Home System VRM Setup Preferences Auto Refresh

Status Alarms Control Reports 07/12/2007 11:21:15

Dispenser	Dispenser Status	TS-VRM	Fueling Point	Current Status	Last AQL
1	Dispensing	Operational	1	✓	0.97
			2	✓	0.66
2	Idle	Operational	3	✓	0.21
			4	✓	0.93
3	Dispensing	Operational	5	✓	0.27
			6	✓	0.22
4	Dispensing	Operational	7	✓	0.22
			8	✓	0.23
5	Dispensing	Operational	9	✓	1.01
			10	✓	0.87
6	Dispensing	Operational	11	✓	0.29
			12	✓	0.18

Common	Value
Pressure Sensor	Operational
Usage Pressure	0.26
Weekly Usage Pressure Leak Test	Pass
Weekly Usage Pressure Monitoring	Pass
Monthly Usage Pressure Monitoring	Pass
Operation Time %	100
Pass Time %	100
Algorithm Version	1.0.0
Collection Method	Asset
Readiness State	Ready

pass ✓ fail ✗ warning ⚠ insufficient ⚡ disabled ⚠





Why Choose Franklin Fueling Systems?

- Phase II EVR and In-Station Diagnostics from one source. No finger pointing if there is a problem
- Excellent Customer and Technical Service along with Local Factory Support
- Free Training and Certification on all FFS Lines



For More Info...

- FFS Website www.franklinfueling.com
 - Product Literature – online & hard copy ordering
 - Technical Manuals
 - Certified Installers database
- EVR Website www.evrhome.org
 - Permitting information
 - System overviews
- CARB Website www.arb.ca.gov/vapor
 - Executive Orders
 - Installation/Operation/Maintenance Manuals



Contacts

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