Executive Order VR-202-AH

Assist Phase II EVR System
Including In-Station Diagnostic (ISD) System

EXHIBIT 1[1]

SECTION I

Equipment List
Hanging Hardware
(Figure 1-1)

Component	Manufacturer/Model
Nozzle	Healy Model 900 **NOTE:** Nozzle can have either a two position or three position hold open clip (Figure 1-2.1) (Figure 1-2)
Inverted Coaxial Hose	Healy Model 75 Series Low Permeation Hose (3/4" I.D) 75W-XXX-YZYZ-LP Where: W = hose color (varies) **Note:** Product label will have an "X" in this position for all hose colors XXX = hose length First two digits = length in feet Last digit = length in tenths of foot **Note:** Product label will have "XXX" in this position for hose length Y = hose end type S = Swivel End F = Fixed End Z = thread type 2 = Healy Straight Thread 3 = Metric Thread 4 = Balance-Type Thread (Figure 1-3.1) FFS Model 75 Series alternate outer hose (Figure 1-3.2)

[1] The local air district may require a permit application when changing between alternate components.

Component	**Manufacturer/Model**
Inverted Coaxial Hose (continued)	ContiTech[2] Futura HVR Series Low Permeation Hose (3/4" I.D) 532-33W-X24-0YYZZ Where: W = hose color (varies) X = fitting combination 2 = S2S2 3 = S3F2 4 = S4F2 5 = F2F2 6 = F3F2 7 = S2F2 8 = S4S2 Y = hose length in feet Z = hose length in tenths of feet (Figure 1-3.3) VST V34EV ENVIRO-LOC™ Series Low Permeation Hose (3/4" I.D) V34EV-XXX-VSVS or V34EV-XXX-HSHS or V34EV-XXX-HSVS or V34EV-XXX-BRVS or V34EV-XXX-BRHS Where: XXX = Length in inches (e.g. 096 = 96" length) VSVS = M34 thread / 2 swivels HSHS = 1-1/4" -18 Straight Thread / 2 swivels HSVS = 1-1/4" -18 Straight Thread Swivel / M34 Thread Swivel BRVS = 1-7/8" - 12 Balance Thread Rigid / M34 Thread Swivel BRHS = 1-7/8" - 12 Balance Thread Rigid / 1-1/4" -18 Straight Thread Swivel (Figure 1-3.4)

[2] Veyance brand name has changed to ContiTech.

Component	Manufacturer/Model
Breakaway Coupling	
Reconnectable	Healy Model 8701VV Optional Covers P/N 761 and P/N 762 (Figure 1-4.1) Healy Model 807 Swivel (Figure 1-4.2) Catlow Model CTMCA (Figure 1-4.3) VST Model VST-HEVR-SBK (Figure 1-4.4) VST Model VST-ISVR-SBK (M34 type) (Figure 1-4.5) Husky Model 014592 Magbreak Safe-T-Break Husky Model 008332 Magbreak Safe-T-Break (M34 type) Husky Model 015416 Magbreak Safe-T-Break Bottom Half Husky Model 008632 Magbreak Safe-T-Break Bottom Half (M34 type) (Figure 1-4.6) Husky Model 006560 Standard Safe-T-Break Husky Model 004034 Standard Safe-T-Break (M34 type) (Figure 1-4.7)
Non - Reconnectable	Husky Model 015377 Standard Safe-T-Break Husky Model 005134 Standard Safe-T-Break (M34 type) (Figure 1-4.8)
Multi-Plane Swivel	Husky Model 014620 VR Swivel Husky Model 004605 VR Swivel (M34 type) (Figure 1-5)

Equipment List
Non Hanging Hardware Components

Component	Manufacturer/Model
Flow Limiter[3]	Healy Model 1301 (Figures 1-6.1 and 1-6.2) Healy Model 1302 (Figures 1-6.3 and 1-6.4)
Dispenser Conversion Adaptors[4] **(Optional)**	Healy Model CX6-A (Required on Gasboy, Global Century, Reliance and Select Dispensers) Healy Model CX6-VV1A* Healy Model CX6-VV2A* Healy Model CX6-VV3A EBW Model 303-301-01 **Note:** Items marked with asterisk (*) are no longer manufactured but may be used for dispenser retrofit. (Figures 1-9)
Dispenser Vacuum Pump	Healy Model VP1000 Vacuum Pump Healy/Franklin Electric Model VP1000 Vacuum Pump (Figure 1-10)
Control Module	Healy Model MC 100 (Figure 1-11)

[3] Flow limiter is mandatory when the flow rate is greater than 10.0 gallons per minute to comply with US EPA requirement. 1301 is used with all standard breakaways listed. 1302 is only used with 807 swivel breakaway.
[4] If optional components are installed or required by regulations of other agencies, the components and model numbers manufactured by Franklin Fueling Systems may be used to facilitate installation. The use of dispenser conversion adaptors not listed above may be used to facilitate installation provided that all applicable performance standards are met.

Equipment List
Processors

Component	Manufacturer/Model
Processor	**(Only One Per GDF Installation)**
Passive	Healy Model 9961 Clean Air Separator (Figures 1-12) Healy Model 9961H Clean Air Separator (Figures 1-13)
Active	ARID Technologies Model AT-150 Permeator (Figure 1-14)

Equipment List
Dispenser(s)

Note: Uni-hose dispensers shall be required unless as provided by Section 4.10 of CP-201.

Component	Manufacturer/Model
Dispenser	Gilbarco Encore Series[5] Healy Kit VP1000R[6] or VP1000S[7]

Model No.	Description:
NAO	Encore 1 Grade Multi-hose
NA1	Encore 2 Grade Multi-hose
NA2	Encore 3 Grade Multi-hose
NA3	Encore 4 Grade Multi-hose
NG0	Encore 3 Grade Single-Hose
NG1	Encore 4 Grade Single-Hose plus 1
NG4	Encore 2 Grade Single-Hose
NJ0	Multi-hose Blender
NJ2	Multi-hose Blender plus
NL0 NL1 NL2 NL3	Encore X+1 Blender
NN0 NN1 NN2 NN3	Encore X+0 Blender

[5] Encore Dispensers factory equipped with Healy VP1000 will now have an angled (~13°) outlet casting.
[6] Kit used to install Healy components in Encore Balance series dispenser. VP1000R previously sold as equivalent to VP1000L.
[7] Kit used to install Healy components in Encore Assist series dispenser. VP1000S previously sold as equivalent to VP1000K.

Component	Manufacturer/Model
Dispenser (continued)	GasBoy 9800 Series (Gilbarco)

Healy Kit VP1000M[8]

Model No. Description:

9852 - Suffix1 Suffix2

9853 - Suffix1 Suffix2

Where:

Suffix1 can be:

- A = Factory fabrication and assembly modifications to chassis
- HC = High capacity model
- M = Manifold supply inlet at the pumping unit inlet
- TW1 = Manifold supply inlet
- TW2 = Two individual supply inlets
- X = Dispenser supplied by a submersible pump
- Q = Utilizes an alternate meter and pump

Suffix2 can be:

- B = Battery back-up for electronics
- C = Pump interface
- D = DC conduit and junction box
- F = Fuel filter
- G = Imperial gallons registration
- H = High hose retriever
- I = Internal hose retriever
- L = Lighted panel
- N = Equipped to handle a long spout nozzle
- P = Satellite dispenser as part of the unit (for connection to a master pump)
- PP = Solenoid valves (optional only on pumps)
- R = Liters registration
- S = Piping for connection to satellite
- SS = Stainless steel panels
- SSA = Equipped with stainless steel doors
- SSTS = Stainless steel tops and doors
- T = Mechanical totalizer
- U = Submersible drive relays
- W = Heater
- Y = Vapor recovery ready
- Z = Front Load Nozzle
- 2 = 230 VAC/60hz operation
- 3 = 230 VAC/60hz operation with 380VAC/60hz motor (available on all models except 9852Q)
- 25 = 230VAC/50hz operation
- 35 = 230VAC/50hz operation with 380VAC/50hz motor
- 4 = RS-485 interface
- 5 = 50hz operation
- 7 = Electronic totalizer activator on both sides
- 9 = Provided with 900-R Series TopKat

[8] Kit used to install Healy components in GasBoy 9800 series dispenser.

Component	**Manufacturer/Model**
Dispenser (continued)	Wayne Harmony Series Healy Kit VP1000N[9] or VP1000Q[10] Model No. Description: prefix/VXXXYZ/suffix Where: prefix = Any number or letter (with a possible "H" for Harmony) V = Vista X = Any digit Y = D or P D = remote dispenser type for delivering fuel P = suction pump for delivering fuel Z = 1, 3, 4, 5, 6, 7 or 8 suffix = D1 or D2, and any combination of number(s) or letter(s) Wayne Ovation Series[11] Healy Kit VP1000P Model No. Description: XYZ/ABC Where: X = B or R B = Blended Dispenser R = Regular Dispenser Y = Number of hoses per side 1 = one hose per side 2 = two hoses per side Z = Number of inlets per side 1 = one inlet 2 = two inlets A = Number of grades 1 = one grade 2 = two grades 3 = three grades 4 = four grades 5 = five grades B = Number of sides 1 = one side 2 = two sides C = Number of columns 1 = one column 2 = two columns

[9] Kit used to install Healy components to Harmony Balance series dispenser.
[10] Kit used to install Healy components to Harmony Assist series dispenser.
[11] Kit used to install Healy components to Ovation Balance or Assist series dispenser. VP1000P previously sold as equivalent to VP1000C.

Component	**Manufacturer/Model**
Dispenser (continued)	Wayne Vista Series Healy Kit VP1000T[12] & VP1000V[13] Model No. Description: prefix/VXXXYZ/suffix Where: Prefix = Any number or letter V = Vista X = Any digit Y = D or P D = remote dispenser type for delivering fuel P = suction pump for delivering fuel Z = 1, 3, 4, 5, 6, 7 or 8 Suffix = D1 or D2, and any combination of number(s) or letter(s) Wayne Global Century & Select Series[14] Model No. Description: 3/GABCDE/Suffix Where: A = Model Series 2 = Global Century 7 = Select B = Cabinet Style 2 = Column Style C = Flow Rate Capacity 0 = Standard Flow 4 = Twin I, Dual Filters D = Number of Hoses & Orientation 1 = Single, Island-Oriented 2 = Twin I, Island-Oriented 3 = Twin II, Island-Oriented 7 = Twin I, Lane-Oriented or Single Side, Lane-Oriented w/ "R" Suffix 8 = Twin II, Lane-Oriented E = Dispenser Type D = Dispenser-Remote Suffix = Any combination of letters or numbers

[12] Kit used to install Healy components to 3V and 4V Vista series dispenser. VP1000T previously sold as equivalent to VP1000C.
[13] Kit used to install Healy components to 1V and 2V Vista series dispenser. VP1000V previously sold as equivalent to VP1000F.
[14] Dispenser configuration only available for purchase from Dresser Wayne. There is no Kit for retrofit of these dispenser types.

Component	Manufacturer/Model
Dispenser (continued)	Wayne Reliance Series [15]

Model No. Description:

/GABCDE/Suffix

Where:

A = Model Series
- 5 = Reliance Mechanical Fleet – Pricing
- 6 = Reliance Mechanical Fleet – Volume Only

B = Cabinet Style
- 2 = Column Style

C = Flow Rate Capacity
- 0 = Standard Flow

D = Number of Hoses & Orientation
- 1 = Single, Island-Oriented
- 2 = Twin I, Island-Oriented
- 3 = Twin II, Island-Oriented

E = Dispenser Type
- D= Dispenser-Remote

Suffix = Any combination of letters or numbers

FFS/Healy Universal Retrofit Manual[16]

Healy Kits = VP1000A[17]
= VP1000D[18]
= VP1000G[19]
= VP1000H[20]
= VP1000J[21]
= Z071V[22]
= Z070E[23]
= Z008[24]
= Z009[25]

[15] Dispenser configuration only available for purchase from Dresser Wayne. There is no Kit for retrofit of these dispenser types.
[16] Any dispenser not currently listed in Exhibit 1 can be upgraded to Healy EVR using one of the kits listed in this section.
[17] Kit contains Universal Wire Harness for use in any dispenser make or model. For use with any VAC or VDC solenoid valves. VP1000A previously sold as equivalent to VP1000B.
[18] Early Gilbarco Encore 300 Blender Dispensers – 120 VAC valves (mfg. before 04/2003).
[19] Wayne DL Non-Blender Dispensers – 120 VAC valves.
[20] Tokheim Premier C Blender Dispensers – 24 VDC valves.
[21] Early Tokheim Blender Dispensers – Combination 120 VAC & 24 VDC valves.
[22] Universal Vapor Kit.
[23] Universal Electrical Kit.
[24] Standard Low Profile Single Hose Dispenser Retrofit Kit.
[25] Standard Low Profile Dual Hose Dispenser Retrofit Kit.

TABLE 1-1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Dispenser Kit	Healy	VP1000A & VP1000B VP1000D VP1000G VP1000H VP1000J VP1000M VP1000N VP1000P VP1000Q VP1000R VP1000S VP1000T VP1000V Z008 Z009 Z070E Z071V

Equipment List
Liquid Condensate Trap (LCT)

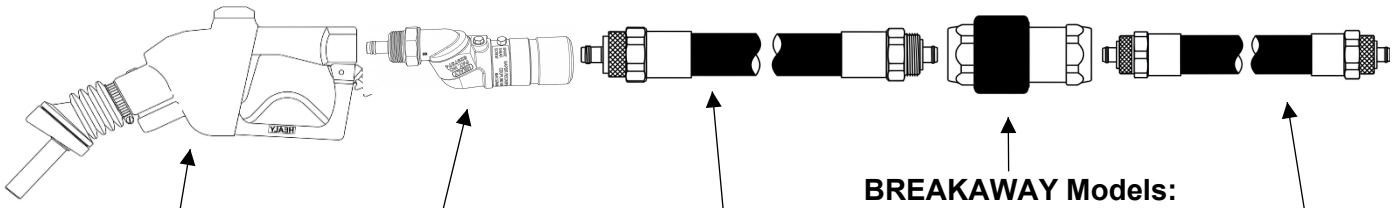
Component	Manufacturer/Model
Riser Adapter	INCON model TSP K2A (Figure 1-15)
In Line Filter	140 micron, Swagelok B 4F2 140 or SS 4F2 140, or equivalent (Figure 1-15)
Screen	Aluminum Insect screen (18X14 mesh), or Stainless Steel Insect screen (18X18 mesh). (Figure 1-15)
Stainless Steel Hose Clamp	Sized to secure screen to suction tube. (Figure 1-15)
Liquid Sensor[26]	Must have an audible and visual alarm (Figure 1-15)
Liquid Condensate Trap[26]	Any capacity, manufacturer, make and model (Figure 1-15)

Equipment List
Veeder-Root TLS-350 Maintenance Tracker Security (optional)

Component	Manufacturer/Model
Maintenance Tracker Kit (Optional)[27]	Veeder-Root 330020-546 Consists of the following: • Maintenance Tracker Technician Key • Interface Module RS232/485 Dual Module with DB9 Converter or Single Port Module with DB-25 converter • ROM Board (ROM Part# 330899-001) (Figure 1-ISD-VR-1.1) • Manual (Figure1-16)

[26] Must meet applicable State Water Resources Control Board (SWRCB) requirements (e.g. LG 113, LG 167 and LG 169) and any local authority having jurisdiction which includes the Certified Unified Program Agency (CUPA).
[27] Certified with Veeder-Root TLS-350 Series **ONLY**

FIGURE 1-1
Hanging Hardware
(Nozzle, Swivel, Inverted Coaxial Hose, and Breakaway)



NOZZLE Model(s):

Healy Model

Swivel(s):

Healy Model 807 Swivel (Reconnectable)

Husky Model 014620 VR Swivel
Husky Model 004605 VR Swivel

BREAKAWAY Models:

(Reconnectable)
Healy Model 8701VV
Catlow Model CTMCA
VST Model VST-HEVR-SBK
VST Model VST-ISVR
Husky Model 014592
Husky Model 008332
Husky Model 015416 Bottom Half
Husky Model 008632 Bottom Half
Husky Model 006560
Husky Model 004034

(Non-Reconnectable)
Husky Model 015377
Husky Model 005134

CURB HOSE Models:

Healy Model 75 Series Low Permeation Hose
FFS Model 75 Series Alternate Outer Hose
ContiTech Futura HVR Series Low Permeation Hose

FIGURE 1-2
Nozzle

Healy Model 900 EVR Nozzle

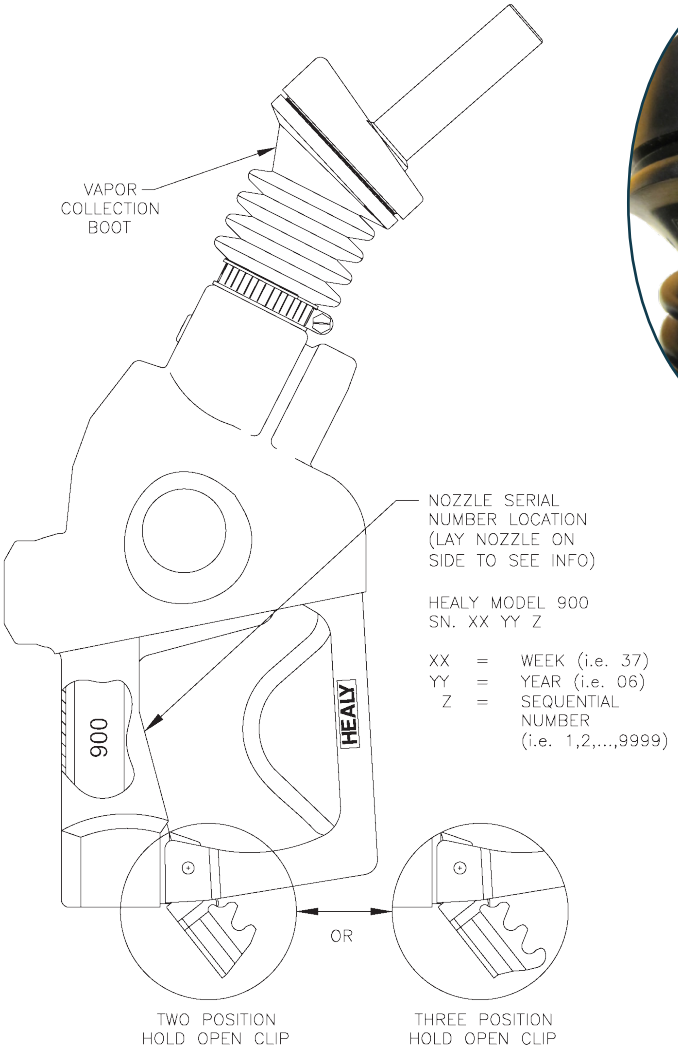


Figure 1-2.1
Drawing



Figure 1-2.2
Image

FIGURE 1-3

Low Permeation Hose

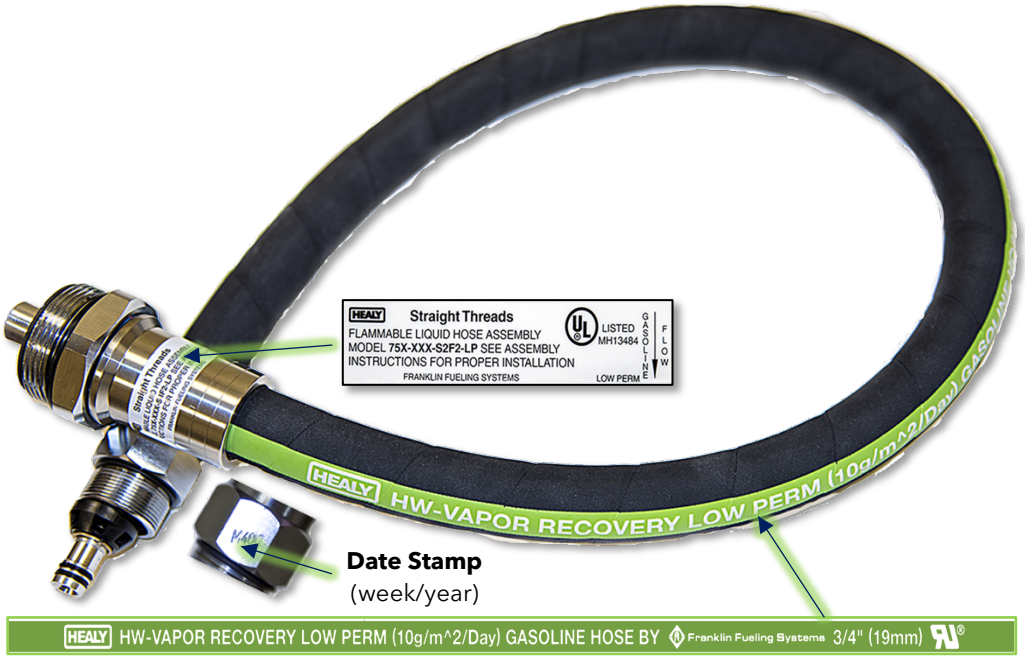


Figure 1-3.1
Healy Model 75 Series
(hose and hay Line Colors may very)



Figure 1-3.2
FFS Model 75 Series
Alternate Outer Hose

FIGURE 1-3

Low Permeation Hose
(continued)

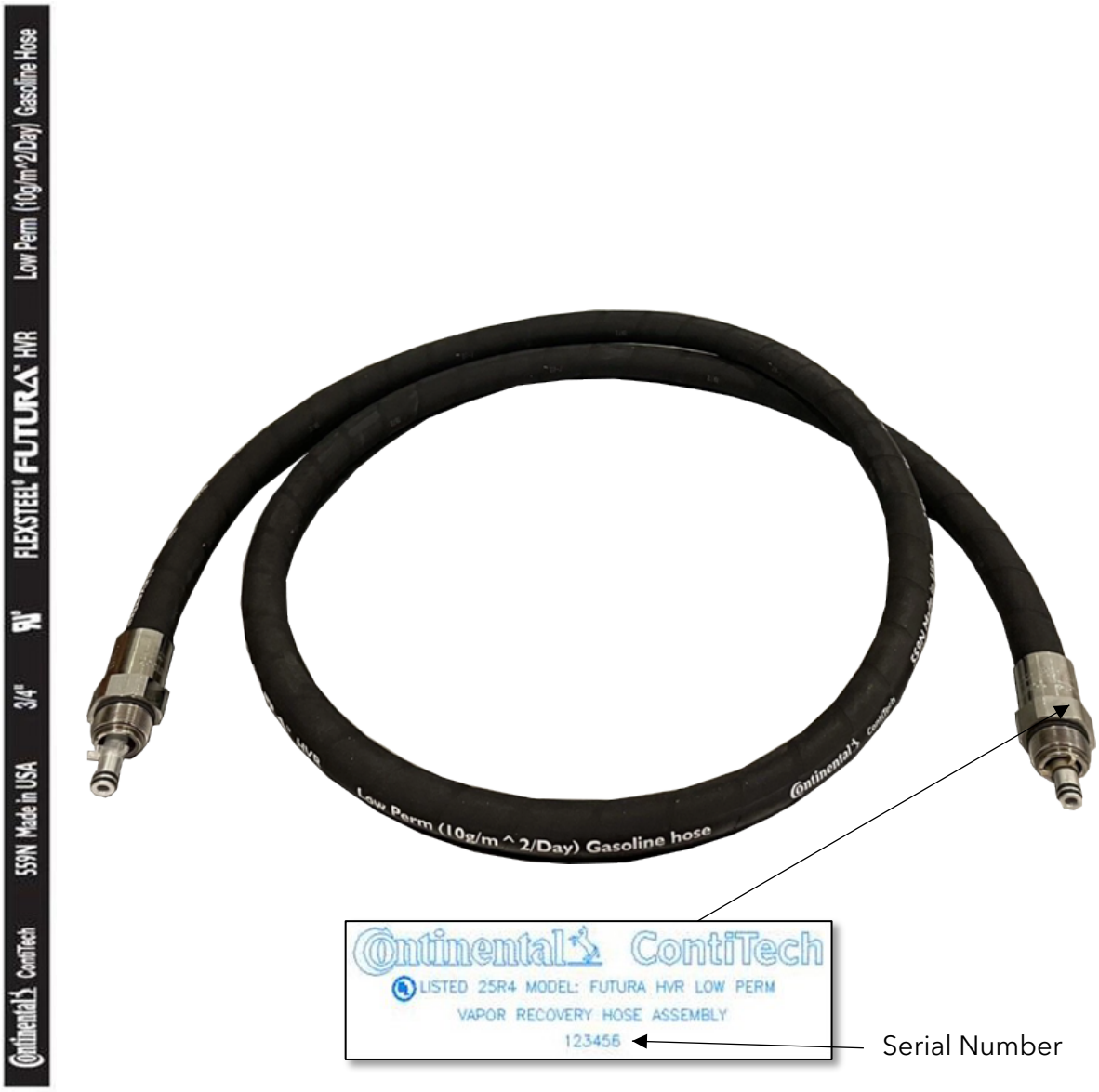


Figure 1-3.3
ContiTech Futura HVR Low Perm Series Hose
(hose and hay Line Colors may very)

FIGURE 1-3

Low Permeation Hose
(continued)

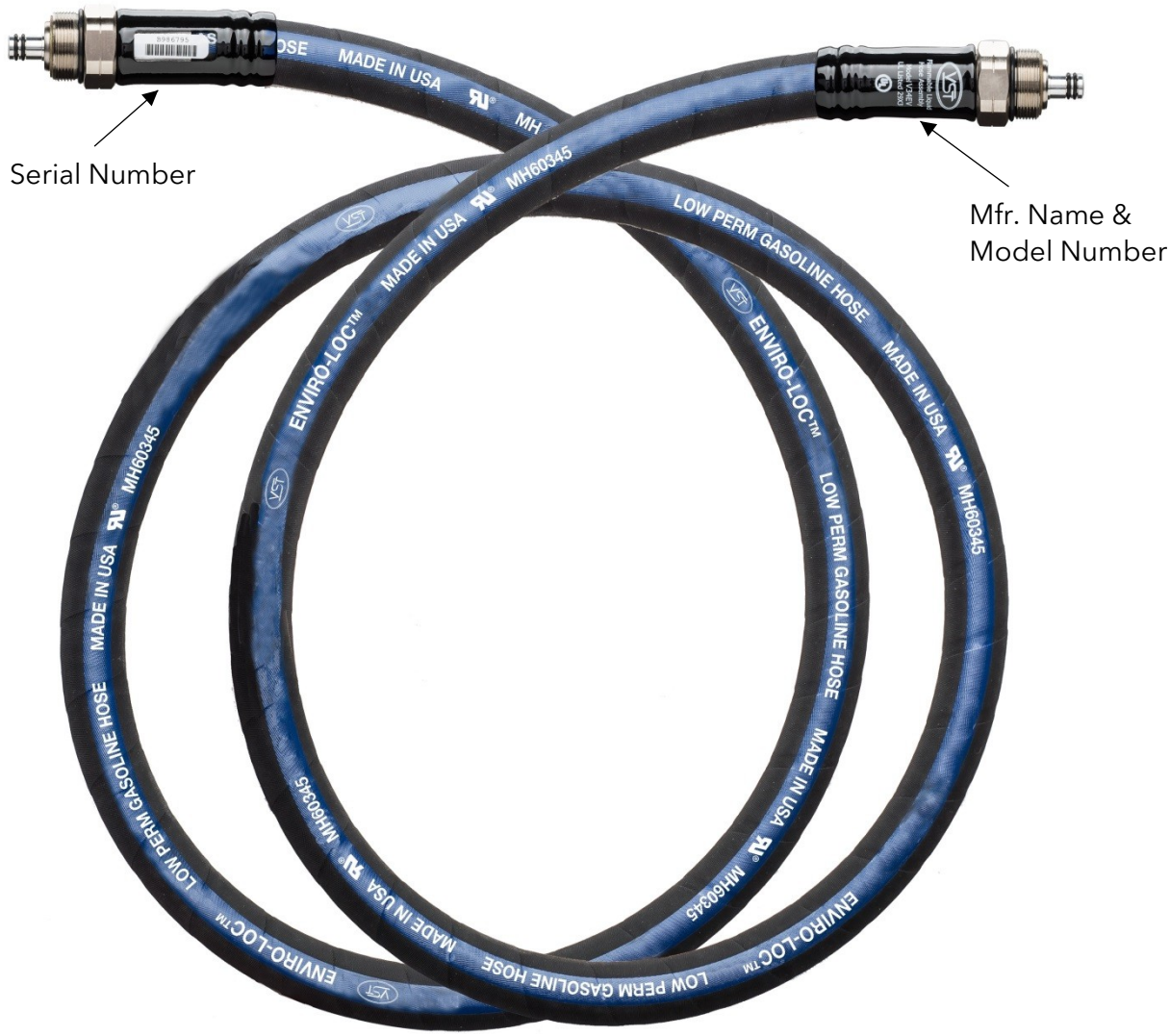


Figure 1-3.4
VST V34EV ENVIRO-LOC™ Series Low Permeation Hose
(hose and hay Line Colors may very)

FIGURE 1-3

Breakaway

Franklin Fueling Systems (FFS)

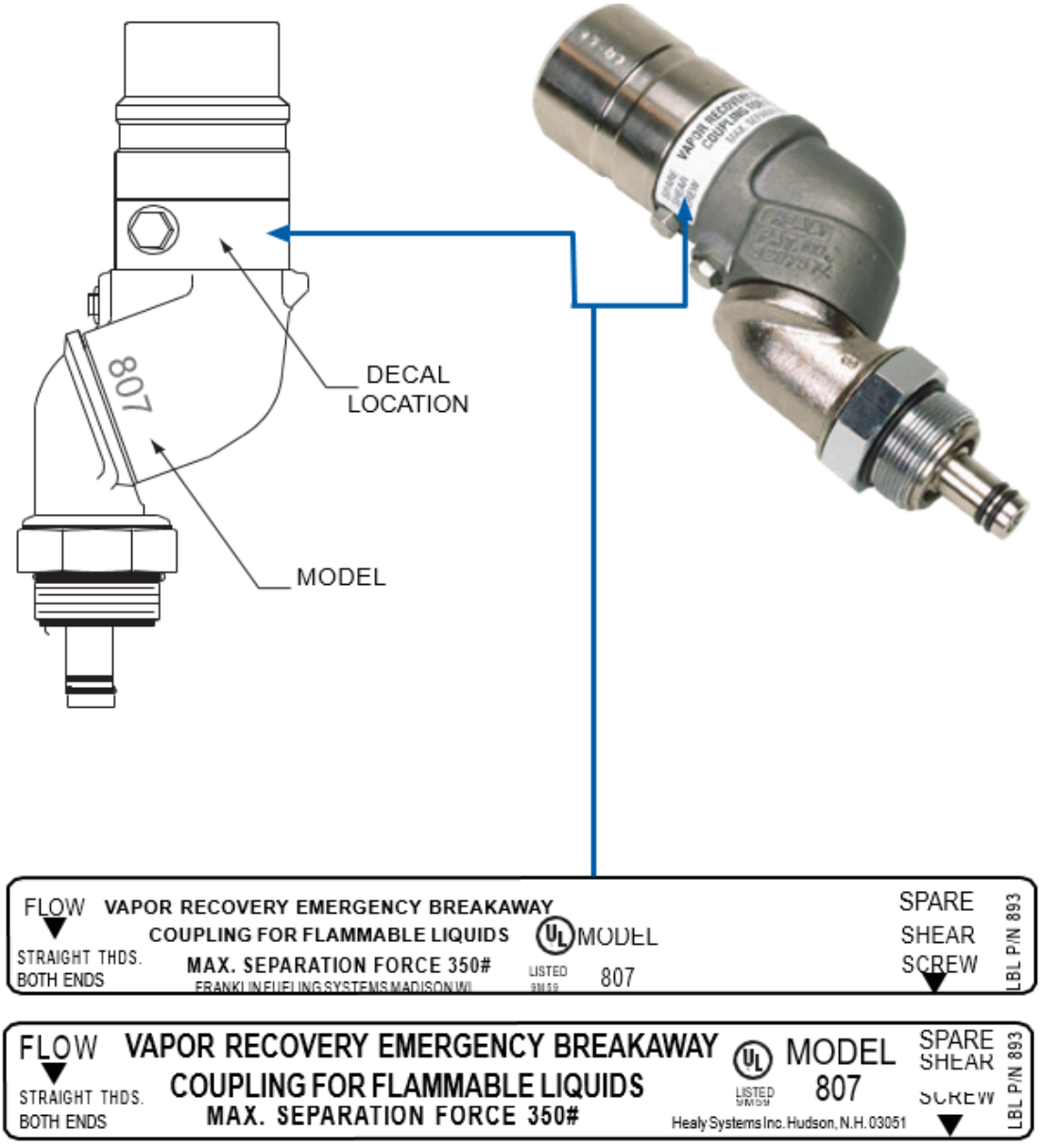


Figure 1-4.1
Healy Model 8701VV Breakaway

FIGURE 1-4

Breakaway
(continued)

Franklin Fueling Systems (FFS)



DECALS SHOWN LARGER FOR READABILITY

EITHER LABEL MAY APPLY

Figure 1-4.2
Healy Model 8701VV Breakaway

FIGURE 1-

Breakaway
(continued)

Catlow Inc

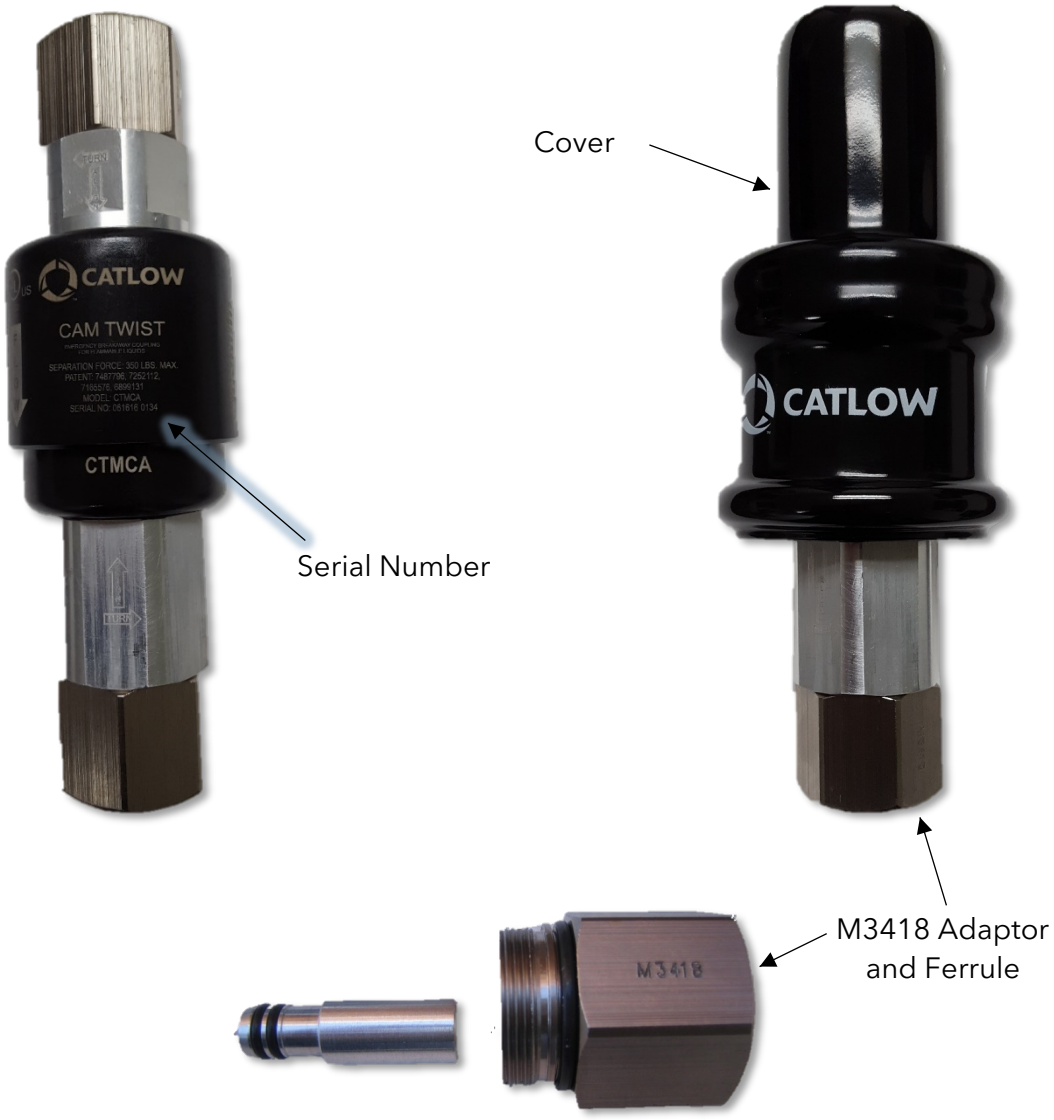


Figure 1-4.3
Catlow Model CTMCA Breakaway

FIGURE 1-

Breakaway
(continued)

Vapor Systems Technologies, Inc (VST)



Figure 1-4.4
VST Model VST-HEVR-SBK Breakaway



Figure 1-4.5
VST Model VST-HEVR-SBK Breakaway
(M34 type)

FIGURE 1-

Breakaway
(continued)

Husky® Corporation (Husky)



Figure 1-4.6
Model 008332 (M34 type) and Model 014592
Magbreak Safe-T-Break Breakaway



Figure 1-4.7
Model 008632 (M34 type) and Model 015416
Magbreak Safe-T-Break Bottom Half



(Note: Black Sleeve Indicates breakaway is reconnectable)

Figure 1-4.8
Models 004034 (M34 type) and 006560
Standard Safe-T-Break Breakaway
(Reconnectable)



(Note: Silver Sleeve Indicates breakaway is non-reconnectable)

Figure 1-4.9
Models 005134 (M34 type) and 0015377
Standard Safe-T-Break Breakaway
(Non Reconnectable)

FIGURE 1-

VR Swivel
Husky Model 004605 (M34 type) and 014620

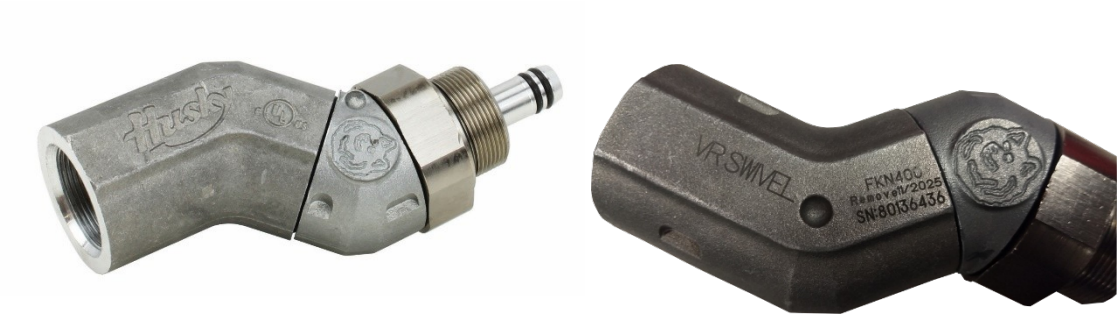


FIGURE 1-

Flow Limiter

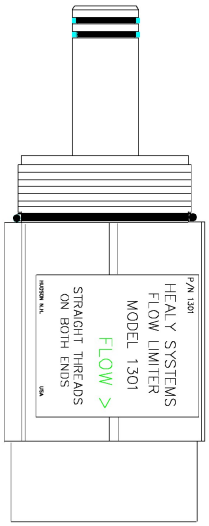


Figure 1-6.1
Healy Model 1301
Drawing



Figure 1-6.2
Healy Model 1301
Image

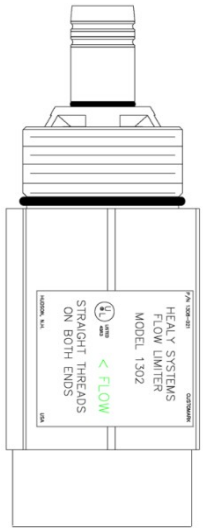


Figure 1-6.3
Healy Model 1302
Drawing



Figure 1-6.4
Healy Model 1302
Image

FIGURE 1-

Hanging Hardware Selection Options
Breakaway and 1301 Flow Limiter

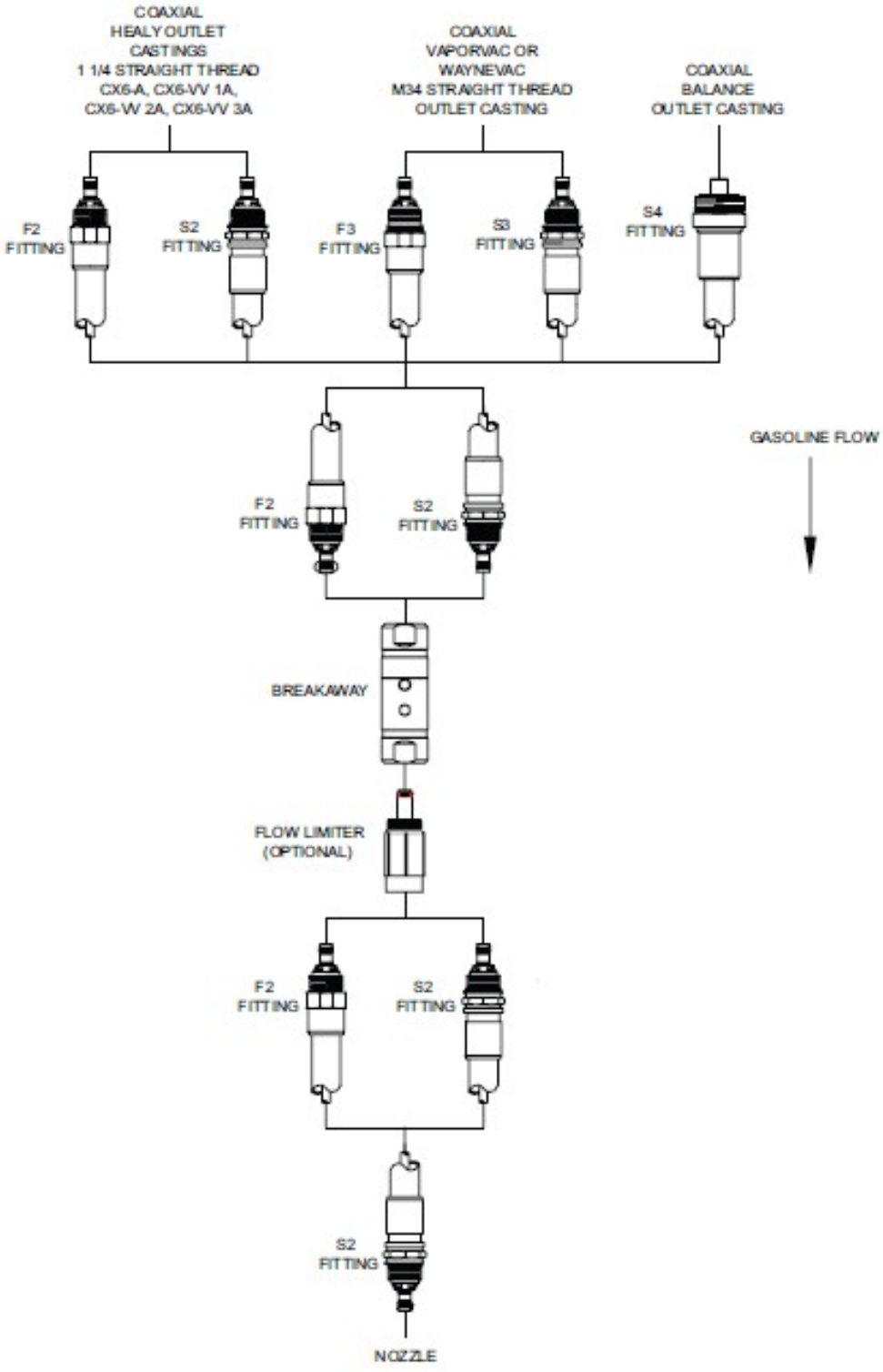


FIGURE 1-

Hanging Hardware Selection Options
Model 807 Swivel Breakaway and 1302 Flow Limiter

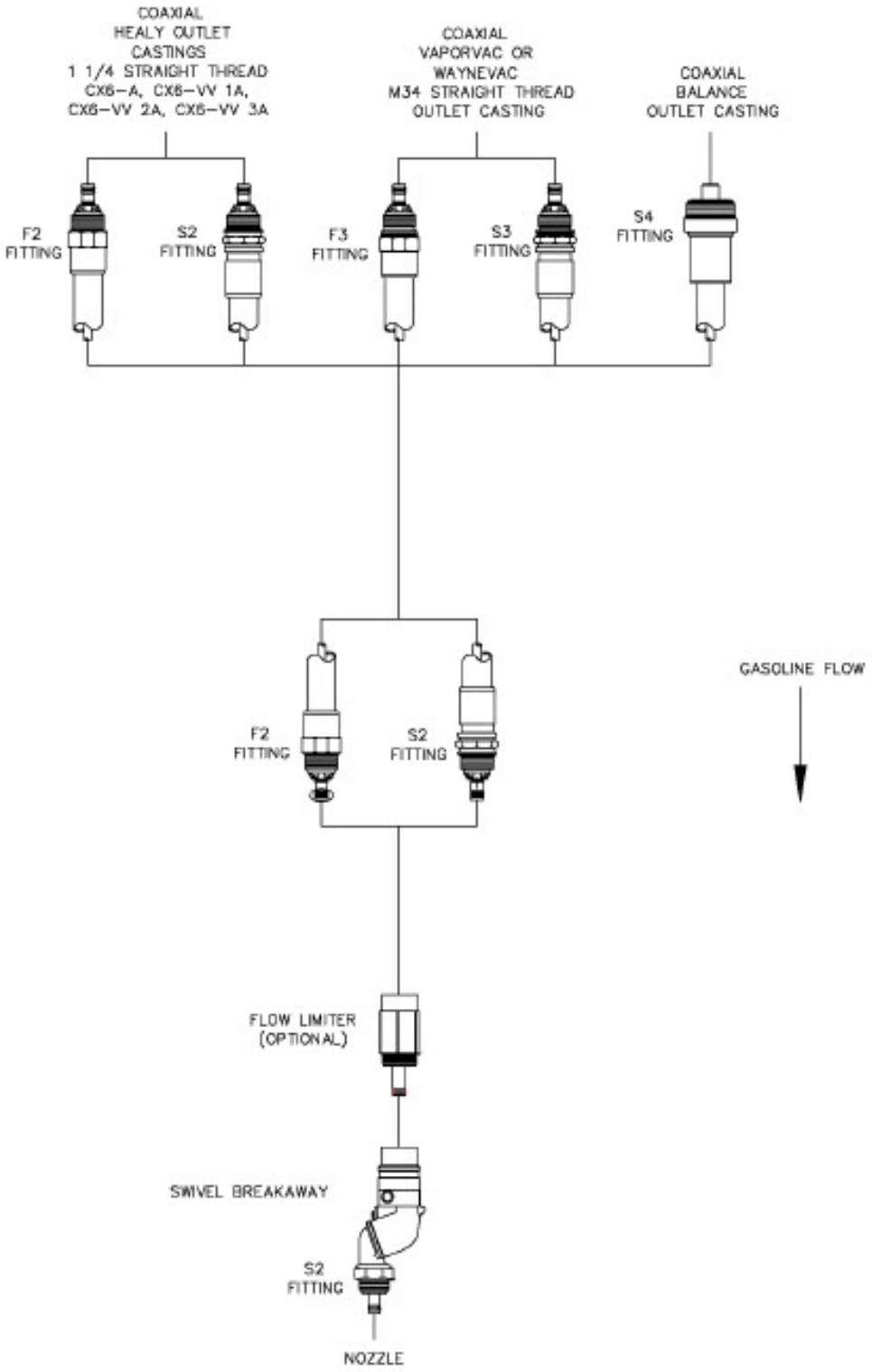


FIGURE 1-

Dispenser Conversion Adaptors

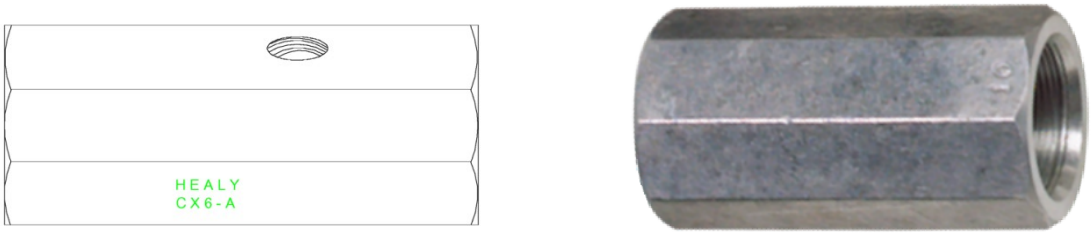


Figure 1-9.1
Healy Model CX6-A

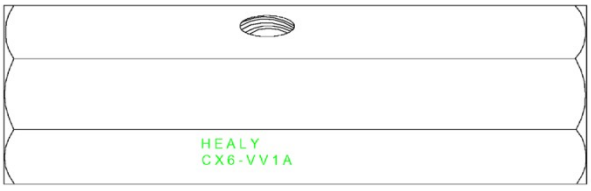


Figure 1-9.2
Healy Model CX6-VV1A



Figure 1-9.3
Healy Model CX6-VV2A

FIGURE 1-

Dispenser Conversion Adaptors
(continued)

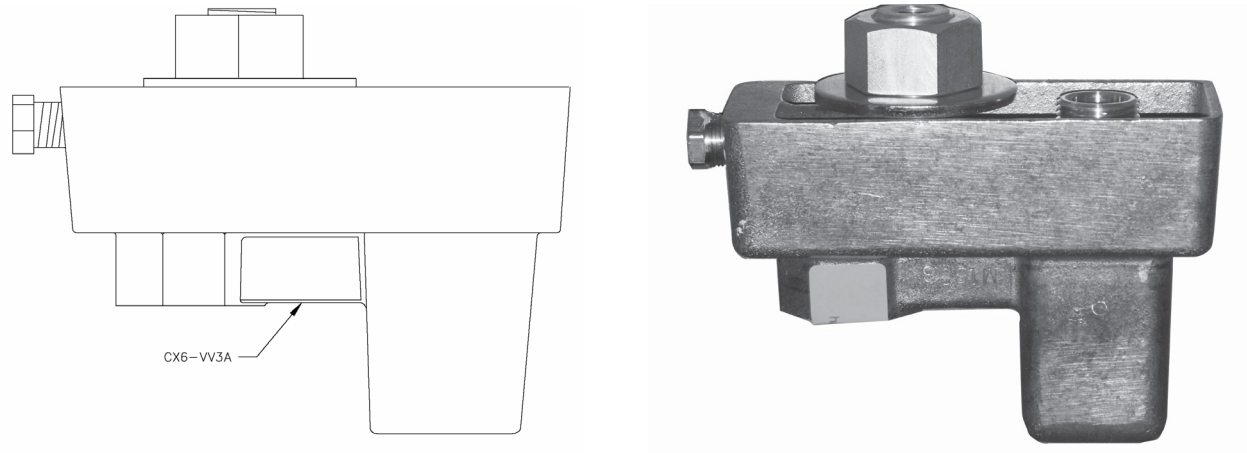


Figure 1-9.4
Healy Model CX6-VV3A

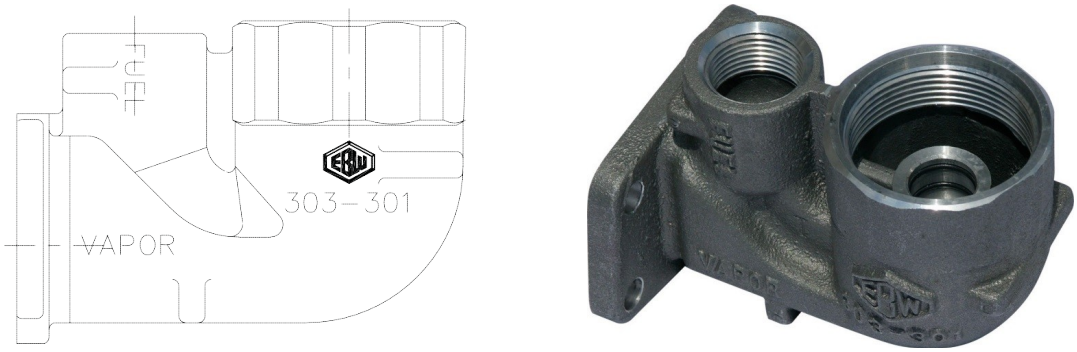


Figure 1-9.5
EBW Model 303-301-01

FIGURE 1-10

Healy Model VP1000 Vacuum Pump

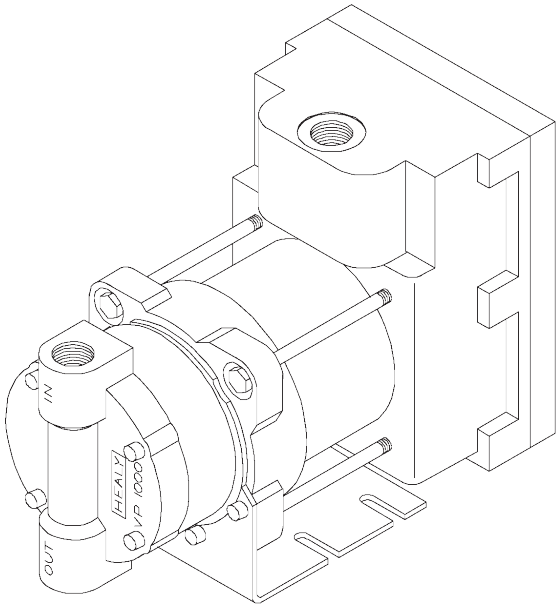


Figure 1-10.1
Drawing



Figure 1-10.2
Image

FIGURE 1-11

Healy MC 100 Control Module)

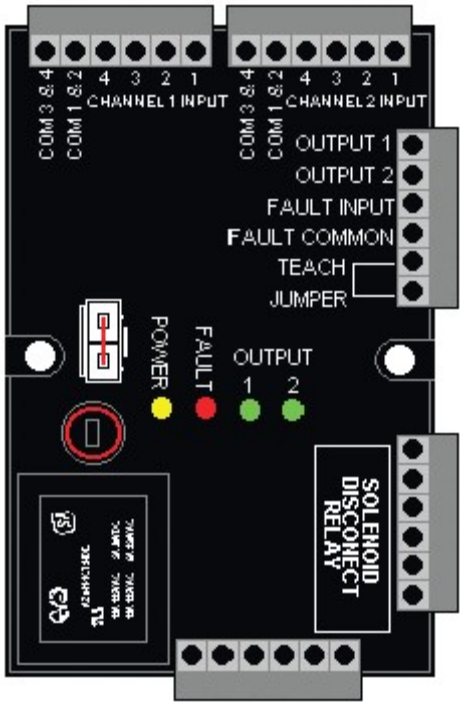


FIGURE 1-12

Healy Model 9961 Clean Air Separator

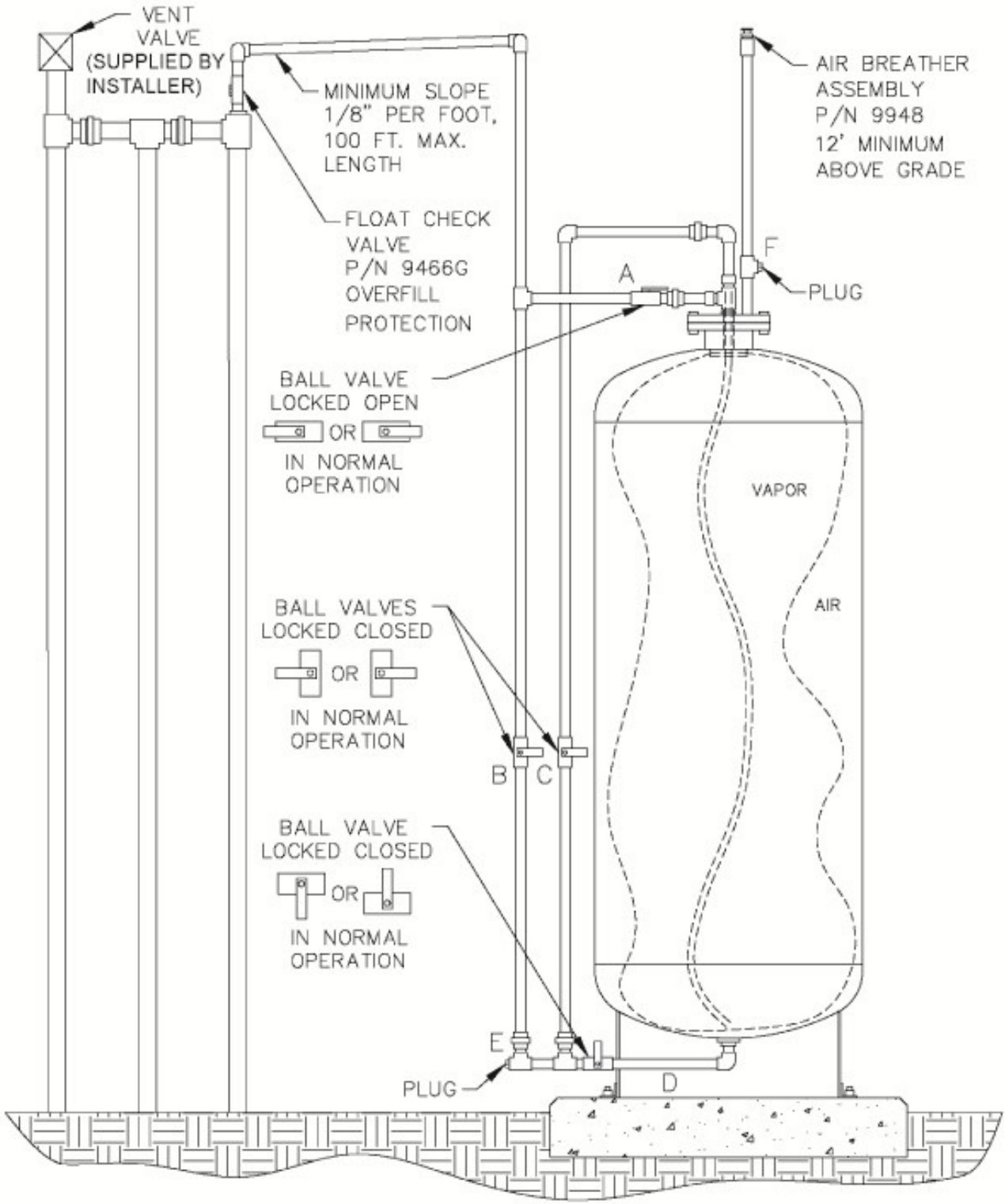


FIGURE 1-

Healy Model 9961 Clean Air Separator
(continued)

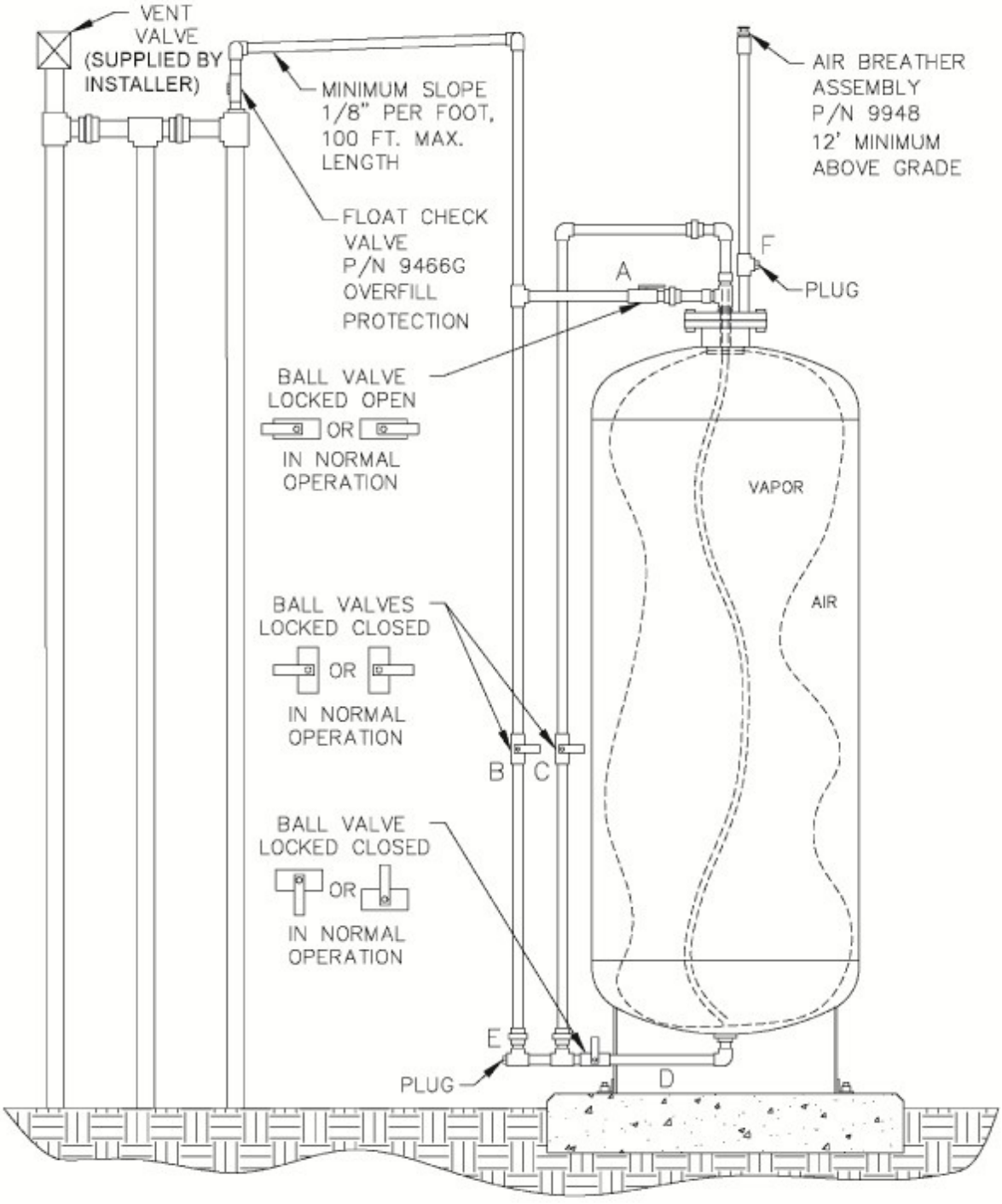


FIGURE 1-13

Healy Model 9961H Clean Air Separator

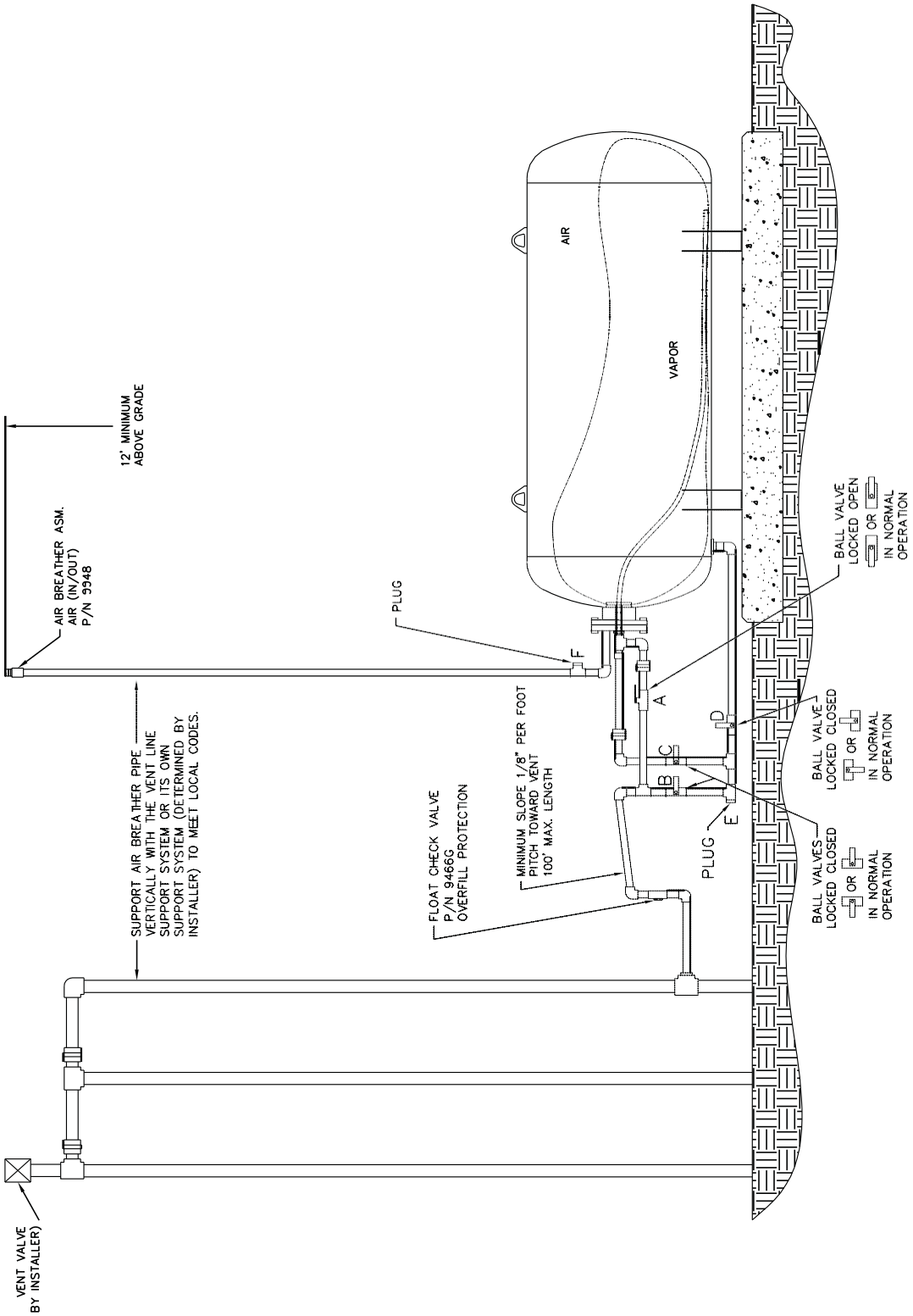
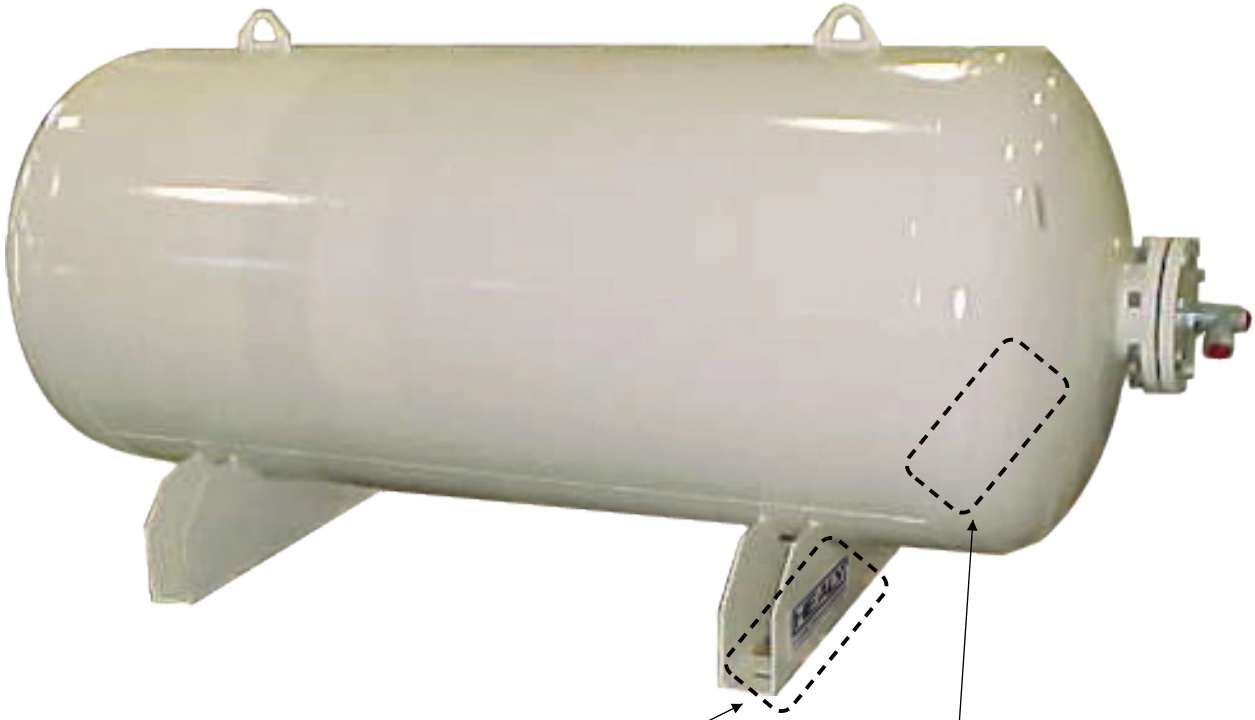


FIGURE 1-

Healy Model 9961H Clean Air Separator
(continued)





Clean Air Separator Name Plate



Clean Air Separator Data Plate
(not pictured on far side of base)

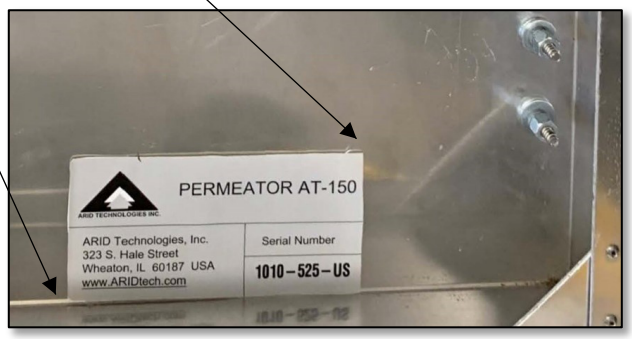
FIGURE 1-14

ARID Permeator AT-150 Processor





Inside View of Enclosure



Serial Number Location
(inside cabinet on left door)

FIGURE 1-15

Typical Liquid Condensate Trap Installation Below the Transition Sump

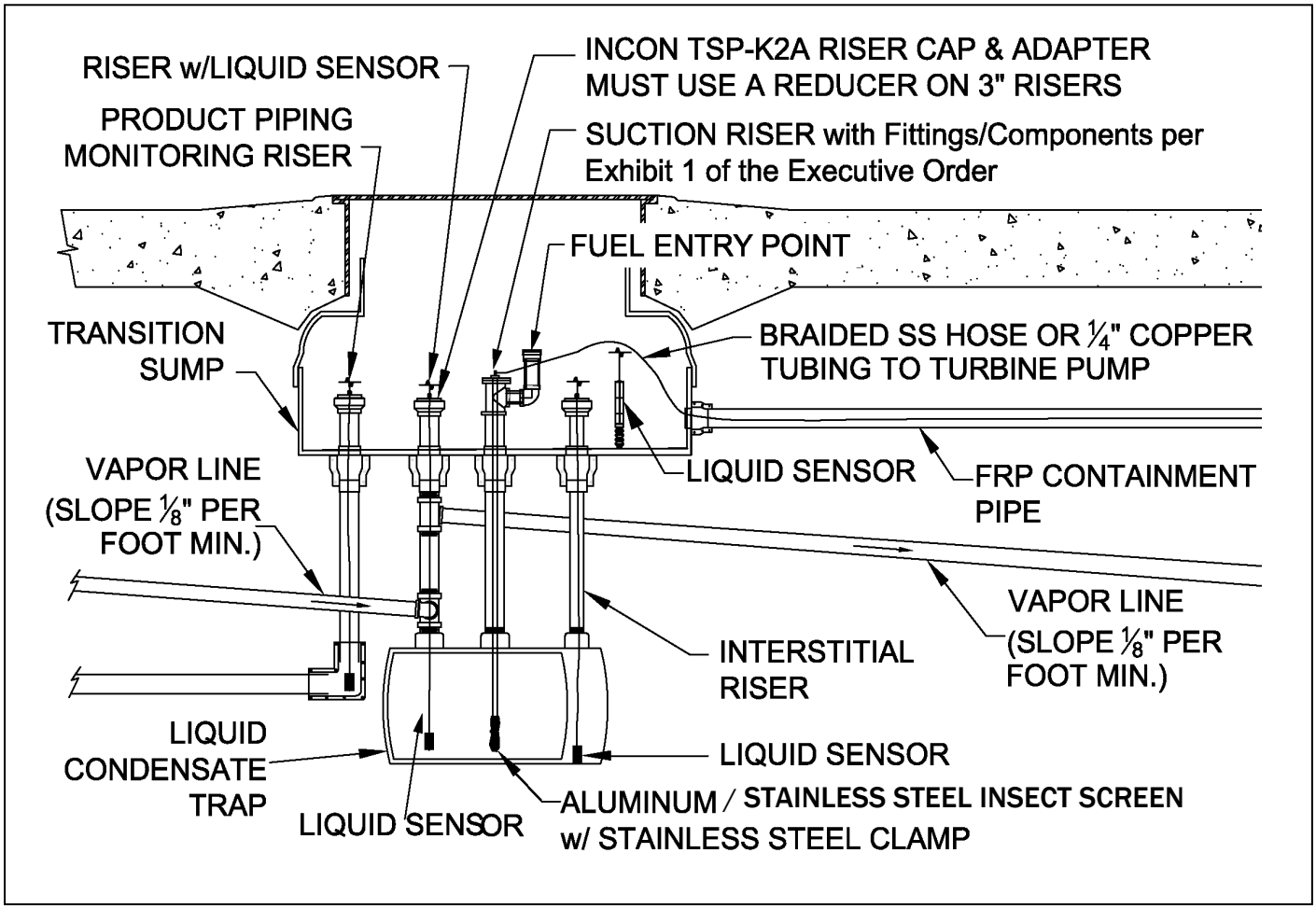


FIGURE 1-
(continued)

Typical Liquid Condensate Trap Installation
Inside the Transition Sump

Note: A Liquid Condensate Trap installed inside a liquid AND vapor tight transition sump that is monitored with a liquid sensor can be single walled (if installed before July 1, 2004).

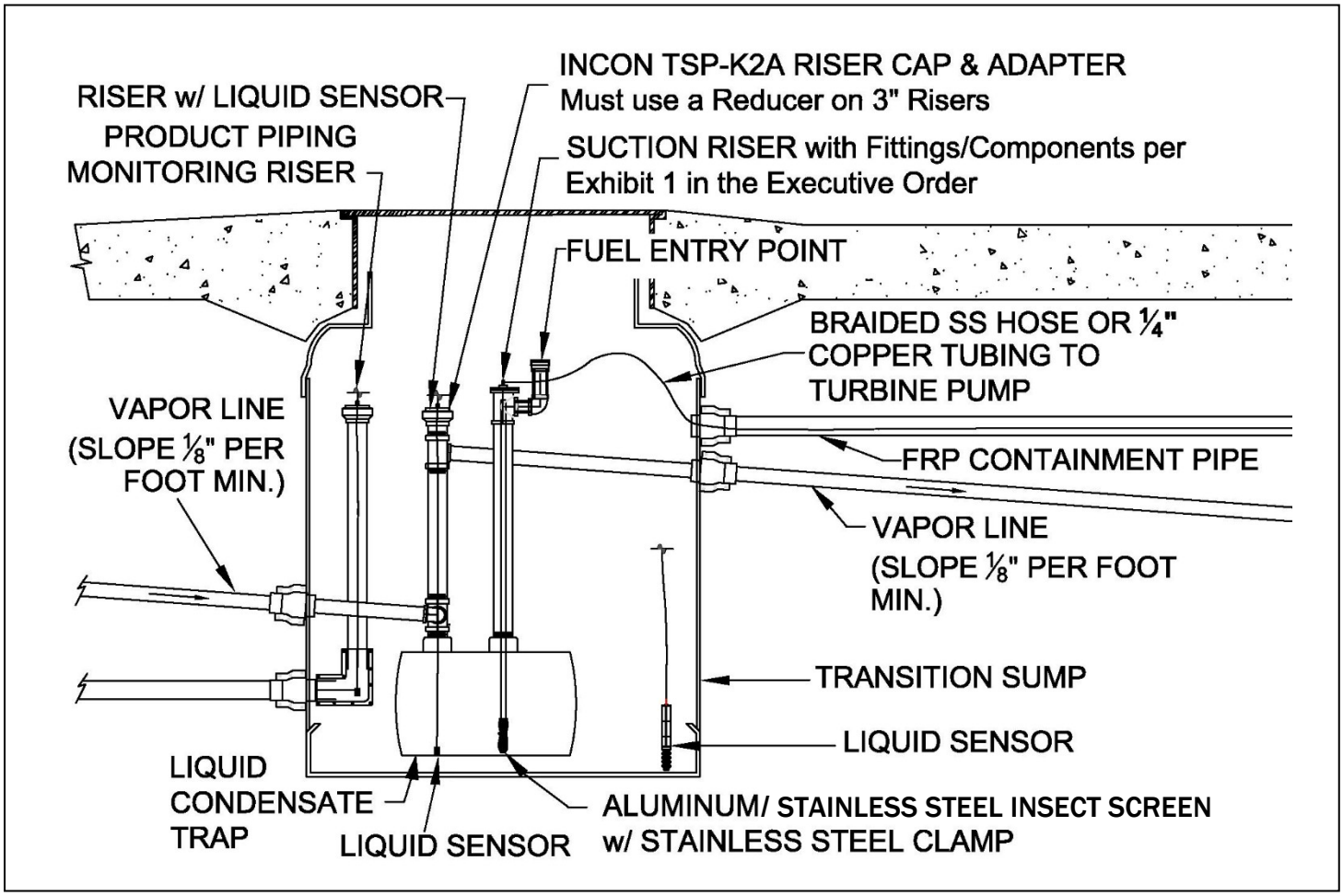


FIGURE 1-16

Veeder-Root TLS-350 Maintenance Tracker Kit (optional)



Veeder-Root Maintenance Tracker Technician Key



Veeder-Root TLS 350 Maintenance Tracker Interface Module

RS232/485 Dual Module with DB9 Converter or Single Port Module with DB-25 converter

SECTION II – In-Station Diagnostics (ISD) System

ONLY ONE OF THE FOLLOWING TWO (2) ISD SYSTEM IS REQUIRED

Equipment List
Veeder-Root ISD System[28]
(Option 1)

TLS-350 Series Console

Component	Manufacturer/Model
Veeder-Root TLS-350 Series[29] Console	Veeder-Root 8482XX-XXX, 8470XX-XXX ProMax 847097-XXX EMC PAO2620X000X Where: X = Any digit (Figure 1-ISD-VR-1)
RS232 Interface Module	Veeder-Root RS232 Interface Module Series (Figure 1-ISD-VR-1.1)
Dispenser Interface Module	Veeder-Root DIM Series (Figure 1-ISD-VR-1.2)
ISD Software Version Number[30]	Veeder-Root 1.07

TLS-450PLUS Console

Component	Manufacturer/Model
Veeder-Root TLS-450PLUS Console	Veeder-Root 860091-30x (Figure 1-ISD-VR-2)
TLS-XB Expansion Box	Veeder-Root 860390-100, (Figure 1-ISD-VR-2.1)
RS232 Interface Module	Veeder-Root RS232 Interface Module Series (Figure 1-ISD-VR-2.2)
Tri-Comm Module	Part Number 333807-002 (Figure 1-ISD-VR-2.3)
ISD Software Version Number[31]	Veeder-Root 1.08

Equipment List
Veeder-Root ISD System

[28] Veeder-Root ISD System has approved two console systems: TLS-350 Series and TLS-450PLUS

[29] Veeder-Root TLS-350 Series including but not limited to TLS-350, TLS-350 Plus, TLS-350R, Red Jacket ProMax, Gilbarco EMC, and Simplicity consoles (TLS Console)

[30] ISD software version 1.06 or later version is compatible with both, ARID Permeator AT-150 and Clean Air Separator. Permeator AT-150 installations must use with Version 1.06 or later software. Clean Air Separator installations can use previous versions.

[31] ISD software version 1.08 is compatible **only** with Veeder-Root TLS-450Plus and both processors, ARID Permeator AT-150 and Clean Air Separator.

(Option 1)
(continued)

Component	**Manufacturer/Model**
Vapor Pressure Sensor[32,33] (1 per GDF)	Veeder-Root 331946-001 or 861190-201– Wired, approved for installation in the dispenser or on the vent stack Veeder-Root 861190-201 - Low Powered Wireless, approved for installation on the vent stack **only** (Figure1-ISD-VR-3)
Vapor Pressure Sensor Desiccant Tube (Optional) (1 per GDF)	Veeder-Root 330020-717 – Dryer Tube (Figure1-ISD-VR-3)
Vapor Flow Meter[33] (1 per Dispenser)	Veeder-Root 332374-XXX - Wired or Wireless Where: X = Any digit (Figure 1-ISD-VR-4)

[32] For installations using the ARID Permeator AT-150, only dispenser mounted ISD transducer is approved.
[33] Wireless sensors require additional components specified in Veeder-Root Optional Wireless Component Equipment List.

Equipment List
Veeder-Root Wireless Component
(Optional)

Component	Manufacturer/Model
TLS-RF Wireless 2 Console [34]	Veeder-Root 0330020-668
(1 per GDF)	(Figure 1-ISD-VR-5 and Figure 1-ISD-VR-6)
RF Wireless 2 Transmitter[34;35]	Veeder-Root 0330020-674
(1 per Veeder-Root Sensor)	(Figure 1-ISD-VR-5 and Figure 1-ISD-VR-6)
RF Wireless 2 Battery Pack[34]	Veeder-Root 0330020-718
(1 per Transmitter)	(Figure 1-ISD-VR-5 and Figure 1-ISD-VR-6)
RF Wireless 2 Repeater[34]	Veeder-Root 0330020-670
(1 per GDF)	(Figure 1-ISD-VR-5 and Figure 1-ISD-VR-6)
RF Wireless 2 Receiver[34]	Veeder-Root 0330020-669
(1 per GDF)	(Figure 1-ISD-VR-5 and Figure 1-ISD-VR-6)

[34] Optional wireless components for Veeder-Root Vapor Flow Meter
[35] The RF Wireless 2 Transmitter-2 and RF Wireless 2 Battery Pack for the wireless vapor valve and wireless pressure sensor must be installed in the Universal Enclosure Kit. (See Figure 1-21)

TABLE 1-ISD-1

Veeder-Root ISD
Software Version Compatibility Matrix

Software Version[36]	Option		
	Dispenser Shutdown [37] and Collection Monitoring Update	Wireless Components	Maintenance Tracker
1.01			●
1.02			●
1.03	●		●
1.04	●	●	●
1.05	●	●	●
1.06	●	●	●
1.07[38]	●	●	●
1.08[39]	●	●	

[36] Software Version 1.01 has been revoked for GDF's equipped with multiproduct (six pack) dispensers with fuel blending. Subject GDFs must upgrade to higher version software (1.02, 1.03, 1.04, 1.05 or 1.06) by 07/01/2012.

[37] Dispenser shutdown can be achieved by alternate means for GDFs equipped with Software Version 1.01 and 1.02 as indicated in the CARB approved IOM for the Veeder-Root ISD System.

[38] For new installations ISD software version 1.07 is compatible with all processors listed in this EO. For existing installations, refer to the above software compatibility matrix. With the exception of multiproduct (six pack) dispensers with fuel blending, software Versions 1.01, 1.02, 1.03, 1.04, 1.05 and 1.06 may remain in use at existing GDFs.

[39] ISD Software version 1.08 is only compatible with the Veeder-Root TLS-450PLUS system.

Equipment List
INCON ISD System[40]
(Option 2)

Component	Manufacturer/Model
Console [41]	
TS-EMS	INCON / TEMSXXXX/YV
TS-550	INCON / T550XXXX/YYYYV
TS-5000	INCON / T5000XXXX/YYYYV Where: X = hardware option (Example: X can be: 'D' for Display, 'P' for Printer) Y = software option (Example: Y can be: 'S' for Secondary Containment Monitoring) V = Vapor Recovery Monitoring Application (Figure 1-ISD- INCON-1)
Vapor Recovery Monitoring (VRM) Software	INCON / TS-VRM Version 1.2.0
Vapor Pressure Sensor (1 per GDF)	INCON TS-VFM (Figure 1-ISD- INCON-2)
Vapor Flow Meter[33] (1 per Dispenser)	INCON TS-VFM (Figure 1-ISD- INCON-3)
Data Transfer Unit[42] **(Optional)** (1 per GDF and 1 per dispenser)	INCON TS-DTU / P (Figure 1-ISD- INCON-4)
Dispenser Retrofit Kit (Optional) (1 per dispenser with DTU)	INCON TS-DRK/x Where: x = Type of Installation Kit W = Wayne Installation Kit E = Gilbarco Encore Installation Kit A = Gilbarco Advantage Installation Kit, Tokheim Installation Kit
Thermal Printer Retrofit for TS-EMS and TS-550 with VRM Consoles (Optional)	TSSP-TMPTR • ISD Software must be version 1.2.0 or higher • The Console Firmware must be 1.5.x.xxxx or higher.

[40] INCON ISD is not approved for use with the ARID Permeator AT-150.
[41] All consoles come standard with RS-232 (COMM 1) and Ethernet ports for data access.
[42] Optional installation method for the replacement of dedicated wires to VFM and VPS. Refer to the IOM for more information.

FIGURE 1-ISD-VR-1

Veeder-Root TLS-350 Console



Original ROM Board



Certified Alternative ROM Board

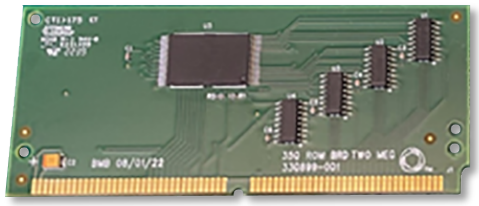


Figure 1-ISD-VR-1.1
350 Plus ROM Board
(Part# 330899-001)

FIGURE 1-ISD-VR-1.2

Dispenser Interface Module (DIM)

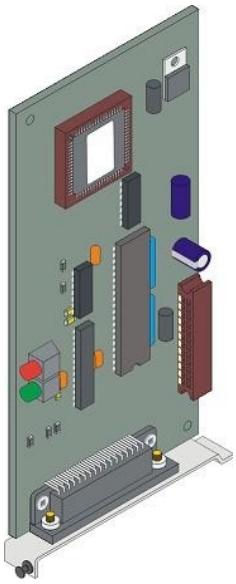


FIGURE 1-ISD-VR-1.3

TLS-350 RS232 Interface Modules

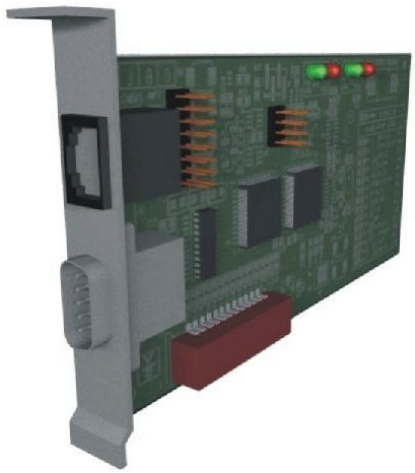


FIGURE 1-ISD-VR-2

Veeder-Root TLS-450PLUS Console



Figure 1-ISD-VR-2.1

TLS-XB Expansion Box



Figure 1-ISD-VR-2.2

Veeder-Root TLS-450PLUS RS232 Interface Module

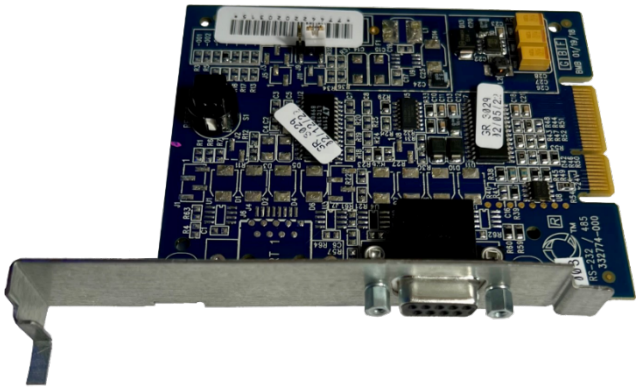


Figure 1-ISD-VR-2.3

Tri-Comm Module

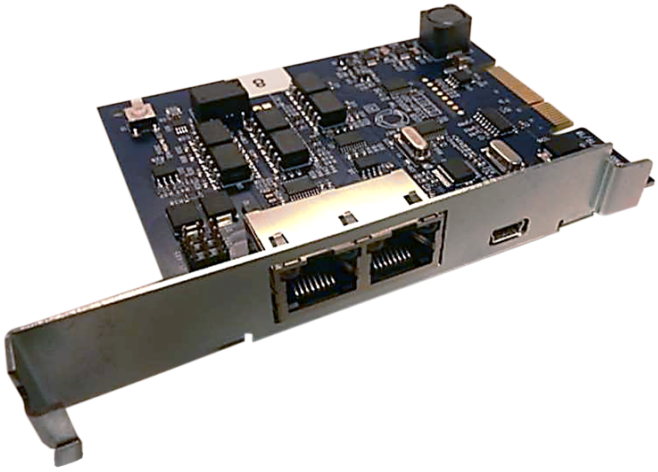
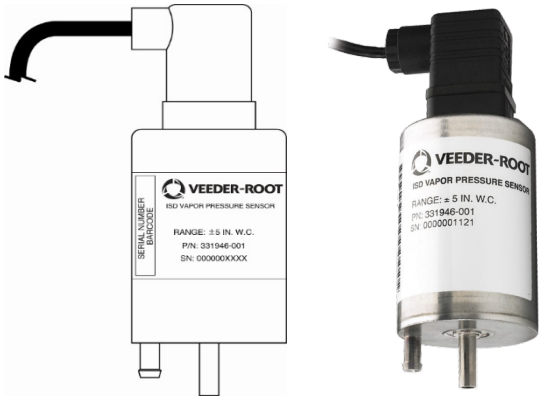


FIGURE 1-ISD-VR-3

Veeder-Root Vapor Pressure Sensors



Model # 331946-001
Vapor Pressure Sensor



Model # 861190-201
Low Powered Vapor Pressure Sensor



Model # 330020-717
Dryer Tube

FIGURE 1-ISD-VR-4

Vaper Flow Meter
Veeder-Root 331847-XXX

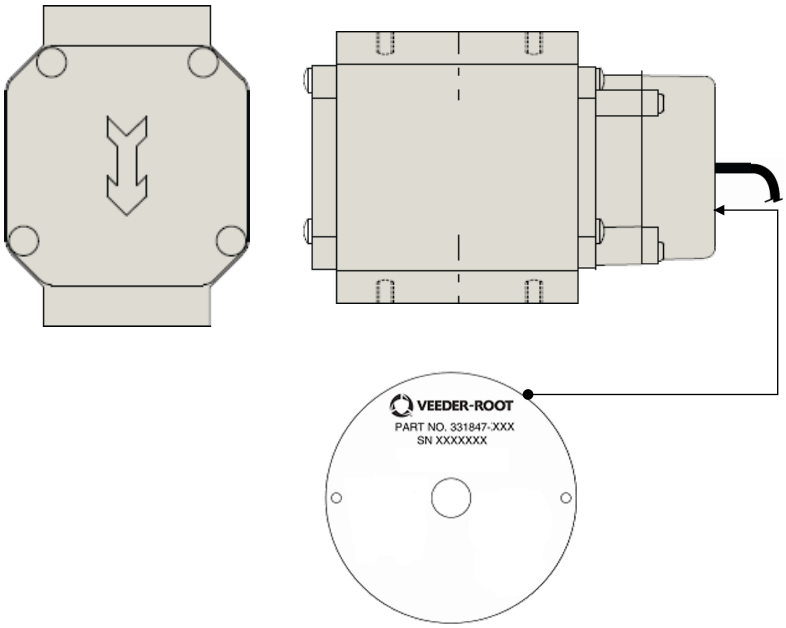




FIGURE 1-ISD-VR-5

Veeder-Root Wireless Components (Optional)



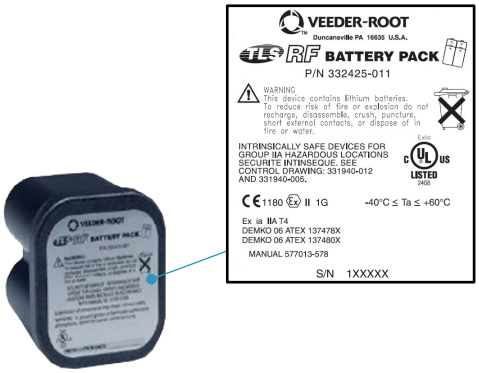
RF Wireless 2 Receiver



RF Wireless 2 Repeater



RF Wireless 2 Transmitter



RF Wireless 2 Battery Pack



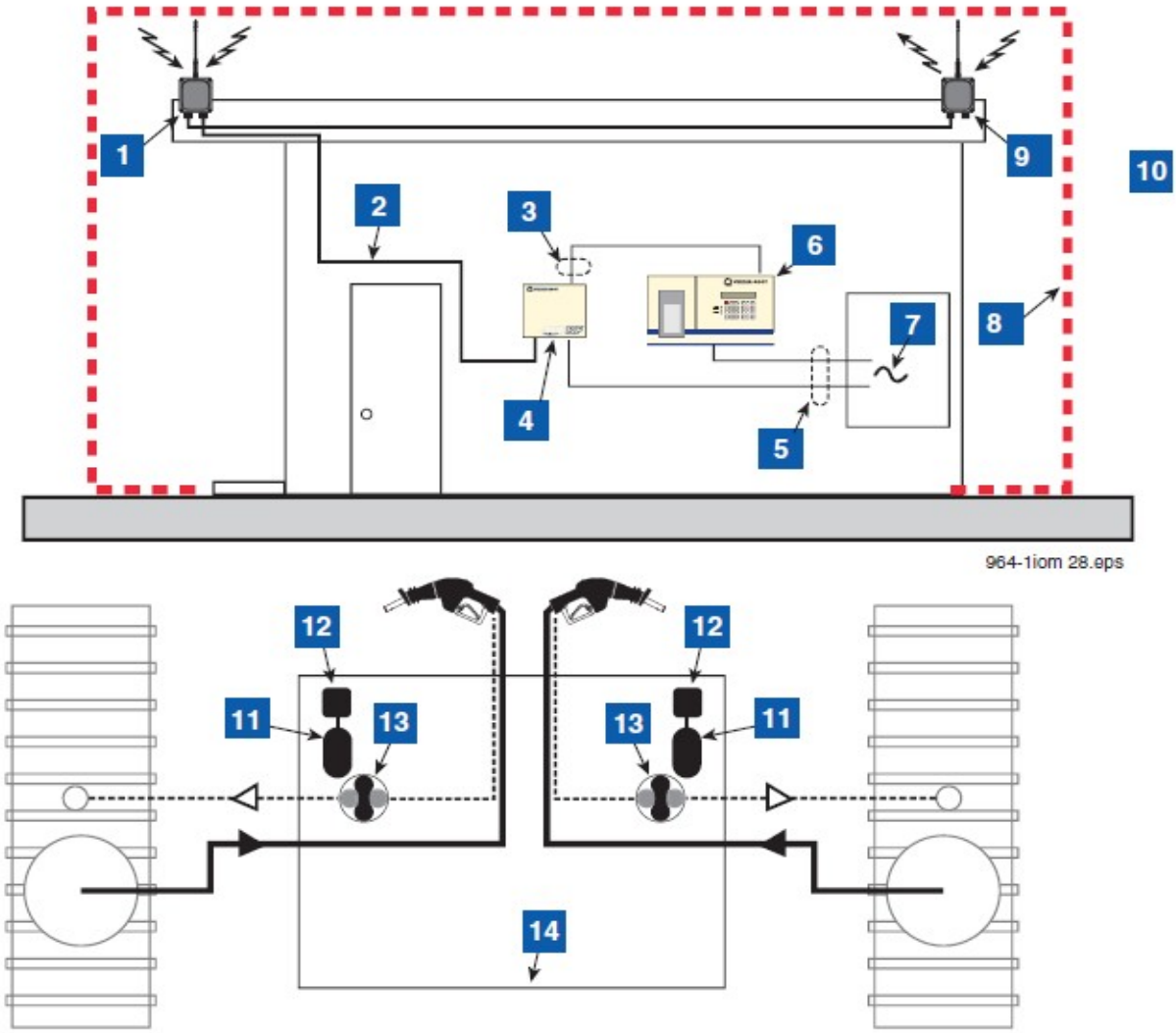
TLS-RF Wireless 2 Console



Wireless Enclosure

FIGURE 1-ISD-VR-6

Typical TLS-RF Wireless System Layout



LEGEND FOR NUMBERED BOXES IN Figure 1

To be installed in accordance with the National Electrical Code, NFPA 70 and the Code for Motor Fuel Dispensing Facilities and Repair Garages (NFPA 30A), or other local codes such as the CEC, Canadian Electrical Code.

WARNING! Substitution of components may impair intrinsic safety.

Circuitry within the console barrier forms an intrinsically safe, energy-limited system. This system is intrinsically safe for use in a Class I, Group D hazardous location.

1. Receiver (1 per RF System)
2. RS-485 Cable (Belden #3107A or equiv.)
3. NOTE: Intrinsically safe wiring shall be installed in accordance with Article 504-20 of the NEC, ANSI/ NFPA 70. Max cable length 1000 ft. (304 m).W2 Receiver (1 per RF System)
4. TLS-RF
5. Conduit that enters power wiring knockout.
6. TLS console (Vm = 250 V)
7. 120 or 230 Vac from power panel
8. Non-hazardous area
9. Repeater (1 per RF System)
10. Hazardous area (Class I, Div. 1, Group D)
11. Transmitter
12. Battery pack
13. Vapor Flow meter
14. Dispenser sump

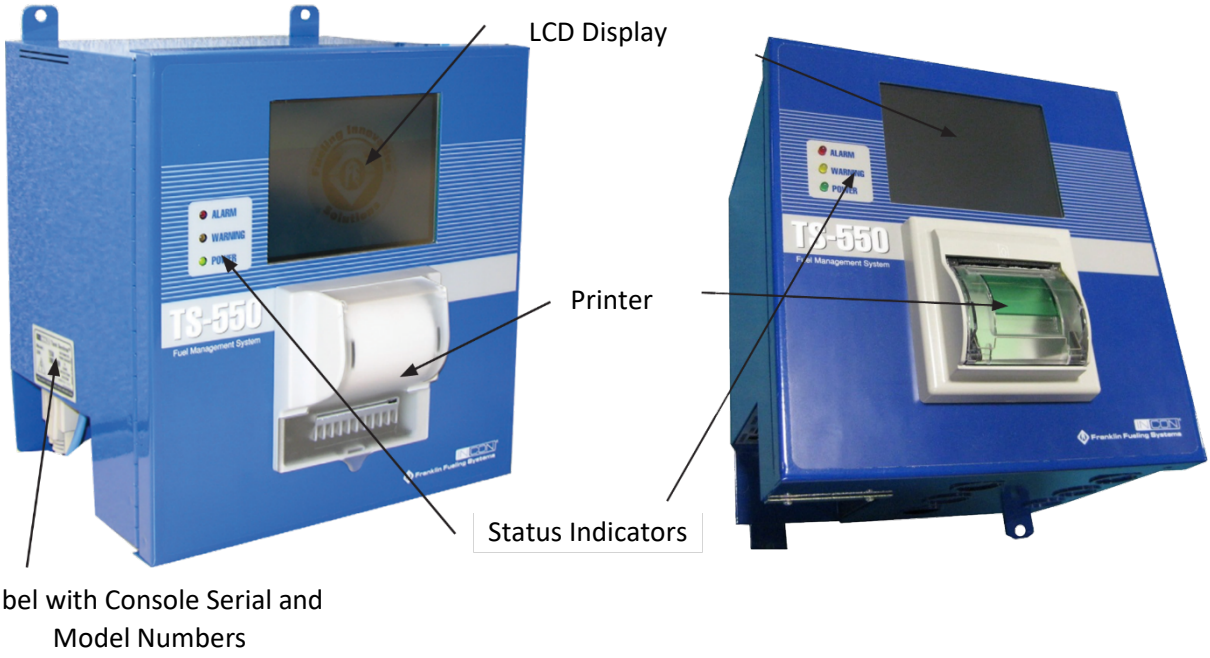
FIGURE 1-ISD-INCON-1

INCON TLS Console

INCON TEMSXXXX/YV

INCON T550XXXX/YYYYV

INCON T5000XXXX/YYYYV



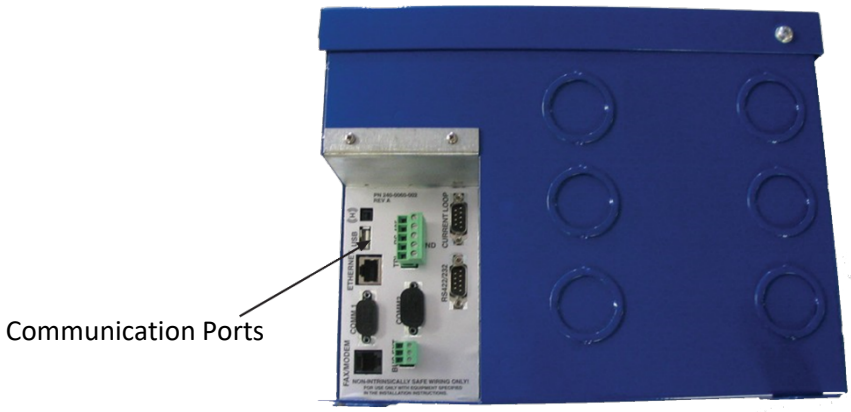


FIGURE 1-ISD-INCON-2

Vapor Pressure Sensor
INCON TS-VPS

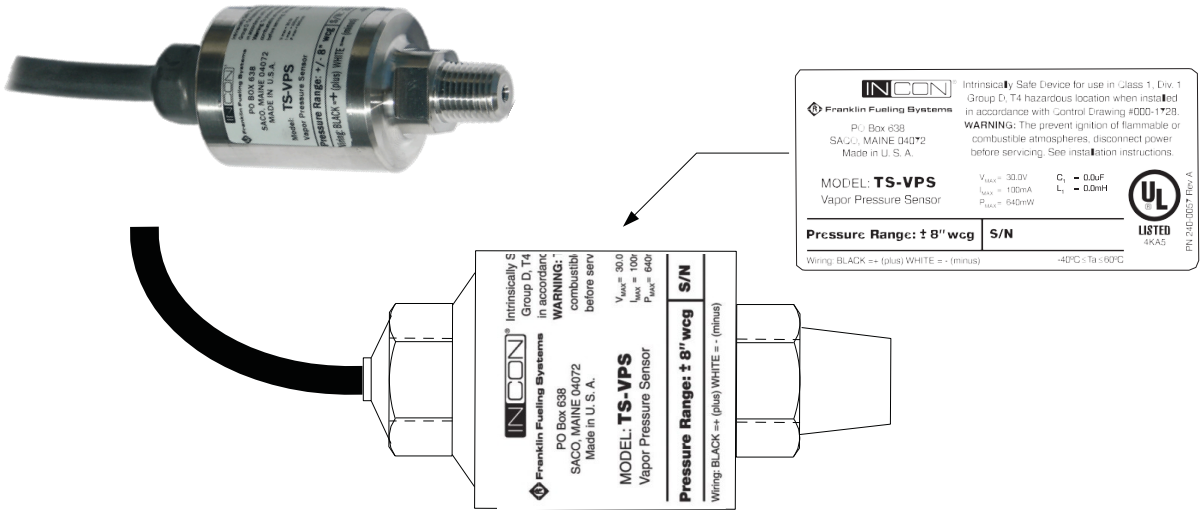


FIGURE 1-ISD- INCON-3

Vapor Flow Meter
INCON TS-VFM

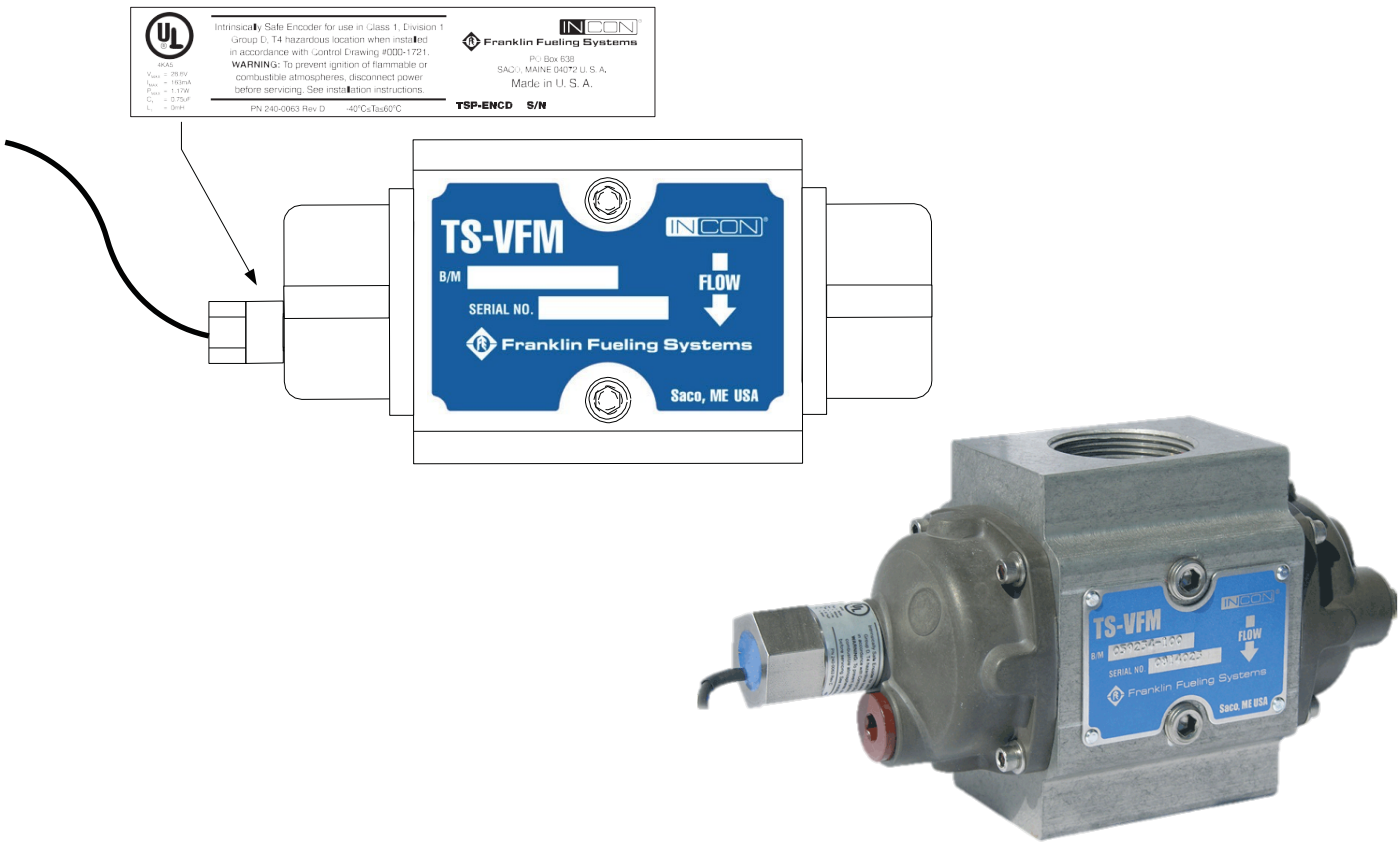


FIGURE 1-ISD- INCON-4

Data Transfer Unit
INCON TS-DTU / P





Label with DTU Serial Number
and ID Number