



VAPOR RECOVERY CERTIFICATION

Certification No. GVRC 005:044:009

Page 1 of 1

GASOLINE VAPOR RECOVERY SYSTEM

LISTEE - Vapor Systems Technologies, Inc. 650 Pleasant Valley Dr., Springboro, OH 45066

DESIGN - VST-ECS-CS3-310 Emissions Control Membrane Processor Unit.

This vapor processor unit is designed for use with an existing vapor system at a gasoline refueling facility. The processor system is intended to reduce hydrocarbon emissions by controlling the underground storage tank (UST) pressure. When the UST pressure reaches +0.2 in. of H₂O column pressure, monitored by a Listed external controller, the system turns on the blower and draws the vapor/air mixture from the UST. This vapor is forced through a selectively permeable membrane by a combination of blower pressure on one side of the membrane and vacuum from a vacuum pump on the opposite side. The membrane removes oxygen from the vapor stream and returns the concentrated VOC vapor to the UST. The oxygen stream is vented to the atmosphere. The processor system shuts down when the UST pressure drops to -0.2 in. of H₂O column vacuum.

APPLICATION - For Phase II Systems.

INSTALLATION - To be installed in accordance with manufacturer's instructions and all applicable codes.

MARKING - The manufacturer's name and model number and UL Listing Mark

CERTIFICATION - Certified for use with Phase II EVR systems

This certification is made pursuant to the authority granted to the California State Fire Marshal as contained in Sections 41955 through 41960 inclusive, California Health and Safety Code. The certification is based upon independent tests or other technical data submitted by the applicant. CSFM staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This certification is not an endorsement or recommendation for the use of the item(s) specified. This certification should not be used to verify correct operational requirements or installation criteria.

ISSUED: OCTOBER 26, 2007

AUTHORIZED BY:

James Parsegian,
Supervising Deputy State Fire Marshal
Vapor Recovery Program



VAPOR RECOVERY CERTIFICATION

Certification No. GVRC 005:044:010
Page 1 of 1

VAPOR RECOVERY DISPENSING NOZZLE

LISTEE – Vapor System Technologies, Inc., 650 Pleasant Valley Drive, Springboro, OH 45066

DESIGN - Model VST-EVR-NBcc vapor recovery type hose nozzle valve for flammable fluids (automatic type with latch open device). Where "cc" is the color code of the scuff guard. This valve is an automatic self-closing type hose-nozzle valve with a female coaxial type connection and vapor return capabilities intended for use with flammable liquid dispensing devices arranged for vapor recovery. They are equipped with the usual automatic mechanism designed to shut off the flow of liquid when the automobile tank is full. They include a shear section in the spout to permit breakaway should the valve be subjected to excessive bending load, may have a spring-loaded latch which may be set to hold the valve open, and are provided with a vapor return passage designed for collection of saturated vapors by means of a "tight seal" with the automobile fill opening.

APPLICATION -- The nozzle valves shall be used only with listee's VST-EVR compliant products. (VST's EVR hoses and safety breakaways). The inner liquid line is rated 50 psi maximum and the outer vapor return line is rated ½ psi maximum.

INSTALLATION -- The nozzle valve installation is done in accordance with manufacturer's installation instructions and NFPA 30A. The units are intended to be installed using California State Fire Marshal Certified and compatible Vapor Recovery System Component Parts. Such as hoses and safety breakaway valves. The installer is responsible for ensuring compatibility of component parts and current California State Fire Marshal Certification.

MARKING -- The manufacturer's name and Part Number are provided on an aluminum nameplate riveted to the lever guard. Additionally, each nozzle valve will ship from the factory with an adhesive-backed label stating compatibility with approved VST products and UL Standard.

CERTIFICATION -- Certified for use with VST Phase II EVR systems.

This certification is made pursuant to the authority granted to the California State Fire Marshal as contained in Sections 41955 through 41960 inclusive, California Health and Safety Code. The certification is based upon independent tests or other technical data submitted by the applicant. CSFM staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This certification is not an endorsement or recommendation for the use of the item(s) specified. This certification should not be used to verify correct operational requirements or installation criteria.

ISSUED: OCTOBER 26, 2007

AUTHORIZED BY:

James Parsegian,
Supervising Deputy State Fire Marshal
Vapor Recovery Program



California Department of Forestry & Fire Protection
Office of the State Fire Marshal



VAPOR RECOVERY CERTIFICATION

Certification No. GVRC **005:044:006**
(Revised August 28, 2007)
Page 1 of 1

COAXIAL GASOLINE/VAPOR BALANCE HOSE SYSTEMS

LISTEE-- Vapor Systems Technologies, Inc., *650 Pleasant Valley Dr., Springboro, OH 45066

DESIGN -- Vapor Systems Technologies, Inc. Models VSTA-EVR-xxx and VDV-EVR-xxx coaxial EVR balance fuel hoses, where "xxx" is the length of the hose in inches. These are coaxial type hose assemblies intended for use with dispensing devices with balanced vapor recovery capability. The inner hose is designed to handle gasoline being dispensed into the motor vehicle with a rated working pressure of 50 psi maximum. The outer hose is used for returning gasoline vapors to the storage tank with a rated working pressure of ½ psi maximum. Special swivel couplings on the ends are for connection with suitable vapor recovery system accessories and with gasoline dispensing discharge and vapor return lines.

APPLICATION—Intended for use with balance type vapor recovery systems with compatible dispensing devices and hose nozzle valves. Shall be used only with dispensing nozzles and fittings certified by the California State Fire Marshal.

INSTALLATION--To be installed in accordance with manufacturer's instructions, NFPA No. 30A and all applicable codes.

MARKING—Listee's name "Vapor Systems Technologies, Inc." and the model number "VSTA" or "VDV" label on the hose ferrule, including UL Listing Mark.

The hose to have the Vapor Systems Technologies brand, *identification mark for liquid removal, UL label and date of manufacture.

CERTIFICATION—Certified for use with Phase II EVR systems

*Rev 08-28-2007 jw

This certification is made pursuant to the authority granted to the California State Fire Marshal as contained in Sections 41955 through 41960 inclusive, California Health and Safety Code. The certification is based upon independent tests or other technical data submitted by the applicant. CSFM staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This certification is not an endorsement or recommendation for the use of the item(s) specified. This certification should not be used to verify correct operational requirements or installation criteria.

ISSUED: **SEPTEMBER 12, 2007**

AUTHORIZED BY:

James Parsegian,
Supervising Deputy State Fire Marshal
Vapor Recovery Program



California Department of Forestry & Fire Protection
Office of the State Fire Marshal



VAPOR RECOVERY CERTIFICATION

Certification No. GVRC 005:044:007

Page 1 of 1

EMERGENCY BREAKAWAY COUPLING

LISTEE-- Vapor Systems Technologies, Inc., 650 Pleasant Valley Dr., Springboro, OH 45066

DESIGN-- Model VSTA-EVR-SBK vapor recovery emergency breakaway coupling. This assembly consists of a male plug and female body components with integral check valves in each component. When the fitting and connecting hose assembly are subject to a predetermined pull force, the male plug separates from the female body, removing the force on the hose assemblies and the dispenser. The check valves prevent the escape of liquid from the hose.

APPLICATION-- Model VSTA-EVR-SBK couplings are for use on a gasoline dispensing device where the working pressure does not exceed 50 psi. They are intended to be installed between the whip hose and the hose assembly to safeguard against abnormally excess pull force (greater than 350 lb) on the hose assemblies and dispenser. These couplings are not re-connectable and are intended to be discarded after separation.

INSTALLATION--To be installed in accordance with manufacturer's instructions, NFPA No. 30A and all applicable codes.

MARKING-- The manufacturer's name, model, maximum rated separation force, direction of flow and the statement "WARNING - This device separates at 350 pounds of pull force. Prior to installation, it shall be determined that such force will not damage hose assembly of dispensing device. Dispensing device must be securely bolted to the dispensing island." and UL Listing Mark

CERTIFICATION—Certified for use with Phase I and Phase II EVR systems

This certification is made pursuant to the authority granted to the California State Fire Marshal as contained in Sections 41955 through 41960 inclusive, California Health and Safety Code. The certification is based upon independent tests or other technical data submitted by the applicant. CSFM staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This certification is not an endorsement or recommendation for the use of the item(s) specified. This certification should not be used to verify correct operational requirements or installation criteria.

ISSUED: SEPTEMBER 12, 2007

AUTHORIZED BY:

James Parsegian,
Supervising Deputy State Fire Marshal
Vapor Recovery Program