

TECHNICAL SERVICE BULLETIN

Bulletin No.: TSB-033

Date: July 18, 2018

Subject: VP Fill Check Valve

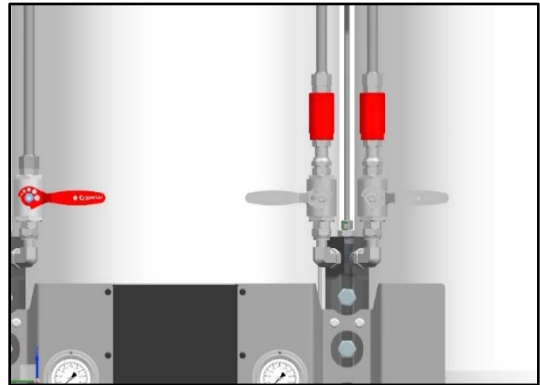
Models: Select 3600 PSI Quantum Virtual Pipeline Trailers

Background

Quantum Virtual Pipeline (VP) trailers use multiple check valves on the inlet or load side of the system to isolate the cylinders from each other and from the fill couplings during transport and all other fuel transfer activities.

Condition

A redundant 1" check valve is part of the system to protect against a failure of the primary check valves located on each of the storage cylinders. A number of these valves have been found to be damaged and non-operational. Due to the nature of the failure, the debris created by the valve failure may also damage the primary check valves located at each cylinder.

**Cause**

It has been determined that gas flow beyond published maximum flow rates will induce a chatter that results in severe internal damage to this valve.

Correction

The 1" check valve is a redundant check valve and is not required for safe operation of the system. A replacement assembly has been developed that does not act as a check valve. The existing check valves will be replaced with straight through valve bodies and the operator instruction label will be replaced to indicate that the manual valve must be used as part of the normal loading process.

TECHNICAL SERVICE BULLETIN**Labor Time**

All 3600 psi VP Trailers:

Labor OP Time: Straight Time 0.7 Hours

Parts Information

Description	Part Number	Qty
Body Asm- Blank	119391	2
Retainer- Panel, Plastic	103610-001	8
Label- Instruction , VP Lite	119393	1
O-Ring- 1" SAE, Low Temp	117997-916	4
O-Ring- 1" ORFS, Low Temp	117997-021	4

Application

All VP Lite model trailers built before June of 2018.

Contact Information:

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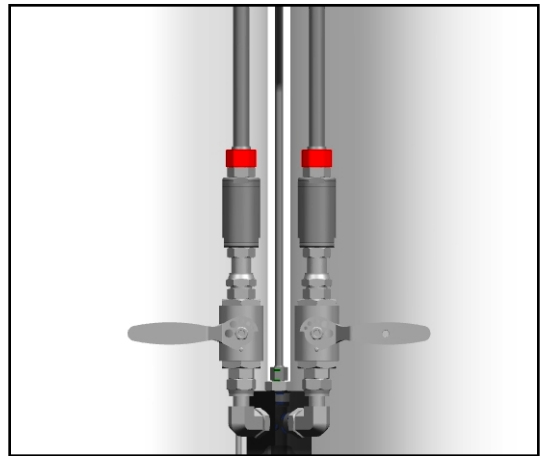
Fax: 949.930.3401

TECHNICAL SERVICE BULLETIN**Removal**

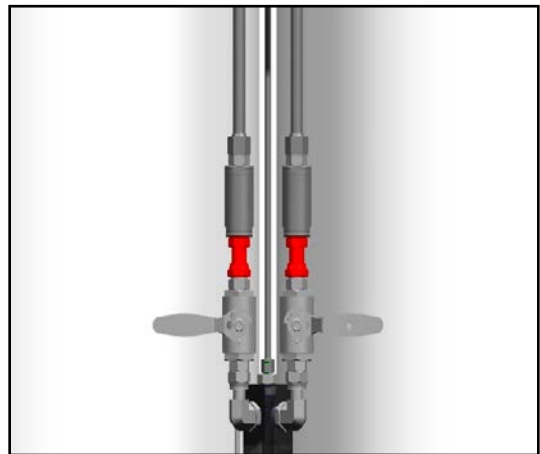
1. Vent the Load side manifold to zero psig.

IMPORTANT: IF GAS PRESSURE CONTINUES TO BUILD AND CANNOT BE COMPLETELY VENTED, THE CYLINDER MANUAL VALVES MUST BE TURNED OFF. The leaking cylinder inlet check valves must be identified and replaced.

2. Take note of the manual valve handle location. They must not be parallel to the door or they will make contact in the OFF position.
3. Loosen the upper tube nut on the check valve and slide up out of the way.



4. Loosen the lower tube nut and remove check valve by pulling toward you.
5. Check to make sure both tubing o-rings were removed with check valve.
6. Remove and retain the swivel connector from the bottom of the check valve.

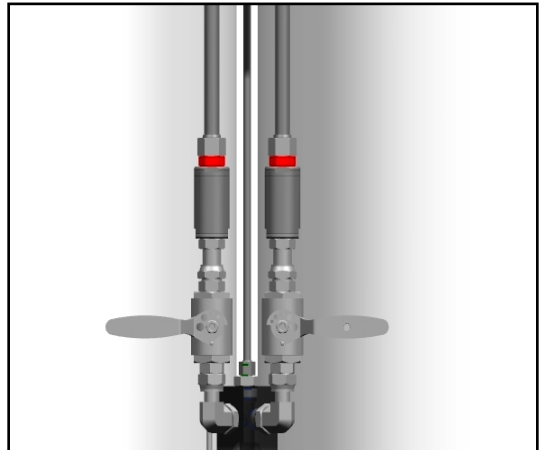


TECHNICAL SERVICE BULLETIN**Load Check Valve R & R (Continued)**

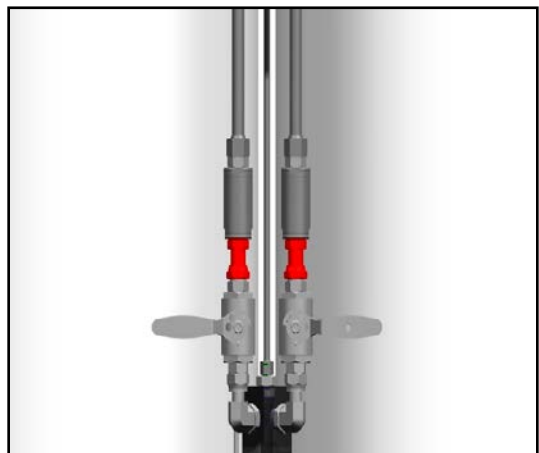
7. Remove and retain the union fitting from the bottom of the check valve.
8. Inspect Check valve for any signs of damage or debris. If found, perform a further inspection on the rest of the system.

**Installation**

1. Remove old o-rings from union fitting. Lubricate new o-rings and install on union fitting.
2. Install union fitting on top of check valve, arrow on check valve facing up. If valve body is not marked for flow direction, flow direction does not matter
Tighten to 219 lb. ft. (297 Nm).



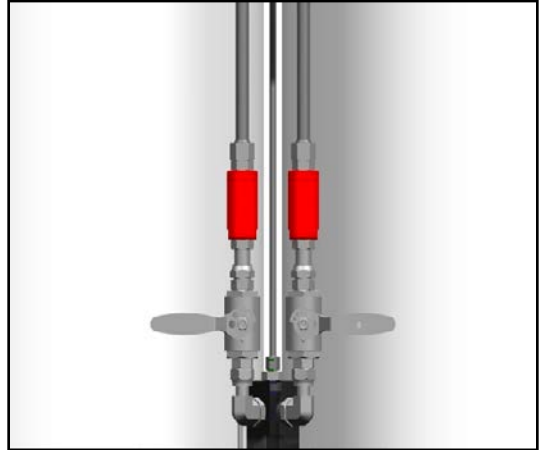
3. Remove old o-rings from swivel connector fitting. Lubricate new o-rings and install on swivel connector fitting. Install fitting into valve body.
Tighten to 219 lb. ft. (297 Nm).



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Load Check Valve R & R (Continued)

4. Verify the manual valve handles do not make contact with the doors. Adjust as needed.
5. Insert check valve into place. Loosely fit the tubing nuts.
6. Tighten tubing nuts to 117 lb. ft. (156 Nm).
7. Pressurize the load manifold and check all disturbed fittings for leakage.



8. Remove and discard the plastic retainers securing the instruction panel and remove the instruction panel.
9. Install the updated user instruction label over the existing label.
10. Install the panel using new retainers.

