

AAR Manual of Standards and Recommended Practices Specifications for Tank Cars

M-1002

CHAPTER 1

APPLICATION FOR APPROVAL OF VALVES, CLOSURES, AND FITTINGS

Applicant Kelso Technologies Inc. AAR No. E152103
 Description of Device Vacuum Relief Valve

Applicant No. _____ Device Ident. No. KVR4.5S and KVR4.5 Series Date 4/28/18
KVR3.0S & KVR1.5S Series

1. Manufacturer Kelso Technologies Inc.
2. Address 7773-118A Street City Delta State British Columbia Zip Canada V4C 6V1
3. Test facility if other than the manufacturer _____ Address _____
4. Test date 11/21/14 4. Observer Bob Irving
 Title: Staff Engineer

TEST PROCEDURE

5. Description of prototype testing: High and Low Temp. Testing (190F & -20F); Shock and Vibration; STD and VT pressure testing and body housing structural integrity

6. Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
10	78 °F _____ °C	STD - 4.5 psi _____ kPa	10	190 °F _____ °C	VT - 4.5 psi _____ kPa	Nitrogen	Test for STD and VT - No issues at room and 100F temperature. Pressures are vacuum.
Cycles 10	Min. Temp. -20 °F _____ °C	@ Pressure STD - 4.5 psi _____ kPa	Cycles	Max. Temp.	@ Pressure	Test Medium Nitrogen	Remarks Test for STD and VT at -20F - No issues. Pressures are vacuum.
Cycles 10	Min. Temp. -20 °F _____ °C	@ Pressure 165 and 210 psi _____ kPa	Cycles 10	Max. Temp. 78 °F _____ °C	@ Pressure 165 and 210 psi _____ kPa	Test Medium Nitrogen	Remarks Positive pressure tests at -20 and 78 F for structural integrity. No issues.

7. Commodity: Regulated Commodity Non Regulated Commodity _____ Specific Commodity Crude/Ethanol
8. Flow rate (if applicable) _____ gpm (_____ L/min)

Applicable drawings	Material	Drawing Number latest revision	Precedent	
			Drawing Number	Application/Certificate
9. Device application	SS, CS	38003 - (2 pages)		
10. Device assembly	SS, CS	38003 - (2 pages)		
11. Device details	SS, CS	38003 - (2 pages)		

12. Quality Control Statement Kelso has adhered to a strict quality control system that has granted Kelso a "Codes B85, B86, C4 and C5" certification rating by the AAR.

***All of our springs are 100% degaussed

REVISIONS:

CERTIFICATION: The above data is correct and conforms with AAR Specifications for Tank Cars, Appendix A. The devices tested conform with drawings listed above.

By [Signature] Title Engineering Mgr.

APPROVAL AAR Tank Car Committee Service Trial Required

Date Approved for Service Trial 6/19/2015
 Service Trial Number ST-456

[Signature]
 (Signature) on behalf of Tank Car Committee

APPROVAL AAR Tank Car Committee Service Completed / Not Required

Date Service Trial Completed 7/18
 Date Approved 2/14/2019
 Expiration Date 2025

Date AAR Received Form AAR 4-6 10/31/18
[Signature]
 (Signature) on behalf of Tank Car Committee

Form AAR 4-6 Revised 10/2014

Fig. 1.4 Form AAR 4-6 Application for Approval of Valves and Fittings