

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. E162100

Description of Device Bottom Outlet Valve (4") With Ceramic Ball

Applicant No. _____ Device Ident. No. KBOV-P Series Date 2/8/16

1. Manufacturer Kelso Technologies Inc.

2. Address 7773-118A Street City Delta State British Columbia Zip Canada V4C 8V1

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 (315F & -20F); Shock and Vibration; High and Low pressure testing at different temps. and body housing structural integrity. The same tests below were conducted at room temp. (75F) for same pressures - No issues or leaks

Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
10	-20 °F	300 psi	10	315 °F	300 psi	Nitrogen	No Leaks
10	-28 °C	2068 kPa	10	157 °C	2068 kPa	Nitrogen	
Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
10	-20 °F	30 psi	10	315 °F	30 psi	Nitrogen	No Leaks
10	-28 °C	2.06 kPa	10	157 °C	2.06 kPa	Nitrogen	
Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
10	-40 °F	300 psi	10	315 °F	300 psi	Nitrogen	No Leaks
10	-40 °C	2068 kPa	10	157 °C	2068 kPa	Nitrogen	

7. Commodity: Regulated Commodity _____ Non Regulated Commodity _____ Specific Commodity _____ X ****Commodity to be disclosed and subject to TCC approval****

8. Flow rate (if applicable) _____ gpm (_____ L/min) **Note: This applies to duration and units under Service Trial Only.**


Applicable drawings	Material	Drawing Number latest revision	Precedent	
			Drawing Number	Application/Certificate
9. Device application	CS with Ceramic Ball	KBOV-P (8/5/15) (2 pages)		
10. Device assembly	CS with Ceramic Ball	KBOV-P (8/5/15) (2 pages)		
11. Device details	CS with Ceramic Ball	KBOV-P (8/5/15) (2 pages)		

12. Quality Control Statement Kelso has adhered to a strict quality control system that has granted Kelso a "Code B85, B88, C4 and G5" certification rating by the AAR.

***Note: Kelso has received approval for service trial for a similar Bottom Outlet valve with a stainless steel ball option (AAR# E152105: ST# 457). The only difference for this assembly will be a ceramic ball option denoted by a "P" suffix.

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  Title Engineering

APPROVAL AAR Tank Car Committee Service Trial Required

Date Approved for Service Trial FEB 10 2016

Service Trial Number ST-463


(Signature) on behalf of Tank Car Committee

APPROVAL AAR Tank Car Committee Service Completed / Not Required

Date Service Trial Completed _____ Date AAR Received Form AAR 4-6 _____

Date Approved _____

Expiration Date _____

(Signature) on behalf of Tank Car Committee

Form AAR 4-5 Revised 10/2014

Fig. 1.4 Form AAR 4-5 Application for Approval of Valves and Fittings