



Certificate of Testing

Date of Issue: 27th August 2009

Certificate Number: CT991686

Customer: Hobbs Valves
Unit L
Trecenydd Business Park
Caerphilly
CF83 2RZ

Component Tested: 10 " x 150lb RF Triple Offset Butterfly Valve

Serial Number: 335251

Test Pressure: 3.5 barg, 7.0 barg, 10.5 barg, 14.0 barg, 17.5 barg, 19.0 barg

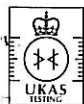
Test Temperature: Ambient & -196°c, Return to Ambient

Test Specification: BS6364 Issue 4 September 1998

Test Medium: 100% Helium

Test Date: 26th August 2009

Test Equipment: Pressure Transducers s/n: BY291
Display s/n: 10040031
Thermocouple s/n: 11304B, 11331 & 11329
Gas Pressure Isolation Rig s/n: NG 5000
Torque Wrench s/n: OJV045874
Mass Spectrometer s/n: 00001005082
Flow Meters s/n: 3902900001 & 9112DS002





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Test Duration: Body 15 minutes Seat 5 minutes

Results: Body Test Acceptable Leakage Rate:
Main Body: No recordable leakage
Gland: No visual leakage

Actual Leakage:
Main Body @ Ambient: No recordable leakage
@ -196°C: No recordable leakage
Return to Ambient: No recordable leakage

Gland @ Ambient: No visual leakage
@ -196°C: No visual leakage
Return to Ambient: No visual leakage

HP Seat Test Acceptable Leakage Rate: 1500 atm cc/sec

Actual Leakage:
Ambient Seat: 3.5 barg 1.62 cc/min
in preferred flow 7.0 barg 1.82 cc/min
10.5 barg 2.82 cc/min
14.0 barg 2.82 cc/min
17.5 barg 5.65 cc/min
19.0 barg 8.26 cc/min

-196°C Seat: 1st 2nd after 20 cycles
3.5 barg 374.5 cc/min 98.9 cc/min
7.0 barg 226.1 cc/min 70.6 cc/min
10.5 barg 318.0 cc/min 84.8 cc/min
14.0 barg 473.4 cc/min 98.9 cc/min
17.5 barg 1060.0 cc/min 346.2 cc/min
19.0 barg 1060.0 cc/min 374.5 cc/min

Torque Readings @ -196°C acceptable rate: 61.72Nm

1st Cycle 20th Cycle
BTO 35Nm BTO 27Nm
ETC 40Nm ETC 55Nm

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Return to Ambient Seat:

3.5 barg	0.14 cc/min
7.0 barg	0.63 cc/min
10.5 barg	0.70 cc/min
14.0 barg	0.70 cc/min
17.5 barg	0.63 cc/min
19.0 barg	0.49 cc/min

Torque Test on Return to Ambient:

BTO 47Nm
ETO 35Nm

The Valve met all acceptance criteria of the stated specification.

Note: The above results relate only to the item(s) tested and are not necessarily indicative of a type or batch.

Test Completed By:

L.Ralphson: 
Test Technician

Date: 27.8.2009

Test Witnessed By:

R.Dutton: 
Environmental Test Manager

Date: 27/08/2009