Test Report

McWANE SERVICES PRIVATE LTD

REPORT NUMBER: 13CA53962-46-R1

PROJECT NUMBER: 13CA53962

Test Location:
Fluid Control Research Institute,
Kanjikode West-678623,
Palakad, Kerala.P: 91-491-2566120

General details

Customer	**McWANE SERVICES PRIVATE LTD**		
Manufacturer	62, Fifth Floor Time Square, ATT Colony Balasundaram Road, Coimbatore , TN 641018		
Program	Witness Testing		
Test Lab Location	FCRI	**Refer to Cover page for the Location address**	
Item Under Test	Resilient Seated Gate Valve		
Type / Model	Kennedy Valve, RSGV, DN300, PN16 / Series-31		
Number of samples	One		
Sample Identification	FCRI report No. FCRI/ET/266/2014-15		
Serial Number (If any)	A14F02-001		
Condition of IUT on receipt	Good		
Date of Receipt	NA		
Applicable Standard	Customer protocol MS-TP-002 Rev 2 referenced to BS EN 1074- Part 1 & 2		
Date of Testing (Start date)	12 June 2014	**End Date**	25 June 2014
Lab general* ambient condition	**Temperature in °C**		30°C
	Relative humidity in %		NA
Date of Reporting	10 July 2014		
Date of Re-issue	27 August 2014		
Test In-charge	Aboobacker Sidhik.A		

Praveen D Lead Scientist	Rajendra A.Prasad Engineering Manager
Reviewed by	**Authorized signatory**

Disclaimer

*The results of testing in this report apply only to the sample product/item, which was tested. UL Lab has not participated in the sample selection. This Test report shall not be reproduced except in full or partial without the written approval of the Lab. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties. *The applicable standard ambient condition supersedes the lab general ambient conditions.*

Reviewed by signature:

General Remarks

Endurance Test Witnessing of Resilient Seat Gate Valve, DN300,PN16 as per Customer protocol MS-TP-002 Rev 2 referenced to BS EN 1074- Part 1 & 2, the mode of operation was through electrical actuator.

Note: This is a revised report with the following change.

1) The model Name 'Kennedy valve' is included in Type/model, page 2, General details.

Summary of test results:

Test No.	Test Name	Test Pressure and duration	Results
1	Shell Test (Before Endurance cycle test)	25 bar @ 10min	No visually detectable leakage
2	Seat Leakage Test (Before Endurance cycle test)	18 bar @ 10min 0.5 bar @ 10min	No Leakage, valve is holding the pressure
3	Endurance cycle Test (2500 cycles)	16 bar (Rated pressure)	No Leakage, valve is holding the pressure
4	Shell Test (After Endurance cycle test)	25 bar @ 10min	No Leakage, valve is holding the pressure
5	Seat Leakage Test (After Endurance cycle test)	18 bar @ 10min 0.5 bar @ 10min	No Leakage, valve is holding the pressure

Test methodology adopted as per BS EN 1074 Part 1 & 2

Shell Test (Before Endurance cycle test)

Test samples
Resilient Seated Gate valve, DN300, PN16

Test conditions
Carefully inspect the valve for leakage under the following conditions:

1. Shell test pressure conducted at 25bar(1.5 times the rated design/working pressure) and maintained for 10min.

Reviewed by signature:

Compliance Criteria – No visually detectable leakage.

Result –No visual leakage detected.

Seat Leakage Test (Before Endurance cycle test)

Test samples
Resilient Seated Gate valve, DN300, PN16

Test conditions
Carefully inspect the valve for leakage under the following conditions:

1. High pressure seat/Closure test conducted at 18 bar (1.1 times the rated design/working pressure) and maintained for 10min.
2. Low pressure seat/Closure test conducted at 0.5 bar and maintained for 10min.

Compliance Criteria – No visually detectable leakage.

Result –No visual leakage detected.

Endurance Cycle test

Test samples
Resilient Seated Gate valve, DN300, PN16

Test conditions
Carefully inspect the valve for leakage under the following conditions:

1. The Valve fixed on a test rig, with an actuator to open and close the valve.
2. The line was filled with water, air was vented from the valve and the flow was initiated.
3. The valve was closed using the maximum allowable closing torque.
4. Pressure was allowed to build to the rated pressure of 16 bar of the valve when closed and prior to beginning of the next cycle.
5. The closed condition at a rated pressure of 16 bar was maintained for 60 sec; then the valve was opened.
6. As soon as the valve opened completely it was allowed to close again.
7. Opening and closing speeds was maintained at 55 secs.
8. The closing/ pressurizing /opening cycle was repeated for 2530 cycles while the leakage was monitored at intervals of 500 cycles.

Compliance Criteria – No visually detectable leakage.

Result –

Sl No.	Date	Cycles completed	Pressure(bar)	Result
1	13/06/2014	502	16	No visually detectable leakage.
2	14/06/2014	756	16	No visually detectable leakage.
3	16/06/2014	998	16	No visually detectable leakage.
4	17/06/2014	1206	16	No visually detectable leakage.
5	18/06/2014	1482	16	No visually detectable leakage.

Reviewed by signature:

6	19/06/2014	1503	16	No visually detectable leakage.
7	20/06/2014	1752	16	No visually detectable leakage.
8	24/06/2014	2260	16	No visually detectable leakage.
9	25/06/2014	2530	16	No visually detectable leakage.

Shell Test (After Endurance cycle test)

Test samples
Resilient Seated Gate valve, DN300, PN16

Test conditions
Carefully inspect the valve for leakage under the following conditions:

1. Shell test pressure conducted at 25bar(1.5 times the rated design/working pressure) and maintained for 10min.

Compliance Criteria – No visually detectable leakage.

Result –No visual leakage detected.

Seat Leakage Test (After Endurance cycle test)

Test samples
Resilient Seated Gate valve, DN300, PN16

Test conditions
Carefully inspect the valve for leakage under the following conditions:

1. High pressure seat/Closure test conducted at 18 bar (1.1 times the rated design/working pressure) and maintained for 10min.
2. Low pressure seat/Closure test conducted at 0.5 bar and maintained for 10min.

Compliance Criteria – No visually detectable leakage.

Result –No visual leakage detected.

Equipment and Calibration details

Inst. ID No.	Instrument Type	Make	Function / Range	Last Cal. Date	Next Cal. Date
NA	Pressure gauge	Waaree	0 - 6 bar	10-02-2014	10-02-2015
NA	Pressure gauge	Akvalo	0 – 50 bar	08-05-2014	08-05-2015

Reviewed by signature:

Test Summary:

The Resilient Seated gated Valve, DN 300 was subjected to shell pressure test and Seat Leakage test following which Endurance/cyclic test was conducted for 2530 cycles as per BS EN 1074 Part 1 & 2, there no visual detectable leakage observed during the course of the test.

Post endurance test the sample was subjected to shell pressure test and seat leakage test, there were no visual detectable leakage observed.

The dimensions of the valve components before and after the endurance cycle test were compared and found that there were no considerable variations. Hence the valve passed the endurance test successfully.

Test Images:

Fig 1: Test Setup (Endurance cycle testing)

Fig 2 High Pressure Seat Leakage Test

Fig 3 Low Pressure Seat Leakage Test

******End of Report******

Reviewed by signature: