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Lab Location : DSRI Labs Private Limited, Plot No 21, Road Number 4, IE, Nacharam, Road,
IDA Mallapur, Hyderabad - 500 076, Telangana, Website : https://dsri.co.in Email : info@dsri.co.in

TEST REPORT

01	**Test Report No:**	DSRI/ETL/1397/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	25NB PN10 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No.:**	Valve Sl. No : CI0970 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01 Unit
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Flow Coefficient Test & Pressure Drop Test
09	**Test Standard:**	ANSI/ISA-A75.01
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

A. Prasant Gopal

Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1397/24, 22nd Jul 2024
14	**Test Specification**	As per the standard
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/459/01
17	**Environmental Conditions:**	Temp: 36.8°C, Humidity: 54.8%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
	Nomenclature:	Ultrasonic Flow meter
	Make/Model:	ADEPT/UFM 6720
	Calibration Validity:	24th February 2025
	Pressure Gauges used	Pressure gauge -I : 053533692493 Pressure gauge –II : 053860344134 Pressure gauge range: 0 to 2 Bar Calibration Validity : 13th Jun 2025
21	**Test Setup:**	Flow coefficient test setup is carried out as shown in the fig
22	**Test Procedure:**	Set up the pressure gauges and flow meter in their designated locations according to the test specifications. Position the valve in the fully open state and measure both the flow rate and the pressure drop (Δp) across the valve. Record the inlet water temperature. Adjust the valve to various openings and measure the flow rate and pressure drop (Δp) for each setting. Perform each measurement at least three times to ensure accuracy and consistency.

23 Observation: No structural deformity or damage was found during and after the test.

24 Conclusion: Flow coefficient test for the unit '25NB PN10 Screw Down Non-Return Straight Valve Sl. No: CI0970 and Quantity: 01' is completed as per test specification conforming to the test method and standard of this report and unit condition is good as before the test

Test Figure:

Test Results

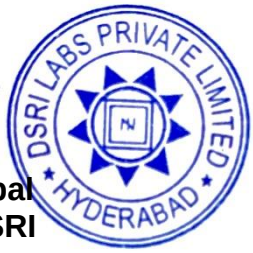
Opeing Deg	T in Degree	ρ1 (kg/m3)	(ρ1/ρ0)	ΔP (PSI)	Q (GPM)	N1	cv	mean CV
90.00	29.5	996.1	0.9961	2	54	1	38.11	21.33
90.00	29.5	996.1	0.9961	4	34	1	16.97	
90.00	29.5	996.1	0.9961	5	20	1	8.93	
80.00	29.5	996.2	0.9962	2	45	1	31.76	17.96
80.00	29.5	996.2	0.9962	4	30	1	14.97	
80.00	29.5	996.2	0.9962	5	16	1	7.14	
70.00	29.7	996.3	0.9963	2	40	1	28.23	16.15
70.00	29.7	996.3	0.9963	4	28	1	13.97	
70.00	29.7	996.3	0.9963	5	14	1	6.25	
60.00	29.7	996.1	0.9961	2	34	1	23.99	14.25
60.00	29.7	996.1	0.9961	4	23	1	13.25	
60.00	29.7	996.1	0.9961	5	11	1	5.49	
50.00	29.6	996.1	0.9961	2	28	1	19.76	11.57
50.00	29.6	996.1	0.9961	4	19	1	10.95	
50.00	29.6	996.1	0.9961	5	8	1	3.99	
40.00	29.6	996.2	0.9962	2	21	1	14.82	8.44
40.00	29.6	996.2	0.9962	4	13	1	7.49	
40.00	29.6	996.2	0.9962	5	6	1	2.99	
20.00	29.8	997.1	0.9971	2	16	1	11.30	5.99
20.00	29.8	997.1	0.9971	4	9	1	5.19	
20.00	29.8	997.1	0.9971	5	3	1	1.50	

****END OF REPORT****

TEST REPORT

01	**Test Report No:**	DSRI/ETL/1399/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	25NB PN10 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No:**	Valve Sl. No : CI0970 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Shock test
09	**Test Standard:**	NSS II
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By



A. Prasant Gopal
Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1399/24, 22nd July 2024
14	**Test Specification**	Acceleration : 276g Pule Duration : 3.4msec, One shock per direction.
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/459/01
17	**Environmental Conditions:**	Temp: 34.8°C, Humidity: 50.5%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Shock Test Machine
	Make/Model:	NMSRI/TSTS-1010S
	Calibration Validity:	10th September 2024
22	**Test Setup:**	The 25NB PN10 Screw Down Non-Return Straight Valve, Sl. No: CI0970, manufactured by M/s Rappid Valves (India) Pvt. Ltd., been fixed to shock machine along with dedicated fixture in “As Fitted Condition”.
23	**Test Procedure:** .	Unit Under Test and accelerometer was mounted on the fixture as shown in figure and test was carried out as per the test method and standard for the required test specification.
24	**Observation:**	No structural deformity or damage was found during and after the test.
25	**Conclusion:**	The condition of UUT was found to be satisfactory upon visual inspection.

Test Figure:

Figure-1: 25NB PN10 Screw Down Non-Return Straight Valve

Test Graphs:

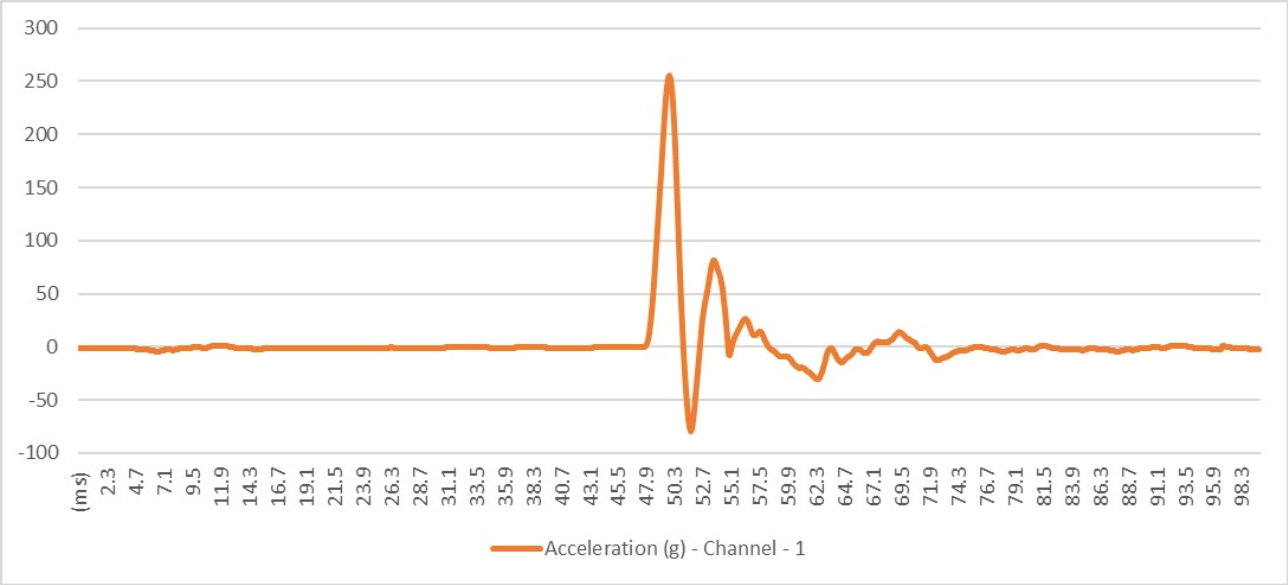


Fig-2: 276g for 3.4msec

****END OF REPORT****

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JOINT INSPECTION REPORT FOR TORQUE TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Screw Down Non-Return Straight Valve/25NB/Torque Test-4

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	25NB/PN10 Screw Down Non-Return Straight Valve Flanged Ends
04	**S. No & Heat No.:**	CIO970; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/SDNR/FLG/001
07	**Torque Wrench**	
	Make/Model no.: **Range:** **Calib due date:**	Griphold_GTW_50 14-68 Nm; 06-10-2023 05-10-2024
08	**Pressure Gauge used:**	Pressure gauge (0-21bars)
09	**Serial Number/ Id No.:**	0-21bars_ Serial no: ECPL/M/P/11 ID. No: NMSRI/WI-PG-070
10	**Due Of Calibration:**	Serial no: ECPL/M/P/11_09-09-2023 ID. No: NMSRI/WI-PG-021_08-09-2024
11	**Closing Torque:**	24 N-m
12	**Opening Torque:**	26 N-m
13	**Delay Torque Time:**	2sec
14	**Observation:**	During the hydrostatic torque test at 10 bar pressure, the opening torque was measured at 24 Nm, the closing torque at 26 Nm, and the delay torque time is 2sec. These values indicate the valve's performance under pressure, ensuring its reliability and functionality in the system.

Test Engineer

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

DSRI LABS PRIVATE LIMITED HYDERABAD

Test Figure:

Figure 1: 25NB PN10 TORQUE TEST SETUP

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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1403/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	40NB PN10 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No.:**	Valve Sl. No : CI0971 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01 Unit
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Flow Coefficient Test & Pressure Drop Test
09	**Test Standard:**	ANSI/ISA-A75.01
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal

Managing Director, DSRI

13	**Test Request Control No& Date:**	1403/24, 22nd Jul 2024
14	**Test Specification**	As per the standard
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/461/01
17	**Environmental Conditions:**	Temp: 36.8°C, Humidity: 54.8%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
	Equipment Used for test	
20	**Nomenclature:**	Ultrasonic Flow meter
	Make/Model:	ADEPT/UFM 6720
	Calibration Validity:	24th February 2025
	Pressure Gauges used	Pressure gauge -I : 053533692493 Pressure gauge –II : 053860344134 Pressure gauge range: 0 to 2 Bar Calibration Validity : 13th Jun 2025
21	**Test Setup:**	Flow coefficient test setup is carried out as shown in the fig
22	**Test Procedure:**	Set up the pressure gauges and flow meter in their designated locations according to the test specifications. Position the valve in the fully open state and measure both the flow rate and the pressure drop (Δp) across the valve. Record the inlet water temperature. Adjust the valve to various openings and measure the flow rate and pressure drop (Δp) for each setting. Perform each measurement at least three times to ensure accuracy and consistency.

23 Observation: No structural deformity or damage was found during and after the test.

24 Conclusion: Flow coefficient test for the unit '40NB PN10 Screw Down Non-Return Straight Valve Sl. No: CI0971 and Quantity: 01' is completed as per test specification conforming to the test method and standard of this report and unit condition is good as before the test

Test Figure:

Test Results

Opeing Deg	T in Degree	ρ1 (kg/m3)	(ρ1/ρ0)	ΔP (PSI)	Q (GPM)	N1	cv	mean CV
90.00	29.5	996.1	0.9961	1	92	1	91.82	58.00
90.00	29.5	996.1	0.9961	2	74	1	52.22	
90.00	29.5	996.1	0.9961	3	52	1	29.96	
80.00	29.5	996.2	0.9962	1	84	1	83.84	52.93
80.00	29.5	996.2	0.9962	2	67	1	47.29	
80.00	29.5	996.2	0.9962	3	48	1	27.66	
70.00	29.7	996.3	0.9963	1	76	1	75.86	46.42
70.00	29.7	996.3	0.9963	2	58	1	40.94	
70.00	29.7	996.3	0.9963	3	39	1	22.47	
60.00	29.7	996.4	0.9964	1	69	1	68.87	39.35
60.00	29.7	996.4	0.9964	2	46	1	32.46	
60.00	29.7	996.4	0.9964	3	29	1	16.71	
50.00	29.6	996.1	0.9961	1	59	1	58.88	32.60
50.00	29.6	996.1	0.9961	2	38	1	26.82	
50.00	29.6	996.1	0.9961	3	21	1	12.10	
40.00	29.6	996.2	0.9962	1	48	1	47.91	26.48
40.00	29.6	996.2	0.9962	2	30	1	21.17	
40.00	29.6	996.2	0.9962	3	18	1	10.37	
30.00	29.8	997.1	0.9971	1	37	1	36.95	19.61
30.00	29.8	997.1	0.9971	2	22	1	15.53	
30.00	29.8	997.1	0.9971	3	11	1	6.34	
20.00	29.8	997.2	0.9972	1	23	1	22.97	11.44
20.00	29.8	997.2	0.9972	2	12	1	8.47	
20.00	29.8	997.2	0.9972	3	5	1	2.88	

****END OF REPORT****

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JOINT INSPECTION REPORT FOR PIPE WRACKING TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Screw Down Non-Return Straight Valve/40NB/Pipe Wracking-1

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	40NB/PN10 Screw Down Non-Return Straight Valve Flanged Ends
04	**S. No & Heat No.:**	CIO970; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/SDNR/FLG/001
07	**Pressure Gauge used:**	Pressure gauge (70bar & 1000bar)
08	**Serial Number/ Id No.:**	1000bar_ Serial no: H230757 70 Bar_ ID. No: NMSRI/WI-PG-070
09	**Due Of Calibration:**	Serial no: H230757_02-10-2023 ID. No: NMSRI/WI-PG-070_02-09-2024
10	**Bending stress applied:**	5.3bar
11	**Working pressure:**	10bar
12	**Test for time duration:**	120sec
13	**Observation:**	Post application of bending stress 5.3bar above Valve. There are no cracks /surface defects deformations found by visual inspection.

Test Engineer

DSRI LABS PRIVATE LIMITED HYDERABAD

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

Test Figures:

Figure 1: 40NB PN10 PIPE WRACKING SETUP

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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1405/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	40NB PN10 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No:**	Valve Sl. No : CI0971 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Shock test
09	**Test Standard:**	NSS II
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

A. Prasant Gopal
Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1405/24, 22nd July 2024
14	**Test Specification**	Acceleration : 274g Pule Duration : 3.5msec, One shock per direction.
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/461/01
17	**Environmental Conditions:**	Temp: 34.8°C, Humidity: 50.5%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Shock Test Machine
	Make/Model:	NMSRI/TSTS-1010S
	Calibration Validity:	10th September 2024
22	**Test Setup:**	The 40NB PN10 Screw Down Non-Return Straight Valve, Sl. No: CI0971, manufactured by M/s Rappid Valves (India) Pvt. Ltd., been fixed to shock machine along with dedicated fixture in “As Fitted Condition”.
23	**Test Procedure:** .	Unit Under Test and accelerometer was mounted on the fixture as shown in figure and test was carried out as per the test method and standard for the required test specification.
24	**Observation:**	No structural deformity or damage was found during and after the test.
25	**Conclusion:**	The condition of UUT was found to be satisfactory upon visual inspection.

Test Figure:

Figure-1: 40NB PN10 Screw Down Non-Return Straight Valve

Test Graphs:

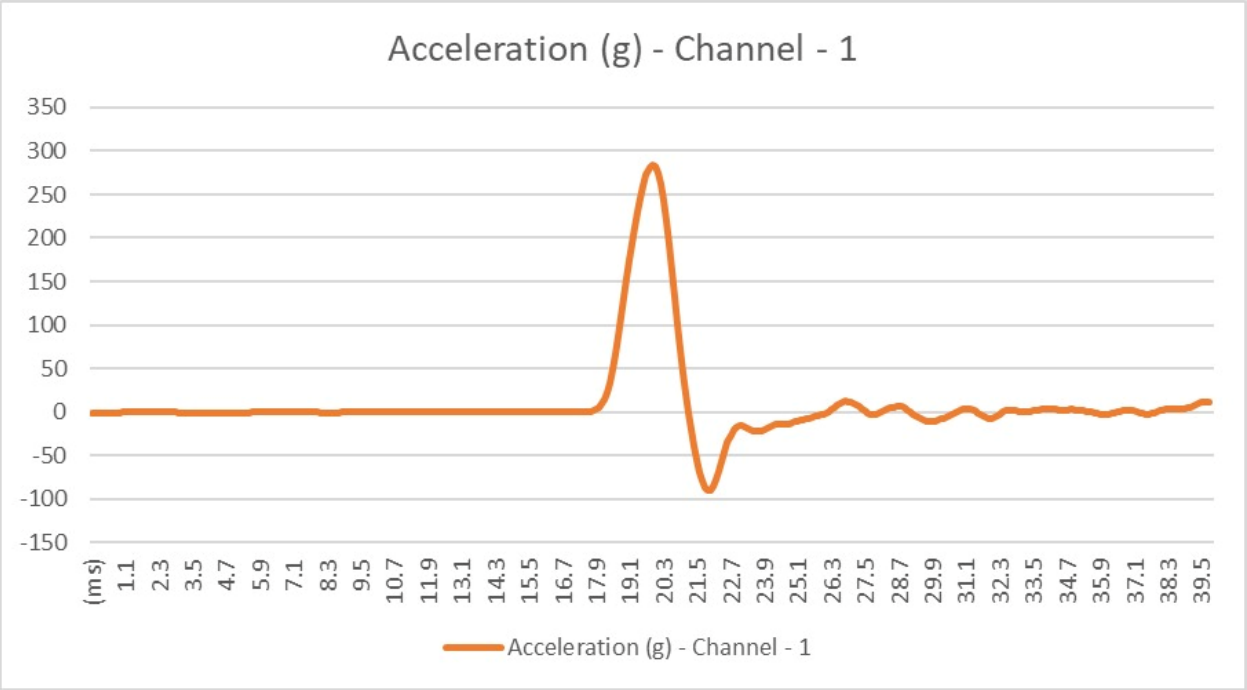

Fig-2: 274g for 3.5msec

****END OF REPORT****

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JOINT INSPECTION REPORT FOR TORQUE TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Screw Down Non-Return Straight Valve/40NB/Torque Test-3

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	40NB/PN10 Screw Down Non-Return Straight Valve Flanged Ends
04	**S. No & Heat No.:**	CIO971; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/SDNR/FLG/001
07	**Torque Wrench**	
	Make/Model no.: **Range:** **Calib due date:**	Griphold_GTW_50 14-68 Nm; 06-10-2023 05-10-2024
08	**Pressure Gauge used:**	Pressure gauge (0-21bars)
09	**Serial Number/ Id No.:**	0-21bars_ Serial no: ECPL/M/P/11 ID. No: NMSRI/WI-PG-070
10	**Due Of Calibration:**	Serial no: ECPL/M/P/11_09-09-2023 ID. No: NMSRI/WI-PG-021_08-09-2024
11	**Closing Torque:**	30 N-m
12	**Opening Torque:**	32 N-m
13	**Delay Torque Time:**	2sec
14	**Observation:**	During the hydrostatic torque test at 10 bar pressure, the opening torque was measured at 32 Nm, the closing torque at 30 Nm, and the delay torque time is 2sec. These values indicate the valve's performance under pressure, ensuring its reliability and functionality in the system.

Test Engineer

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

DSRI LABS PRIVATE LIMITED HYDERABAD

Test Figure:

Figure 1: 40NB PN10 TORQUE TEST SETUP

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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1349/24
02	**Date of Receipt:**	18th July 2024
03	**Nomenclature of item tested:**	50NB PN10 GLOBE VALVE FANGED END (NAB)
04	**Serial No.:**	Valve Sl. No : CO2924 Drawing No. : RV/GBV/FLG/002 Body Heat No : 2524
05	**Quantity:**	01 Unit
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Flow Coefficient Test & Pressure Drop Test
09	**Test Standard:**	ANSI/ISA-A75.01
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	18th July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal

Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1349/24, 18th Jul 2024
14	**Test Specification**	As per the standard
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/447/01
17	**Environmental Conditions:**	Temp: 36.8°C, Humidity: 54.8%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
	Nomenclature:	Ultrasonic Flow meter
	Make/Model:	ADEPT/UFM 6720
	Calibration Validity:	24th February 2025
	Pressure Gauges used	Pressure gauge -I : 053533692493 Pressure gauge –II : 053860344134 Pressure gauge range: 0 to 2 Bar Calibration Validity : 13th Jun 2025
21	**Test Setup:**	Flow coefficient test setup is carried out as shown in the fig
22	**Test Procedure:**	Set up the pressure gauges and flow meter in their designated locations according to the test specifications. Position the valve in the fully open state and measure both the flow rate and the pressure drop (Δp) across the valve. Record the inlet water temperature. Adjust the valve to various openings and measure the flow rate and pressure drop (Δp) for each setting. Perform each measurement at least three times to ensure accuracy and consistency.

23 Observation: No structural deformity or damage was found during and after the test.

24 Conclusion: Flow coefficient test for the unit '50NB PN10 Globe Valve Fanged End Sl. No: CO2924 and Quantity: 01' is completed as per test specification conforming to the test method and standard of this report and unit condition is good as before the test

Test Figure:

Test Results

Opening Deg	T in Degree	ρ1 (kg/m3)	(ρ1/ρ0)	ΔP (PSI)	Q (GPM)	N1	cv	mean CV
90.00	29.3	996.1	0.9961	2	118	1	83.28	
90.00	29.3	996.1	0.9961	4	81	1	40.42	50.16
90.00	29.3	996.1	0.9961	5	60	1	26.78	
80.00	29.3	996.1	0.9961	2	114	1	80.46	
80.00	29.3	996.1	0.9961	4	78	1	38.93	48.42
80.00	29.3	996.1	0.9961	5	58	1	25.89	
70.00	29.4	996.3	0.9963	2	104	1	73.40	
70.00	29.4	996.3	0.9963	4	74	1	36.93	43.03
70.00	29.4	996.3	0.9963	5	42	1	18.75	
60.00	29.4	996.2	0.9962	2	96	1	67.75	
60.00	29.4	996.2	0.9962	4	69	1	34.43	38.82
60.00	29.4	996.2	0.9962	5	32	1	14.28	
50.00	29.6	996.2	0.9962	2	84	1	59.28	
50.00	29.6	996.2	0.9962	4	51	1	25.45	31.81
50.00	29.6	996.2	0.9962	5	24	1	10.71	
40.00	29.6	996.2	0.9962	2	71	1	50.11	
40.00	29.6	996.2	0.9962	4	42	1	20.96	25.77
40.00	29.6	996.2	0.9962	5	14	1	6.25	
20.00	29.9	997.4	0.9974	2	61	1	43.07	
20.00	29.9	997.4	0.9974	4	35	1	17.47	21.52
20.00	29.9	997.4	0.9974	5	9	1	4.02	

****END OF REPORT****

DEFENSE SYSTEMS RESEARCH INSTITUTE
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Lab Location : DSRI Labs Private Limited, Plot No 21, Road Number 4, IE, Nacharam, Road,
IDA Mallapur, Hyderabad - 500 076, Telangana, Website : https://dsri.co.in Email : info@dsri.co.in

TEST REPORT

01	**Test Report No:**	DSRI/ETL/1352/24
02	**Date of Receipt:**	18th Jul 2024
03	**Nomenclature of item tested:**	50NB PN10 GLOBE VALVE FANGED END(NAB)
04	**Serial No:**	Valve Sl. No : CO2924 Drawing No. : RV/GBV/FLG/002 Body Heat No : 2524
05	**Quantity:**	01
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra 401404.
08	**Test Name:**	Shock test
09	**Test Standard:**	NSS II
10	**Test starting date:**	18th JUL 2024
11	**Test completion date:**	18th JUL 2024
12	**Date of Issue:**	18th JUL 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal
Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1352/24, 18th JUL 2024
14	**Test Specification**	Acceleration : 280g Pule Duration : 3.9msec, One shock per direction.
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/447/01
17	**Environmental Conditions:**	Temp: 34.8°C, Humidity: 50.5%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Shock Test Machine
	Make/Model:	NMSRI/TSTS-1010S
	Calibration Validity:	10th September 2024
22	**Test Setup:**	The 50NB PN10 Globe Valve Fanged End, Sl. No: CO2924, manufactured by M/s Rappid Valves (India) Pvt. Ltd., been fixed to shock machine along with dedicated fixture in “As Fitted Condition”.
23	**Test Procedure:** .	Unit Under Test and accelerometer was mounted on the fixture as shown in figure and test was carried out as per the test method and standard for the required test specification.
24	**Observation:**	No structural deformity or damage was found during and after the test.
25	**Conclusion:**	The condition of UUT was found to be satisfactory upon visual inspection.

TEST FIGURE:

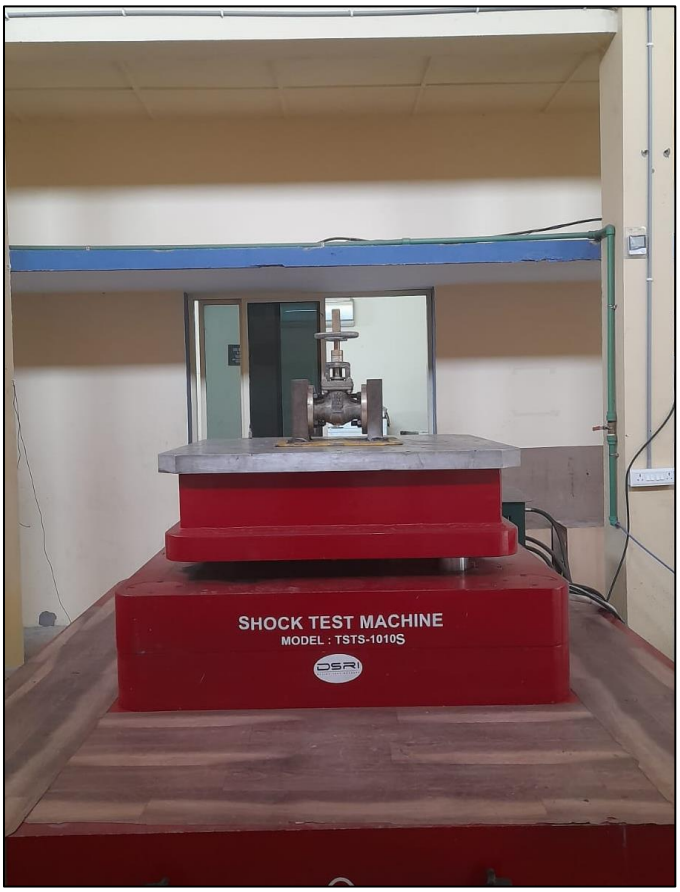

Figure-1: 50NB PN10 GLOBE VALVE FANGED END

Test Graphs:

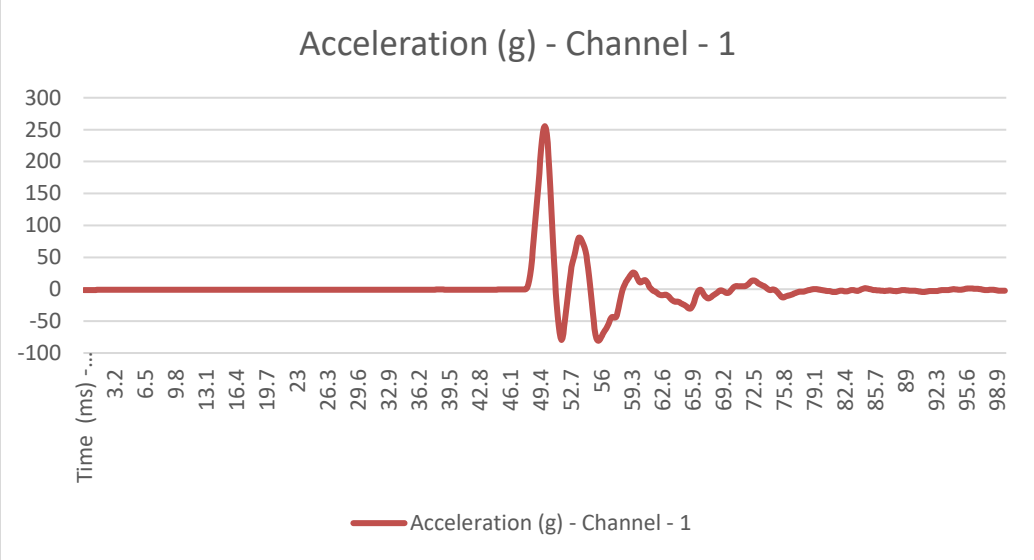

Fig-2: 276g for 3.4msec

****END OF REPORT****

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Lab Location : DSRI Labs Private Limited, Plot No 21, Road Number 4, IE, Nacharam, Road,
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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1400/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	50NB PN16 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No.:**	Valve Sl. No : CI0969 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01 Unit
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Flow Coefficient Test & Pressure Drop Test
09	**Test Standard:**	ANSI/ISA-A75.01
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal

Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1400/24, 22nd Jul 2024
14	**Test Specification**	As per the standard
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/460/01
17	**Environmental Conditions:**	Temp: 36.8°C, Humidity: 54.8%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
	Nomenclature:	Ultrasonic Flow meter
	Make/Model:	ADEPT/UFM 6720
	Calibration Validity:	24th February 2025
	Pressure Gauges used	Pressure gauge -I : 053533692493 Pressure gauge –II : 053860344134 Pressure gauge range: 0 to 2 Bar Calibration Validity : 13th Jun 2025
21	**Test Setup:**	Flow coefficient test setup is carried out as shown in the fig
22	**Test Procedure:**	Set up the pressure gauges and flow meter in their designated locations according to the test specifications. Position the valve in the fully open state and measure both the flow rate and the pressure drop (∆p) across the valve. Record the inlet water temperature. Adjust the valve to various openings and measure the flow rate and pressure drop (∆p) for each setting. Perform each measurement at least three times to ensure accuracy and consistency.

23 Observation: No structural deformity or damage was found during and after the test.

24 Conclusion: Flow coefficient test for the unit '50NB PN16 Screw Down Non-Return Straight Valve Sl. No: CI0969 and Quantity: 01' is completed as per test specification conforming to the test method and standard of this report and unit condition is good as before the test

Test Figure:

Test Results

Opeing Deg	T in Degree	ρ1 (kg/m3)	(ρ1/ρ0)	ΔP (PSI)	Q (GPM)	N1	cv	mean CV
90.00	29.5	996.1	0.9961	1	175	1	66.01	48.24
90.00	29.5	996.1	0.9961	2	142	1	50.11	
90.00	29.5	996.1	0.9961	3	86	1	28.61	
80.00	29.5	996.2	0.9962	1	154	1	58.10	42.88
80.00	29.5	996.2	0.9962	2	132	1	46.58	
80.00	29.5	996.2	0.9962	3	72	1	23.95	
70.00	29.7	996.3	0.9963	1	136	1	51.31	38.81
70.00	29.7	996.3	0.9963	2	127	1	44.82	
70.00	29.7	996.3	0.9963	3	61	1	20.30	
60.00	29.7	996.4	0.9964	1	125	1	47.16	32.68
60.00	29.7	996.4	0.9964	2	98	1	34.59	
60.00	29.7	996.4	0.9964	3	49	1	16.30	
50.00	29.6	996.5	0.9965	1	112	1	42.25	27.97
50.00	29.6	996.5	0.9965	2	86	1	30.35	
50.00	29.6	996.5	0.9965	3	34	1	11.31	
40.00	29.6	997.1	0.9971	1	96	1	36.22	17.69
40.00	29.6	997.1	0.9971	2	28	1	9.88	
40.00	29.6	997.1	0.9971	3	21	1	6.99	
30.00	29.8	997.2	0.9972	1	78	1	29.44	14.19
30.00	29.8	997.2	0.9972	2	24	1	8.47	
30.00	29.8	997.2	0.9972	3	14	1	4.66	
20.00	29.8	997.3	0.9973	1	66	1	24.91	11.99
20.00	29.8	997.3	0.9973	2	20	1	7.06	
20.00	29.8	997.3	0.9973	3	12	1	3.99	

****END OF REPORT****

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JOINT INSPECTION REPORT FOR PIPE WRACKING TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Screw Down Non-Return Straight Valve/50NB/Pipe Wracking-2

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	50NB/PN16 Screw Down Non-Return Straight Valve Flanged Ends
04	**S. No & Heat No.:**	CIO969; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/SDNR/FLG/001
07	**Pressure Gauge used:**	Pressure gauge (70bar & 1000bar)
08	**Serial Number/ Id No.:**	1000bar_ Serial no: H230757 70 Bar_ ID. No: NMSRI/WI-PG-070
09	**Due Of Calibration:**	Serial no: H230757_02-10-2023 ID. No: NMSRI/WI-PG-070_02-09-2024
10	**Bending stress applied:**	5.5bar
11	**Working pressure:**	10bar
12	**Test for time duration:**	120sec
13	**Observation:**	Post application of bending stress 5.5bar above Valve. There are no cracks /surface defects deformations found by visual inspection.

Test Engineer

DSRI LABS PRIVATE LIMITED HYDERABAD

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

Test Figures:

Figure 1: 50NB PN16 PIPE WRACKING SETUP

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JOINT INSPECTION REPORT FOR PIPE WRACKING TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Globe Valve Flanged Ends/50NB/Pipe Wracking-4

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	50NB/PN10 Globe Valve Flanged Ends
04	**S. No & Heat No.:**	CO2924; 2524
05	**Material:**	NAB
06	**Drawing No.:**	RV/GBV/FLG/002
07	**Pressure Gauge used:**	Pressure gauge (70bar & 1000bar)
08	**Serial Number/ Id No.:**	1000bar_ Serial no: H230757 70 Bar_ ID. No: NMSRI/WI-PG-070
09	**Due Of Calibration:**	Serial no: H230757_02-10-2023 ID. No: NMSRI/WI-PG-070_02-09-2024
10	**Bending stress applied:**	5.8bar
11	**Working pressure:**	10bar
12	**Test for time duration:**	120sec
13	**Observation:**	Post application of bending stress 5.8bar above Valve. There are no cracks /surface defects deformations found by visual inspection.

Test Engineer

DSRI LABS PRIVATE LIMITED HYDERABAD

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

Test Figures:

Figure 1: 50NB PN10 PIPE WRACKING SETUP

DEFENSE SYSTEMS RESEARCH INSTITUTE
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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1402/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	50NB PN16 Screw Down Non-Return Straight Valve (WCB)
04	**Serial No:**	Valve Sl. No : CI0969 Drawing No. : RV/SDNR/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Shock test
09	**Test Standard:**	NSS II
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal
Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1402/24, 22nd July 2024
14	**Test Specification**	Acceleration : 279g Pule Duration : 3.5msec, One shock per direction.
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/460/01
17	**Environmental Conditions:**	Temp: 34.8°C, Humidity: 50.5%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Shock Test Machine
	Make/Model:	NMSRI/TSTS-1010S
	Calibration Validity:	10th September 2024
22	**Test Setup:**	The 50NB PN16 Screw Down Non-Return Straight Valve, Sl. No: CI0969, manufactured by M/s Rappid Valves (India) Pvt. Ltd., been fixed to shock machine along with dedicated fixture in “As Fitted Condition”.
23	**Test Procedure:** .	Unit Under Test and accelerometer was mounted on the fixture as shown in figure and test was carried out as per the test method and standard for the required test specification.
24	**Observation:**	No structural deformity or damage was found during and after the test.
25	**Conclusion:**	The condition of UUT was found to be satisfactory upon visual inspection.

Test Figure:

Figure-1: 50NB PN16 Screw Down Non-Return Straight Valve

Test Graphs:

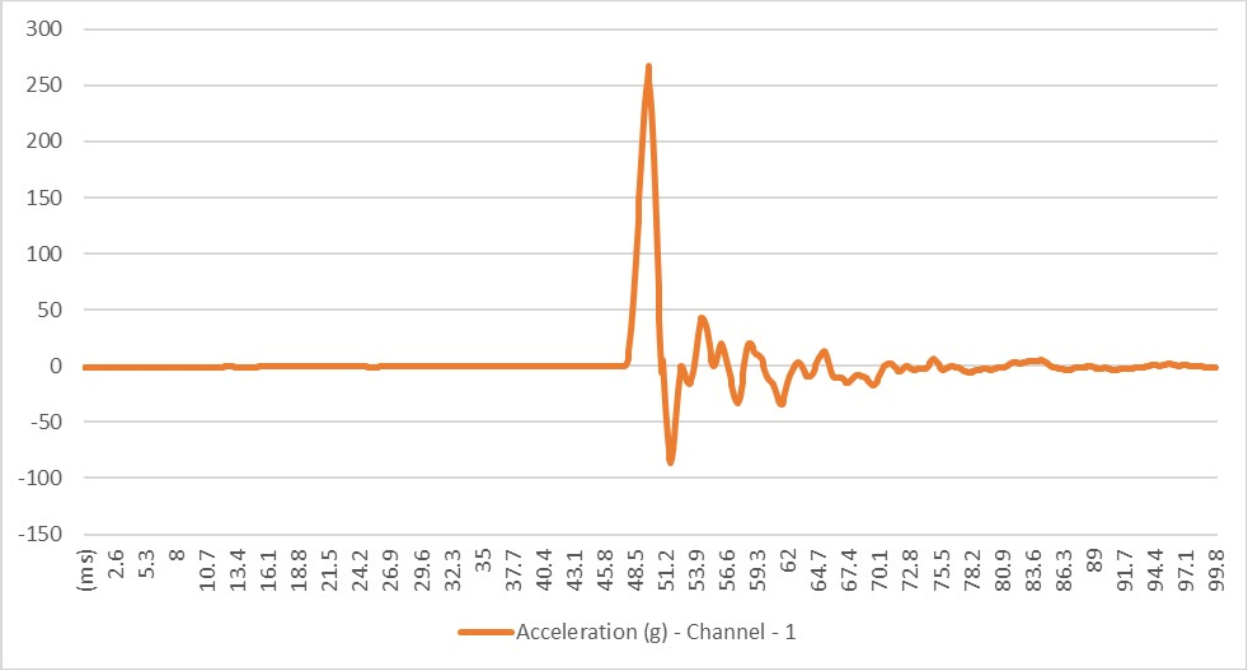

Fig-2: 279g for 3.5msec

****END OF REPORT****

DEFENSE SYSTEMS RESEARCH INSTITUTE
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Lab Location : DSRI Labs Private Limited, Plot No 21, Road Number 4, IE, Nacharam, Road,
IDA Mallapur, Hyderabad - 500 076, Telangana, Website : https://dsri.co.in Email : info@dsri.co.in

JOINT INSPECTION REPORT FOR TORQUE TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Screw Down Non-Return Straight Valve/50NB/Torque Test-3

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	50NB/PN16 Screw Down Non-Return Straight Valve Flanged Ends
04	**S. No & Heat No.:**	CIO970; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/SDNR/FLG/001
07	**Torque Wrench**	
	Make/Model no.: **Range:** **Calib due date:**	Griphold_GTW_50 14-68 Nm; 06-10-2023 05-10-2024
08	**Pressure Gauge used:**	Pressure gauge (0-21bars)
09	**Serial Number/ Id No.:**	0-21bars_ Serial no: ECPL/M/P/11 ID. No: NMSRI/WI-PG-070
10	**Due Of Calibration:**	Serial no: ECPL/M/P/11_09-09-2023 ID. No: NMSRI/WI-PG-021_08-09-2024
11	**Closing Torque:**	42 N-m
12	**Opening Torque:**	48 N-m
13	**Delay Torque Time:**	2sec
14	**Observation:**	During the hydrostatic torque test at 10 bar pressure, the opening torque was measured at 48 Nm, the closing torque at 42 Nm, and the delay torque time is 2sec. These values indicate the valve's performance under pressure, ensuring its reliability and functionality in the system.

Test Engineer

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LA

DSRI LABS PRIVATE LIMITED HYDERABAD

Test Figure:

Figure 1: 50NB PN16 TORQUE TEST SETUP

DEFENSE SYSTEMS RESEARCH INSTITUTE
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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1394/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	65NB PN10 GLOBE VALVE FANGED END (WCB)
04	**Serial No.:**	Valve Sl. No : CI0968 Drawing No. : RV/GBV/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01 Unit
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Flow Coefficient Test & Pressure Drop Test
09	**Test Standard:**	ANSI/ISA-A75.01
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal

Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1394/24, 22nd Jul 2024
14	**Test Specification**	As per the standard
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/458/01
17	**Environmental Conditions:**	Temp: 36.8°C, Humidity: 54.8%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Ultrasonic Flow meter
	Make/Model:	ADEPT/UFM 6720
	Calibration Validity:	24th February 2025
	Pressure Gauges used	Pressure gauge -I : 053533692493 Pressure gauge –II : 053860344134 Pressure gauge range: 0 to 2 Bar Calibration Validity : 13th Jun 2025
22	**Test Setup:**	Flow coefficient test setup is carried out as shown in the fig
23	**Test Procedure:**	Set up the pressure gauges and flow meter in their designated locations according to the test specifications. Position the valve in the fully open state and measure both the flow rate and the pressure drop (Δp) across the valve. Record the inlet water temperature. Adjust the valve to various openings and measure the flow rate and pressure drop (Δp) for each setting. Perform each measurement at least three times to ensure accuracy and consistency.

24 Observation: No structural deformity or damage was found during and after the test.

25 Conclusion: Flow coefficient test for the unit '65NB PN10 Globe Valve Fanged End Sl. No: CI0968 and Quantity: 01' is completed as per test specification conforming to the test method and standard of this report and unit condition is good as before the test

Test Figure:

Test Results

Opeing Deg	T in Degree	ρ1 (kg/m3)	(ρ1/ρ0)	ΔP (PSI)	Q (GPM)	N1	cv	mean CV
90.00	29.2	996.2	0.9962	7	147	1	55.45	43.79
90.00	29.2	996.2	0.9962	8	135	1	47.64	
90.00	29.2	996.2	0.9962	9	85	1	28.28	
80.00	29.2	996.3	0.9963	7	132	1	49.80	38.26
80.00	29.2	996.3	0.9963	8	120	1	42.35	
80.00	29.2	996.3	0.9963	9	68	1	22.62	
70.00	29.3	996.4	0.9964	7	126	1	47.54	34.30
70.00	29.3	996.4	0.9964	8	106	1	37.41	
70.00	29.3	996.4	0.9964	9	54	1	17.97	
60.00	29.3	996.2	0.9962	7	118	1	44.52	30.56
60.00	29.3	996.2	0.9962	8	94	1	33.17	
60.00	29.3	996.2	0.9962	9	42	1	13.97	
50.00	29.5	996.3	0.9963	7	102	1	38.48	25.80
50.00	29.5	996.3	0.9963	8	82	1	28.93	
50.00	29.5	996.3	0.9963	9	30	1	9.98	
40.00	29.5	996.4	0.9964	7	92	1	34.71	16.96
40.00	29.5	996.4	0.9964	8	26	1	9.17	
40.00	29.5	996.4	0.9964	9	21	1	6.99	
30.00	29.8	997.1	0.9971	7	74	1	27.93	13.79
30.00	29.8	997.1	0.9971	8	23	1	8.12	
30.00	29.8	997.1	0.9971	9	16	1	5.33	
20.00	29.8	997.2	0.9972	7	68	1	25.67	12.12
20.00	29.8	997.2	0.9972	8	19	1	6.71	
20.00	29.8	997.2	0.9972	9	12	1	3.99	

****END OF REPORT****

DEFENSE SYSTEMS RESEARCH INSTITUTE
Accredited by ISO / IEC 17025 : 2017 (NABL)
Lab Location : DSRI Labs Private Limited, Plot No 21, Road Number 4, IE, Nacharam, Road,
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JOINT INSPECTION REPORT FOR PIPE WRACKING TEST

Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Globe Valve Flanged Ends/65NB/Pipe Wracking-3

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	65NB/PN10 Globe Valve Flanged Ends
04	**S. No & Heat No.:**	CIO968; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/GBV/FLG/001
07	**Pressure Gauge used:**	Pressure gauge (70bar & 1000bar)
08	**Serial Number/ Id No.:**	1000bar_ Serial no: H230757 70 Bar_ ID. No: NMSRI/WI-PG-070
09	**Due Of Calibration:**	Serial no: H230757_02-10-2023 ID. No: NMSRI/WI-PG-070_02-09-2024
10	**Bending stress applied:**	5.6bar
11	**Working pressure:**	10bar
12	**Test for time duration:**	120sec
13	**Observation:**	Post application of bending stress 5.6bar above Valve. There are no cracks /surface defects deformations found by visual inspection.

Test Engineer

B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

Test Figures:

Figure 1: 65NB PN10 PIPE WRACKING SETUP

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TEST REPORT

01	**Test Report No:**	DSRI/ETL/1396/24
02	**Date of Receipt:**	22nd July 2024
03	**Nomenclature of item tested:**	65NB PN10 GLOBE VALVE FANGED END (WCB)
04	**Serial No:**	Valve Sl. No : CI0968 Drawing No. : RV/GBV/FLG/001 Body Heat No : 92-06
05	**Quantity:**	01
06	**Testing requested by:**	M/s. Rappid Valves, Genesis Industrial Complex, Plot 30 & 31 Village Kolgaon, Palghar east, District-palghar, Maharashtra 401404, India.
07	**Manufactured by:**	M/s. Rappid Valves (India) Pvt. Ltd. District-Palghar, Maharashtra.
08	**Test Name:**	Shock test
09	**Test Standard:**	NSS II
10	**Test starting date:**	18th July 2024
11	**Test completion date:**	18th July 2024
12	**Date of Issue:**	22nd July 2024

Authorized By

DSRI LABS PRIVATE LIMITED HYDERABAD

A. Prasant Gopal
Managing Director, DSRI

TEST REPORT

13	**Test Request Control No& Date:**	1396/24, 22nd July 2024
14	**Test Specification**	Acceleration : 272g Pule Duration : 3.7msec, One shock per direction.
15	**UUT Condition:**	Good
16	**Unique ID No. of Test Item:**	DSRI/ETL/24/458/01
17	**Environmental Conditions:**	Temp: 34.8°C, Humidity: 50.5%RH
18	**Test carried out at:**	ET LAB
19	**Deviation if any:**	No Deviation
20	**Equipment Used for test**	
21	**Nomenclature:**	Shock Test Machine
	Make/Model:	NMSRI/TSTS-1010S
	Calibration Validity:	10th September 2024
22	**Test Setup:**	The 65NB PN10 Globe Valve Fanged End, Sl. No: CI0968, manufactured by M/s Rappid Valves (India) Pvt. Ltd., been fixed to shock machine along with dedicated fixture in “As Fitted Condition”.
23	**Test Procedure:** .	Unit Under Test and accelerometer was mounted on the fixture as shown in figure and test was carried out as per the test method and standard for the required test specification.
24	**Observation:**	No structural deformity or damage was found during and after the test.
25	**Conclusion:**	The condition of UUT was found to be satisfactory upon visual inspection.

TEST FIGURE:

Figure-1: 65NB PN10 GLOBE VALVE FANGED END

Test Graphs:

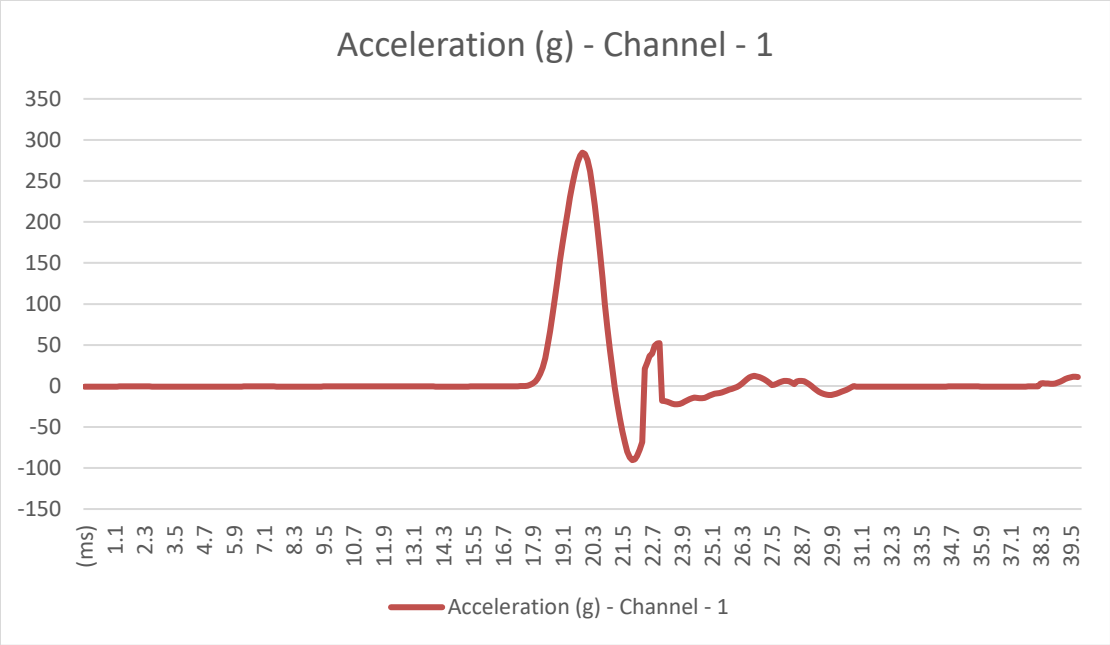

Fig-2: 272g for 3.7msec

****END OF REPORT****

DEFENSE SYSTEMS RESEARCH INSTITUTE
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JOINT INSPECTION REPORT FOR TORQUE TEST

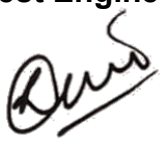
Test conducted date: 19-07-2024

Report issued date: 19-07-2024

Report NO.: DSRI/Rappid/Globe Valve Flanged End/65NB/Torque Test-1

Sl No.	Contents	Description
01	**Client:**	M/s. Rappid Valves (India) Private Limited
02	**P.O No:**	
03	**Test Item:**	65NB/PN10 Globe Valve Flanged End
04	**S. No & Heat No.:**	CIO968; 92-06
05	**Material:**	WCB
06	**Drawing No.:**	RV/GBV/FLG/001
07	**Torque Wrench**	
	Make/Model no.: **Range:** **Calib due date:**	Griphold_GTW_50 14-68 Nm; 06-10-2023 05-10-2024
08	**Pressure Gauge used:**	Pressure gauge (0-21bars)
09	**Serial Number/ Id No.:**	0-21bars_ Serial no: ECPL/M/P/11 ID. No: NMSRI/WI-PG-070
10	**Due Of Calibration:**	Serial no: ECPL/M/P/11_09-09-2023 ID. No: NMSRI/WI-PG-021_08-09-2024
11	**Closing Torque:**	46 N-m
12	**Opening Torque:**	50 N-m
13	**Delay Torque Time:**	4sec
14	**Observation:**	During the hydrostatic torque test at 10 bar pressure, the opening torque was measured at 50 Nm, the closing torque at 46 Nm, and the delay torque time is 4sec. These values indicate the valve's performance under pressure, ensuring its reliability and functionality in the system.

Test Engineer



B. Ravi Kumar
DSRI Labs Pvt. Ltd., (LAB)

Test Figure:

Figure 1: 65NB PN10 TORQUE TEST SETUP