Test Report

No. TSNEC2602677220 Date: 20 March 2026 Page 1 of 7

Client Name : HEBEI ECI VALVE CO., LTD

Client Address : Factory Building 1, No. 1 Xinghe Road, Development Zone, Cangzhou City, Hebei Province

Sample Name : STAINLESS STEEL 1 PC FLANGE BALL VALVE SS116

The above sample(s) and information were provided by the client.

SGS Job No. :	TP26-008532 - TJ
Date of Sample Received :	17 March 2026
Testing Period :	17 March 2026 - 20 March 2026
Test Requested :	Selected test(s) as requested by the client.
Test Method(s) :	Please refer to next page(s).
Test Result(s) :	Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
We hereby certify that the fire test on below plates have been conducted at the laboratory designated manufacturer and witnessed by SGS inspector according to requirements of API STD607 Eighth Edition, October 2022. The testing results of valve meet the requirements of API STD607 Eighth Editio, October 2022.	PASS

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Tianjin) Co., Ltd.

Reabeca Zhou
Approved Signatory

scan to see the report

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	TSN26-02677220.001	STAINLESS STEEL 1 PC FLANGE BALL VALVE SS116

1. Description of Test Valve :	
Type of Test Valve	ECI Stainless Steel Ball valve
Description of Test Valve	STAINLESS STEEL 1 PC FLANGE BALL VALVE SS116
Valve Size (NPS)	2
Pressure Rating (ANSI Class)	Class 150
Mass of Test Valve (Kgs)	5.92kg
Valve Body Material	ASTM A351 CF8M
2. Qualified Range of Valves :	
Type	ECI Stainless Steel Ball valve
Description of Valves	STAINLESS STEEL 1 PC FLANGE BALL VALVE SS116
Qualified Pressure Ratings (Class)(according to API 607 Table 4)	Class 150
Qualified Sizes (NPS)(according to API 607 Table 3)	2" and below; 2 ½"; 3"; 4"
Mass of Qualified Valves (Kgs) with Different Ends (according to API 607 Para.7.1, e)	Greater than the tested valve or not less than75% of the test valve
Qualified Valve Material	According to API 607 7.2

This certificate is issued according to API STD 607 Eighth Edition, October 2022, based upon the re-sult of testing report on above mentioned test valve. The additional plates qualification shall be limited to similar plates of same basic design and construction as the test valve and of the same nonmetallic materials with respect to the seat-to-closure member seal, seat-to-body seal, stem seal, and body joint seal according to API STD607 Eighth Edition, October 2022, Paragraph 7.

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(Valve fire test according to API STD 607 Eighth Edition, October 2022.)	
Applicant / Manufacturer :	HEBEI ECI VALVE CO., LTD
Inspection body :	SGS-CSTC
Product Date:	Datasheet attached

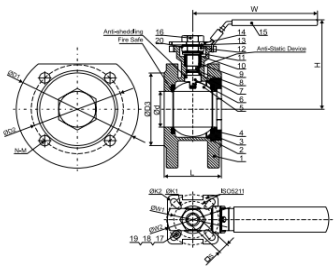
SS 116
STAINLESS STEEL 1 PIECE FLANGED BALL VALVE
PN16/40

www.ecivalve.it



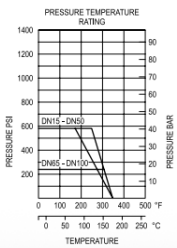
Specifications

- SS316 INVESTMENT CASTING APPROVED STANDARD AD2000-W0
- DESIGNED IN ACCORDANCE TO EN 12516 & ISO5211
- COMPACT DESIGN
- FACE TO FACE DIMENSIONS NOT STANDARDIZED
- FLANGE END DIMENSIONS ACCORDING TO DIN2501
- CE PED 2014/68/EU APPROVED
- FIRE PROOF AND STATIC PROOF DESIGN ACCORDING TO API607
- BLOW-OUT PROOF STEM
- LOCKING DEVICE ON HANDLE (ON REQUEST)
- ADJUSTABLE GLAND FOR TIGHTER SEAL
- ISO 5211 DIRECT MOUNTING PAD INCLUDED
- RAISED ISO 5211 DIRECT MOUNTING PAD ENHANCES ACTUATOR CLEARANCE, HEAT ISOLATION, AND STEM ALIGNMENT FOR RELIABLE AUTOMATED OPERATION
- WORKING PRESSURE: 1/2"-2" 40 BAR 2.1/2"-4" 16 BAR
- WORKING TEMPERATURE: -20°C TO 180°C HIGHER WORKING TEMPERATURE IS AVAILABLE ON REQUEST
- INSPECTION AND TEST CONFORMS TO API598 & EN 12266-1
- SUITABLE FOR WATER,VARIOUS LIQUIDS AND GASES
- AISI 304 AVAILABLE ON REQUEST



Materials

No.	DESCRIPTION	MATERIAL	STANDARD
1	BODY	STAINLESS STEEL	ASTM 351 CF8M
2	SEAL	PTFE	PTFE
3	CAP	STAINLESS STEEL	ASTM 351 CF8M
4	SEAT	PTFE/RPTFE/FKM (VITON®)/PEEK	PTFE/RPTFE/FKM (VITON®)/PEEK
5	BALL	STAINLESS STEEL	AISI 316
6	STEM	STAINLESS STEEL	AISI 316
7	THRUST WASHER	PTFE	PTFE
8	O-RING	NBR/FPM	NBR/FPM
9	PACKING	PTFE	PTFE
10	GLAND	STAINLESS STEEL	AISI 304
11	BELLEVILE WASHER	STAINLESS STEEL	AISI 304
12	STEM NUT	STAINLESS STEEL	AISI 304
13	WASHER	STAINLESS STEEL	AISI 304
14	HANDLE	STAINLESS STEEL	AISI 304
15	HANDLE SLEEVE	PVC	PLASTIC
16	HANDLE NUT	STAINLESS STEEL	AISI 304
17	NUT	STAINLESS STEEL	AISI 304
18	SPRING WASHER	STAINLESS STEEL	AISI 304
19	BOLT	STAINLESS STEEL	AISI 304
20	LUG WASHER	STAINLESS STEEL	AISI 304



Dimension (mm)

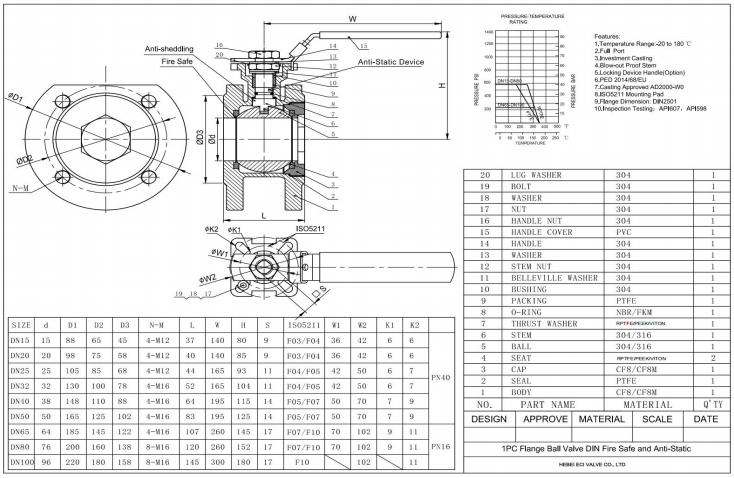
DN (d)	INCH	D1	D2	D3	N-M	L	W	H	S	ISO5211	W1	W2	K1	K2	Weight (KG)
15	1/2"	88	65	45	4-M12	37	4-19	80	9	F03/F04	36	42	6	6	1,24
20	3/4"	98	75	58	4-M12	40	4-19	85	9	F03/F04	36	42	6	6	1,69
25	1"	105	85	68	4-M12	44	8-19	93	11	F04/F05	42	50	6	7	2,17
32	1.1/4"	130	100	78	4-M16	52	8-19	104	11	F04/F05	42	50	6	7	3,24
40	1.1/2"	148	110	88	4-M16	64	195	115	14	F05/F07	50	70	7	9	4,56
50	2"	165	125	102	4-M16	83	195	125	14	F05/F07	50	70	7	9	5,92
65	2.1/2"	185	145	122	4-M16	107	260	145	17	F07/F10	70	102	9	11	9,71
80	3"	200	160	138	8-M16	120	260	152	17	F07/F10	70	102	9	11	11,65
100	4"	220	180	158	8-M16	145	12-28	180	17	F10	-	102	-	11	16,70

Description of valves:	STAINLESS STEEL 1 PC FLANGE BALL VALVE SS116
Test Witnessed By:	Reabeca Zhou

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1. Conformity of Equipment	The test equipment was verified by SGS inspector according to requirements of API STD 607 Eighth Edition, October 2022, Para.5.3 and found satisfactory.
2. Calibration of measurement and test instrument	The measurements and test instruments have been properly calibrated such as pressure gauge, ther-mocouples, etc. the calibration certificates were verified by inspector for test instrument and device
3. Drawing of Test Valve:	
4. Visual and Dimensional Check on Test Valves:	The test valve was chosen at random by the manufacturer in workshop and submitted to the laboratory.The visual and dimensional check was performed according to model SS116.
5. Document Review:	The chemical and mechanical test report of main parts of test valve were reviewed and found satisfactory. The inspection record for hydrostatic shell test, hydrostatic seat test and steam backseat test after assembly for test valve were reviewed and found result satisfactory.
6. Preparation before Testing:	6.1 The thermocouples and calorimeters were installed properly according to Figure 3 in API 607. Two thermocouples were located to measure the valve body temperature. Three calorimeter cubes were located as appropriate position. 6.2 The test system including test valve was cleaned through by water before testing. All air was properly purged from test valve and testing system by water. 6.3 The test system then was pressurized to 2.74MPa after the test valve and system upstream of valve have been completely full of water and system downstream of the test valve have been completely empty of water. The system and test valve were carefully checked for leakage when the test pressure was held at 2.74MPa. No leakage was found on system and test valve.

SIZE	d	D1	D2	D3	N-M	L	W	H	S	ISO5211	W1	W2	K1	K2	
DN15	15	88	65	45	4-M12	37	140	80	9	F03/F04	36	42	6	6	
DN20	20	98	75	58	4-M12	40	140	85	9	F03/F04	36	42	6	6	
DN25	25	105	85	68	4-M12	44	165	93	11	F04/F05	42	50	6	7	PN40
DN32	32	130	100	78	4-M16	52	165	104	11	F04/F05	42	50	6	7	
DN40	38	148	110	88	4-M16	64	195	115	14	F05/F07	50	70	7	9	
DN50	50	165	125	102	4-M16	83	195	125	14	F05/F07	50	70	7	9	
DN65	64	185	145	122	4-M16	107	260	145	17	F07/F10	70	102	9	11	
DN80	76	200	160	138	8-M16	120	260	152	17	F07/F10	70	102	9	11	PN16
DN100	96	220	180	158	8-M16	145	300	180	17	F10		102		11	

NO.	PART NAME	MATERIAL	Q'TY
20	LUG WASHER	304	1
19	BOLT	304	1
18	WASHER	304	1
17	NUT	304	1
16	HANDLE NUT	304	1
15	HANDLE COVER	PVC	1
14	HANDLE	304	1
13	WASHER	304	1
12	STEM NUT	304	1
11	BELLEVILLE WASHER	304	1
10	BUSHING	304	1
9	PACKING	PTFE	1
8	O-RING	NBR/FKM	1
7	THRUST WASHER	RPTFE/PEEK/NYLON	1
6	STEM	304/316	1
5	BALL	304/316	1
4	SEAT	RPTFE/PEEK/NYLON	2
3	CAP	CF8/CF8M	1
2	SEAL	PTFE	1
1	BODY	CF8/CF8M	1

DESIGN	APPROVE	MATERIAL	SCALE	DATE

1PC Flange Ball Valve DIN Fire Safe and Anti-Static

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7. Fire Test:

The fire test was conducted according to API STD 607 Eighth Edition, October 2022, Section 5. The pressure of the system upstream was kept 0.2MPa, the fire ignited. The flame temperature reached 750°C within 2 minutes after ignition. The test pressure and temperature were maintained at 0.2MPa during the fire test. The temperature and pressure were recorded at every 30s on record instrument by the operators.

The system and test valve were cooled below 100°C within 6 minutes by shower nozzles after 30 minutes burn period. The loss of water weight in vessel was measured by weighing scale and water in calibrated container were read and recorded. The test result is shown as below.

Item	API 607 Required value	Actual value
Test Pressure (MPa)	0.2MPa	0.2MPa
Test Temperature	750-1000°C	800-960°C
Through-seat Leakage during burn periodacc. to API 607 Table 1	⩽ 800 mL/min	12 mL/min
External Leakage during burn and cooldown periods acc. to API 607 Table 1	⩽ 200 mL/min	0 mL/min
Time required for valve to cool to 100°C	⩽ 10min	6min

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8. Low-pressure Test:		
Item	API 607 Required value	Actual value
Test Pressure (MPa)	0.2MPa	0.2MPa
Test Temperature	24-32°C	
Test time	5min	
Through-seat Leakage after cool downperiod acc. API 607 Table 1	⩽ 320 mL/min	0 mL/min
Conclusion: the test result is satisfactory according to API 607.		

After completing the static leakage tests, close the shut-off valve, operate the test valve against the low test pressure at 0. 2MPa to the fully open position and then to the fully closed position. Open the shut-off valve. Allow the system to stabilize for a five-minute period, and once completed, record in the test report the through-seat leakage over a five-minute time period. The test result was recorded as below.

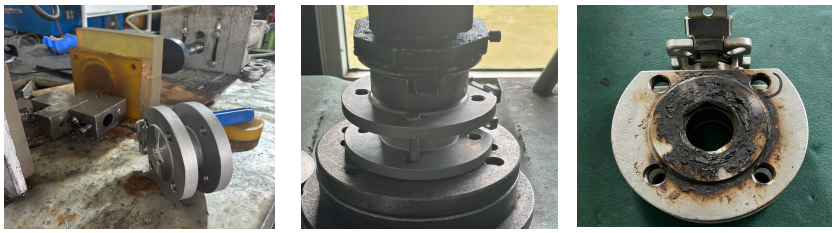
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