

Summary of Test Results

Reference no. : BC-SUMMARY-2023-118

Customer : Gate Way Valve & Fitting Ltd.

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.

Sample description : Ductile Iron Wafer Type Silent Check Valve

Nominal pressure (PN) : 25

Manufacturer : Cla-Val Pacific Limited

Brand name : Cla-Val

Body marking : CLA-VAL (DN) PN25 DI

Model no. : 580PHS-RS

Origin : New Zealand

Sample submitted by : Gate Way Valve & Fitting Ltd.

Test standard : BS EN 12334 : 2001 / WIS 4-52-01 Dec. 1992 : Issue 1 / BS EN 1563 : 2011 / BS EN 10283 : 2010

Test period : 09 to 15 June 2023

A) Sample List

DN (mm)	Specimen no.
50	230601-2575-001
65	230601-2575-002
80	230601-2575-003
100	230601-2575-004
150	230601-2575-005
200	230601-2575-006

B) Test Item

1) Dimensions Check (BS EN 12334 : 2001 Clause 4.1.3)

DN (mm)	Test results	Castco LRN
50	Passed	230601-2575
65	Passed	
80	Passed	
100	Passed	
150	Passed	
200	Passed	

2) Coating Thickness Test (WIS 4-52-01 Dec. 1992 : Issue 1 Appendix B)

DN (mm)	Test results	Castco LRN
50	Passed	230601-2575
65	Passed	
80	Passed	
100	Passed	
150	Passed	
200	Passed	

Summary of Test Results

Reference no. : BC-SUMMARY-2023-118

B) Test Item (con't)

3) Pressure Test (BS EN 12334 : 2001 Clause 5.1)

DN (mm)	Test results	Castco LRN
50	Passed	230601-2575
65	Passed	
80	Passed	
100	Passed	
150	Passed	
200	Passed	

4) Tensile Test (BS EN 1563 : 2011 Clause 7.2.1.1 Table 1 (Grade EN-GJS-450-10) and Clause 9.1)

DN (mm)	Test results	Castco LRN
50	Passed	230601-2575
80	Passed	
200	Passed	

5) Chemical Composition (Seat) (BS EN 10283 : 2010 Table 1 Grade 1.4408 (316))

DN (mm)	Test results	Castco LRN
50	Passed	230605-2842
80	Passed	230605-2844
200	Passed	230605-2846

6) Chemical Composition (Disc) (BS EN 10283 : 2010 Table 1 Grade 1.4408 (316))

DN (mm)	Test results	Castco LRN
50	Passed	230605-2843
80	Passed	230605-2845
200	Passed	230605-2847

 Prepare by : _____
 Date : 22 June 2023


FU HO MAN
 Assistant Technical Manager

 Review by : _____
 Date : 22 June 2023


WONG KA MAN
 Senior Manager

Test Report

Check Valves - Dimensions Check
(BS EN 12334 : 2001 Clause 4.1.3)

Date of issue : 23 June 2023

Page 1 of 8 page(s)

Castco LRN : 230601-2575

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : --

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.

Contract no. : --

Job title : --

Sample description : Ductile Iron Wafer Type Silent Check Valve

Nominal pressure (PN) : 25

Manufacturer : Cla-Val Pacific Limited

Brand name : Cla-Val

Body marking : CLA-VAL (DN) PN25 DI

Model no. : 580PHS-RS

Origin : New Zealand

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 05 June 2023

Date of test : 09 June 2023

Specimen no.		230601-2575-001	230601-2575-002	230601-2575-003	230601-2575-004	230601-2575-005	230601-2575-006
DN (mm)		50	65	80	100	150	200
A (mm)	Measured mean value	112.6	146.0	155.0	177.0	251.0	333.5
	Manufacturer requirement	107.35 to 118.65	133.86 to 147.95	148.20 to 163.80	171.95 to 190.05	239.40 to 264.60	323.95 to 358.05
B (mm)	Measured mean value	67.8	73.4	79.7	102.2	140.3	165.8
	Manufacturer requirement	63.37 to 70.04	69.35 to 76.65	75.43 to 83.37	96.52 to 106.68	132.72 to 146.69	156.75 to 173.25
C (mm)	Measured mean value	61.2	70.0	85.5	114.4	162.1	210.3
	Manufacturer requirement	57.29 to 63.32	69.35 to 76.65	81.42 to 89.99	114.10 to 126.11	156.85 to 173.36	205.11 to 226.70

Remark(s) :

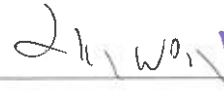
1. Test results relate only to the specimen tested.
2. Connection to BS EN 1092-2 PN25 Flange.

Checked by : _____



FU HO MAN
Assistant Technical Manager

Certified by : _____



WONG KA MAN
Senior Manager

Test Report

Valves - Coating Thickness Measurement

(WIS 4-52-01 Dec. 1992 : Issue 1 Appendix B in conjunction with the following specification(s) : WIS 4-52-01 Dec. 1992 : Issue 1 Cl. 12.7.1)

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Wafer Type Silent Check Valve

Nominal pressure (PN) : 25

Manufacturer : Cla-Val Pacific Limited

Brand name : Cla-Val

Body marking : CLA-VAL (DN) PN25 DI

Model no. : 580PHS-RS

Origin : New Zealand

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 05 June 2023

Date of test : 09 June 2023

Specimen no.	230601-2575-001	230601-2575-002	230601-2575-003	230601-2575-004	230601-2575-005	230601-2575-006
DN (mm)	50	65	80	100	150	200
Ambient temperature (°C)	24.0	24.0	24.0	24.0	24.0	24.0
Measured value of coating thickness at external surface (µm)	1	451	225	369	493	473
	2	519	257	346	596	431
	3	539	245	354	384	342
	4	823	327	256	419	207
	5	803	374	241	320	306
Measured value of coating thickness at internal surface (µm)	6	274	321	210	518	401
	7	402	301	301	550	327
	8	387	232	302	377	382
	9	322	336	276	449	373
	10	341	261	344	533	380
	11	527	226	340	479	402
	12	485	265	287	485	421
	13	361	368	206	469	342
	14	309	228	355	451	319
	15	338	219	289	404	425
Mean	459	279	298	462	369	549
Minimum coating thickness (µm)	274	219	206	320	207	355
Maximum coating thickness (µm)	823	374	369	596	473	688
Standard deviation (µm)	167	54	53	73	65	111
Manufacturer requirement (µm)	Minimum coating thickness		min. 100			
	Maximum coating thickness		max. 1500			

Remark(s) :

1. Test results relate only to the specimen tested.

Checked by :


FU HO MAN
Assistant Technical Manager

Approved Signatory :


WONG KA MAN
Senior Manager

Form no. : BC_VALVES_CT_WIS 4-52-01_T_dd_19/06/2023

Test Report

Metallic Valves - Shell and Seat Tightness
(BS EN 12266-1 : 2012 Annex A3 and A4)

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Wafer Type Silent Check Valve

Nominal pressure (PN) : 25

Manufacturer : Cla-Val Pacific Limited

Brand name : Cla-Val

Body marking : CLA-VAL (DN) PN25 DI

Model no. : 580PHS-RS

Origin : New Zealand

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 05 June 2023

Date of test : 09 June 2023

A) Shell Tightness

Specimen no.	230601-2575-001	230601-2575-002	230601-2575-003	230601-2575-004	230601-2575-005	230601-2575-006
DN (mm)	50	65	80	100	150	200
Water temperature (°C)	21.0	21.0	21.0	21.0	21.0	21.0
Apply pressure (bar)	37.5	37.5	37.5	37.5	37.5	37.5
Test duration (s)	60	60	60	60	60	120
Visually detectable leakage	No	No	No	No	No	No
Requirement	Visually detectable leakage is not permitted					

**Test Report
Metallic Valves - Shell and Seat Tightness
(BS EN 12266-1 : 2012 Annex A3 and A4)**

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Laboratory test results (con't)**B) Seat Tightness**

Specimen no.	230601-2575-001	230601-2575-002	230601-2575-003	230601-2575-004	230601-2575-005	230601-2575-006
DN (mm)	50	65	80	100	150	200
Water temperature (°C)	21.0	21.0	21.0	21.0	21.0	21.0
Apply pressure (bar)	27.5	27.5	27.5	27.5	27.5	27.5
Test duration (s)	60	60	60	60	60	120
Leakage rate (mm ³ /s)	0	0	0	0	0	0
Requirement	The leakage rate shall not exceed specified in BS EN 12266-1 : 2012 Annex A.4.3 Table A.5					

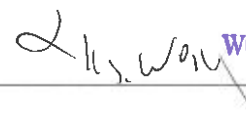
Remark(s) :

1. Test results relate only to the specimen tested.

Checked by : _____


FU HO MAN
Assistant Technical Manager

Approved Signatory : _____


WONG KA MAN
Senior Manager

Test Report
Metallic Materials - Tensile Test of Metallic Materials
(BS EN ISO 6892-1 : 2009)

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Wafer Type Silent Check Valve

Nominal pressure (PN) : 25

Manufacturer : Cla-Val Pacific Limited

Brand name : Cla-Val

Body marking : CLA-VAL (DN) PN25 DI

Model no. : 580PHS-RS

Origin : New Zealand

Sample submitted by : Gate Way Valve & Fitting Ltd.

Acceptance standard : BS EN 1563 : 2011 Clause 7.2.1.1 Table 1 (Grade EN-GJS-450-10) and Clause 9.1

Laboratory test results

Date of sample received : 05 May 2023

Date of test : 10 June 2023

Tensile Test

Specimen no.	DN (mm)	Type & Prepar'n	Specimen length (mm)	Area (mm ²)	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Position of fracture	Remark
230601-2575-001	50	A, M	195	126.1	365	551	11.5	Valid	- -
230601-2575-003	80	A, M	195	129.7	365	556	11.0	Valid	- -
230601-2575-006	200	A, M	195	125.7	370	562	10.5	Valid	- -

Remark(s) :

1. A - Proportional; B - Non - proportional; M - Machined; N - Unmachined;

+ - This measurement is 'invalid' which relates to the position of fracture only.

2. The yield strength is determined at 0.2% proof strength.

3. Test results relate only to the specimen tested.

4. The requirement of BS EN 1563 : 2011 Table 1 : 0.2% proof strength = min. 310MPa; Tensile strength = min. 450MPa; Elongation = min. 10%.

Checked by :


FU HO MAN
 Assistant Technical Manager

Approved Signatory :


WONG KA MAN
 Senior Manager

Test Report
Check Valves - Dimensions Check
(BS EN 12334 : 2001 Clause 4.1.3).

Date of issue : 23 June 2023
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Castco LRN : 230601-2575

Appendix A



230601-2575-001(1)



230601-2575-001(2)



230601-2575-002(1)



230601-2575-002(2)



230601-2575-003(1)



230601-2575-003(2)

Test Report
Check Valves - Dimensions Check
(BS EN 12334 : 2001 Clause 4.1.3).

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Appendix B



230601-2575-004(1)



230601-2575-004(2)



230601-2575-005(1)



230601-2575-005(2)



230601-2575-006(1)



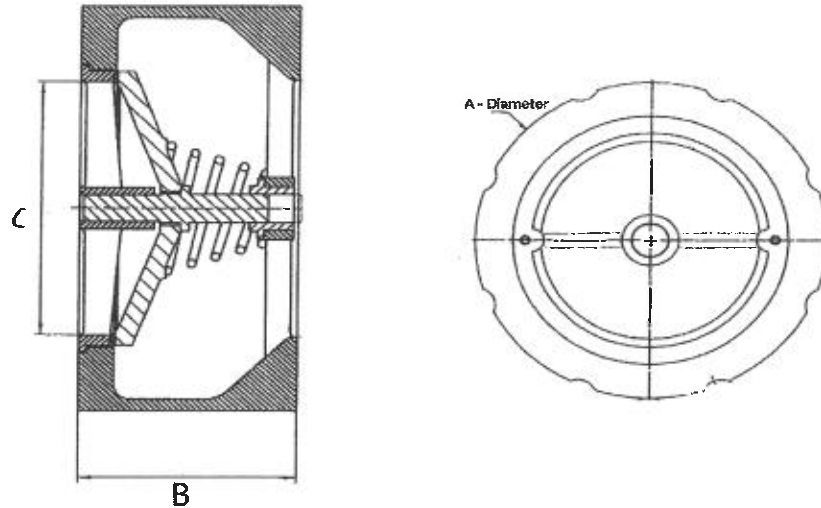
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Test Report
Check Valves - Dimensions Check
(BS EN 12334 : 2001 Clause 4.1.3)

Date of issue : 23 June 2023

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Castco LRN : 230601-2575

Appendix C

Dimensions Figure(230601-2575)

End of Report