

SUBJECT:

Testing of ductile iron swing check valve submitted by Chong Cheong Foundry Works Pte Ltd

TESTED FOR:

Chong Cheong Foundry Works Pte Ltd
No. 2 Benoi Crescent
Singapore 629969

Attn: Mr Kelvin Teo

SAMPLE RECEIVED DATE:

22 Apr 2025

TEST DATE:

22 Apr 2025

METHOD OF TEST:

- 1) BS 5153: 1974 Specification for cast iron check valves for general purposes
- 2) BS EN 1092-2:1997 - Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated. Cast iron flanges

DESCRIPTION OF SAMPLE:

Three pieces of "CC" brand ductile iron swing check valves were received. The descriptions are as follows:

Size	Embossed marking on valve body	Remarks
DN 80	CC, DN 80, PN16, BS 5153 GGG50	See photo 1
DN 100	CC, DN 100, PN16, BS 5153 GGG50	See photo 2
DN 150	CC, DN 150, PN16, BS 5153 GGG50	See photo 3

	 Accredited Laboratory SAC - SINGLAS LA-2018-0695-G	The results reported herein have been performed in accordance with the laboratory's terms of accreditation under the Singapore Accreditation Council
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TEST RESULTS:

Table 1a - Dimensional Measurements on Valve Flanges

Sample Reference & Size	Results		BS EN 1092-2:1997 (PN 16) Table 9 & 13 Requirements	
	DN 80	DN 100	DN 80	DN 100
Outside diameter, D (mm)	200	220	200	220
Diameter of bolt circle, K (mm)	160	180	160	180
Diameter of bolt hole, L (mm)	19.1	19.2	19.0 +1.5, -0	19.0 +1.5, -0
Bolts number	8	8	8	8
Flange thickness, C (mm)	17.3	18.5	19.0 +4, -3	19.0 +4, -3

Table 1b - Dimensional Measurements on Valve Flanges

Sample Reference & Size	Results	BS EN 1092-2:1997 (PN 16) Table 9 & 13 Requirements
	DN 150	DN 150
Outside diameter, D (mm)	285	285
Diameter of bolt circle, K (mm)	240	240
Diameter of bolt hole, L (mm)	23.0	23.0 +1.5, -0
Bolts number	8	8
Flange thickness, C (mm)	21.6	19.0 +4, -3

Table 2a - Dimensional measurements

Sample Reference & Size	Results		BS 5153: 1974 Requirement (Table 4, clause 10.3)	
	DN 80	DN 100	DN 80	DN 100
Bore diameter (mm)	79	99	68 min	85 min.

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TEST RESULTS (CONT'D):

Table 2b - Dimensional measurements

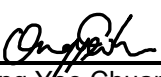
Sample Reference & Size	Results	BS 5153: 1974 Requirement (Table 4, clause 10.3)
	DN 150	DN 150
Bore diameter (mm)	149	127.5 min.

Table 3a - Hydrostatic Pressure Tests

Sample Reference & Size	Results		BS 5153: 1974 Requirements
	DN 80	DN 100	
Hydrostatic test pressure of 17.6 bar applied on valve seat	Passed	Passed	No visually detectable leakage when tested in accordance with BS 6755 Part 1 :1986
Hydrostatic test pressure of 24 bar applied on valve body	Passed	Passed	

Table 3b - Hydrostatic Pressure Tests

Sample Reference & Size	Results	BS 5153: 1974 Requirements
	DN 150	
Hydrostatic test pressure of 17.6 bar applied on valve seat	Passed	No visually detectable leakage when tested in accordance with BS 6755 Part 1 :1986
Hydrostatic test pressure of 24 bar applied on valve body	Passed	


Ong Yeo Chuan
Testing Officer


Chua Peck Cheong
Senior Manager

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APPENDIX:



Photo 1 - Submitted sample (DN 80)



Photo 2 - Submitted sample (DN 100)



Photo 3 - Submitted sample (DN 150)



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