

FORM III C

CERTIFICATE OF MANUFACTURE AND TEST OF BOILER MOUNTINGS AND FITTINGS. (Regulation 4G)

TC No.	521	Date	17/10/2020
Intended Working Pressure in Kg/Cm ² (g)	52.7	Hydraulic Test Pressure in Kg/Cm ² (g)	79
Name of Parts :- CAST CARBON STEEL GLOBE TYPE CONTROL VALVE	Main Dimensions		10" Class 300
Maker's Name and Address : SEVERN GLOCON INDIA PRIVATE LIMITED F 96 & 97 SIPCOT INDUSTRIAL ESTATE, CHENNAI - 602 117	Body Material		ASTM A216 Gr. WCC
	Assembly Drawing No.		SGI/IBR-281
Customer Name And Address : Tata Steel Limited, Jamshedpur, Jharkhand, India. Pin - 831001			

MAXIMUM PARAMETERS OF MEDIA FOR WHICH THE VALVE / FITTINGS CAN BE USED

INTENDED WORKING TEMP. OF MEDIA IN °C	38	100	150	200	250	300	350	375	400		
PERMISSIBLE MAX WORKING PRESSURE IN Kg/Cm ² (g)	52.7	52.5	51.2	49.6	47.2	43.7	40.8	38.5	35.4		

HEAT No./ CODE	% CHEMICAL COMPOSITION								PHYSICAL TEST RESULT			Valve Serial No.	Qty
	C	Mn	Si	P	S	Cr	Mo	Ni	UTS Mpa	% E GL : 50mm	Bend Test AT 120°		
F4902	0.198	0.930	0.434	0.012	0.011	0.074	0.015	0.081	522	31.72	Passed	8058-002-001	1

TOTAL No. OF VALVES

One

Other Tests: -

Raw Material:

Process of manufacture: Induction Melting

Fully Killed / Rimmed: -

Heat No	TC No. and Date	Specification	Name of the maker	Name on the Inspecting Authority
F4902	PKC/F4902/SG496 /1 24/08/2020	ASTM A216 Gr. WCC	Peekay Steel Castings (P) Ltd	Well Known foundry

CERTIFIED that the particulars entered herein by us are correct. The valve have been designed and constructed to comply with the INDIAN BOILER REGULATIONS for a working pressure of 52.7 Kg / cm² (g) and maximum temperature of 400°C and satisfactorily withstood a Hydraulic test using water or kerosene or any other suitable liquid to a pressure of 80 Kg / cm² (g) on the 17th Oct 2020 in the presence of our responsible representative whose signature is appended hereunder.


K. RAMESH KUMAR
Sr. Manager - Quality
Maker's Representative
(Name and Signature)


S. MANIVANNAN
General Manager - Operations
Maker
(Name and Signature)


IDENTIFICATION MARK :

The Parts have been stamped with the inspecting authority's official Stamp thus.



on the body / cover flange.

We have satisfied ourselves that valve / fitting has been constructed and tested in accordance with the requirements of the INDIAN BOILER REGULATIONS, 1950. We further certify that the particulars entered herein are correct.


Name and Signature of the
Inspecting Officer
who witnessed the tests

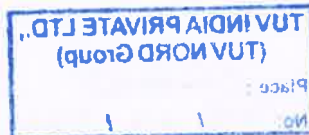
Place : Chennai
Date : 17/10/2020



Name & Signature of the
Inspecting Authority

Note: In case of valve chest made and tested by well known foundries or forges recognised by the central boiler board in the manner as laid down in regulation 4A to 4H listed in 'Appendix K', particulars regarding the material as certified by them, in any form shall be noted in the appropriate columns or paragraphs in the Certificates and in case certificates from well known foundries or forges is produced, such certificates may be accepted in lieu of the Certificates from Inspection Authority in so far as it relates to the testing of material specified in the form.

Strike out which is not applicable



2012925, 712925A1

8058-2-1

PK-QA-02-Rev.0



PEEKAY STEEL CASTINGS (P) LTD

4/242 Chinnamaddampalayam, Billichchi Post, Coimbatore - 641 019

Email: info@pkcbe.co.in, Phone: 04254 - 271610

Form III F

Certificate of Manufacture and test of Castings (Regulations 73 to 80)

Customer:	Order No and Date	PO Line No	TCNo	PKC/F4902/SG496/1
Severn Glocon India Pvt Ltd	PO2002101 / 02/06/2020	1	Date	24-Aug-2020
F.P. No	Part Name	Item Code / Part No		
SG496	BODY CASTING, 10" 300# RF/FF	2G99050-C1010-IBR1		
Drawing No			No. of pieces	
2G99050 ISS 1			1	
Specification /Material			Poured Date : 30/07/2020	
ASTM A216 Gr.WCB/WCC 2018 & PTS RM001 Iss.1				

Heat treatment	Melting Process	State of Delivery
Normalising at 920°C soaked for 6 hours then open air cooled. HT Cycle No:HTF0667 Dt:05/08/2020	INDUCTION	Unmachined



Chemical Composition (%)

Element	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V	CE	Res					
Min. Specified	...	...	...	...	...	...	...	...	...	...	...	...
Max. Specified	0.220	1.280	0.600	0.025	0.025	0.500	0.500	0.200	0.300	0.030	0.420	1.000					
Heat No																	
F4902	0.198	0.930	0.434	0.012	0.011	0.074	0.081	0.015	0.013	0.002	0.377	0.185					

Heat Slnos: 2

Mechanical Properties	Yield Strength	Tensile Strength	% of Elongation		Reduction of Area	Hardness	Bend Test Angle at 120°	Impact value ISO V at 0°C in Joules			
			GL=50 mm	GL=62.5 mm				Single Value		Average	
Min	275	485	22	...	35	...	D=3t				
Max	...	655	...	...	...	200					
Heat No	Mpa	Mpa	%	%	%	HBW		1	2	3	Avg
F4902	310	522	31.72	-	56.41	163.00	PASSED	...	...	...	...

Remarks:

Material confirm to :ASTM A216 Gr.WCB/WCC 2018 & PTS RM001 Iss 1 & C1010 & NACE MR0175/ISO 15156/NACE MR0103.

Castings are No major welding carried out.Casting supplied with carbon steel fully killed and fine grained condition .

Test bar as per Specification : ASTM A1067.

Test as per Specification : ASTM A370.

MPI testing carried out as per ASTM E709 & ASME B16.34 App.II,ASME Sec VIII Div.1 App 6 MSS SP 58.

Visual inspection of casting: Satisfactory According to MSS-SP-55 & SGI/OP/130.

Wall Thickness & Dimensional inspection: Satisfactory According to Approved Drawing .

Certified that the products supplied is free from Radioactive element or contamination

Foundry Identification : **PKC**

SEVERN
GLOCON INDIA
QUALITY

REVIEWED & ACCEPTED

SIGN / DATE
A. THANGAM

We here by declare that the items mentioned above have been tested and inspected in our presence and are found to be in accordance with drawings, specifications and satisfy the requirements of the INDIAN BOILER REGULATIONS 1950

K. Vijaya Kumar
Asst.Manager (QA)
Makers Representative

Peekay Steel Castings (P) Ltd., Coimbatore - 19



Thilagarajan D
Manager (Production)
Makers

Peekay Steel Castings (P) Ltd., Coimbatore - 19

IBR WELLKNOWN FOUNDRY upto 1500 Kg/piece CBB No.310 Dated 13-Sep-2013, valid upto 10-Jul-2023

Registered office : Nallalam, Calicut, Kerala, India - 673027. Ph: 0495-2422500. Email: info@peekaysteel.com

SGI/IBR-296

TABLE 1: PARTS LIST

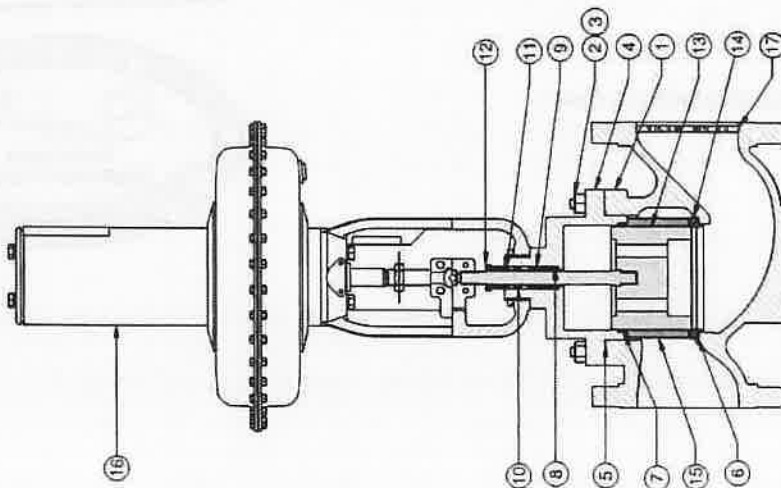
ITEM NO	TITLE	MATERIAL	QTY	ITEM NO	TITLE	MATERIAL	QTY
1	BODY	ASTM A216 WCC	1	10	PACKING RING	Graphite	1
2	STUD	A194Gr B7	12	11	GLAND FOLLOWER	316 SS + STELLITE	1
3	NUT	A194Gr 2H	12	12	GLAND FLANGE	316 SS	1
4	BONNET	ASTM A216 WCC	1	13	PLUG	316 SS + STELLITE	1
5	GASKET BODY	Spiral Wound SS316L/Graphite	1	14	SEAT	316 SS	1
6	GASKET SEAT	Spiral Wound SS316L/Graphite	1	15	CAGE	316 SS	1
7	BALANCE SEAL	Graphite	1	16	ACTUATOR	CARBON STEEL	1
8	PACKING GUIDE	SS 316/316L	1	17	BAFFLE	316 SS	1
9	PACKING SPACER	SS 316/316L	1				

TABLE 2: PRESSURE TEMPERATURE CHART

Temperature	Working Pressure for 300M WCG	Hydro Pressure
°C	Kg/Cm ² (g)	Kg/Cm ² (g)
-29 to 38	52.7	79
100	52.5	-
150	51.2	-
200	49.6	-
250	47.2	-
300	43.7	-
350	40.8	-
375	38.5	-
400	35.4	-

TABLE 3: DRAWING DETAILS

Body Casting No	2G99050
Body Machining No	2G01153/2/2



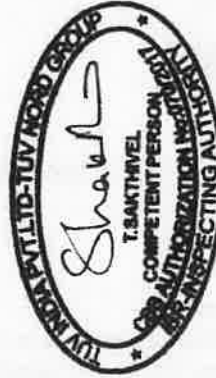
NOTES:

- NOTES:
1. DESIGN,MANUFACTURING,INSPECTION ARE AS PER IBR 1950.
2. ALL DIMENSIONS ARE IN INCHES
3. STRESS RELIEVING HEAT TREATMENT SHALL BE PERFORMED AS PER IBR 1950.

Sehr hoch

SELVAKUMAR S
Assistant Manager - Product Engrg & Design
Seyern Glocon India Pvt.Ltd.
F96 & 97, SIPCOT Industrial Park,
Irungatturkottai - 602 117

APPROVED
105, 42, 296
Date: 18.05.2020



CHANGE RECORD

ISS NO	ECO No.	DATE	DRAWN	CHECKED	APPROVED
1	NA	18.05.2020	GOWTHAM	CEEPAN	SSELVA
DRAWING NO		SG/IBR-296			
DESCRIPTION		10' 300# RF Globe Assembly			



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GENERAL ARRANGEMENT DRAWING



SEVERN
GLOCON GROUP

SHELL THICKNESS CALCULATION AS PER IBR 290-D

$$T = (WP \times D) / (2f + WP) + C$$

Where

T = Shell Thickness

WP = Allowable Maximum Pressure for Service Temperature of Material

D = Outside Chest Diameter of Valve Body

F = Allowable Stress for material to be taken from ASME SEC. II - D for corresponding temperature in degree C

C = Minimum Positive Tolerance for cast Steel = 5 mm

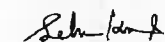
Chest Diameter 299.2 mm

Temp	Working Pressure for WCC in	Allowable Stress Value f in	Shell Thickness T	Thickness as per drawing in
°C	Kg/cm ² (g)	(Kg/cm ²)	(mm)	mm
38	52.7	11.26	11.8	22.6
100	52.5	11.26	11.8	22.6
150	51.2	11.26	11.7	22.6
200	49.6	11.26	11.4	22.6
250	47.2	11.26	11.1	22.6
300	43.7	11.26	10.7	22.6
350	40.8	11.01	10.4	22.6
375	38.5	10.03	10.6	22.6
400	35.4	8.24	11.3	22.6

Valve Size : 10"
 Drawing No : 2G99050
 IBR No : 296
 Description : Body 10inch 300# Flanged

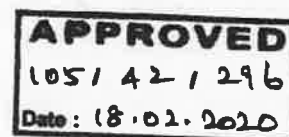
Rating : 300 #

For Severn Glocon India Pvt Ltd,



Selvakumar.S

Assistant Manager - Product Engineering & Design



SHELL THICKNESS CALCULATION AS PER IBR 290-D

$$T = (WP \times D) / (2f + WP) + C$$

Where

T = Shell Thickness

WP = Allowable Maximum Pressure for Service Temperature of Material

D = Outside Chest Diameter of Valve Body

F = Allowable Stress for material to be taken from ASME SEC. II - D for corresponding temperature in degree C

C = Minimum Positive Tolerance for cast Steel = 5 mm

Chest Diameter 402.3 mm

Temp	Working Pressure for WCC in	Allowable Stress Value f in	Shell Thickness T	Thickness as per drawing in
°C	Kg/cm ² (g)	(Kg/cm ²)	(mm)	mm
38	52.7	11.26	14.2	24.1
100	52.5	11.26	14.2	24.1
150	51.2	11.26	13.9	24.1
200	49.6	11.26	13.7	24.1
250	47.2	11.26	13.3	24.1
300	43.7	11.26	12.7	24.1
350	40.8	11.01	12.3	24.1
375	38.5	10.03	12.6	24.1
400	35.4	8.24	13.5	24.1

Valve Size : 10"

Rating : 300 #

Drawing No : 2G99050

IBR No : 296

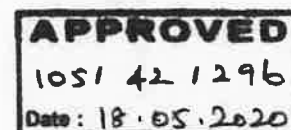
Description : Body 10inch 300# Flanged

For Severn Glocon India Pvt Ltd,



Selvakumar.S

Assistant Manager - Product Engineering & Design



DRAWING NO

2G99050

THIRD ANGLE PROJECTION



IF IN DOUBT ASK

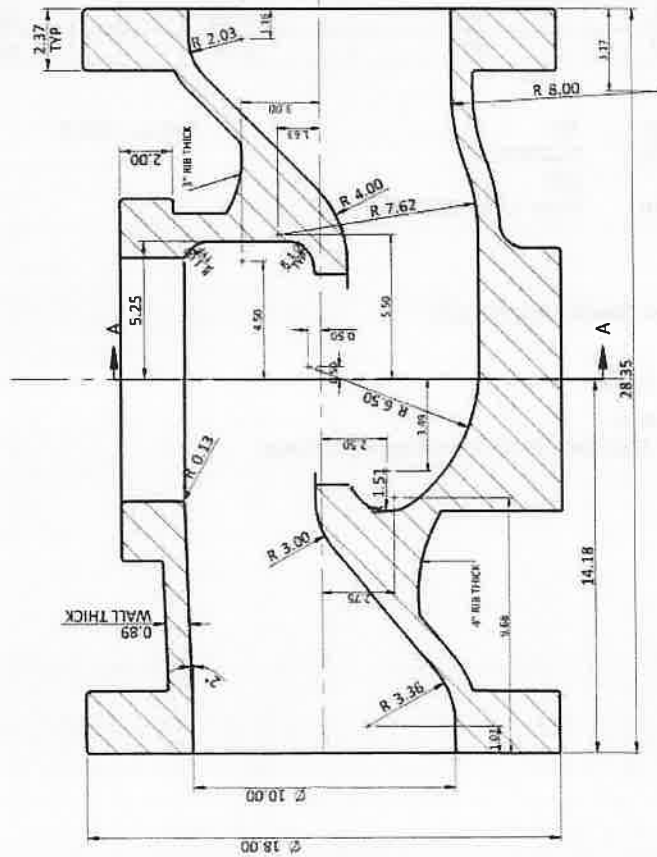
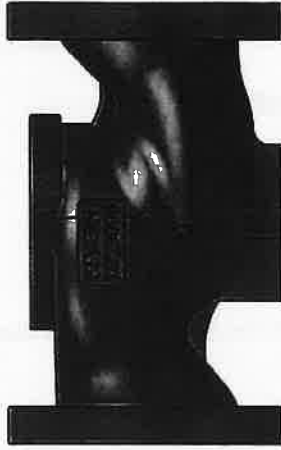
DO NOT SCALE THIS PRINT

NOTES:

1. FOR THICKNESS REFER SECTION B-B AND SECTION F-F
2. CASTING TO BE FREE FROM BLOW HOLES
3. CORE SHOULD BE BLEND SMOOTHLY
4. GENERAL CASTING RADIUS IS 0.125 ins.
5. CASTING SHOWN ON THIS SHEET IS FOR ANSI 300 FLANGED VERSION.

SELVAKUMAR S

Assistant Manager - Product Engg & Design
 Severn Glocon India Pvt.Ltd.
 F96 & 97, SIPCOT Industrial Park,
 Irungattukottai - 602 117.



APPROVED
 1051 42 / 296
 Date: 18.05.2020



SECTION A-A

SEVERN
GLOCON GROUP PLC
 OLYMPIUS PARK, QUEDGELEY,
 GLOUCESTER, G12 4NF,
 UNITED KINGDOM.
 TEL: +44 (0)145 223 2040

THIS DRAWING IS THE PROPERTY OF SEVERN GLOCON LIMITED AND
 MUST NOT BE USED IN ANY WAY DETRIMENTAL TO THEIR INTERESTS

UNLESS OTHERWISE STATED

X ± 0.06 ALL DIMENSIONS IN INCHES
 .XX ± 0.02 REMOVE SHARP EDGES 125
 .XXX ± 0.005 ALL MACHINED SURFACES
 ANGULAR ± 0.5°

SEVERN
GLOCON INDIA
 F-96&97, SIPCOT INDUSTRIAL PARK,
 IRUNGATTUKOTTAI, SRIPERUMBUDUR,
 TAMIL NADU, INDIA.
 TEL: +91 (0)44 47104200

TITLE				Body Casting, 10" 300# FF/RF Globe			
1	NEW	NAS	ADK	21.04.2018	DRAWN	NASREEN	SIZE
ISS	ECO No	DRN	CKD	DATE	DATE	21.04.2018	A4
CHANGE RECORD				CKD	KUMAR	DRAWING NO	ISS 1
PERFORM ALL CHANGES ON CAD				DATE	21.04.2018	DATE	
SO: D EDGE				SCALE	APP	SELVA	2G99050
				WEIGHT	268.54 kg	NTS	DATE
				DATE	21.04.2018		

DRAWING NO

2G01153/2/2

THIRD ANGLE PROJECTION

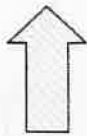


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DO NOT SCALE THIS PRINT

SELVAKUMAR S
Assistant Manager - Product Engg & Design
Severn Glocon India Pvt.Ltd.
F88 3 57, SIPCOT Industrial Park,
Irungattukottai - 602 117.

FLOW



APPROVED
1051421296
Date: 18.05.2020



2G01153/2/1

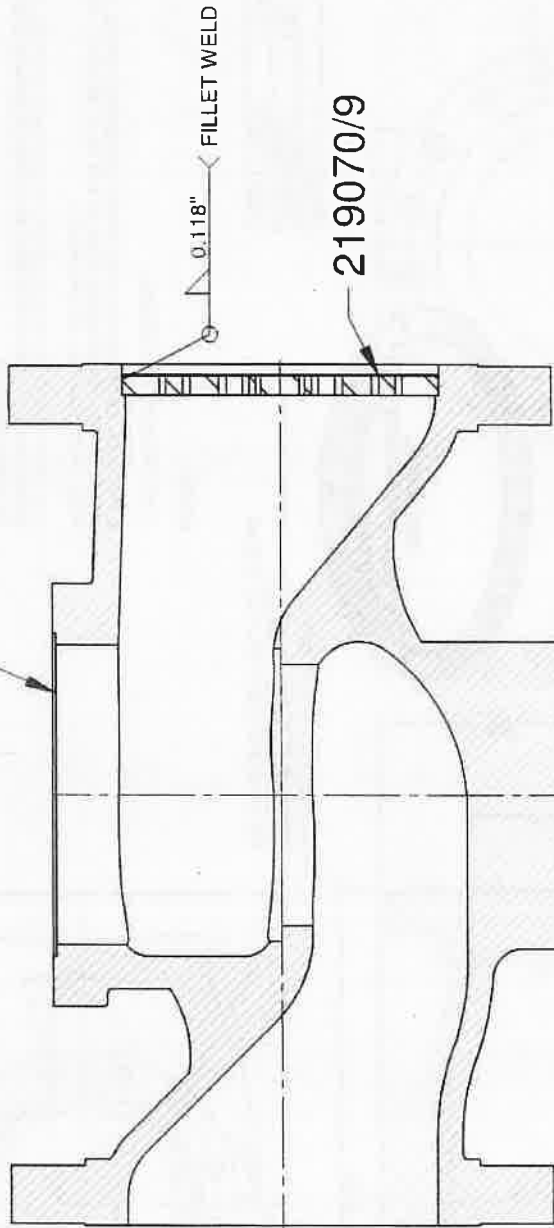


TABLE-1	
Part Code	Remarks
2G01153/2/1	With Baffle groove
219070/9	Baffle Plate, 10" 550CV

NOTES:

1. M/C FROM CASTING 2G01153/2/1

SEVERN
GLOCON GROUP
OLYMPIUS PARK, QUEDGELEY,
GLOUCESTER, GL2 4NF,
UNITED KINGDOM.
TEL +44 (0)145 223 2040

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UNLESS OTHERWISE STATED

X ± 0.06
XX ± 0.02
XXX ± 0.005
ANGULAR ± 0.5°

ALL DIMENSIONS IN INCHES
REMOVE SHARP EDGES 125/
ALL MACHINED SURFACES

SEVERN
GLOCON INDIA
F-96&97, SIPCOT INDUSTRIAL PARK,
IRUNGATTUKOTTAI, SRIPERUMBUDUR,
TAMIL NADU, INDIA.
TEL: +91 (0)44 47104200

TITLE BODY M/C, 10" ASME 300 GLOBE WITH
BAFFLE PLATE

1	NEW	BA	KV	15.05.2020	DRAWN	ARUN	SIZE	SIMILAR TO
ISS	ECO No	DRN	CKD	DATE	DATE	15.05.2020	A3	
CHANGE RECORD				CKD	VIJAY	15.05.2020	DRAWING NO	ISS 1
PERFORM ALL CHANGES ON CAD				DATE	KUMAR	15.05.2020	2G01153/2/2	
SOLID EDGE				SCALE	DATE	15.05.2020		
WEIGHT				N/T	DATE	15.05.2020		
0 kg								