

## FORM III C

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

TC No.	502	Date	17/10/2020
Intended Working Pressure in Kg/Cm <sup>2</sup> (g)	52.1	Hydraulic Test Pressure in Kg/Cm <sup>2</sup> (g)	79
Name of Parts :- <b>CAST CARBON STEEL GLOBE TYPE CONTROL VALVE</b>	Main Dimensions		20" Class 300
Maker's Name and Address : <b>SEVERN GLOCON INDIA PRIVATE LIMITED</b> F 96 & 97 SIPCOT INDUSTRIAL ESTATE, CHENNAI - 602 117	Body Material		ASTM A216 Gr. WCB
	Assembly Drawing No.		SGI/IBR-285

Customer Name And Address : HPCL-Mittal Energy Limited, Phullokhar Village, Bhathinda (Punjab)-151301

#### 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 <sup>2</sup> (g)	52.1	47.5	46.0	44.7	42.7	40.6	38.3	37.1	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°		
H26195	0.189	1.045	0.457	0.021	0.008	0.074	0.008	0.035	545.36	32.34	Passed	7802-037-001	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
H26195	IBR-1597 19.06.2020	ASTM A216 Gr. WCB	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 52.1 Kg / cm<sup>2</sup> (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 / cm<sup>2</sup> (g) on the 17th Oct 2020 in the presence of our responsible representative whose signature is appended hereunder.



**K.RAMESH KUMAR**  
DGM - Quality

Maker's Representative  
(Name and Signature)



**S.MANIVANNAN**  
General Manager - Operations

Maker  
(Name and Signature)

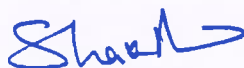
#### IDENTIFICATION MARK :

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



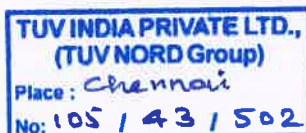
on the body / cover flange.

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.

2004670

T4670C1,

DOC.Ref: PK-QC-03 Rev.2 dt. 01/11/2013



## PEEKAY STEEL CASTINGS (P) LTD

Nallalam, Kozhikode - 673027, India

ISO 9001:2015  
Certified by TUV NORD

## FORM IIIIF

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

Customer : M/s. SEVERN GLOCON INDIA PVT LTD  
Tamilnadu.Pan No:AAHCS9495H

TC No. : IBR-1597

TC Date : 19-06-2020

Heat No. : H26195

Date of Pouring : 24-02-2020

Order Reference : PO1921288, PO SIno.3,04-02-2020

## Material Specification &amp; Grade :

ASTM A 216 WCB/WCC 2018, PTS RM001 Iss.1,  
SGI/OP/130 Iss.04 & IBR-I Iss.2Casting Processed By Electric Induction Melting,  
Fully killed and fine grained.

## Chemical Composition (%)

Element	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V	CE	Res	
Specified	Min.	---	---	---	---	---	---	---	---	---	---	---	
	Max.	0.220	1.280	0.600	0.030	0.025	0.500	0.500	0.200	0.300	0.030	0.420	1.000
Actual Values		0.189	1.045	0.457	0.021	0.008	0.074	0.035	0.008	0.015	0.004	0.384	0.139

Heat Treatment : Normalising at 920°C Soaking 6.5 Hrs Normal Air Cooled

## Mechanical Properties

Requirements	Tensile Strength (Rm) MPa	Yield Strength (Rp 0.2%) MPa	Elongation % GL=50mm	Reduction of Area %	Hardness HBW	Bend Test Angle 120°	Impact value CVN in Joules Specimen size 10X10X55mm			
							Single Value			Avg. Value
Specified	Min.	485.00	275.00	22.00	35.00	---	D=3T			---
	Max.	655.00	---	---	---	200	1	2	3	Avg.
Actual Values		545.36	349.69	32.34	54.59	154	Satisfactory	---	---	---

Sl.No.	Item Description	Drawing No./Part No.	Quantity	MPI No	RT No.
1	20" CL300 BODY	2A99013 Iss.01 2A99013-C1020-IBR1	1	M34230	PKS6690

## Remarks :

Test bar as per spec. : ASTM A 703/A703M-2018 &amp; ASTM A1067/A1067M-12a

Test as per spec. : ASTM A370-2019

Visual inspection of Casting : Satisfactory According to ANSI/MSS-SP-55 2011, ASME Sec V 2019 Article 9 &amp; SGI/OP/130 Iss.4

Castings are free from radioactive contamination, "No major welding has been carried out on this casting".

Material meets ANSI/NACE MR0175 / ISO 15156 : 2015 &amp; ANSI/NACE MR0103/ISO 17495-1:2016.

SEVERN  
GLOCON INDIA

REVIEWED &amp; ACCEPTED

QUALITY

SIGN / DATE  
A. THANGAM

Foundry Identification : PK

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

Daneesh.M  
Asst.Manager (QA)  
Makers Representative  
Peekay Steel Castings (P) Ltd. Kozhikode -27Murugcsan N  
Sr.Manager (Production)  
Makers  
Peekay Steel Castings (P) Ltd. Kozhikode -27

IBR WELLKNOWN FOUNDRY UPTO 12000 Kg/piece CBB No.404 Dated 18-07-2017,Valid up to 07 June 2021.

## VALVE PARTS LIST

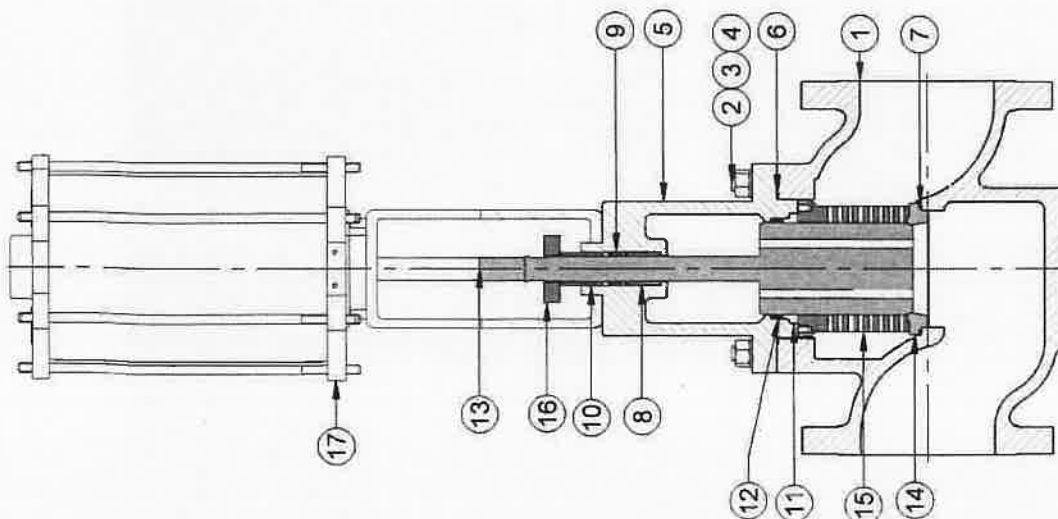
ITEM NO	TITLE	MATERIAL	QTY	ITEM NO	TITLE	MATERIAL	QTY
1	BODY	ASTM A216 Gr. WCB	1	11	SEAL RETAINER	316 SS	1
2	STUD	A193Gr. B7	24	12	BALANCE SEAL	PTFE / Graphite	1
3	NUT	A194Gr. 2H	24	13	PLUG	316 SS + Stellite 6	1
4	WASHER	Carbon Steel	24	14	SEAT	316 SS + Stellite 6	1
5	BONNET	ASTM A216 Gr. WCB	1	15	CAGE	316 SS	1
6	GASKET BODY	Spiral Wound 316L/Graphite	1	16	GLAND FLANGE	316 SS	1
7	GASKET SEAT	Spiral Wound 316L/Graphite	1	17	ACTUATOR	Carbon Steel	1
8	LOWER GUIDE	SS 316/316L + Stellite 6	1				
8	PACKING	PTFE / Graphite	1				
10	GLAND FOLLOWER	SS 316/316L + Stellite 6	1				

TABLE 2: PRESSURE TEMPERATURE CHART


Temperature	Working Pressure for 300# WCB	Hydro Pressure
°C	Kg/Cm <sup>2</sup> (g)	Kg/Cm <sup>2</sup> (g)
-28 to 38	52.1	76
100	47.5	*
150	46.0	*
200	44.7	*
250	42.7	*
300	40.5	*
350	38.3	*
375	37.1	*
400	35.4	*

TABLE 3: DRAWING DETAILS

Body Casting No	2A99013
Body Machining No	2A01017



NOTES:  
1. DESIGN, MANUFACTURING INSPECTION ARE AS PER IBR 1950.  
2. ALL DIMENSIONS ARE IN INCHES

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

APPROVED  
105/40/285  
Date: 03.02.2020



## CHANGE RECORD

[illegible]

**SEVERN**  
**GLOCON - INDIA**

## GENERAL ARRANGEMENT DRAWING

**SEVERN**  
GLOCON GROUP PLC

SIGIFRIDE 0168 - hsa 1

**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

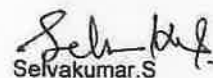
Chest Diameter                      812.8 mm

Temp	Working Pressure for WCB in	Allowable Stress Value f in	Shell Thickness T	Thickness as per drawing in
°C	Kg/cm <sup>2</sup> (g)	(Kg/cm <sup>2</sup> )	(mm)	mm
38	52.1	11.26	23.4	34.9
100	47.5	11.26	21.8	34.9
150	46.0	11.26	21.3	34.9
200	44.7	11.26	20.8	34.9
250	42.7	11.09	20.4	34.9
300	40.6	10.52	20.4	34.9
350	38.3	9.95	20.4	34.9
375	37.1	9.54	20.5	34.9
400	35.4	8.24	22.1	34.9

Valve Size : 20"  
Drawing No : 2A99013  
IBR No : IBR 285  
Body 20inch 300# Flanged

Rating : 300 #

For Severn Glocon India Pvt Ltd,

  
Selvakumar.S

Assistant Manager - Product Engineering &amp; Design

APPROVED  
105/401 285  
Date : 03.02.2020



**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

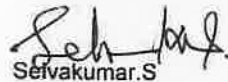
Chest Diameter                      543.1 mm

Temp	Working Pressure for WCB in	Allowable Stress Value f in	Shell Thickness T	Thickness as per drawing in
°C	Kg/cm <sup>2</sup> (g)	(Kg/cm <sup>2</sup> )	(mm)	mm
38	52.1	11.26	17.3	25.4
100	47.5	11.26	16.2	25.4
150	46.0	11.26	15.9	25.4
200	44.7	11.26	15.6	25.4
250	42.7	11.09	15.3	25.4
300	40.6	10.52	15.3	25.4
350	38.3	9.95	15.3	25.4
375	37.1	9.54	15.4	25.4
400	35.4	8.24	16.4	25.4

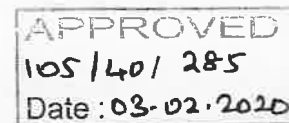
Valve Size : 20"  
Drawing No : 2A99013  
IBR No : 285  
Description : Body 20inch 300# Flanged

Rating : 300 #

For Severn Glocon India Pvt Ltd,

  
Selvakumar.S

Assistant Manager - Product Engineering &amp; Design





DRAWING NO

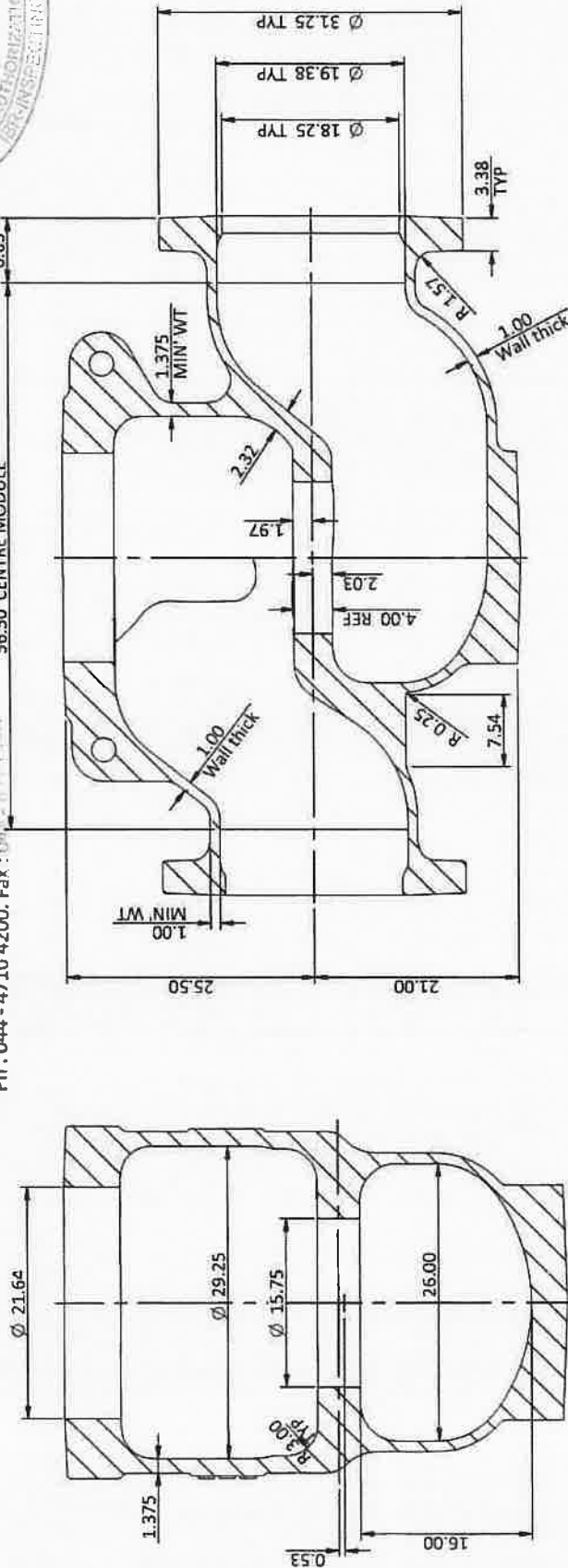
2A99013

NOTES :-

1. GENERAL CASTING RADII UNLESS OTHERWISE SPECIFIED 0.25".
2. ALL DIMENSIONS SHOWN ARE MINIMUM METAL REQUIREMENTS.
3. CASTING PRODUCED MUST STRICTLY CONFORM TO THE P.T.S. SPECIFIED ON THE PURCHASE ORDER.
4. MAXIMUM PERMISSIBLE CORE SLIP (MISS-ALIGNMENT) = 0.12.
5. LETTERING TO BE RAISED PROFILE.
6. MARKINGS STRICTLY IN ACCORDANCE WITH MSS-SP 25.
7. WALL THICKNESS SPECIFIED ARE MINIMUMS.
8. PROVIDE DRAFT ANGLE OF 2 deg AS INDICATED IN SECTION B-B.

*Severn*  
**SEVERN GLOCON INDIA PVT. LTD.**  
 F 96 & 97, SIPCOT Industrial Estate,  
 Irungattukottai, Sriperumbudur TK,  
 Kanchipuram Dist. - 602 117

Ph : 044 - 4710 4200. Fax : 044 - 4710 4200



THIRD ANGLE PROJECTION



IF IN DOUBT ASK

DO NOT SCALE THIS PRINT

APPROVED

105/40/285

Date: 03.02.2020



**SEVERN**  
**GLOCON GROUP PLC**

OLYMPIUS PARK, QUEDGELEY,  
 GLOUCESTER, GL2 4NF,  
 UNITED KINGDOM.

TEL: +44 (0)1452 223 2040

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 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  
 .XX ± 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, 20" 150-300# Globe

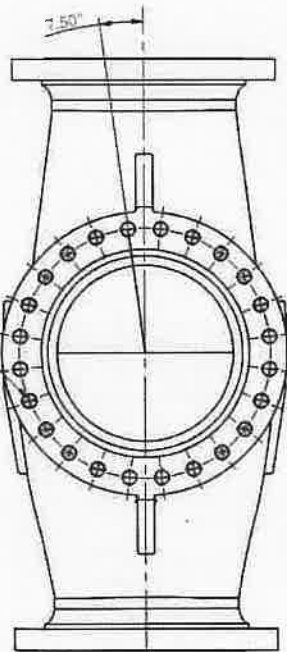
1	NEW	VGK	SK	22.03.2018	DRAWN	GDBI	SIZE	SIMILAR TO
ISS	ECO No	DRN	CND	DATE	DATE	22.03.2018	A3	201136
CHANGE RECORD				CND	SELVA	22.03.2018	DRAWING NO	ISS 1
PERFORM ALL CHANGES ON CAD				DATE	SELVA	22.03.2018	2A99013	
SOLID EDGE				WEIGHT	SCALE	APP	DATE	
				204.02 kg	NTS		22.03.2018	

2A01017

**IF IN DOUBT ASK**

DO NOT SCALE THIS PRINT

24 holes drill Tapping size x 2.38 Deep  
& TAP 1 3/4-8 UN-2B x 2.00" Min Full Thread.  
Equispaced as shown about a 29.13" PCD



NOTES:

- NOTES:
1. DIAS MARKED THUS # TO BE CONCENTRIC WITHIN 0.002 TIR
  2. DIAS MARKED THUS # TO BE SQUARE TO FACES "A" WITHIN 0.002 TIR
  3. WHERE NOTED ALL MACHINE MARKS MUST BE CIRCUMFERENTIAL RADIAL OR TRANSVERSE. MARKS ARE NOT ACCEPTABLE
  4. MACHINE FROM CASTING ZA90013
  5. THESE FACES TO BE SERATED WITH A CONTINUOUS SPIRAL GROOVE GENERATED USING A 0.06" R ROUND NOSE TOOL AT A FEED OF 0.02" PER REV RESULTANT TEXTURE = 125/250 Ra

TEXT(JFE) = 125.250 Ra

PART NO	FLANGE FINISH
2A01017/1	125 / It's Surface 2 250 / 

APPROVED  
105/40/285  
Date: 03.02.2020



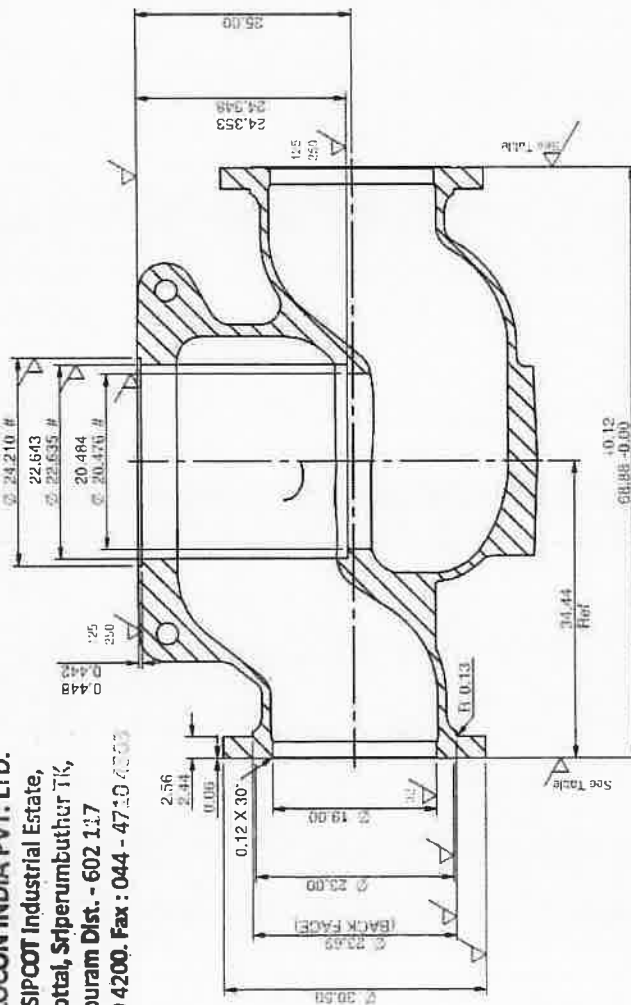
SEVERN GLOCOÑ INDIA PVT. LTD.

**F 96 & 97, SIPCOT Industrial Estate,**

Irungattukottai, Sripembuthur TK,

• Kanchipuram Dist. - 602 117

Ph : 044 - 4710 4200. Fax : 044 - 4710 4200



24 HOLES 1.375" DIA EQUI-SPACED  
AS SHOWN ABOUT A 27.00 in" P.C.D.

SECTION A-A

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

ALL DIMENSIONS IN INCHES	REMOVE SHARP EDGES	125
XX	+ 0.02	
XX	+ 0.02	

XX	± 0.02	REMOVES SHARP EDGES	▽
XXX	+ 0.005	ALL MACHINED SURFACES	▽

ANGLE AB  
+ 0.5°



**SEVERN**  
GLOCON: INDIA

50667 SIPCO INDUSTRIAL PARK

F-96897, SIPCOT INDUSTRIAL PARK,

IRUNGATTUKOTTAI, SRIPERUMBUDUR,

TAMIL NADU, INDIA.

TEL: +91 (0)44 47104200

**TITLE**

**BODY M/C. 20" ASME 300 RF GLOBE**

01	NEW	SG	N5	22.06.2018	DRAWN	SURVA	SIZE	SIMILAR TO
ISS	ECO No	DPN	CKD	ISS DATE	DATE	22.06.2018	A3	211644
CHANGE RECORD					CHECKED	SURESH	DRAWING NO	ISS 1
PERFORM ALL CHANGES ON CAD					DATE	22.06.2018	2A01017	
SOLID EDGE		WEIGHT	SCALE	APPROVED	SILVA			
		4711.18 kg	NTS	DATE	22.06.2018			

SHEET NO: 1 OF 1

**SEVERN**  
GLOCON GROUP PLC

113 1000079

OLYMPIUS PARK, QUEDLINBURG

GLOUCESTER, G12.

UNITED KINGDOM.

TEL: +44 (0)845 223 2040

SGVFR/DE/075A - Iss 3