



भारत सरकार GOVERNMENT OF INDIA  
अंतरिक्ष विभाग DEPARTMENT OF SPACE  
द्रव नोदन प्रणाली केंद्र LIQUID PROPULSION SYSTEMS CENTRE  
तिरुवनंतपुरम THIRUVANANTHAPURAM - 695 547



**घरेलू लोक निविदा (द्विभाग) सं . TM00 2022 036759 01 का शुद्धिपत्र.1**  
**CORRIGENDUM No.1 To Public Tender (Two Part) No.TM00 2022 036759 01**

शंक्राकार प्रवाह बनाने की मशीन-एक सेट की आपूर्ति इसके संस्थापन एवं प्रवर्तन के लिए घरेलू लो.नि(द्विभाग) सं टीएम 00 2022 036759 दिनांक 03.11.2022।

Public Tender (Two Part) No.TM00 2022 036759 01 dated 03.11.2022 for Supply, Installation and Commissioning of a conical flow forming machine - 1 Set

के स्थान पर In Place of	पढ़ें To be read as
Tender Due date: 13.12.2022, 14.30 hrs Tender opening: 14.12.2022, 10.30 hrs	Tender Due date: 24.01.2023, 14.30 hrs Tender opening: 25.01.2023, 10.30 hrs
-	आरेखण संलग्न है। Drawings attached

निविदा के विवरण एल पी एस सी के वेबसाइट [www.lpsc.gov.in](http://www.lpsc.gov.in) पर अपलोड किये गये हैं। यदि आप इच्छुक हैं तो इन्हें पढ़ें और अपना प्रस्ताव निबंधन एवं शर्तों के अनुसार प्रस्तुत करें।

Details of the tender have been uploaded in LPSC website [www.lpsc.gov.in](http://www.lpsc.gov.in). If you are interested, please go through the same and submit your offer as per the terms and conditions.

15.11.2022

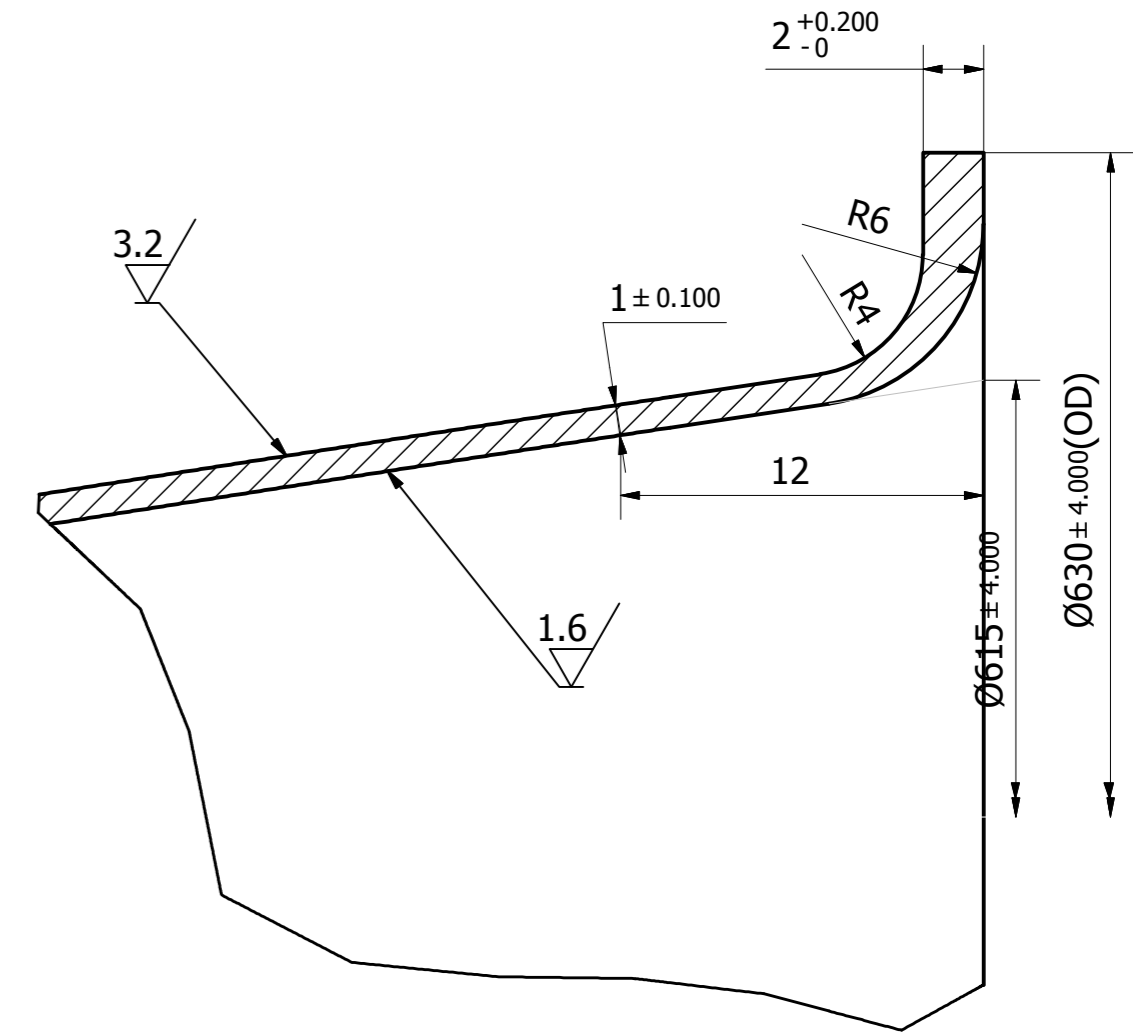
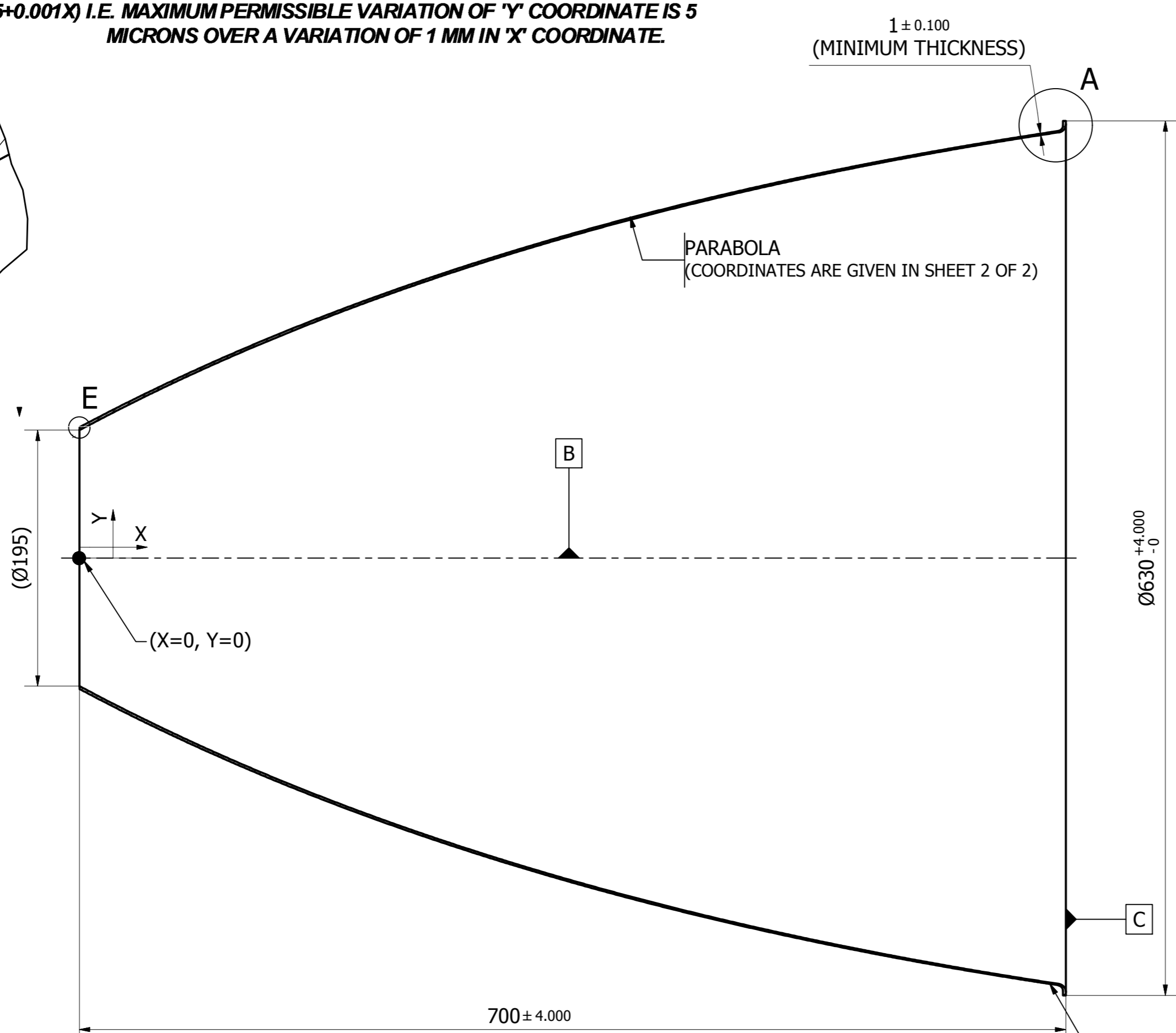
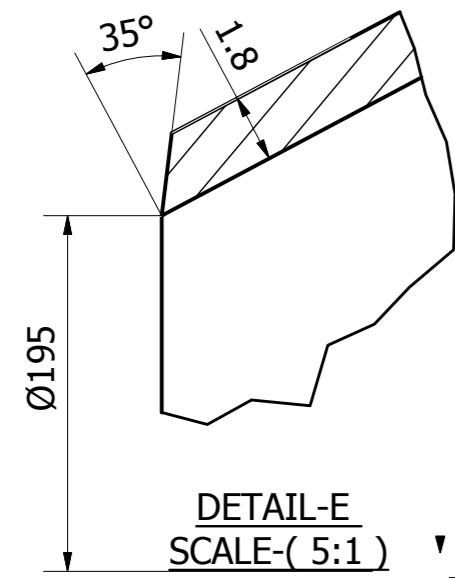
(हस्ता./Sd/-)  
प्रधान, क्रय व भंडार Head, Purchase & Stores

LENGTH OR DIA	UPTO 6	±0.1
	6	±0.2
D	30	±0.3
	120	±0.5
F	315	±0.8
	1000	±1.2
F	2000	±2.0
	4000	±3.0
LENGTH IN mm OF SHORTER SIDE OF ANGLE	UPTO 6	±1'
	6 - 30	±30'
F	30 - 120	±20'
	120 - 400	±10'

**EQUATION OF PARABOLA**

$$x^2 + 2.7581044869 y^2 + 3.3215083844 xy - 4003.6681239713 x + 6390.7650223597 y - 611839.3096268440 = 0$$

**TOLERANCE ON Y = ±(0.05+0.001X) I.E. MAXIMUM PERMISSIBLE VARIATION OF 'Y' COORDINATE IS 5 MICRONS OVER A VARIATION OF 1 MM IN 'X' COORDINATE.**



**DETAIL AT A SCALE (4:1)**

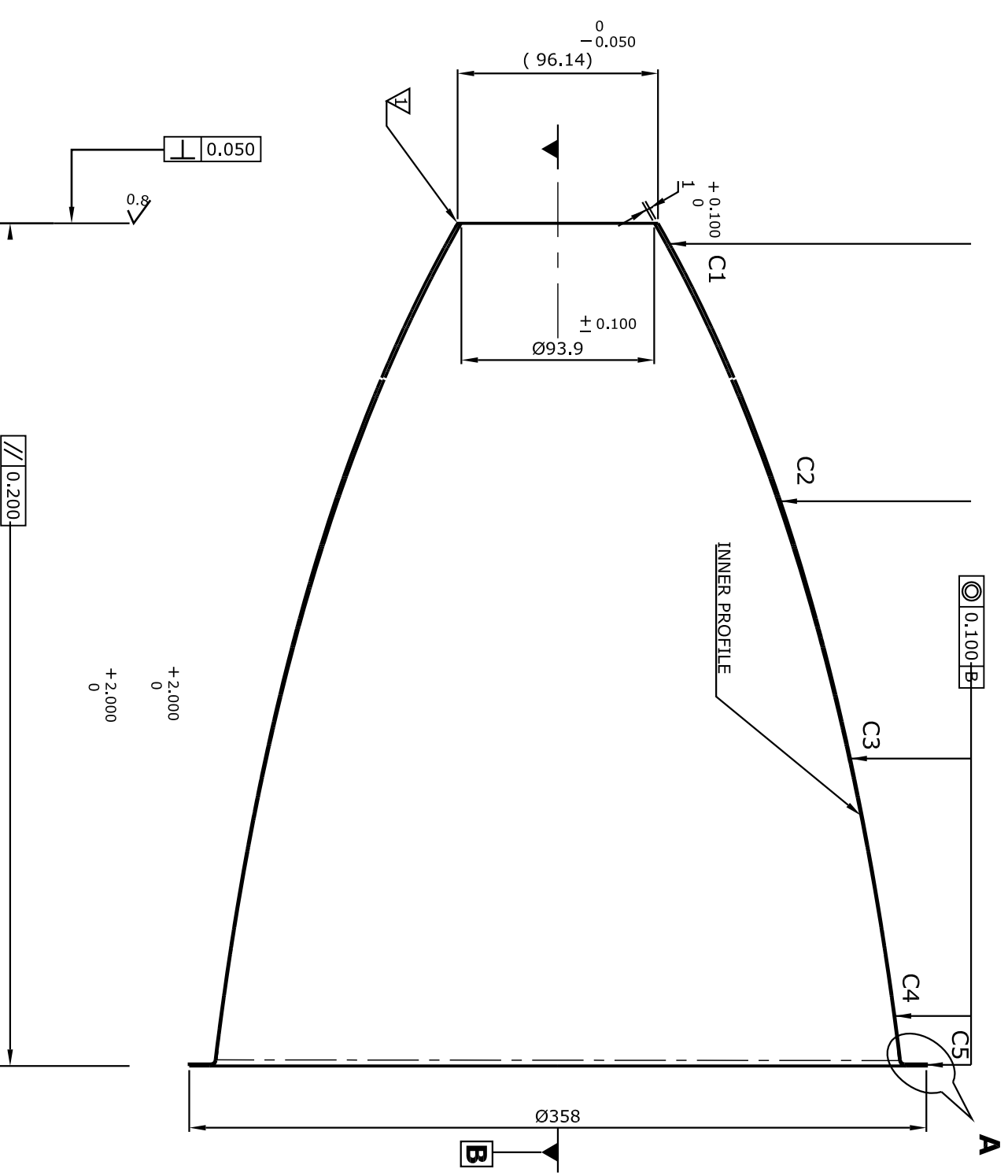
TABLE FOR VARIATION OF THICKNESS	
(TO BE CHECKED AT 16 LOCATIONS EQUISPACED, CIRCUMFERENTIALLY)	
AXIAL DISTANCE (MM)	THICKNESS (mm) ±0.10
0	1.80
50	1.73
100	1.65
150	1.57
200	1.50
250	1.45
300	1.40
350	1.35
400	1.30
450	1.25
500	1.20
550	1.15
600	1.10
650	1.05
700	1.00

- NOTES**
- THICKNESS VARIATION IS LINEAR ALONG THE AXIS.
  - INSIDE AND OUTSIDE SURFACES SHOULD BE SMOOTH AND FREE FROM DENTS AND TOOL MARKS.
  - 'X' COORDINATES AT 5mm INTERVALS AND CORRESPONDING 'Y' COORDINATES OF THE INNER CONTOUR IS GIVEN IN EXCEL SHEET.
  - THE CONTOUR SHOULD BE CONCENTRIC TO THE AXIS WITHIN 1mm.
  - OVALITY ON DIAMETER SHOULD BE WITHIN 0.8% IN FREE CONDITION.

ENGRAVE PART IDENTIFICATION

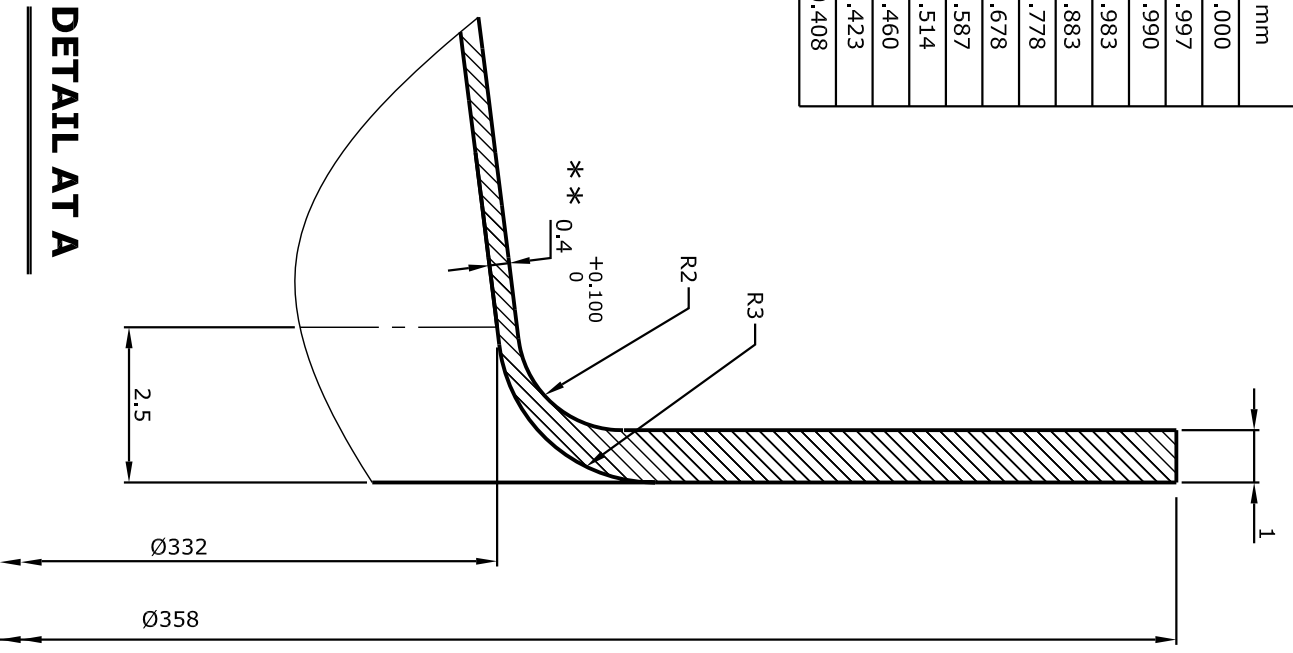
DO NOT SCALE THE DRAWING ASK IF IN DOUBT ALL DIMENSIONS ARE IN mm.		<b>MATERIAL</b> <b>KC20WN</b>		SURFACE TREATMENT		PART No: 01	
CONCENTRICITY PERPENDICULARITY ANGULARITY PARALLELISM		General tolerance _____ Thread tolerance _____ Thread chamfer & under cut. _____		SURFACE FINISH (Ra in µm) <b>3.2(1.6)</b>		QTY PER ASSY <b>1</b>	
THIS DRAWING IS AN EXCLUSIVE PROPERTY OF ISRO AND SHALL NOT BE COPIED, REPRODUCED OR COMMUNICATED TO OTHERS WITHOUT PROPER AUTHORISATION		Radii not specified _____ Chamfers not specified _____		MARKING		CALCULATED MASS (kg) <b>12.6</b>	
						<b>TITLE</b> <b>Nozzle Divergent 1</b>	
						GOVERNMENT OF INDIA INDIAN SPACE RESEARCH ORGANISATION LIQUID PROPELLION SYSTEMS CENTRE VALIAMALA TRIVANDRUM-695547	
						DRAWING No. _____ REV. No. <b>01</b> FORMAT <b>A3</b>	
						SCALE _____ SHEET <b>1</b> OF <b>2</b>	

SRQA LPSC
CHD
APPD



Sl. No.	X IN mm	THICKNESS IN mm
1	0	1.000
2	35	0.997
3	70	0.990
4	105	0.983
5	140	0.883
6	175	0.778
7	210	0.678
8	245	0.587
9	280	0.514
10	315	0.460
11	350	0.423
12	385	0.408

**DETAIL AT A**



**NOTE:**

FREE FROM ANY DENT & TOOL MARKS

INNER PROFILE:  $X^2 + 22.08288 Y^2 + 9.39849 XY - 6714.61959 X + 10040.40076 Y - 97875.16005 = 0$

✧ \*

MAINTAIN SHARP CORNER

Sl. No.	X IN mm	THICKNESS IN mm
1	0	1.000
2	35	0.997
3	70	0.990
4	105	0.983
5	140	0.883
6	175	0.778
7	210	0.678
8	245	0.587
9	280	0.514
10	315	0.460
11	350	0.423
12	385	0.408

**LPSC**

**NOZZLE 2**

GOVERNMENT OF INDIA  
INDIAN SPACE RESEARCH ORGANISATION  
LIQUID PROPELLION SYSTEMS CENTRE  
VALAMMALA TRIVANDRUM - 695 547

GROUP  
**ESEG/SPEG**

DO NOT SCALE THE DRAWING.  
ASK IF IN DOUBT.  
ALL DIMENSIONS ARE IN mm.

MATERIAL COLUMBIUM ALLOY (C-103)  
Mechanical properties \_\_\_\_\_  
General tolerance JS or JS 12  
Thread tolerance \_\_\_\_\_  
Thread chamfer & under cut \_\_\_\_\_  
Radii not specified \_\_\_\_\_  
Chamfers not specified \_\_\_\_\_

SURFACE FINISH  
(0.8/1.6)  
MARKING  
Qty. per Assembly 1  
Calculated weight 1793 g

DGN. \_\_\_\_\_  
D.GHD. \_\_\_\_\_  
DRN. \_\_\_\_\_  
CHD. \_\_\_\_\_  
APPD. \_\_\_\_\_  
SIGN. \_\_\_\_\_  
DATE \_\_\_\_\_

ISSUE No 00  
FORMAT A2  
SHEET 1 OF 3

REVISION  
INDEX  
MODIFICATION ORDER No & DATE