



BAY	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
∅	15°22'	11°51'	9°42'	7°36'	6°18'	5°0'	3°18'	1°54'	0°45'	0°	0°	0°	0°	0°	0°	0°	0°
θ	90°	87°08'	84°32'	81°20'	78°46'	75°46'	71°01'	66°9'	61°26'	56°31'	47°58'	42°49'	37°05'	31°38'	25°55'	20°44'	15°15'
L,mm	0	1.4	2.5	4.0	5.1	6.6	10.4	14.8	19.4	24.6	37.9	46.8	58.2	72.8	93.4	121.2	170.1

NOTE:-

- Alloy ICNi-4314-706C.
Mechanical properties at RT: $\sigma_u \geq 784\text{MPa}$, $\sigma_{0.2} \geq 588\text{MPa}$, %El $\geq 5\%$ (GL=4D), %RA $\geq 5\%$.
Stress rupture $\geq 540\text{MPa}$ at 650°C for 30 minutes.
- A & B are reference surfaces.
- **Reference dimensions.
- Unspecified casting radii up to 3mm.
- Perform X-ray inspection as per shooting sketch document No. VSSC/MME/MMG/FTD/SS/C-25/14/01.
Method and acceptance as per technical document (Note. No.9).
- Dye penetrant test shall be carried out. Method and acceptance as per technical document (Note. no.9).
- Perform Hydro-test at a pressure of 6 bar (g) for 5 minutes (min.) in cavity Q. Leakage is not allowed.
- Perform pneumatic test by aquarium method at a pressure of 4.5 bar (g) for 5 minute (min.) in cavity Q. Leakage is not allowed.
- Detailed specification, production and quality requirements as per technical document No. VSSC/MME/MMG/FTD/ICNi-4314-706C/01-14/R1.
- Open geometric tolerances to meet standard VDG P690, accuracy grade D1. Un-specified shape and angular tolerances to meet the limits of size. Pattern draft (if any) shall be within drawing tolerance.
- Mark drawing and serial numbers at location P.
- Put a stamp of final acceptance on a tag.

OPEN TOLERANCE TABLE-1
FOR LINEAR DIMENSIONS EXCEPT POSITION AND THICKNESS(VDG P690/D1)

Nominal Dimension, mm	Total Tolerance
Upto 6	0.3
6-10	0.36
10-18	0.44
18-30	0.52
30-50	0.8
50-80	0.9
80-120	1.1
120-180	1.6
180-250	2.4
250-315	2.6
315-400	3.6
400-500	4.0

OPEN TOLERANCE TABLE-2 (255Y.TY-8114)

Largest overall casting Dimensions, mm	For position & Linear Dimensions between un-machinable surfaces. (except widths)	Un-machinable width/Thickness
0-50	±0.4	±0.3
50-180	±0.5	±0.4
180 and.	±0.6	±0.5

OPEN TOLERANCE TABLE-3
FOR RADIUS (VDG P690/D1)

Nominal Radius in mm.	Total Tolerance.
Upto 6	0.2
6-10	0.25
10-18	0.40
18-30	0.50
30-50	0.60
50-80	0.80
80-120	1.0
120-180	1.30
180-250	1.80
250-315	2.30
315-400	2.90
400-500	3.40

Sl. No.	Test	Medium for applying pressure	Zone	Gauge Pressure (bar)	Duration (minutes)
1.	Proof test	Hydraulic	Cavity Q	6.0	5 (minimum)
2.	Leak test	Pneumatic (GN ₂)	Cavity Q	4.5	5 (minimum)

SUPPLY CONDITION
Heat treated & Surface treated

HEAT TREATMENT (FULL CYCLE)
Homogenization, Solution treatment, Ageing

PART No. TITLE
LOX TURBINE EXHAUST CASING CASTING

MATERIAL
ICNi-4314-706C

SURFACE FINISH
8

SURFACE TREATMENT
Sand blasting

DRG. No.
CE20-1100-91C

SCALE
SCALE-1:1 and noted

SHEET
1 OF 1