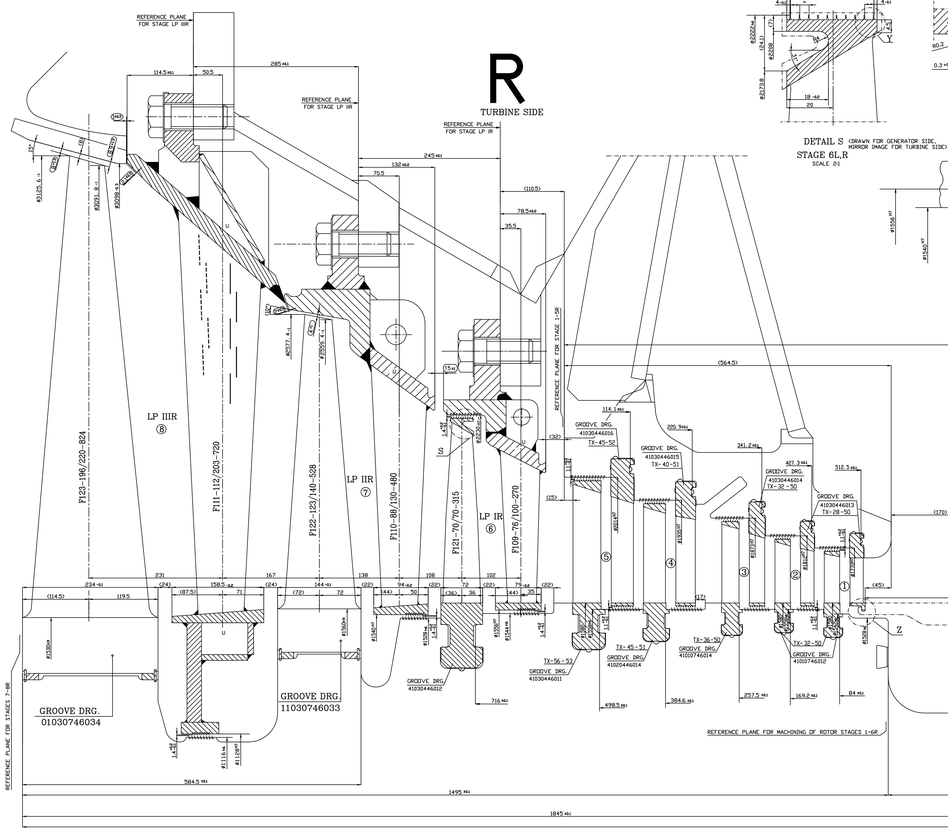
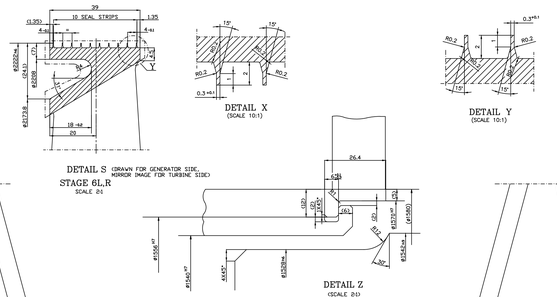
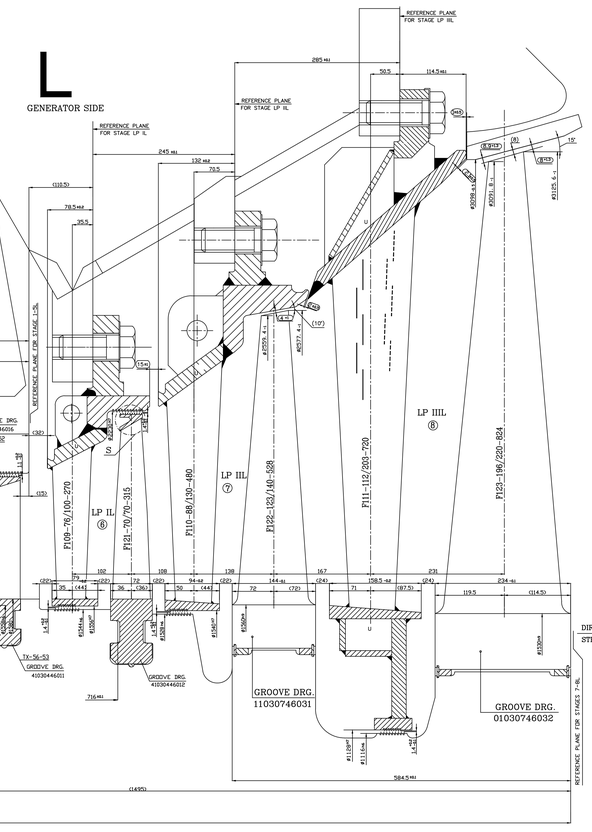
9-10304-29000
ASSEMBLY DRAWING

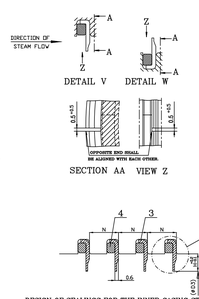
R
TURBINE SIDE





L
GENERATOR SIDE

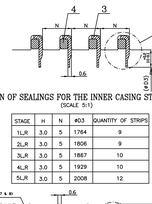




TOLERANCE STATEMENT

NOMINAL SIZE mm		H7	h6	h9
ABOVE	UP TO	UPPER LOWER	UPPER LOWER	UPPER LOWER
1120	1250	+0.105 0	0 -0.066	0 -0.280
1250	1600	+0.125 0	0 -0.078	0 -0.310
1600	2000	+0.150 0	0 -0.092	0 -0.370
2000	2500	+0.175 0	0 -0.110	0 -0.440
2500	3150	+0.210 0	0 -0.135	0 -0.540

3.2 ALL OVER



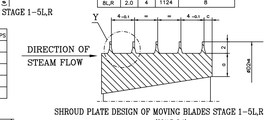
DESIGN OF SEALINGS FOR THE GUIDE BLADE CARRIERS STAGE 6-8L,R
(SCALE 5:1)

STAGE	H	N	Ø04	QUANTITY OF STRIPS
6L,R INNER RING	2.0	4	1552.0	8
6L,R OUTER RING	2.0	5	2224.8	11
7L,R	2.0	4	1536.0	8
8L,R	2.0	4	1124	8

DESIGN OF SEALINGS FOR THE INNER CASING STAGE 1-5L,R
(SCALE 5:1)

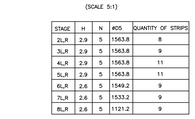
STAGE	H	N	Ø03	QUANTITY OF STRIPS
1L,R	3.0	5	1764	9
2L,R	3.0	5	1806	9
3L,R	3.0	5	1867	10
4L,R	3.0	5	1929	10
5L,R	3.0	5	2008	12

DIRECTION OF STEAM FLOW



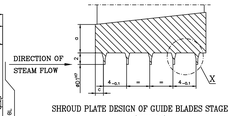
SHROUD PLATE DESIGN OF MOVING BLADES STAGE 1-5L,R
(SCALE 5:1)

STAGE	a	c	Ø02	QUANTITY OF STRIPS
1L,R	4.0	1.3	1761.8	7
2L,R	4.0	1.3	1803.8	7
3L,R	4.5	3.0	1864.8	7
4L,R	5.5	3.0	1926.8	9
5L,R	6.0	1.9	2005.8	12



DESIGN OF SEALINGS FOR THE ROTOR STAGE 2-8L,R
(SCALE 5:1)

STAGE	H	N	Ø05	QUANTITY OF STRIPS
2L,R	2.9	5	1563.8	8
3L,R	2.9	5	1563.8	9
4L,R	2.9	5	1563.8	11
5L,R	2.9	5	1563.8	11
6L,R	2.6	5	1549.2	9
7L,R	2.6	5	1533.2	9
8L,R	2.6	5	1121.2	9



SHROUD PLATE DESIGN OF GUIDE BLADES STAGE 2-5L,R
(SCALE 5:1)

STAGE	a	c	Ø01	QUANTITY OF STRIPS
2L,R	5.0	1.7	1566	6
3L,R	5.0	1.3	1566	7
4L,R	5.0	2.9	1566	8
5L,R	5.0	1.2	1566	10

TECHNICAL REQUIREMENTS :

1. FOR MACHINING OF BLADE AND SEALING GROOVES OF ROTOR AND OTHER LOCATING DIMENSIONS, REFER DRAWING NO. 9103046051.
   FOR MACHINING OF BLADE AND SEALING GROOVES OF INNER-INNER CASING, REFER DRG. NO. 1103029051.
2. DETAILS OF SEALING STRIPS:

CASING STAGE	HEIGHT OF SEALING STRIP	APPROX. ROLLING DIA	ROTOR STAGE	HEIGHT OF SEALING STRIP	APPROX. ROLLING DIA
1-4L,R	5.5	1970	2-5L,R	5.4	1830
5L,R	5.5	2160	6L,R	5.1	1830
6L,R 4.5 FOR INNER RING	1830	7L,R	5.1	1830	
6L,R 5.1 FOR OUTER RING	2160	8L,R	5.1	1120	
7L,R	4.5	1480			
8L,R	4.5	1120			

3. MINIMUM AXIAL CLEARANCES :
   ACCORDING TO DRAWING OF "MINIMUM AXIAL BLADE CLEARANCES -LPT" FOR THE RELEVANT CONTRACT.
4. INSERTION GROOVE DRAWINGS:

STAGE	DRAWING NO.
1L-6L	41030446021
1R-6R	41030446022

5. LOCATION OF INSERTION GROOVES AS PER TECHNOLOGICAL INSTRUCTION NO. 0944.004, ∝ < 60°
6. DIMENSIONS GIVEN IN ⊂⊃ ARE "ASSEMBLY CONTROL DIMENSION"
7. FOR THE VALUES OF TOLERANCES (H7,h6,h9), SEE TOLERANCE STATEMENT.

GRADE OF UNTOL DIM —
MCO – E/G/F/ AA 023 0208
WELDING – TC 0 870 003
GAS CUTTING –TX AA 062150

REV	DATE	ALTERED CHECKED
ZONE		

REV	DATE	ALTERED CHECKED
ZONE		

GRAPH. REPR. FORM NO. 9103047900			DRAWN BY (INT. USE)
INDENT	NAME	DATE	
ACT	P.K.MISRA	56^-14.03.07	
STT	M.SHARMA	56^-14.03.07	

TYPE OF PRODUCT: STEAM TURBINE
NAME OF CUSTOMER/PROJECT:

BHARAT HEAVY ELECTRICALS LTD
RANIPUR, HARDWAR

DRAWN	SIGN	DATE
CHK	P.K.MISRA	56^-14.03.07
CHK	V.K.BAHUGUNA	56^-17.03.07
APPD	T.K.MEHROTRA	56^-

DEPT. STE
CODE 4011

SCALE 1:20
WEIGHT (KG) 68400
REF. TO ASSY. DRG.

TITLE : BLADE PLAN LPT

DR.WING NO. 9-10304-29000
SHEET No. 1 No. OF SHEETS 1