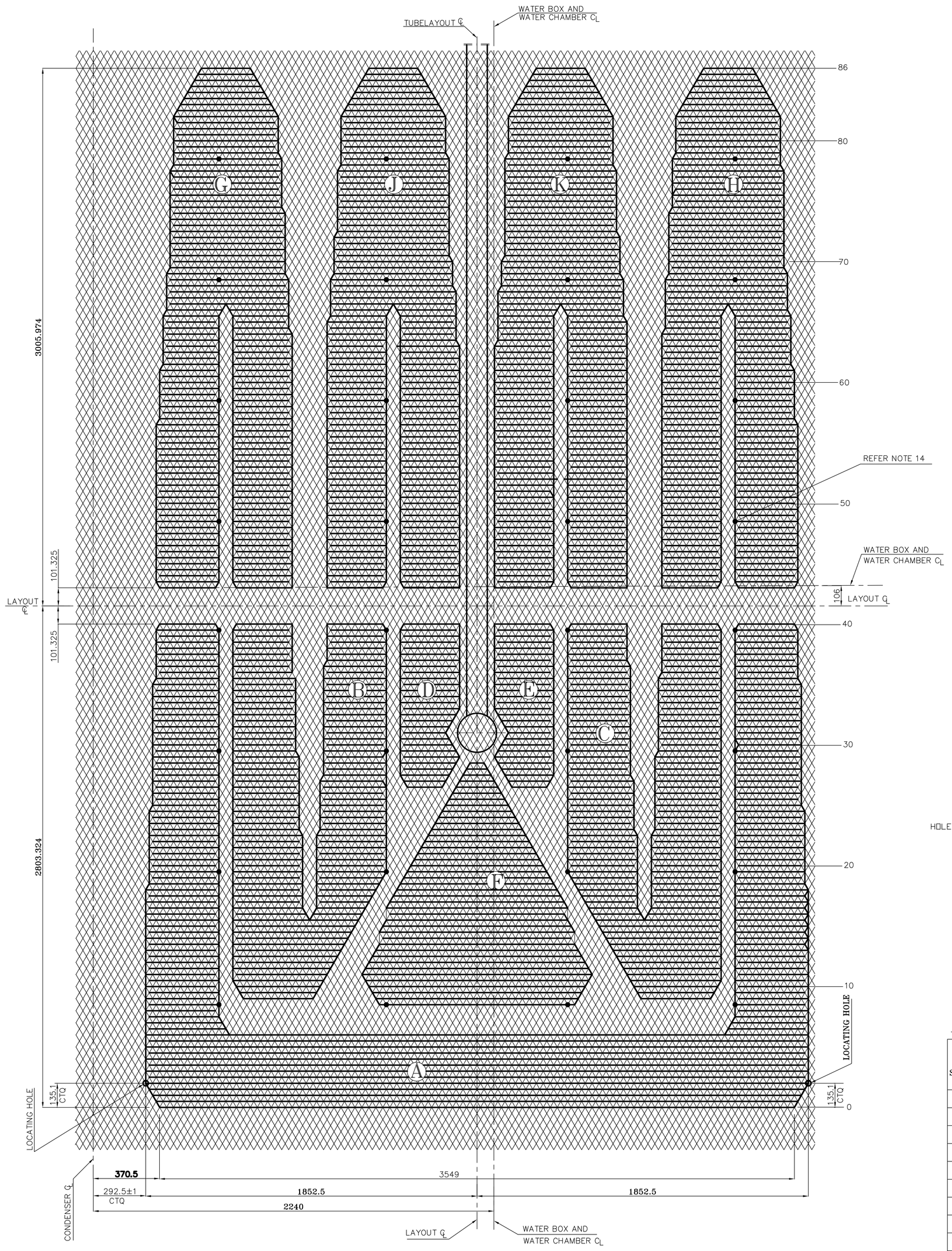
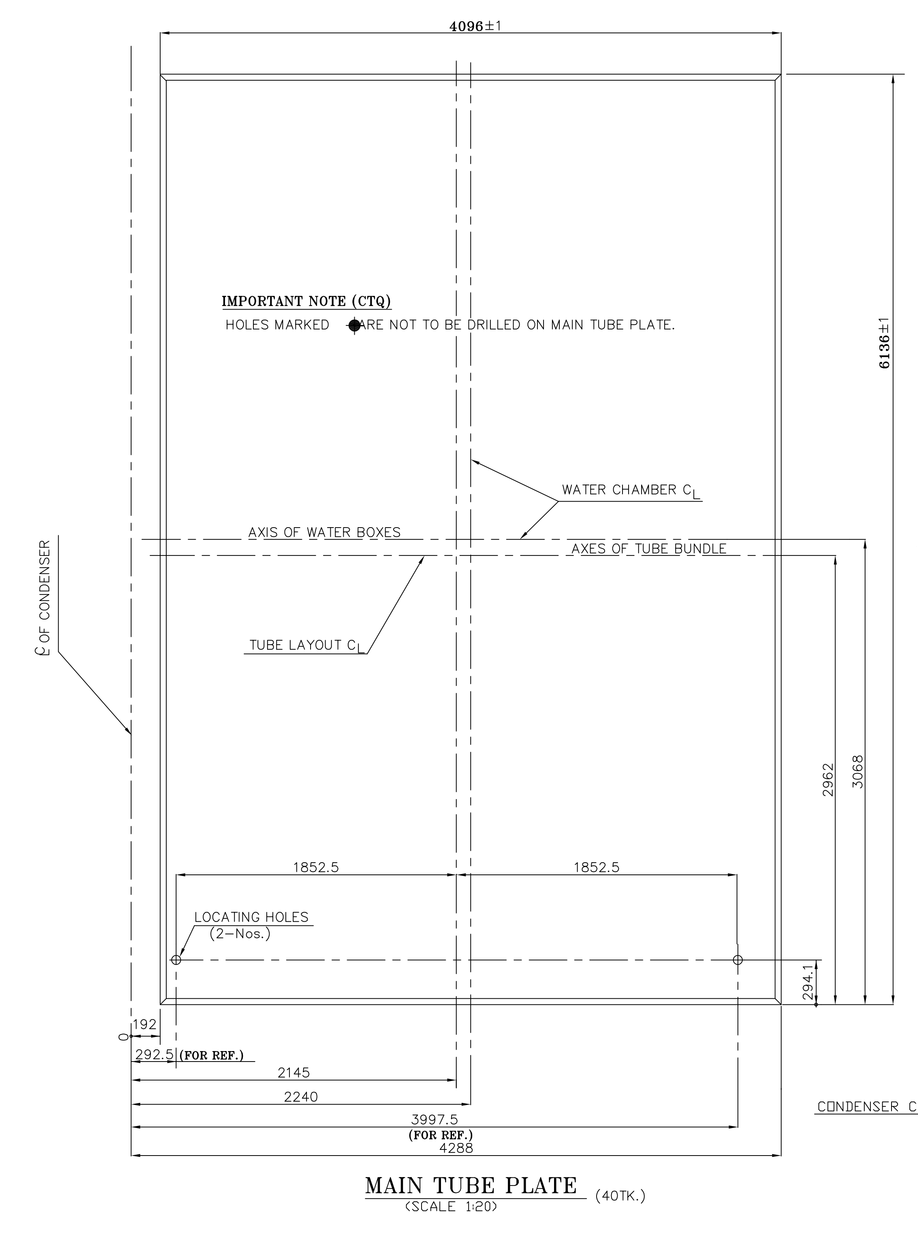
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

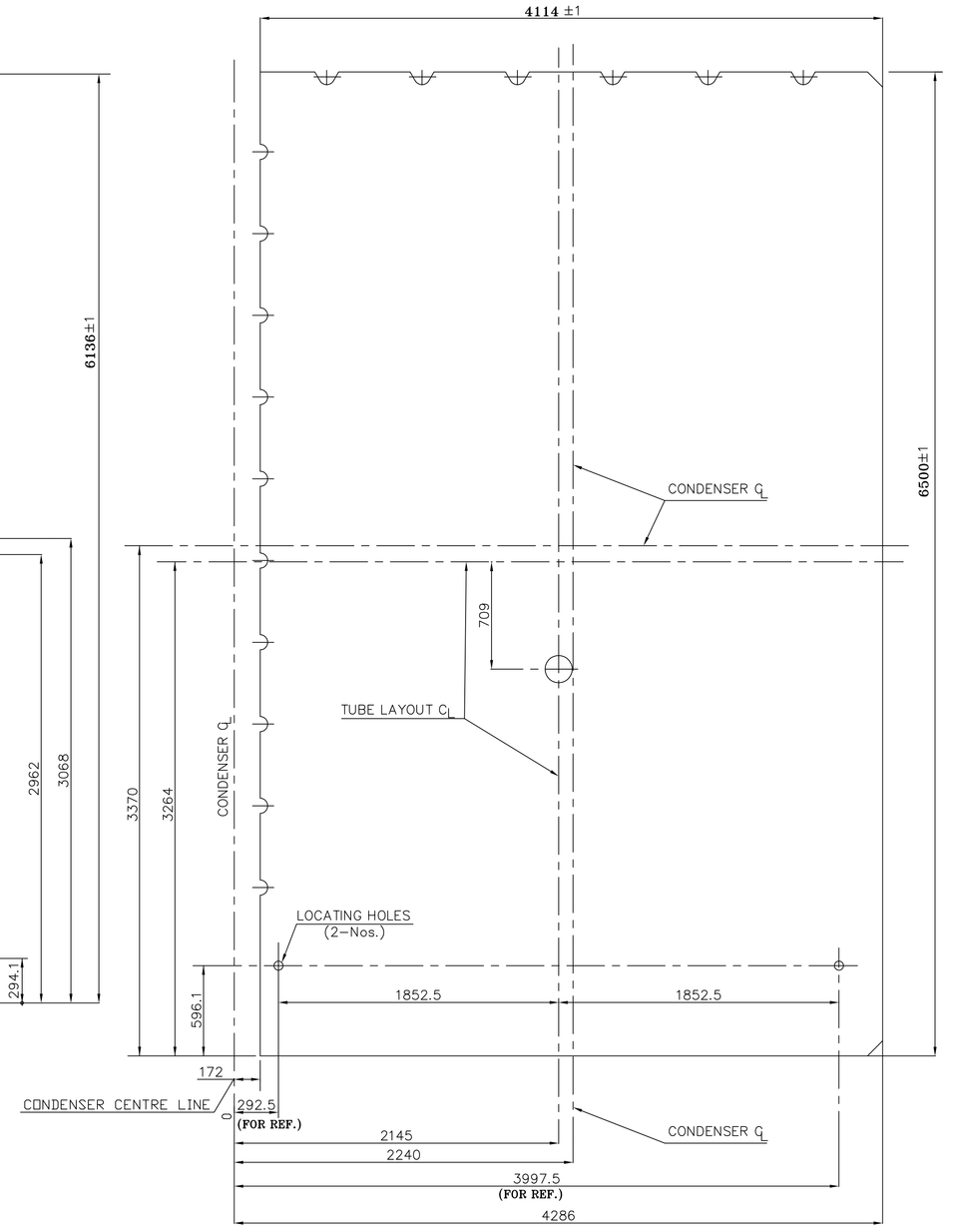
DRG. NO 0-16000-70031

CTQ : CRITICAL TO QUALITY

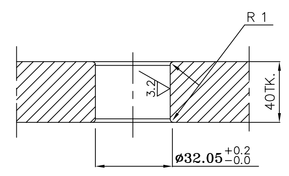




MAIN TUBE PLATE (40TK.)
(SCALE 1:20)

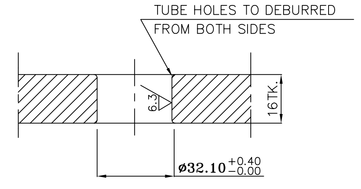


SUPPORT TUBE PLATE (16TK.)
(SCALE 1:20)



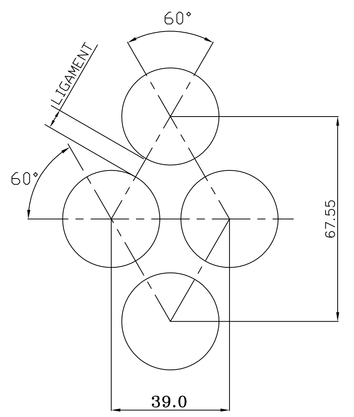
HOLES FOR TUBE IN MAIN TUBE PLATES

DETAIL-I
(NTS)



HOLES FOR TUBE IN TUBE SUPPORT PLATES

DETAIL-II
(NTS)



TUBE LAYOUT ARRANGEMENT
(SCALE 1:1)

DETAIL OF TUBE HOLES:

SEGMENT	MAIN TUBE PLATE		TUBE SUPPORT PLATE	
	TOTAL HOLES	PEREPHERAL HOLES	TOTAL HOLES	PEREPHERAL HOLES
A	2642	330	2650	338
B	1165	152	1168	155
C	1165	152	1168	155
D	239	48	239	48
E	239	48	239	48
F	855	104	857	106
G	1478	170	1482	172
H	1478	170	1482	172
J	1468	169	1472	171
K	1468	169	1472	171
TOTAL	12197		12229	

TECHNICAL REQUIREMENTS(TR)

1. NO. OF TUBE HOLES IN EACH TUBE SUPPORT PLATE = **12229** NOS.
2. NO. OF TUBE HOLES IN EACH MAIN TUBE PLATE = **12197** NOS.
3. TUBE HOLE SIZES ARE AS SHOWN IN THE DETAIL I & II.
4. **TUBE SIZE : 31.75 x 0.7112 mm.**
5. PITCH = **39.0 mm.**
6. TOLERANCE ON PITCH ± 1 mm.
7. CUMULATIVE TOLERANCE ON PITCHES ± 2.0 mm
8. MINIMUM LIGAMENT BETWEEN HOLES SHOULD NOT BE LESS THAN 1 mm FROM NOMINAL.
9. NO SPIRAL OR AXIAL GROOVES IN HOLES ARE ALLOWED.
10. UPTO 4% OF HOLES MAY BE ALLOWED WITH MAXIMUM $\sqrt{}$ & $\sqrt{}$ SURFACE FINISH IN MAIN TUBE PLATE AND TUBE SUPPORT PLATE RESPECTIVELY.
11. REFER TABLE FOR NO. OF HOLES IN EACH ZONE/FINGER.
12. RADIUS OF 1 MM ON BOTH SIDE OF HOLES IS FOR REMOVING BURRS FROM TUBE HOLES ONLY.
13. THE LAYOUT SHOWN IS FOR THE RIGHT HAND SIDE. LAYOUT FOR THE OTHER HALF IS THE MIRROR IMAGE OF THIS LAYOUT.
14. **HOLES MARKED ◆ ARE NOT TO BE DRILLED ON MAIN TUBE PLATE.**

REFERENCE DRAWINGS:

1. MAIN TUBE PLATE 2-16018-70028
2. SUPPORT TUBE PLATE 2-16028-70026

28 —— CARD TYPE-3 | 28 —— CARD TYPE-1 | 28 —— CARD TYPE-2

VAR00 | REMARKS | VAR NO. | ITEM NO. | DESCRIPTION | STD | DRAWING NO. | ITEM NO. | MATL. CODE | UNIT | UNIT WT. | QTY. | VAR. | MATL. SPCN.

GRADE OF UNTOLERATED DIMENSIONS
MACHINING : AA-0230208-M
WELDING : AA-0621104 CLASS-B
GAS CUTTING : AA-0621101 TABLE-3

DURGAPUR, 8 Nos.: T/PLATE
KHAPERKHEDA, 4 Nos.: T/PLATE

APPLICABLE PROJECTS

ADDITIONAL INFORMATION
STATUS OF DRAWING
DISTRIBUTION OF PRINTS
CDE-1 HCM-4

उत्पाद का प्रकार या ग्राहक/परियोजना का नाम
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT
SURFACE CONDENSER
500 MW T.G. SET

भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल
BHARAT HEAVY ELECTRICALS LTD. BHOPAL

	NAME	SIGN & DATE
DRN.	A.K.KHATRI	sd/- 27.05.01
CHD	P.K.GUPTA	sd/- 28.05.01
APPD	K.N.MEHTA	sd/- 29.05.01

REV	DATE	ALTERED / CHECKED / APPROVED
03B	05.07.08	ALTERED THAWANI; CHECKED NAQVI; APPROVED TAURANI. TWO-HOLES ONE EACH FROM ZONE G&H FROM TOP No.10 TO BOTTOM No.1 ZONE G&H FROM BOTTOM No.10 TO TOP No.1 ZONE G&H FOR DET. OF TUBE HOLES, NO OF HOLES IN SEGMENT G&H FOR TUBE PLATE WERE 1478 EACH AND FOR SUPPORT PLATES WERE 1482 EACH. TOTAL No. OF TUBE HOLES FOR TUBE PLATE WERE 12199 & FOR SUPPORT PLATE WERE 12231.
03A	29.4.08	ALTERED THAWANI sd/-; CHECKED NAQVI sd/-; APPROVED TAURANI sd/- DRAWING REDRAWN. MISSING 1-HOLE ADDED IN LAYOUT FINGER G&H. DETAIL-I&II MODIFIED.
03	27.2.04	ALTERED VIMAL sd/-; CHECKED P.K.GUPTA sd/-; APPROVED P.K.GUPTA sd/- HXE-06-F0008 TUBE BUNDLE OUTLINE AND CHANGE MARKED AS 0℄
02	27.1.05	ALTERED A.K.K. sd/-; CHECKED S.K.B. sd/-; APPROVED S.K.B. sd/- HXE-04-F0130 CHANGES MARKED AS 0℄
01	30/1/02	ALTERED A.K.KHATRI sd/-; CHECKED P.K.GUPTA sd/-; APPROVED P.K.GUPTA sd/- HXE/02/F208 DIM. 292.5 WAS 314.5 NOTE-14 ADDED.

BHPT CDE	DRG. CON. ANY DET.
CODE 411	UNTOL.DIMS. GR.
SCALE	1:10
WEIGHT (KG)	
REF. TO ASSY. DRG.	

ड्राइंग का शीर्षक/DRAWING TITLE
CONDENSER TUBE LAYOUT

ड्राइंग सं./DRAWING NO. 0-16000-70031 03B
ड्राइंग सं./SHT. No. 01 | शीटों की संख्या/NO. OF SHT. 01

REF. DRG. NO. | INVENTORY NO.

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