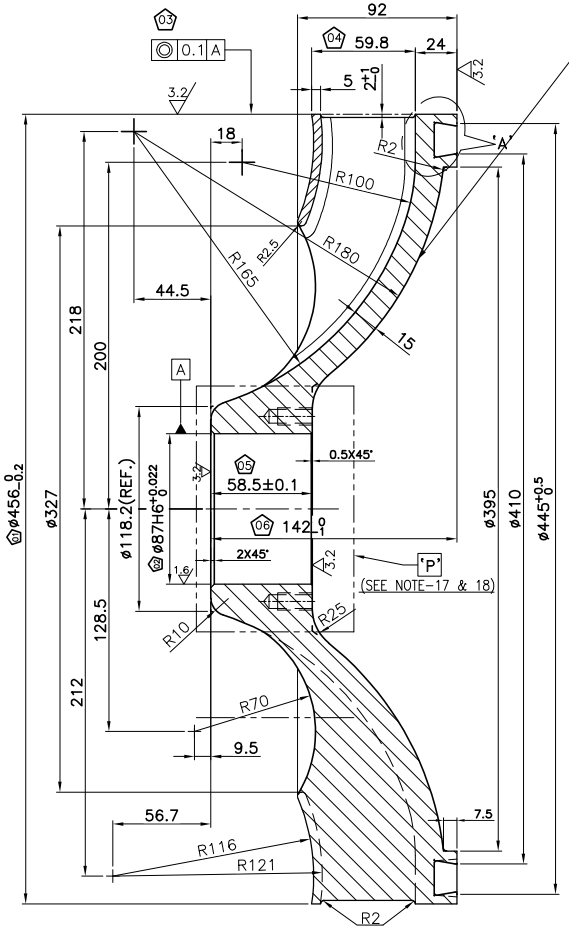
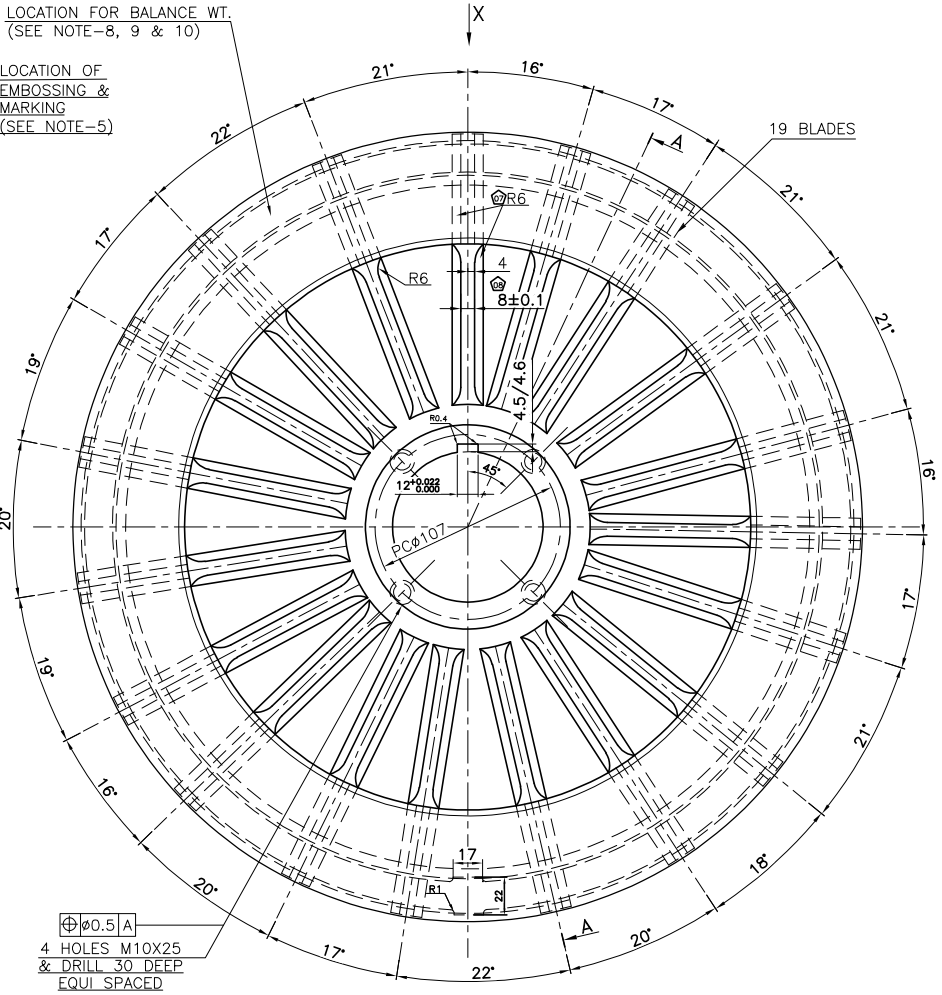
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DWG. NO. 24450205051





NOTES:-

1. VENTILATOR TO BE MANUFACTURED BY INVESTMENT CASTING ONLY.
2. SURFACE FINISH OF UNMACHINED CASTING SURFACE TO BE LESS THAN 15 µm Ra IN 100% AREA EXCEPT PROFILE TRANSITION ZONE (REF. IS:3073).
3. ADDITIONAL MATERIAL SHALL NOT BE PROVIDED ON SURFACE WHERE MACHING SYMBOL IS NOT INDICATED. TOL. ON UNTOLERATED CASTING SURFACE SHALL BE AS PER IS:4897, CLASS-2.
4. NON-STATED RADII R=3.
5. EMBOSSING & MARKING TO BE DONE AT THIS LOCATION AS PER SPECIFICATION TM12548.
6. VENTILATOR TO BE STRESS RELIEVED & SHOT BLASTED.
7. ALL 08 NOS."⬠" MARKED DIMENSIONS ARE CRITICAL TO QUALITY(CTQ) & SL. NO. OF CTQ DIMENSIONS ARE INSCRIBED IN ⬠ e.g. (09).
8. MAXIMUM 70 GMS OF UNBALANCE OF VENTILATOR IS ACCEPTABLE BEFORE ADDITION OF ANY BALANCE WEIGHT i.e. MAXIMUM 70 GRAM BALANCE WEIGHT SHALL BE USED FOR BALANCING OF VENTILATOR.
9. VENTILATOR TO BE GIVEN AN ACCURATE STATIC AND DYNAMIC BALANCE (AT 500 RPM) BY THE ADDITION OF BALANCE WEIGHTS. MAX. PERMISSIBLE UNBALANCE IS 1 GRAM.
10. CORRECTION OF UNBALANCE TO BE DONE BY FITTING BALANCE WT. (EITHER IT.002 OR 003 OR 004) USING GRUB SCREW (IT.005) ON VENTILATOR. WELDING OF BALANCE WEIGHT IS NOT ALLOWED.
11. TEMPORARY RUST PREVENTIVE (TRP) AS PER AA55152 TO BE APPLIED ON VENTILATOR ALL OVER AND PRIMER PAINTING SHALL NOT BE DONE.
12. PROFILE OF BACK FACE (CONSISTING R180 & R25) TO BE MAINTAINED IN CASTING AS PER DRAWING DIMENSION WITHOUT ANY DEVIATION. SAME IS TO BE CHECKED & ENSURED BY SUITABLE PROFILE CHECKING GAUGE.

TESTING:-

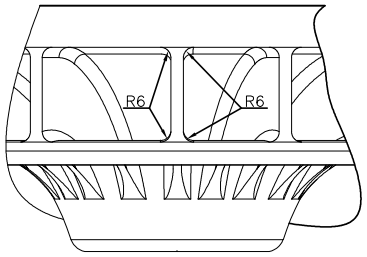
14. DPT TO BE DONE ON COMPLETE AREA OF EACH VENTILATOR (BEFORE FINAL MACHINING) (INCLUDING JOINING AREA OF BLADES WITH BODY) AS PER SPEC. AA0850131 WITH ACCEPTANCE CRITERIA AS PER LEVEL-II OF SPEC. AA0850132.
15. MPI TESTING TO BE DONE ON ALL THE SURFACES OF EACH VENTILATOR (BEFORE FINAL MACHINING) TO SPEC. AA0850133 WITH ACCEPTANCE CRITERIA AS PER LEVEL II OF SPEC. AA0850134.
16. SUPPLIER TO SUBMIT REPORT OF DP & MPI TESTING OF EACH VENTILATOR TO BHEL ALONG WITH EACH CONSIGNMENT.
17. RADIOGRAPHY TO BE DONE ON 100% QUANTITY OF EACH LOT OF VENTILATOR (BEFORE FINAL MACHINING) AT AREA INSIDE MARKED 'P'. SUPPLIER TO SUBMIT REPORT & FILMS OF RADIOGRAPHY TESTING TO BHEL ALONG WITH EACH CONSIGNMENT.

    RADIOGRAPHIC EXAMINATION & ACCEPTANCE LIMIT SHALL BE AS PER ASTM-E 446 AS MENTIONED IN TABLE-1 BELOW:

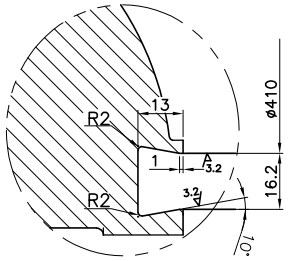
TABLE-1 RADIOGRAPHY

LOCATION OF FAN	'P' (CENTRAL PORTION)
DEFECT	CLASS
GAS POROSITY	2
INCLUSION	2
SHRINKAGE	2
HOT TEARS	NOT ACCEPTABLE
CRACKS	
UNFUSED CHAPLETS	
CHILLS	
INSERTS	

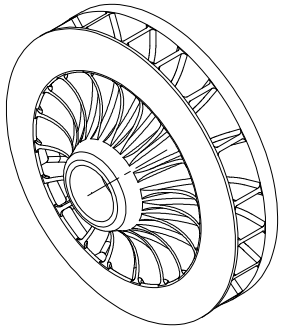
18. PROCESS SPEC. NO. BHEL/BPL/QNDT/26 SHALL BE FOLLOWED FOR RADIOGRAPHY EXAMINATION OF VENTILATORS.



VIEW-X



DETAIL-'A'



3D FOR REF.

006			005	HEX SOC SET SCREW M8X10						KG							
								AA7125110									
002			004	BALANCE WEIGHT 22 GMS		44454564052	004			KG							
002			003	BALANCE WEIGHT 18 GMS		44454564052	003			KG							
002			002	BALANCE WEIGHT 15 GMS		44454564052	001			KG							
001			001	VENTILATOR						KG							
								AA19511									
59 VAR.OO	64 65 REMARKS 76	76 78 VAR NO.	23 27 ITEM NO.	29 DESCRIPTION 58	59 STD.	60 DRAWING NO. 77	29 31 IT.NO.	34 MATL. CODE 45	46 A C	56 57 UNIT	58 UNIT WT. 65	72 CD	ZONE				
							32 33 VAR.	45 MATL. SPCN. 54			66 QTY. 71						

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

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS
TME-1 TXM-3 TNX-1

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT: IM3004AZ

BHARAT HEAVY ELECTRICALS LTD. BHOPAL

	NAME	SIGN	DATE	NO.OF VAR.
DRN	A.JHARIA		24.01.23	
CKD	A.SHARMA		24.01.23	
APPD	A.SHARMA		25.01.23	

REV.	DATE	ALTERED / CHECKED / APPD.	REV.	DATE	ALTERED / CHECKED / APPD.	REV.	DATE	ALTERED / CHECKED / APPD.
ZONE			ZONE			ZONE		

REV.	DATE	ALTERED / CHECKED / APPD.	ZONE
01	25.03.23	ALTERED A.J. / CHECKED A.S. / APPD. A.S.	CTQ (04) DIM.59.8 WAS 58.5. IN BOM, IT.003 & 004 ADDED DRAWING UPDATED.

DEPT.	UNTOL. DIMS. GR.	SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
TME CODE 405	'M' AA0230208	NTS	35.0	34454505054	004	001

TITLE: VENTILATOR (CNC MACHINED)

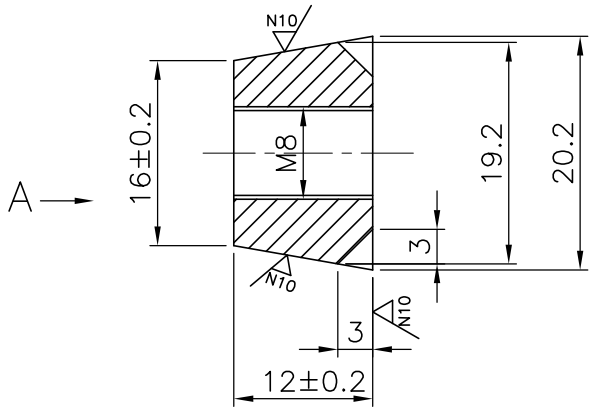
DRAWING NO. 24450205051 REV. 01

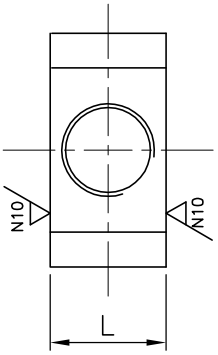
SHT.NO. 01 NO. OF SHT. 01

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MAY NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

REV.	DATE		REV.	DATE		ADDITIONAL INFORMATION	4TWD.096.044 (ALT.-6)
02	21.05.12	ALTERED	01	13.01.10	ALTERED -sd-	STATUS OF DRAWING	
		CHECKED			CHECKED -sd-		
		APPROVED			APPROVED -sd-	DISTRIBUTION OF PRINTS	TME-1, TXM-3 TNX-1
ZONE	THREAD SYMBOL WAS NOT CORRECT.		ZONE	DRG. UPDATED & DIGITIZED.			





ITEM. 1. L= 10±0.2
ITEM. 3. L= 12±0.2
ITEM. 4. L= 15±0.2

NOTE:-

1. REMOVE ALL SHARP EDGES.
2. MATERIAL:- STEEL TO IS:2062'92 Gr-Fe410WB.
3. THIS IS COMMON DRAWING OF 6FRA6068 AND 6FXA7059
   THE C&D NO FOR 6FXA7059 IS 5820/103, 5820/104 & 5820/105.
4. FIRM'S IDENTIFICATION MARK TO BE PUNCHED AT LOCATION A.
5. MATERIAL TO BE SUPPLIED ALONG WITH ITEM. 2 TO IS.6094'81
   (FP) ZNPLATED(BRAND- LPS, TVS, GKW & PRECISION)

VAR00 (59-64)	REMARKS (65-75)	ITEM NO. (25-27)	DESCRIPTION (29-58)	STD (59)	MATL. CODE (34-45) / MATL. SPCN. (46-54)	A/C (55)	UNIT (56)	UNIT WT. (58-65) / QTY. (68-71)
005	SEE NOTE-2	004	BALANCE WEIGHT					
005	SEE NOTE-2	003	BALANCE WEIGHT					
020	SEE NOTE-5	002	HEX. SOC. SET SCRU M8X10					
010	SEE NOTE-2	001	MOD BALANCE WEIGHT					

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

REF. DRG. NO.

SIGN. & DATE

	NAME	SIGN	DATE	NO. OF VAR.
DRN.	BHAGAT	-SD-	03.09.10	
CHD.	D.K.	-SD-	03.09.10	
APPD.	A.S.	-SD-	03.09.10	

बीएचईएल BHEL

BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

INVENTORY NO.

DEPT.	UNTOL. DIMS. GR.		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
TME			NTS		14454564053	001	00
CODE 405							

TITLE

BALANCE WEIGHT
6FRA 6068

DRAWING NO. 4 445 45 64052 REV. 02

SHT. NO. 01 NO. OF SHT. 01

SIZE A4

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED.
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.