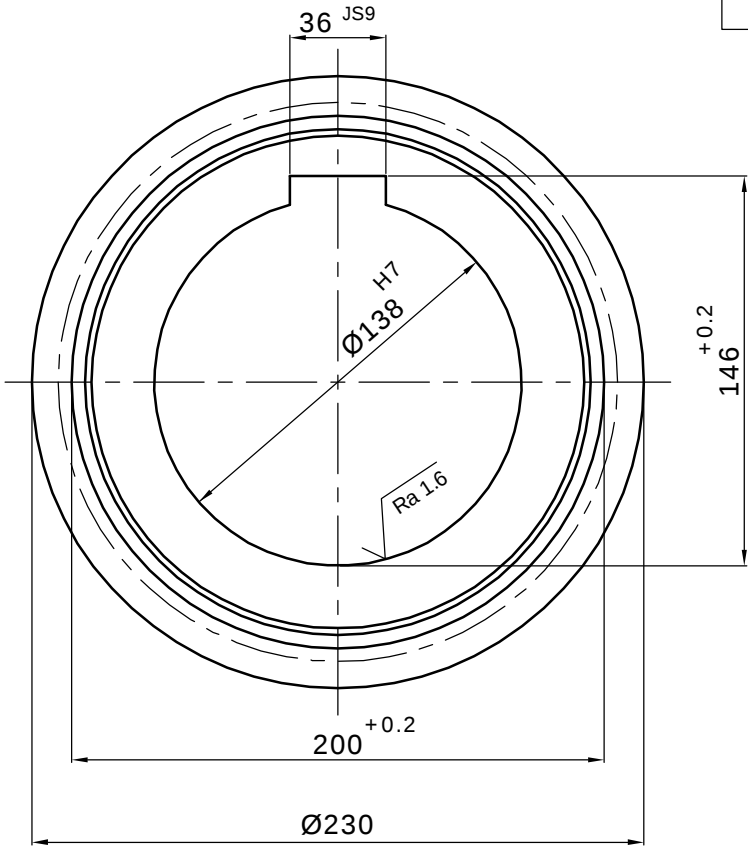
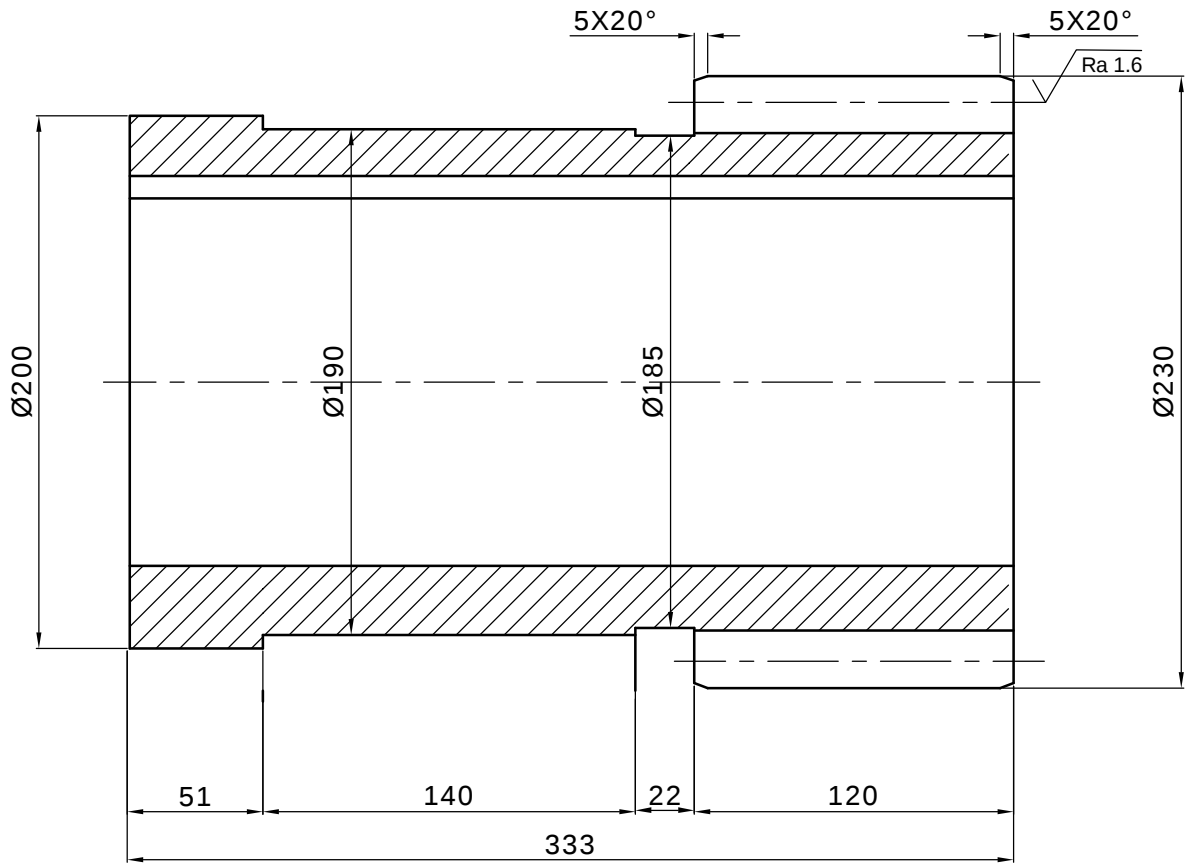


ALL DIMENSIONS ARE IN MILLIMETRES

16301-01-1011-7-3
DRAWING NO. : 3-7-1101-10-10391

$\sqrt{Ra\ 3.2}$ ($\sqrt{Ra\ 1.6}$)

H7 Ø138	+0.040 0.000
JS9 36	+0.031 -0.031



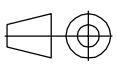
GEAR DATA

SPUR GEAR
NO OF TEETHS - 21
MODULE - 10
OD - 230
PCD - 210
WHOLE DEPTH - 21.57
PRESSURE ANGLE - 20°

NOTE:
HARDENED & TEMPERED TO 40 HRC

REV	DATE	ALTERED
01		CHECKED
		APPROVED

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			40CrMo28 IS:1570				
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT		
			MATL SPEC		QTY		
EQPT: ROTARY HEARTH FURNACE							
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME S.S.N.KUMAR/M.D	SIGNATURE <i>S.P.N.Kumar/M.D</i>	DATE 24.04.19	
			CHD	S.S.N.KUMAR	<i>S.P.N.Kumar</i>	24.04.19	
			APPD	D.ABHIGNA	<i>D.Abhigna</i>	24.04.19	
DEPT SSTP	GRADE OF UNTOL. DIM $\phi / M / \#$ IS: 2102		SCALE 1:2	WEIGHT (Kg) 47.66	REF TO ASSY DWG NO		ITEM
CODE 456					REF TO OLD DWG NO RE/BA/SP/725/1/5		
TITLE RHF-CLAMP GEAR BOOM ASSY.				CARD CODE U 01	DRAWING NO : 3-7-1101-10-10391		REV 00

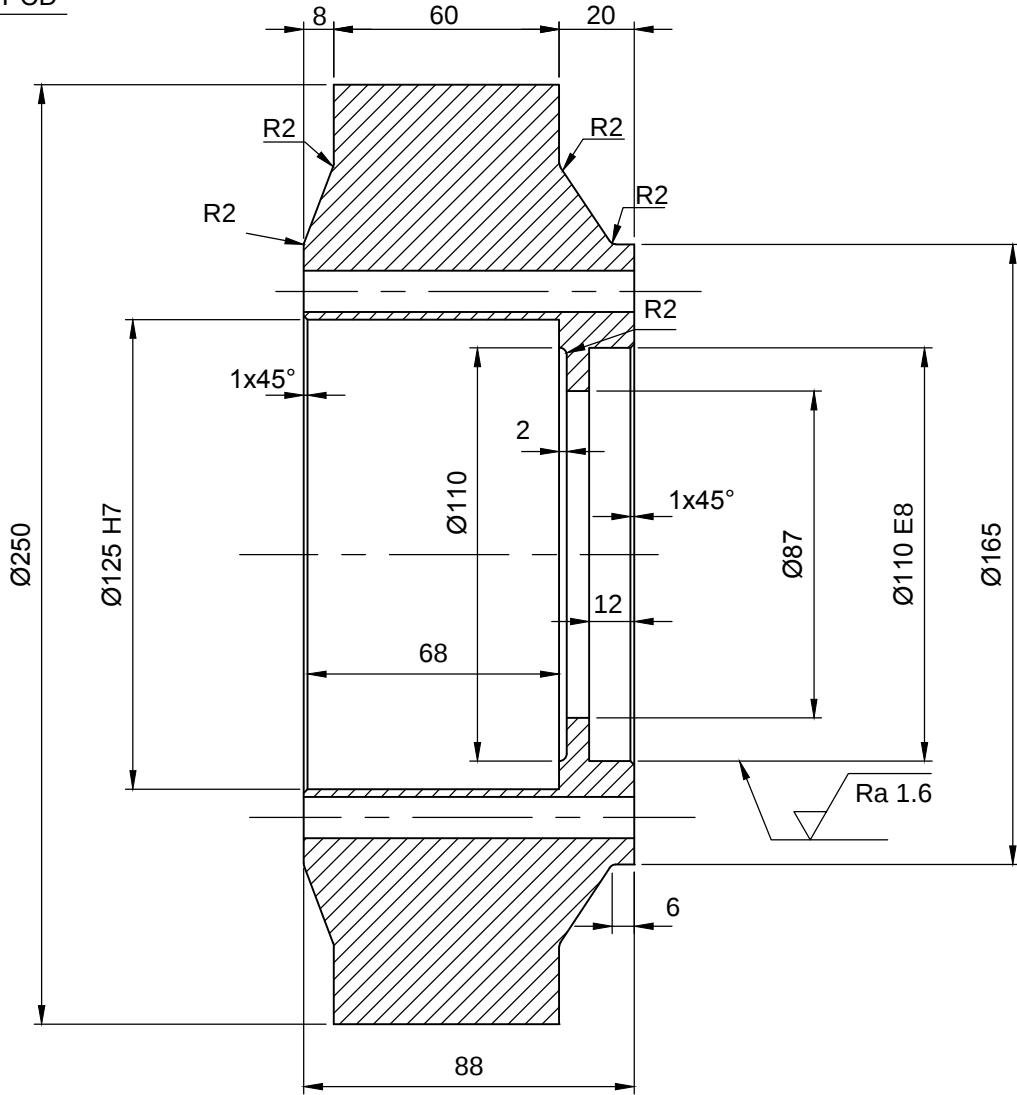
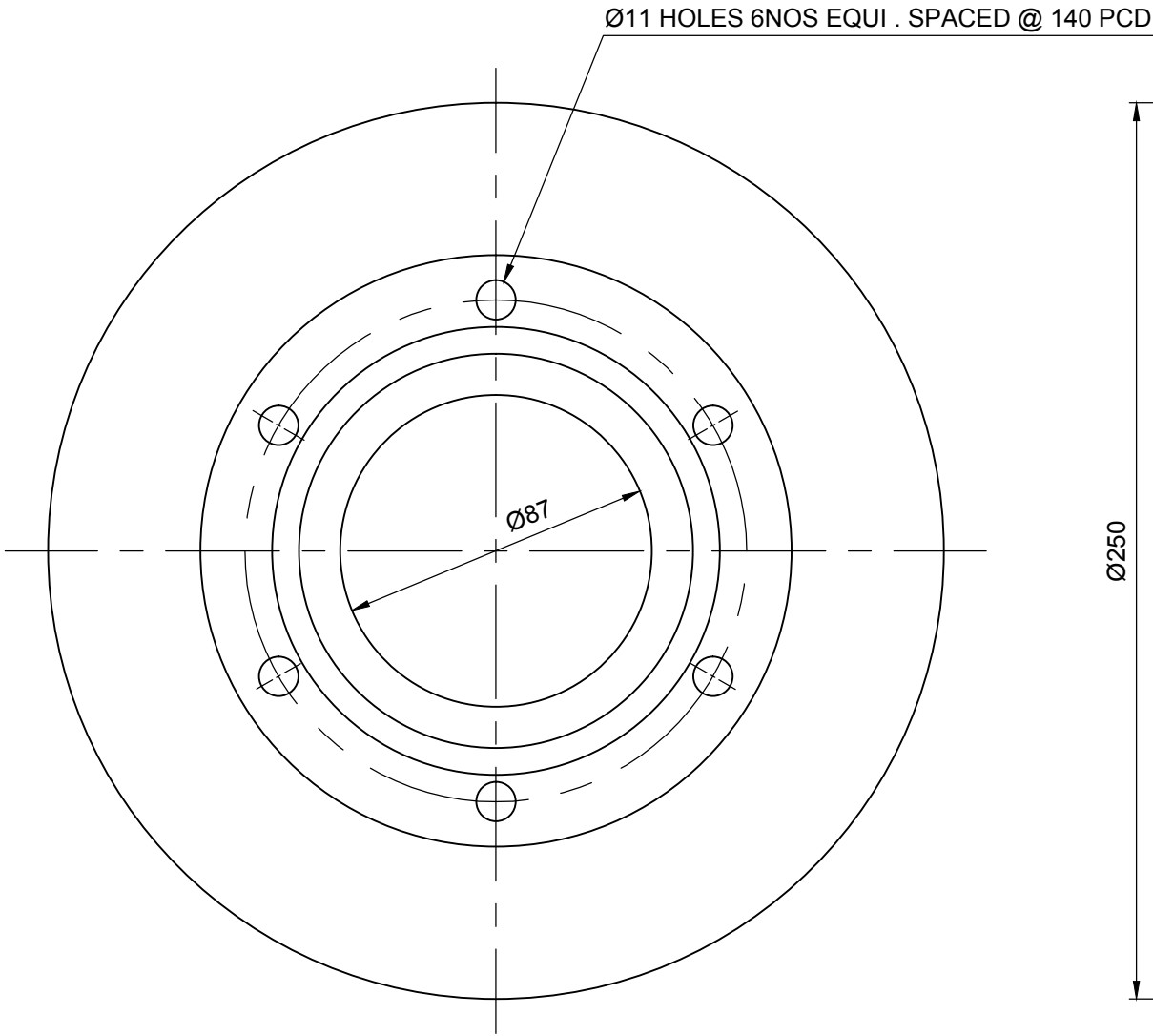
A3–SIZE

ALL DIMENSIONS ARE IN MILLIMETRES

DRAWING NO: 3-7-1123-56-10171

Ra 3.2 (Ra 1.6)

NOMINAL SIZE	DEVIATION
Ø125 H7	+ 0.040 0
Ø110 E8	+ 0.125 + 0.072

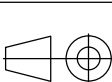


NOTE:-

TREATED FOR STRENGTH - BRINELL HARDNESS (HBW) 156 - 207

REV	DATE	ALTERED
01		CHECKED
		APPROVED

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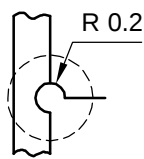
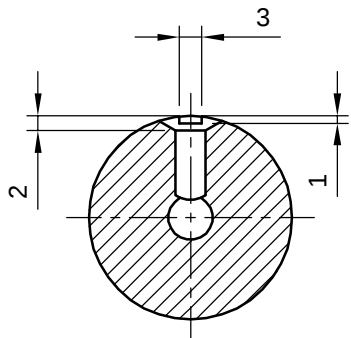
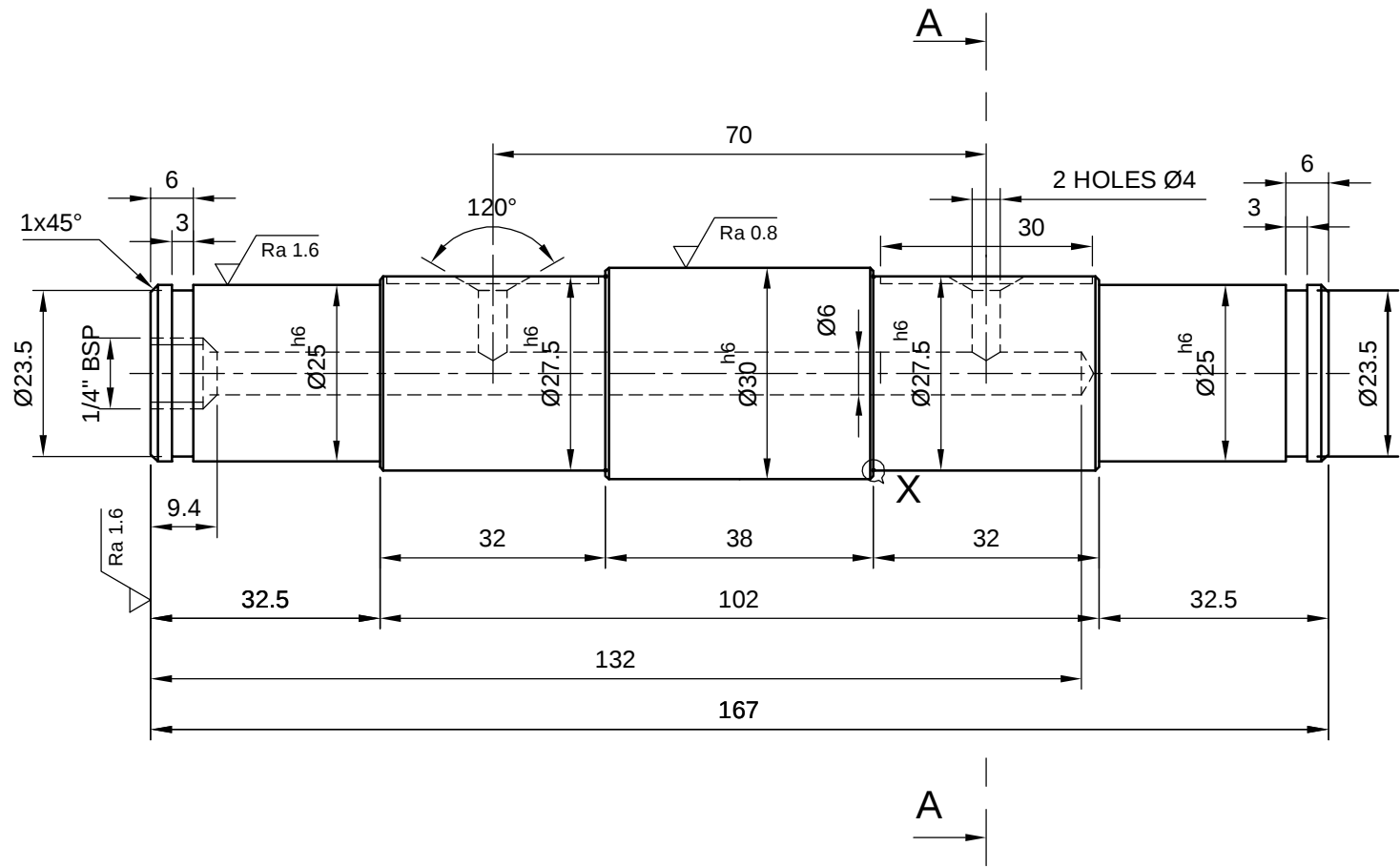
					20		
					16MnCr5	4	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE			UNIT WT	
			MATL SPEC			QTY	
EQPT: CROSS PIERCING AND ELONGATION							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME S.S.N.KUMAR/M.K	SIGNATURE S.P.N.Kumar/m.k	DATE 24.03.14		
		CHD	G.LOGANATHAN	S.Loganathan	24.03.14		
		APPD	M.CHANDRAKUMAR	M.Chandrakumar	24.03.14		
DEPT SSTP	GRADE OF UNTOL. DIM Ø/M/℄ IS: 2102		SCALE 1:2	WEIGHT (Kg) 20	REF TO ASSY DWG NO 0101056-56.000		ITEM 41
CODE 456					REF TO OLD DWG NO 0101056.56.041		
TITLE CPE - TRACK ROLLER FOR MANDREL THRUST BLOCK ASSY				CARD CODE U 01	DRAWING NO : 3-7-1123-56-10171		REV 00

ALL DIMENSIONS ARE IN MILLIMETRES

DRAWING NO: 3-7-1125-21-10114

Ra 3.2 (Ra 0.8 Ra 1.6)

Nominal size	Tolerance field	Deviation
Ø25	h6	-0.000 -0.013
Ø27.5	h6	-0.000 -0.013
Ø30	h6	-0.000 -0.016



SECTION - AA

DETAIL - X
SCALE 1:10

REV	DATE	ALTERED	CHECKED	APPROVED
03	25.03.19	S.S.N. Kumar / M.D	S.S.N. Kumar	D. Abhighna
02	28.03.16	S.S.N. Kumar / y.s.m	R.K. Singh	R.K. Singh

REV	DATE	ALTERED	CHECKED	APPROVED
01	19.08.2015	S.S.N. Kumar / K.N	R.K. Singh	S. Loganathan

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ITEM NO	DESCRIPTION	DRAWING NO	42CrMo4	MATL CODE	UNIT WT	MATL SPEC	QTY
EQPT: POSITIONING ROLLER CONVEYOR , CRMPING LINE AND CRIMPING PRESS WITH FACILITIES							
Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	S.S.N.KUMAR / R.V	SIGNATURE	DATE		
		CHD	G.LOGANATHAN	S. Loganathan	28.11.13		
		APPD	M.Chandrakumar	M. Chandrakumar	28.11.13		
DEPT	SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM	
CODE	456	Ø/M/Ø IS: 2102	1:1	0.771	2-7-1125-21-10103	3	
TITLE				CARD CODE	DRAWING NO :	REV	
CRP - LINKS CONNECTING SHAFT				U 01	3-7-1125-21-10114	03	

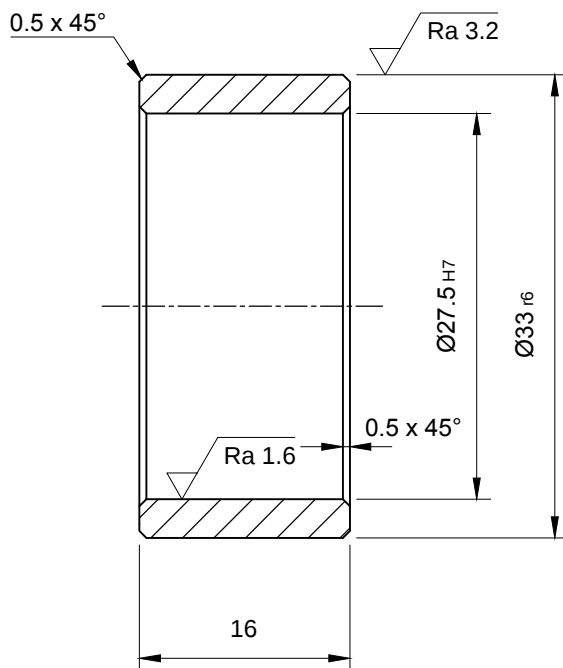
ALL DIMENSIONS ARE IN MM

REV 01	DATE 19.08.2015	ALTERED	<i>S.N. Kumar / K.Nr</i>
		CHECKED	<i>R.K. Singh</i>
		APPROVED	<i>S. Loganathan</i>
Ø27.5 H7 WAS Ø30 H7 REVISED AS PER USER'S REQUEST			

REV 02	DATE 28.03.16	ALTERED	<i>S.N. Kumar / V.P.M</i>
		CHECKED	<i>R.K. Singh</i>
		APPROVED	<i>R.K. Singh</i>
MATL. SPEC. SS304 WAS CUSn8Zn4 IS 306 REVISED AS PER USER'S REQUEST.			

✓ (✓ Ra 1.6 ✓ Ra 3.2)

Nominal size	Tolerance field	Deviation
Ø27.5	H7	+0.021 +0.000
Ø33	r6	+0.050 +0.034

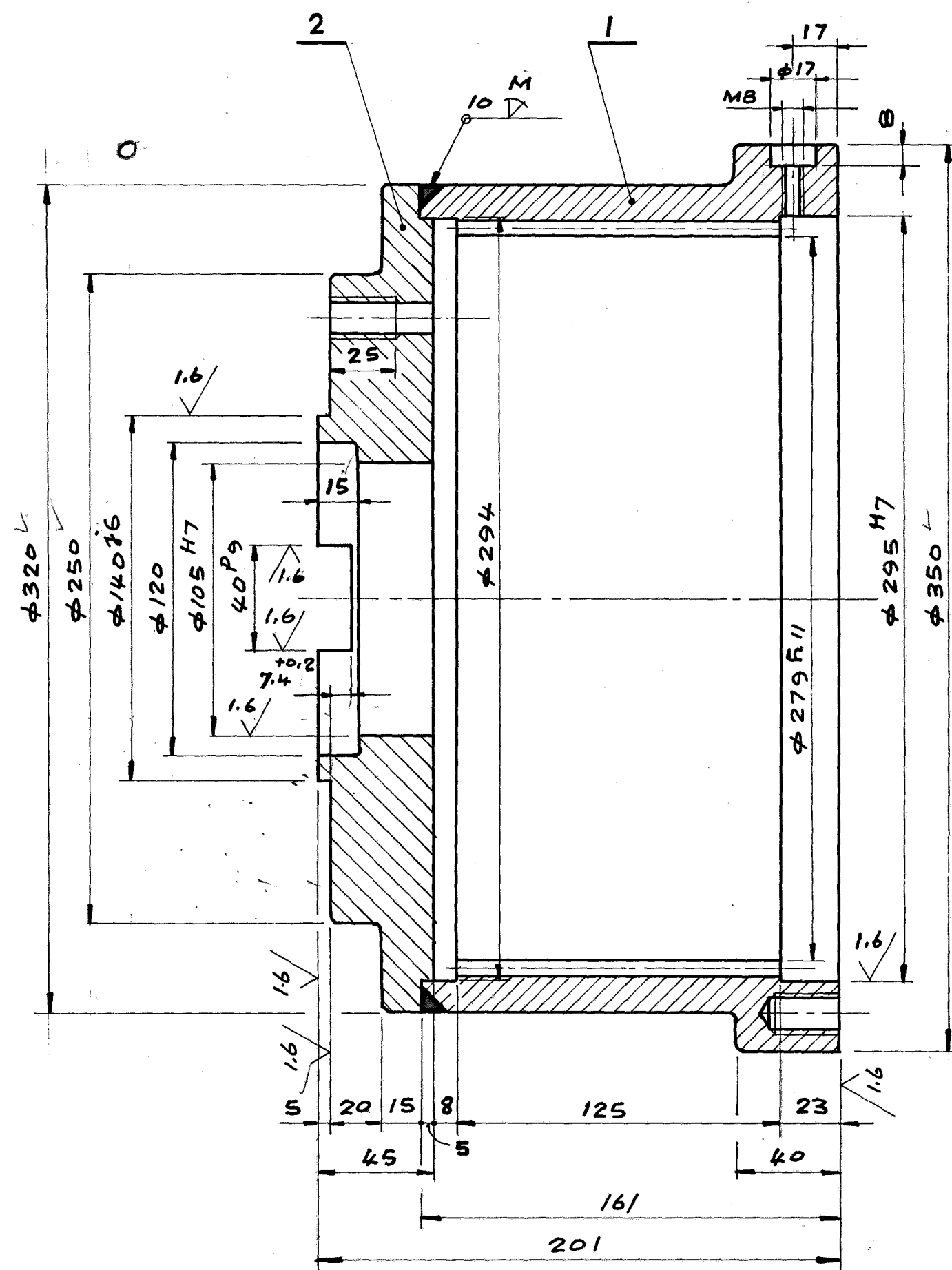
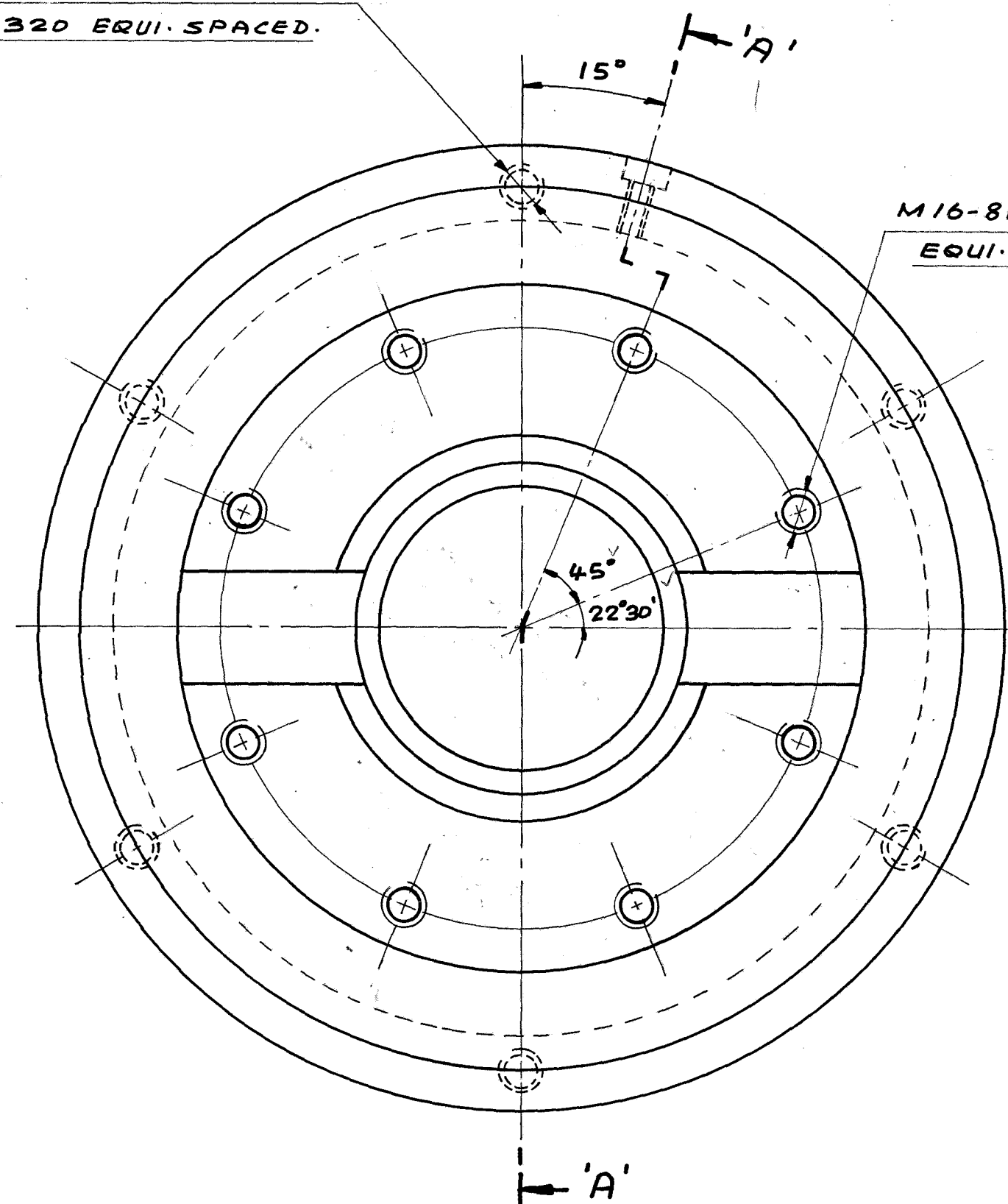


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			SS304			
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT	
			MATL SPEC		QTY	
EQPT: POSITIONING ROLLER CONVEYOR , CRIMPING LINE AND CRIMPING PRESS WITH FACILITIES						
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME S.S.N.KUMAR / R.V	SIGNATURE <i>S.S.N.kumar/R.V</i>	DATE 28.11.13
			CHD	G.LOGANATHAN	<i>S.Loganathan</i>	28.11.13
			APPD	M.CHANDRAKUMAR	<i>M.Chandrakumar</i>	28.11.13
DEPT SSTP	GRADE OF UNTOL. DIM  IS: 2102	SCALE 2:1	WEIGHT (Kg) 0.032	REF TO ASSY DWG NO 2-7-1125-21-10103		ITEM 4
CODE 456				REF TO OLD DWG NO —		
TITLE CRP - BUSH FOR INNER / OUTER LINKS			CARD CODE U 01	DRAWING NO : 4-7-1125-21-10244		REV 02

A4-SIZE

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

M16-6N^o-25 DEEP ON
PCD 320 EQUI-SPACED.

3.2 / 1.6 /

φ295 H7	+0.052
φ279 H11	0
φ140 i6	-0.014
φ105 H7	+0.011
40 P9	+0.035
	0
	-0.026
	-0.088

NO OF TEETH	95
MODULE	3
PRESSURE ANGLE	20°
CORRECTION FACTOR	0.00
QUALITY & TOLERANCE ZONE	9C DIN 3967
DIA OF WIRE	5.184
DISTANCE BETWEEN WIRES.	277.487
MATING GEAR DRG. NO.	4-7-1136-05-03396
MATING GEAR NO. OF TEETH	95
CENTRE DISTANCE	0.00

2	PE. 50 φ 320 x φ 105		Fe 410 WC 15:2062	1	28.0
1	TUBE φ 368 x 50t 180R		15/091/267/60 SA 335 P 22	1	24.4
ITEM NO.	DESCRIPTION	DRAWING NO.	MATL CODE	UNIT WT	QTY
			MATL SPEC		

EQPT:- REELER

Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

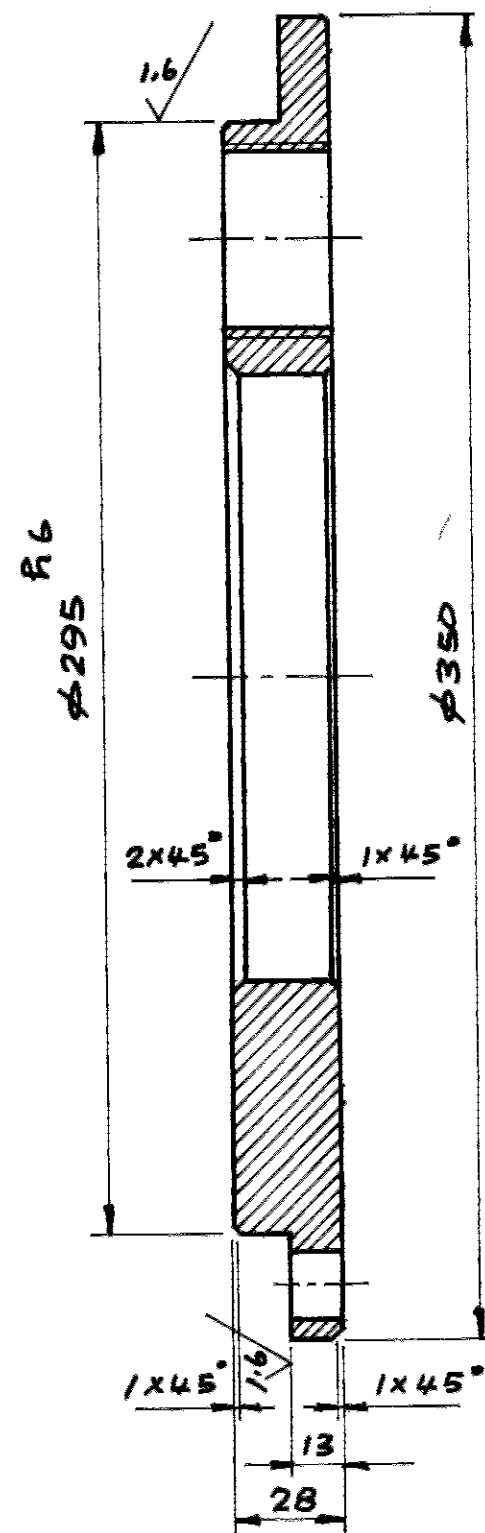
DRN	NAME	SIGN	DATE	NO. OF
SSN KUMAR			19-3-87	ITEMS
CHD				
APPD				

REV	DATE	ALTERED	T. KUMAR
01	14-12-96	CHECKED	J. J. J.
ZONE	APPD		
	MTL SPEN. Fe 410 WC		
	15:2062 FOR ITEM 2 WAS		
	C-16 15:2062.		

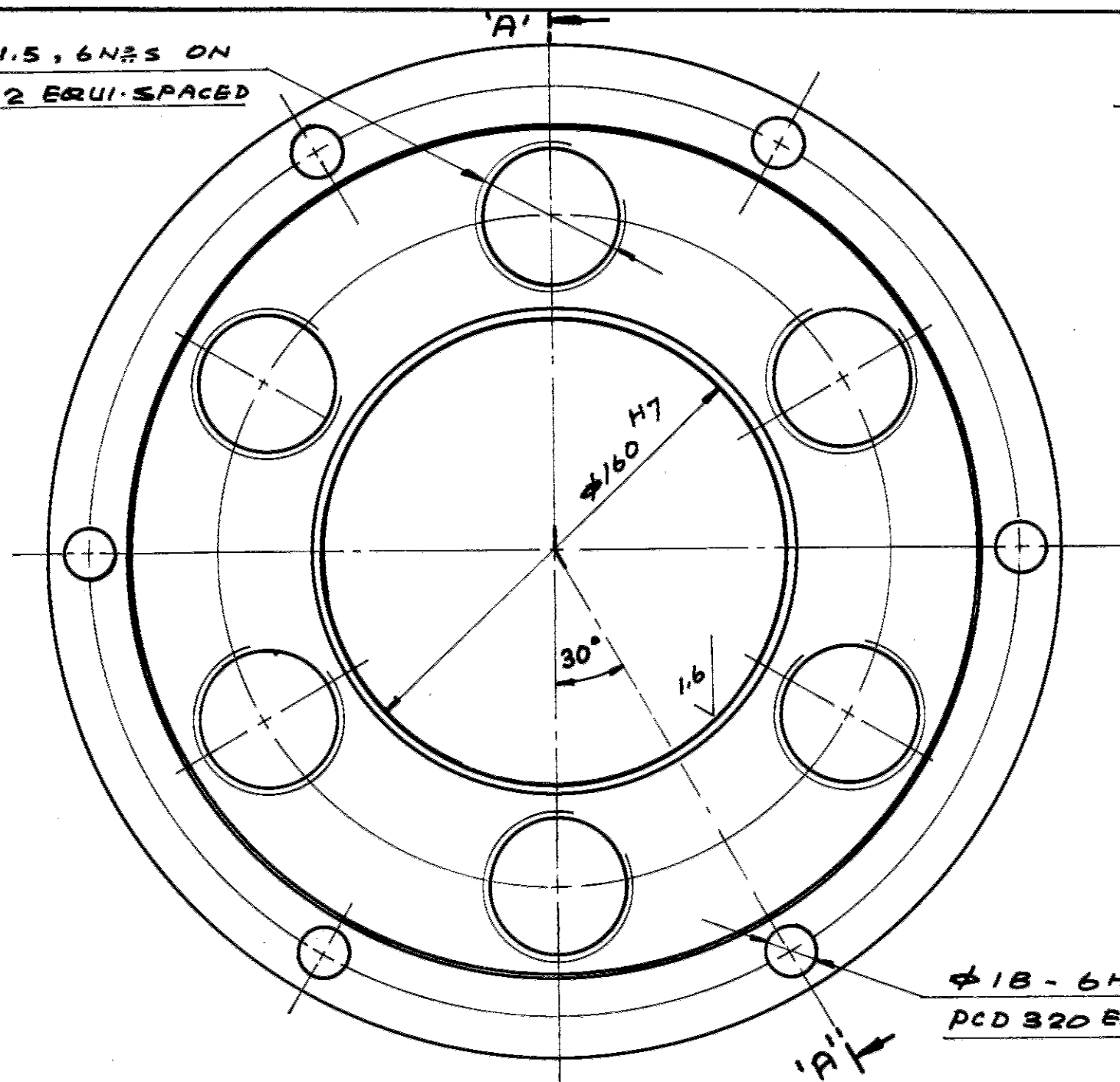
DEPT	GRADE OF	SCALE	WEIGHT (kg)	REF TO ASSY	OLD DRG	ITEM NO.
	UNTOL. DIM	1:2	52.4	2-7-1136-08-02267		01
CODE						
TITLE						
CARD CODE	DRAWING NO.	REV				
U 01	2-7-1136-08-01850	01				

CLUTCH BODY
CLUTCH ASSY.

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)



SEC-AA

M52X1.5, 6N3.5 ON
PCD 232 EQUI-SPACED

295 R6	0
	-0.032
160 H7	+0.040
	0

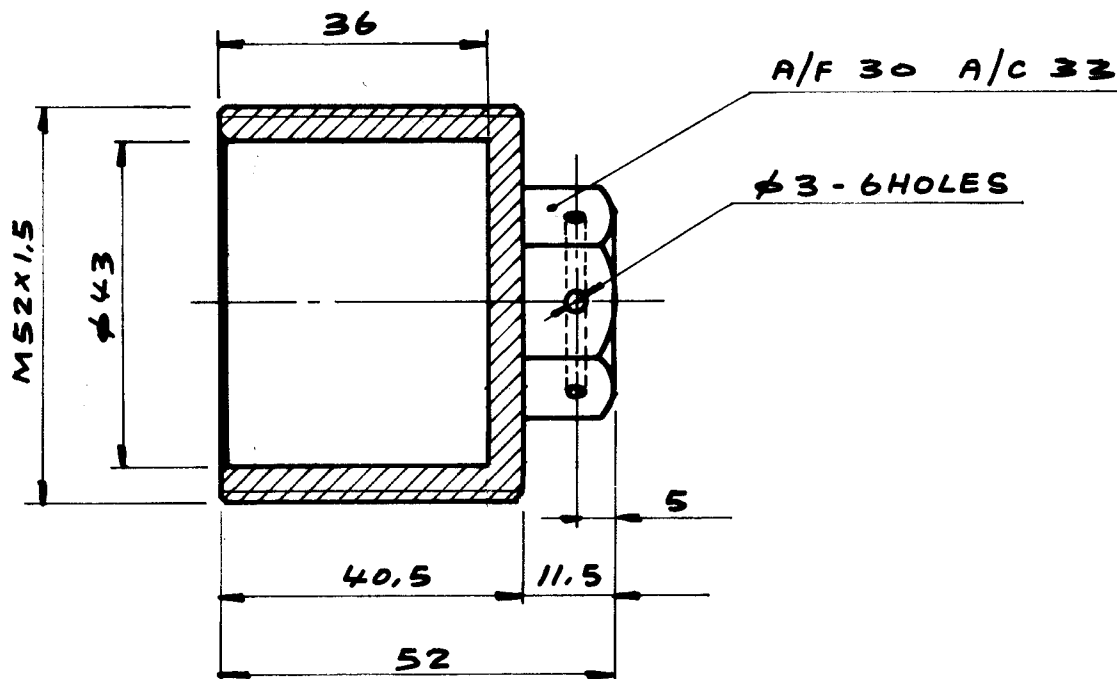
18 - 6 HOLES ON
PCD 320 EQUI-SPACED

ITEM NO.	DESCRIPTION	DRAWING NO.	30CB IS:1875	
		MATL CODE	UNIT WT	
		MATL SPEC	QTY	
EXPT:- REELER				
Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620 014		DRN	NAME SSN KUMAR	SIGN [Signature]
		CHD	A. ARACKIAM	DATE 16-3-87
		APPD	[Signature]	NO. OF ITEMS 22-382
REV 01	DATE 19397	ALTERED [Signature]	DEPT	GRADE OF UNTO. DIM C/M/F
ZONE	APPD:- [Signature]		SCALE 1:2	WEIGHT (kg) 10.6
MATL. SPEC. 30CB IS:1875 WAS C30 IS:2073		TITLE COVER CLUTCH ASSY.	REF TO ASSY 2-7-1136-08-02267	ITEM NO. 03
		CARD CODE U 01	DRAWING NO 3-7-1136-08-02630	REV 01

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REV 01	DATE 19.3.87	ALTERED <i>[Signature]</i>
	CHECKED J. JANL	
ZONE	APPD. <i>[Signature]</i>	
	MATL SPEC. 30CB IS: 1875 WAS C30 IS: 2073	

3,2/



NOTE :-

SHARP CORNERS TO BE CHAMFERED TO 1 X 45°

ITEM NO.	DESCRIPTION	30CB IS: 1875	
		MATL CODE	UNIT WT
		MATL SPEC	QTY

EQUIP:- REELER



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME SSN. KUMAR	SIGN <i>[Signature]</i>	DATE 20.3.87
CHD	A. AROCKIAM	J. JANL	20.8.87
APPD		<i>[Signature]</i>	23.3.87

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0.42	REF TO ASSY / DRG 2-7-1136-08-02267	ITEM NO. 07
CODE					
TITLE SPRING RETAINER CLUTCH ASSY.			CARD CODE U 01	DRAWING NO. 4-7-1136-08-03402	REV. 01

S 27-009

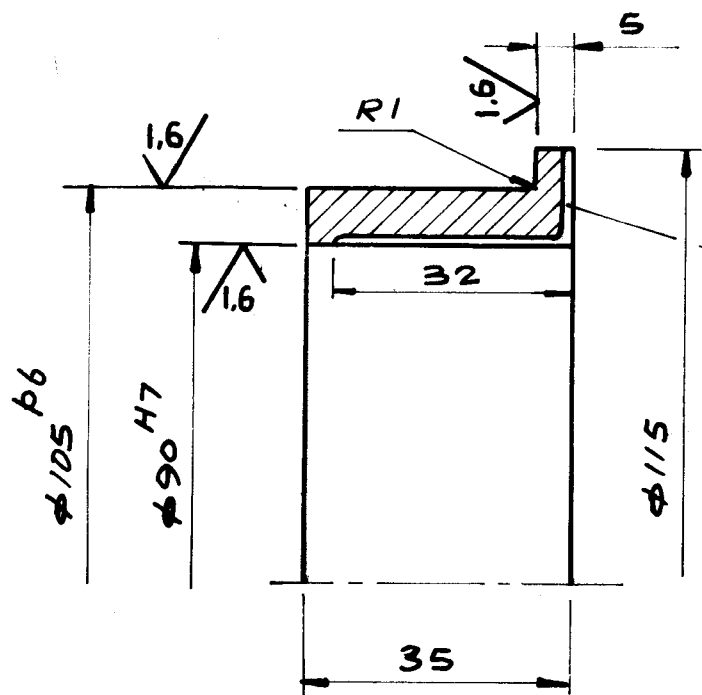
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FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

REV 01	DATE	ALTERED
		CHECKED
ZONE		

3.2/1.6/

$\phi 105$ p6	+0.059
	+0.037
$\phi 90$ H7	+0.035
	0



30/L GROOVES 2x1.5 DEEP @ 120° EQUI. SPACED

NOTE

SHARP CORNER TO BE CHAMFERED TO 0.5x45°

ITEM NO.	DESCRIPTION	IS: 28	
		P BRONZE Gr1	
		MATL CODE	UNIT WT
		MATL SPEC	QTY

EQPT:- REELER

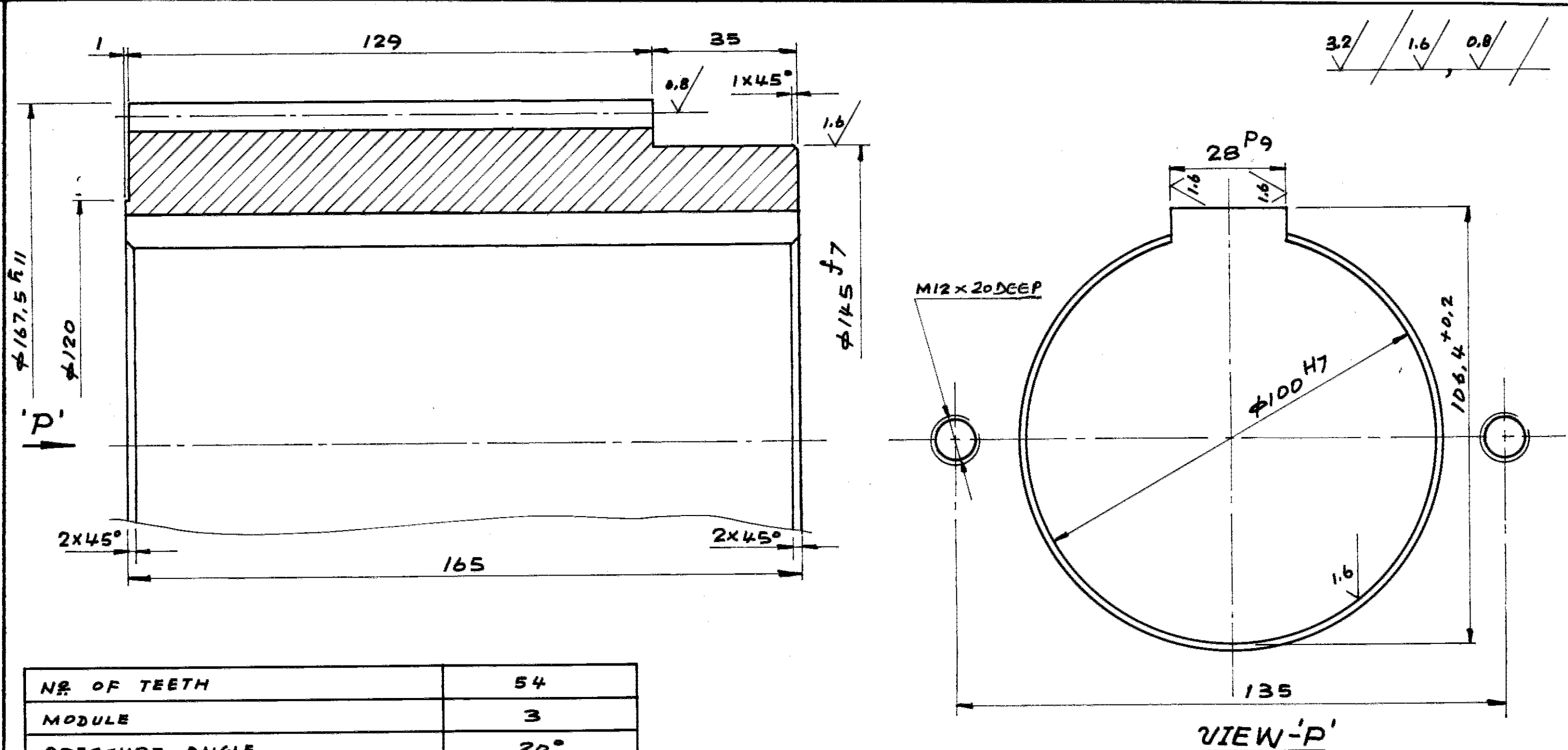


Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME SSN. KUMAR	SIGN <i>[Signature]</i>	DATE 19.2.87
CHD			
APPD		<i>[Signature]</i>	20.2.87

DEPT	GRADE OF UNTOL. DIM C/M/P	SCALE 1:1	WEIGHT (kg) 0.75	REF TO ASSY 1010 DRG 2-7-1136-08-02267	ITEM NO. 04
CODE					
TITLE BUSH CLUTCH ASSY.	CARD CODE U 01	DRAWING NO. 4-7-1136-08-03378	REV. 00		

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NR. OF TEETH	54
MODULE	3
PRESSURE ANGLE	20°
CORRECTION FACTOR	0.00
WIDTH ACROSS 7 TEETH	59.835 ^{-0.158} / _{-0.210}
QUALITY & TOLERANCE ZONE	9C DIN 3967
MATING GEAR DRG. NO.	
MATING GEAR NR. OF TEETH	54
CENTRE DISTANCE	0.0

167.5 h11	0
145 f7	-0.250
100 H7	-0.043
28 P9	-0.083
	+0.035
	0
	-0.022
	-0.074

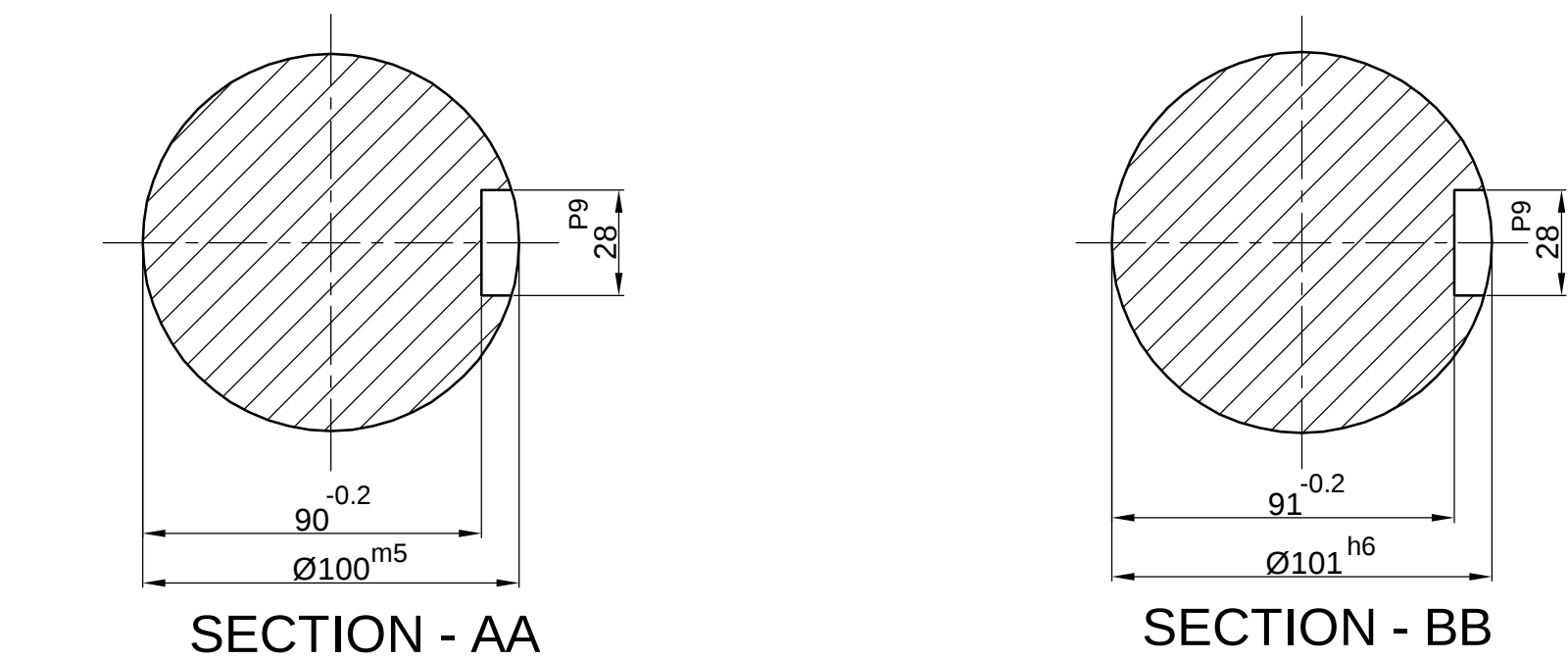
ITEM NO.	DESCRIPTION	DRAWING NO.	55 CB 16:5517			
			MATL CODE	UNIT WT		
			MATL SPEC	QTY		
EQUIPT:- REELER						
Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI-620 014		DRN	NAME	SIGN	DATE	NO. OF ITEMS
		CHD	A. BRICKMAN	J. JNNL	10.3.87	
		APPD		R. RAY	22.3.87	
DEPT	GRADE OF UNTO. DIM	SCALE	WEIGHT (kg)	REF TO ASSY / QTY DRG	ITEM NO.	REV
	C M F	1:1	16.53	2-7-1136-08-02267	02	
TITLE			CARD CODE	DRAWING NO		
CLUTCH GEAR CLUTCH ASSY. 54T			U 01	3-7-1136-08-02624	02	

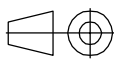
REV DATE 02 10-6-02
 ALD:-
 CHD:-
 APPD:-

REV 01 DATE 04/12/96
 ALTERED T. KUMAR
 CHECKED J. JNNL
 APPD:-

M12X20 DEEP WAS
 M12X2 - 20 DEEP

MTL SPECN. 55 CB 16:5517
 WAS C55 Mn 75 16:5517



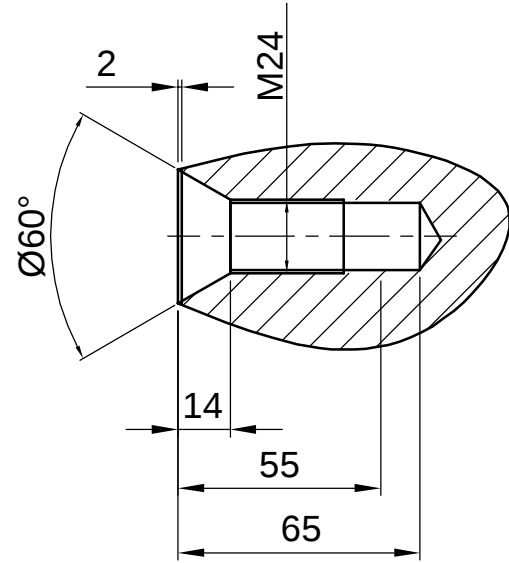
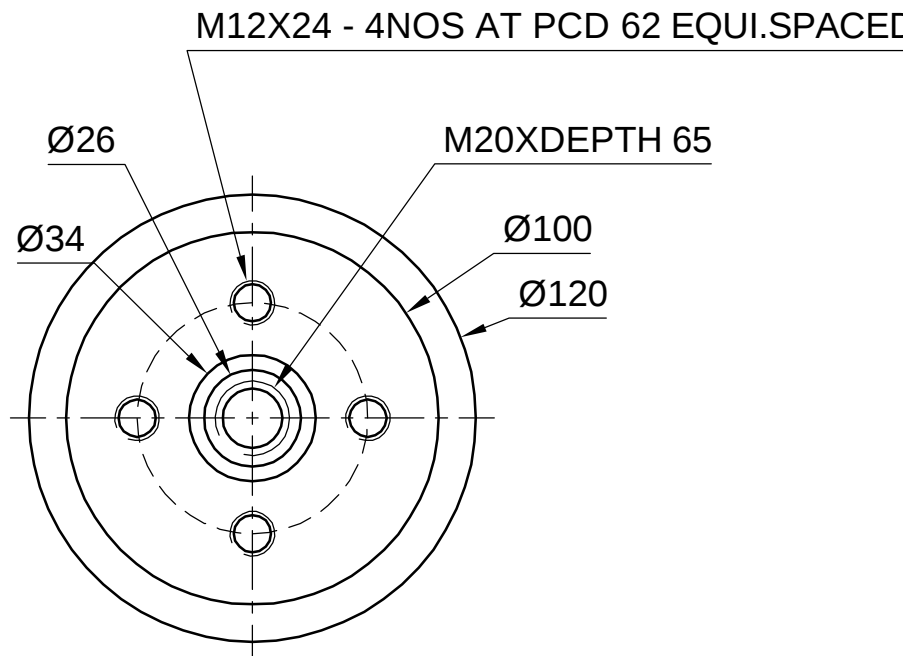
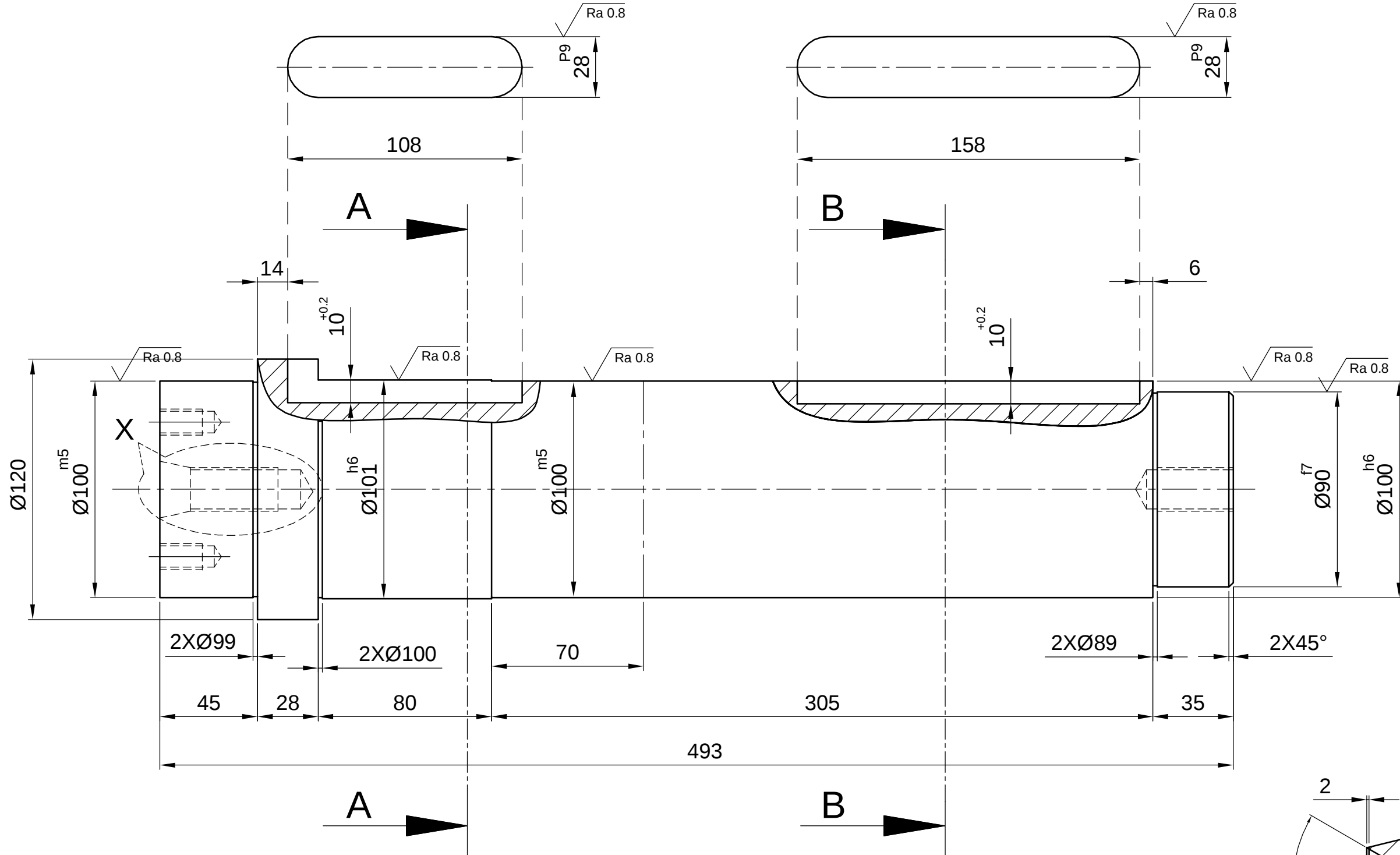
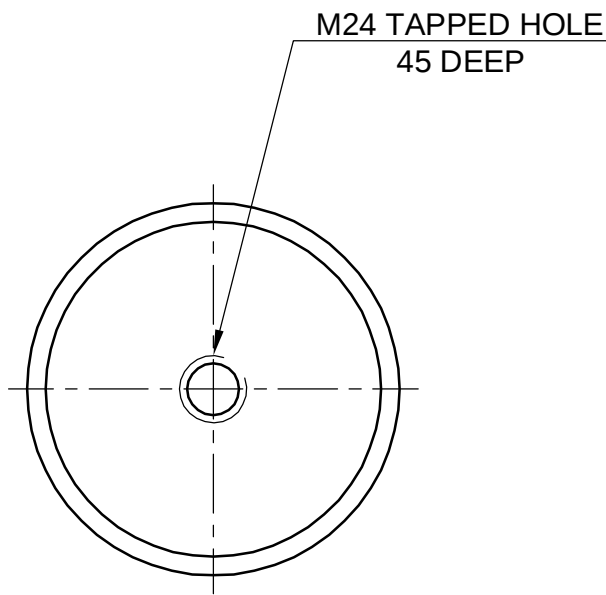
				55C8		IS:5517			
ITEM NO		DESCRIPTION		DRAWING NO		MATL CODE		UNIT WT	
						MATL SPEC		QTY	
EQPT: REELER									
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014			DRN	NAME S.S.N.KUMAR	SIGNATURE <i>S.S.N.Kumar</i>	DATE 29.03.83	
					CHD	A.AROCKIAM	<i>A.Arockiam</i>	31.03.83	
					APPD	S.SHANMUGASUNDARAM	<i>S.Shanmugasundaram</i>	31.03.83	
DEPT	SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO			ITEM
CODE	456	$\phi/M/F$ IS:2102		1:2	31.0	REF TO OLD DWG NO 3/3811/1517/0			51
TITLE					CARD CODE U 01	DRAWING NO :			REV
REE-SHAFT-III GEAR BOX IXB 245/1272						2-7-1136-08-01574			02

DRAWING NO.: 2-7-1136-08-10144

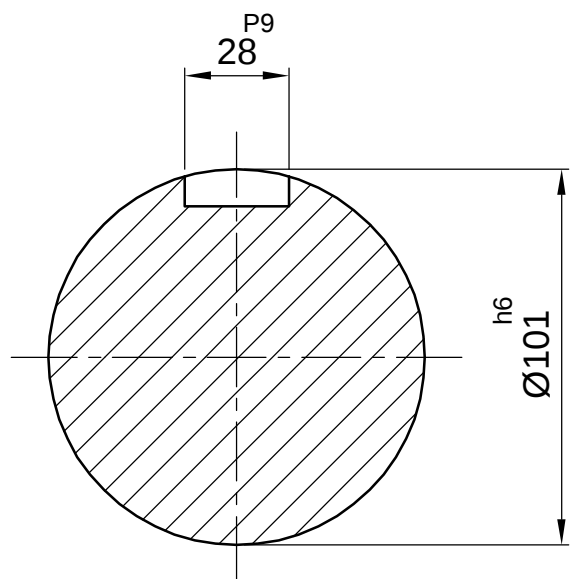
ALL DIMENSIONS ARE IN MILLIMETERS

Ra 3.2 (Ra 0.8 Ra 1.6)

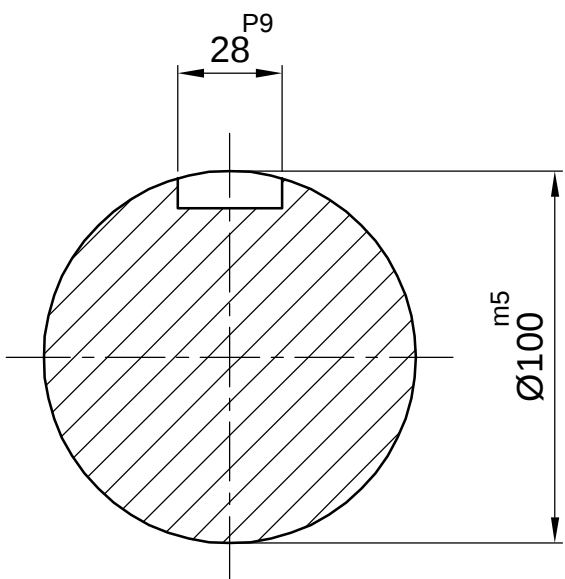
Ø101 ^{h6}	0
	-0.022
Ø100 ^{m5}	+0.028
	+0.013
Ø100 ^{h6}	0
	-0.022
Ø90 ^{f7}	-0.036
	-0.071
28 ^{P9}	-0.022
	-0.074



DETAIL - X



SECTION - AA

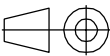


SECTION - BB

REV 01	DATE 02.05.19	ALTERED	SSN.Kumar/M.D
		CHECKED	SSN.Kumar
		APPROVED	D.Abbighna

M24x45 TAPPED HOLE ADDED

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						55C8	IS:1875		
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE				UNIT WT		
			MATL SPEC				QTY		
EQPT: REELER									
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME SSN.KUMAR/KY	SIGNATURE SSN.Kumar/ky	DATE 22.11.16		
				CHD	M.CHANDRAKUMAR	M. Chandrakumar	22.11.16		
				APPD	M.CHANDRAKUMAR	M. Chandrakumar	22.11.16		
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO			ITEM	
CODE 456	Ø/M/F IS:2102		1:2	29	REF TO OLD DWG NO				
TITLE REE - SHAFT III - PPRM MAKE REELER GEAR BOX				CARD CODE U 01	DRAWING NO : 2-7-1136-08-10144			REV 01	

A2-SIZE