

### LUBRICATION POINTS

LUBRICATION POINT	UNIONION DISTRIBUTOR	CONNECTING PIPE X-LENGTH	UNIONION CONSUMPTION POINT	NOZZLE OR ORIFICE
1	GE 12 LLR 1/4"	12 x 350	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
2	GE 8 LLR 1/4"	8x 550	WE 8 LLR 1/4"	Ø 2
3	GE 8 LLR 1/4"	8x 1250	WE 8 LLR 1/4"	WITH-OUT
4	GE 12 LLR 1/4"	12 x 410	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
5	GE 8 LLR 1/4"	8x 800	WE 8 LLR 1/4"	Ø 2
6	GE 12 LLR 1/4"	12 x 1150	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
7	GE 8 LLR 1/4"	8x 900	WE 8 LLR 1/4"	WITH-OUT
8	GE 12 LLR 1/4"	12 x 390	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
9	GE 8 LLR 1/4"	8x 1100	WE 8 LLR 1/4"	WITH-OUT
10	GE 8 LLR 1/4"	8x 750	WE 8 LLR 1/4"	Ø 2
11	GE 8 LLR 1/4"	8x 1050	WE 8 LLR 1/4"	Ø 2
12	GE 8 LLR 1/4"	8x 1050	WE 8 LLR 1/4"	WITH-OUT
13	GE 8 LLR 1/4"	8x 1300	WE 8 LLR 1/4"	WITH-OUT
14	GE 8 LLR 1/4"	8x 1250	WE 8 LLR 1/4"	WITH-OUT
15	GE 12 LLR 1/4"	8x 400	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
16	GE 12 LLR 1/4"	8x 1090	WE 12 LLR 1/4"	GE 12 LLR 1/4" FU 1.652/06/0/30
17	GE 8 LLR 1/4"	8x 300	WE 8 LLR 1/4"	Ø 2
18	GE 8 LLR 1/4"	8x 400	WE 8 LLR 1/4"	Ø 2

COPPER PIPE WITH REINFORCING SLEEVES  
 LUB SPECIFICATION OIL:

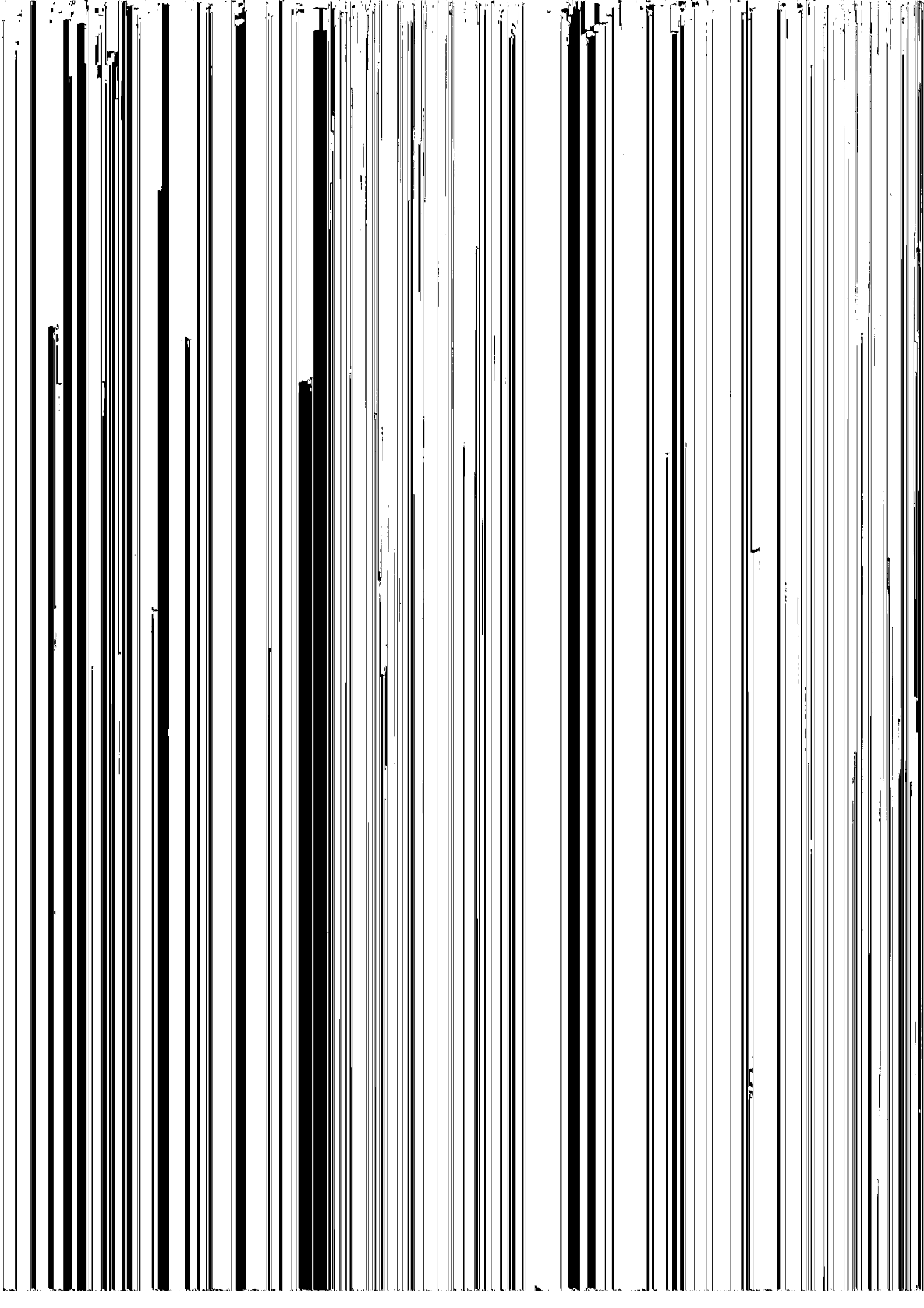
- OIL VISCOSITY : 220 CST (SERVO SP 220 OR EQUIVALENT)
- OIL TEMPERATURE : -43°C
- OIL PRESSURE : 1.5 bar

FOR ASSY & PART LIST REFER DRAWING NO : 0-7-1155-15-1046 & 1-7-1155-15-10047

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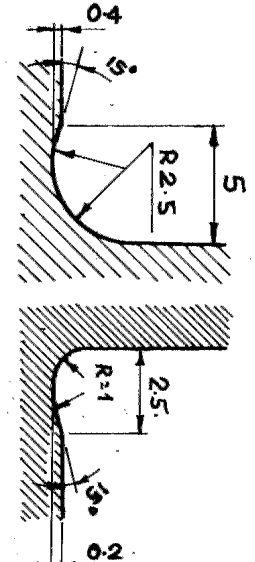
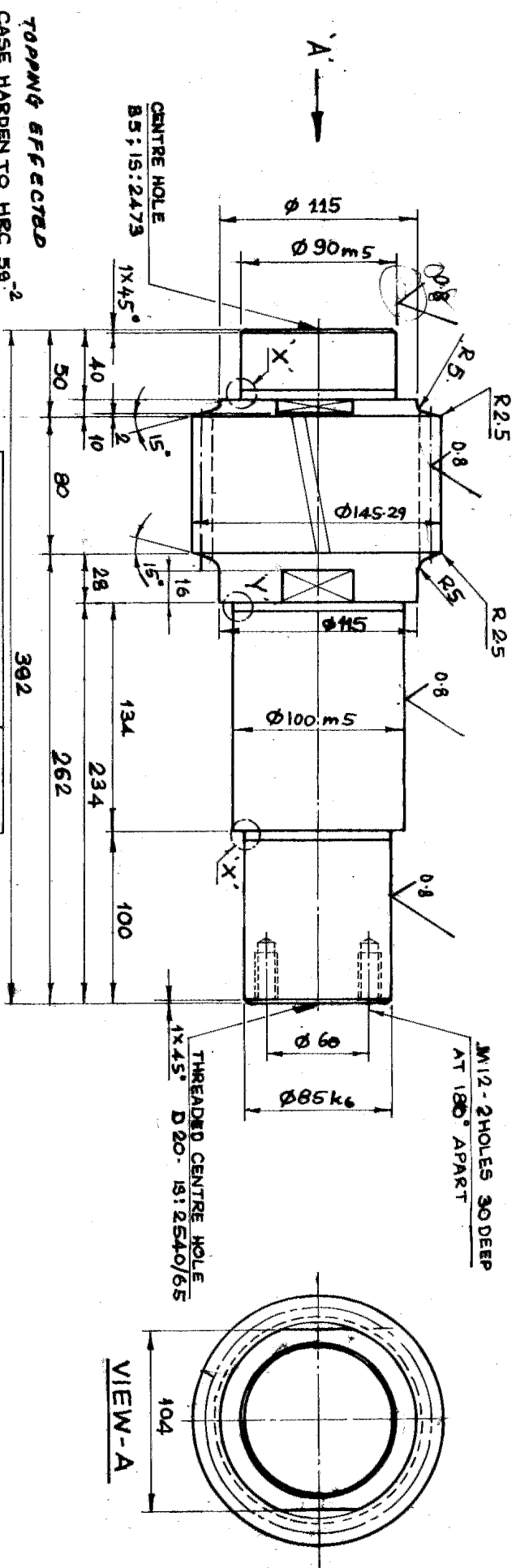
DATE	REVISION	BY	CHKD

COPT: STREITCH REDUCING MILL  
 Bihari Heavy Electricals Ltd  
 SEAMLESS STEEL TIRE PLANT  
 THIRUCHIRAPPALLI - 620014  
 SSK/1  
 SCALE: 1:5  
 WEIGHT (kg)  
 PART NO: 62001-15-10079  
 REF TO ASSY DRAWING: 0-7-1155-15-10216  
 DRAWING NO: 1-7-1155-15-10079  
 00



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FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)



DETAIL-X  
DETAIL-Y

$\phi 90m5$	+0.028
$\phi 100m5$	+0.028
$\phi 85k6$	+0.025

NO. OF TEETH	21 T
NORMAL MODULE	6
AXIAL MODULE	6.093
PRESSURE ANGLE	$20^\circ$
HELIX ANGLE	$10^\circ$
HAND OF HELIX	L/H
CORRECTION FACTOR	+0.045
WIDTH ACROSS 4 TEETH	66.095
GEAR RATIO	2.5
MATING GEAR NO. OF TEETH	52
MATING GEAR DRG. NO.	4-71155-15-002A
CENTRE DISTANCE	225.5

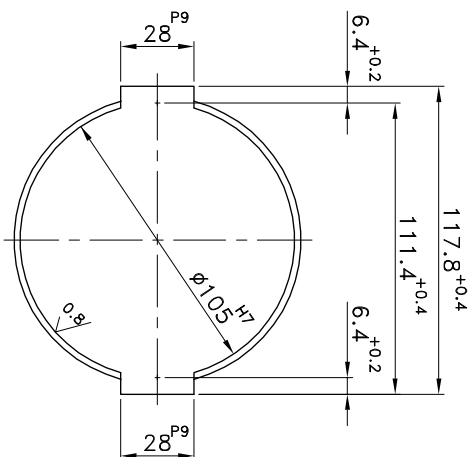
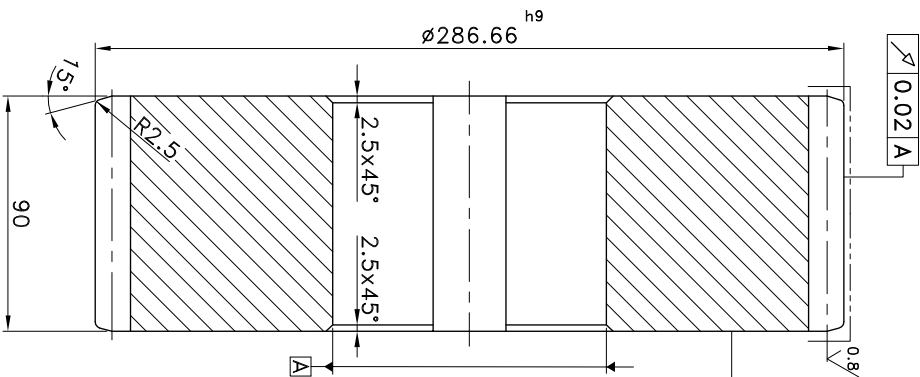
REV	DATE	ALTERED BY	APPROVED BY
01	28-8-83	ASST. ENGR.	ENGR.
MATERIAL SPEC. IS: 1611 B C F 4			
IS: 4482 WAS 17M D C 95			
IS: 1570/61			

<p><b>Bharat Heavy Electricals Ltd.</b> SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI-620 014</p>		<p>DEPT</p> <p>GRADE OF UNTR. DIM</p> <p>C/M/F</p> <p>SCALE</p> <p>1:2.5</p> <p>WEIGHT (kg)</p> <p>REF TO ASSY FOLD DRG</p> <p>29010</p>	
<p>TITLE</p> <p><b>PINION SHAFT 2.21</b> (SEE BOX NO. 17)</p>		<p>DRM</p> <p>NAME</p> <p>SIGN</p> <p>DATE</p>	
<p>DESCRIPTION</p> <p>DRAWING NO.</p>		<p>UNIT WT</p> <p>QTY</p>	
<p>ITEM NO.</p>		<p>UNIT WT</p>	
<p>ITEM NO.</p>		<p>ITEM NO.</p>	

VIEW-A

16  
08





$\phi 286.66$ h9	0
$\phi 105$ H7	+0.035
28 P9	-0.022
	-0.074

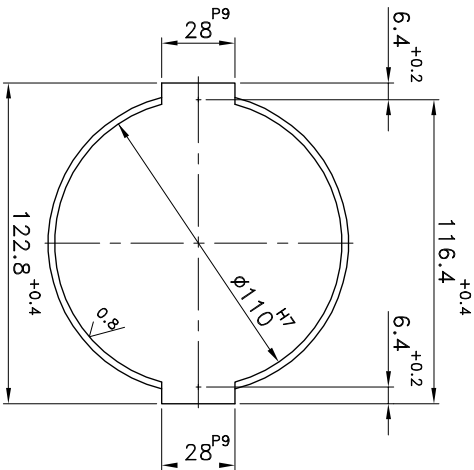
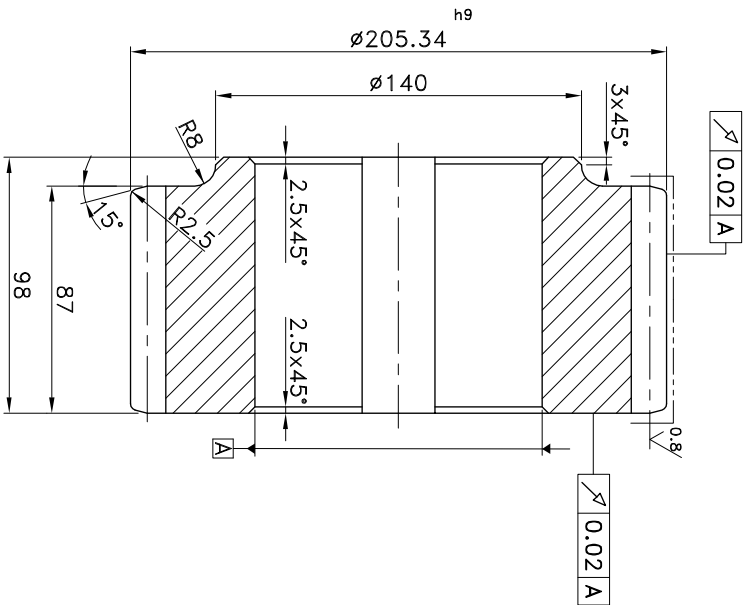
NO OF TEETH (Z4)	49
MODULE	5.5
PRESSURE ANGLE	20°
HELIX ANGLE	10°
HAND OF HELIX	R.H
CORRECTION FACTOR	0.2104
WIDTH ACROSS 7 TEETH	110.2734 -0.085 -0.169
QUALITY & TOLERANCE ZONE	7e DIN 3967
MATING GEAR NO OF TEETH (Z3)	34
MATING GEAR DRG NO	3-7-1155-15-10084
CENTRE DISTANCE	235 ±0.05

----- CASE HARDEN TO HRC 59<sup>+2</sup>  
CASE DEPTH 1.1mm

REV	DATE	ALTERED
01		CHECKED APPROVED

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EQUIPMENT: STRETCH REDUCING MILL		ITEM NO		DRAWING NO		UNIT WT	
DESCRIPTION		16Mn5Cr4 IS:4432		MATERIAL SPEC		QTY	
Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPPALLI - 620014		DRN		SSM KUMAR		SIGNATURE	
DPT: SSTEP		CHD		G. LOGANATHAN		DATE	
GRADE OF UNTOOL. DIM		APPD		S. MOHAN		22.08.12	
CODE		REF TO ASSY DWG NO		0-7-1155-15-11046		ITEM	
456		REF TO OLD DWG NO				179	
SCALE		WEIGHT (Kg)		DRAWING NO :		REV	
1:2		38		3-7-1155-15-10083		00	
TITLE		CARD CODE		A3-SIZE			
SRM - HELICAL GEAR		U 01					
Z = 49 Mn = 5.5 GEAR BOX ASSY							



$\phi 205.34$	$h9$	0
		-0.115
$\phi 110$	H7	+0.035
		0
28	P9	-0.022
		-0.074

NO OF TEETH (Z3)	34
MODULE	5.5
PRESSURE ANGLE	20°
HELIX ANGLE	10°
HAND OF HELIX	L.H
CORRECTION FACTOR	0.2104
WIDTH ACROSS 5 TEETH	77.3259 -0.085 -0.169
QUALITY & TOLERANCE ZONE	7e DIN 3967
MATING GEAR NO OF TEETH (Z4)	49
MATING GEAR DRG NO	3-7-1155-15-10083
CENTRE DISTANCE	235 ±0.05

----- CASE HARDEN TO HRC 59<sup>+2</sup>  
CASE DEPTH 1.1mm

REV	DATE	ALTERED
01		CHECKED APPROVED

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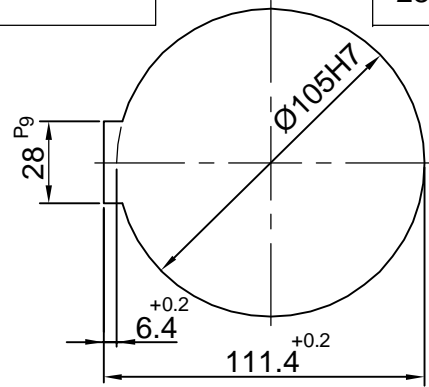
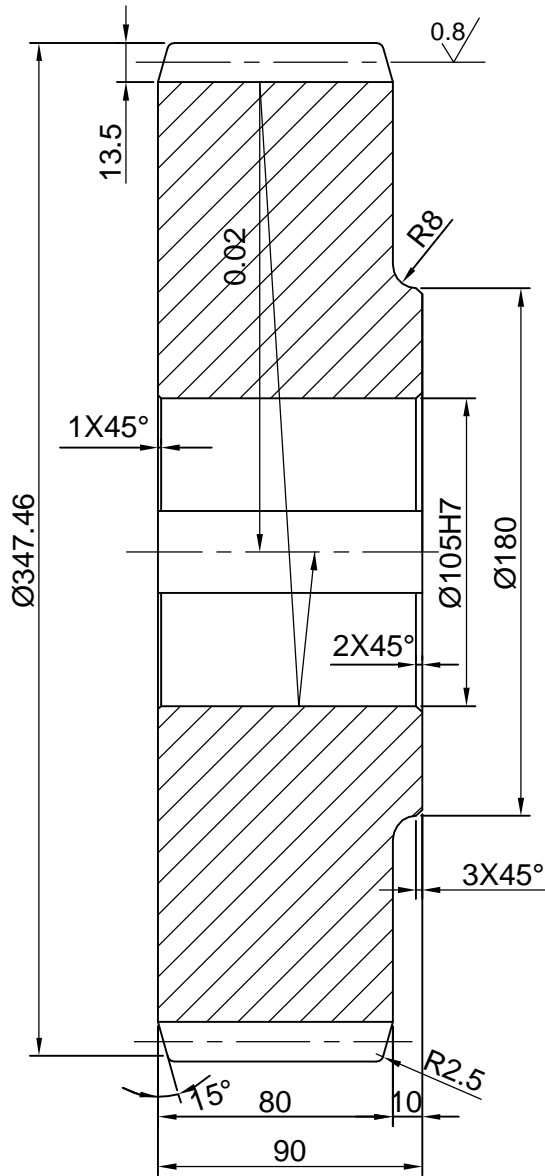
EQUIPMENT: STRETCH REDUCING MILL		ITEM NO		DRAWING NO		16Mn5Cr4 IS:4432		UNIT WT	
DESCRIPTION		DEPARTMENT		MATERIAL SPEC		MATERIAL SPEC		QTY	
Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPPALLI - 620014		DEPT SSIP		GRADE OF UNTOOL. DIM		DRN		SIGNATURE	
456		$\phi / M / \#$ IS:2102		SCALE		CHD		DATE	
1:2		18		WEIGHT (Kg)		S.MOHAN		22.08.12	
TITLE		CARD CODE		REF TO ASSY DWG NO		S.MOHAN		22.08.12	
SRM - HELICAL GEAR		U 01		0-7-1155-15-11046		S. Sivanandan		22.08.12	
Z = 34 Mn = 5.5 GEAR BOX ASSY		DRAWING NO :		REF TO OLD DWG NO		S. Sivanandan		22.08.12	
3-7-1155-15-10084		REV		00		S. Sivanandan		22.08.12	

ALL DIMENSIONS ARE IN MM

REV 01	DATE 20.02.83	ALTERED CHECKED APPROVED	PALANISAMY SSN.KUMAR S.S.SUNDARAM	REV 02	DATE 25-03-2011	ALTERED CHECKED APPROVED	<i>D. Anand</i> <i>SSN. Kumar</i> <i>G. Loganathan</i>
MATL. SPEC. 16Mn5Cr4 IS : 4432 WAS 17MnCr95 IS:1570/61				CONVERTED TO AUTO CAD DRAWING			

1.6 // 0.8 //


Ø105	H7	+0.035
		0
28	P9	-0.022
		-0.074



NO OF TEETH	54
NORMAL MODULE	6
AXIAL MODULE	6.093
PRESSURE ANGLE	20°
HELIX ANGLE	10°
HAND OF HELIX	R.H
CORRECTION FACTOR	+0.6423
WIDTH ACROSS 8 TEETH	-0.052 -0.082 140.222
GEAR RATIO	2.571
MATING GEAR N <sub>O</sub> OF TEETH	21
MATING GEAR DRG N <sub>O</sub> :3-7-1155-15-00601	
CENTRE DISTANCE	235 <sup>+0.05</sup>

TOPPING EFFECTED  
CASE HARDEN TO HRC 59<sup>-2</sup>  
CASE DEPTH = 1.1mm

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				16Mn5Cr4 IS:4432			
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT			
			MATL SPEC	QTY			
EQPT: STRETCH REDUCING MILL							
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME	SIGNATURE	DATE
				CHD	D.ANAND	<i>D. Anand</i>	17-03-11
				APPD	SSN.KUMAR	<i>SSN. KUMAR</i>	17-03-11
					G.LOGANATHAN	<i>G. Loganathan</i>	17-03-11
DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO		ITEM	
SSTP	Ø/M/F	1:2.5	54	0-7-1155-15-11046		76	
CODE	IS: 2102			REF TO OLD DWG NO			
456				29011			
TITLE				CARD CODE	DRAWING NO :	REV	
SRM - HELICAL GEAR (GEAR BOX DRIVE)				U 01	4-7-1155-15-00624	02	

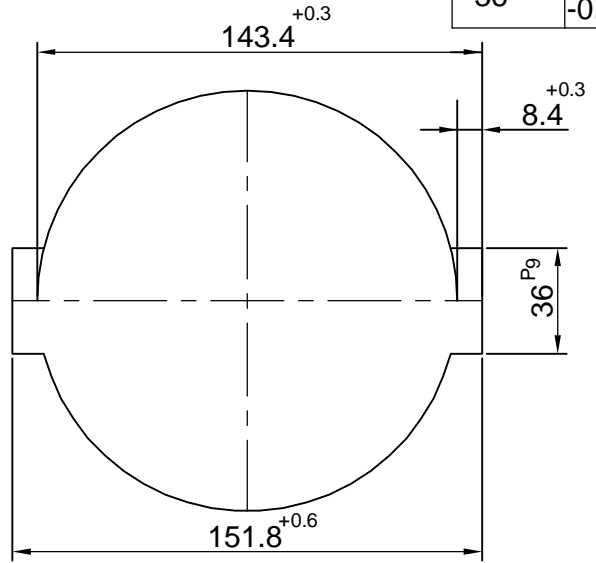
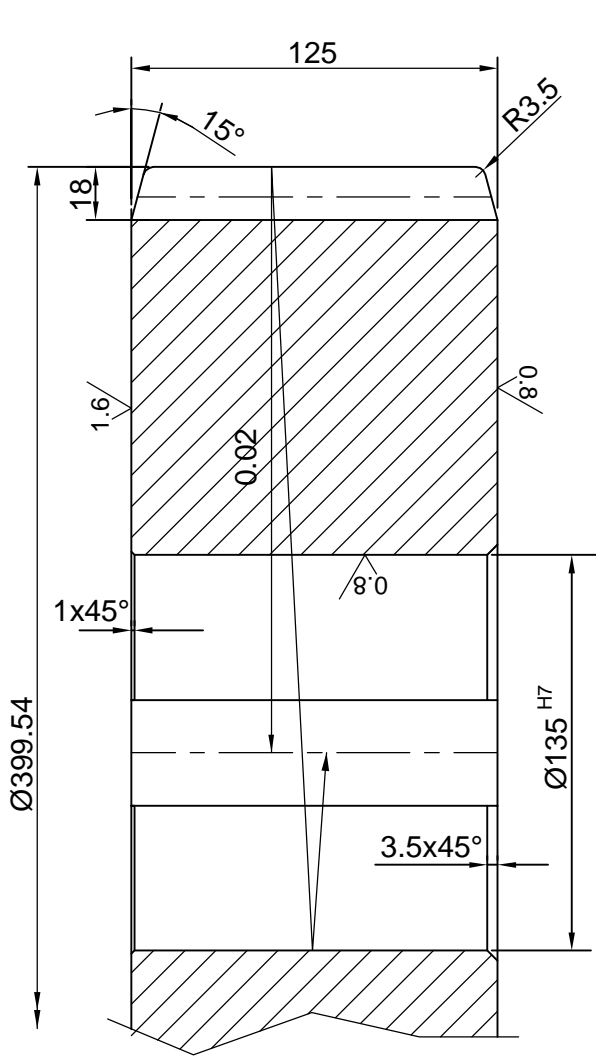
ALL DIMENSIONS ARE IN MM

REV 01	DATE 19-2-83	ALTERED	SSN . KUMAR	REV 02	DATE 25-03-2011	ALTERED	<i>D. Anand</i>
		CHECKED	A . AROCKIAM			CHECKED	<i>SSN. Kumar</i>
		APPROVED	S.S.SUNDARAM			APPROVED	<i>J. Loganathan</i>

MATL SPEC. 20Mn5Cr5  
IS:4432 WAS 20MnCr1  
IS:1570/61

CONVERTED TO AUTO CAD DRAWING

3.2	1.6	0.8
Ø135 <sup>H7</sup>	+0.040	0
36 <sup>P9</sup>	-0.026	-0.088



TOPPING EFFECTED  
CASE HARDEN TO HRC 59<sup>-2</sup>  
CASE DEPTH = 1.3mm

NO OF TEETH	39
NORMAL MODULE	8
AXIAL MODULE	8.078
PRESSURE ANGLE	20°
HELIX ANGLE	8°
HAND OF HELIX	R.H
CORRECTION FACTOR	+0.67056
WIDTH ACROSS 8 TEETH	-0.128 -0.158 138.128
GEAR RATIO	2.294
MATING GEAR No.OF TEETH	17
MATING GEAR DRG No:3-7-1155-15-00602	
CENTRE DISTANCE	235 <sup>+0.05</sup>

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ITEM NO	DESCRIPTION	DRAWING NO	20Mn5Cr5 IS:4432	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: STRETCH REDUCING MILL



Bharat Heavy Electricals Ltd  
SEAMLESS STEEL TUBE PLANT  
TIRUCHIRAPALLI - 620014

DRN	NAME D.ANAND	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
CHD	SSN.KUMAR	<i>SSN. KUMAR</i>	17-03-11
APPD	G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11

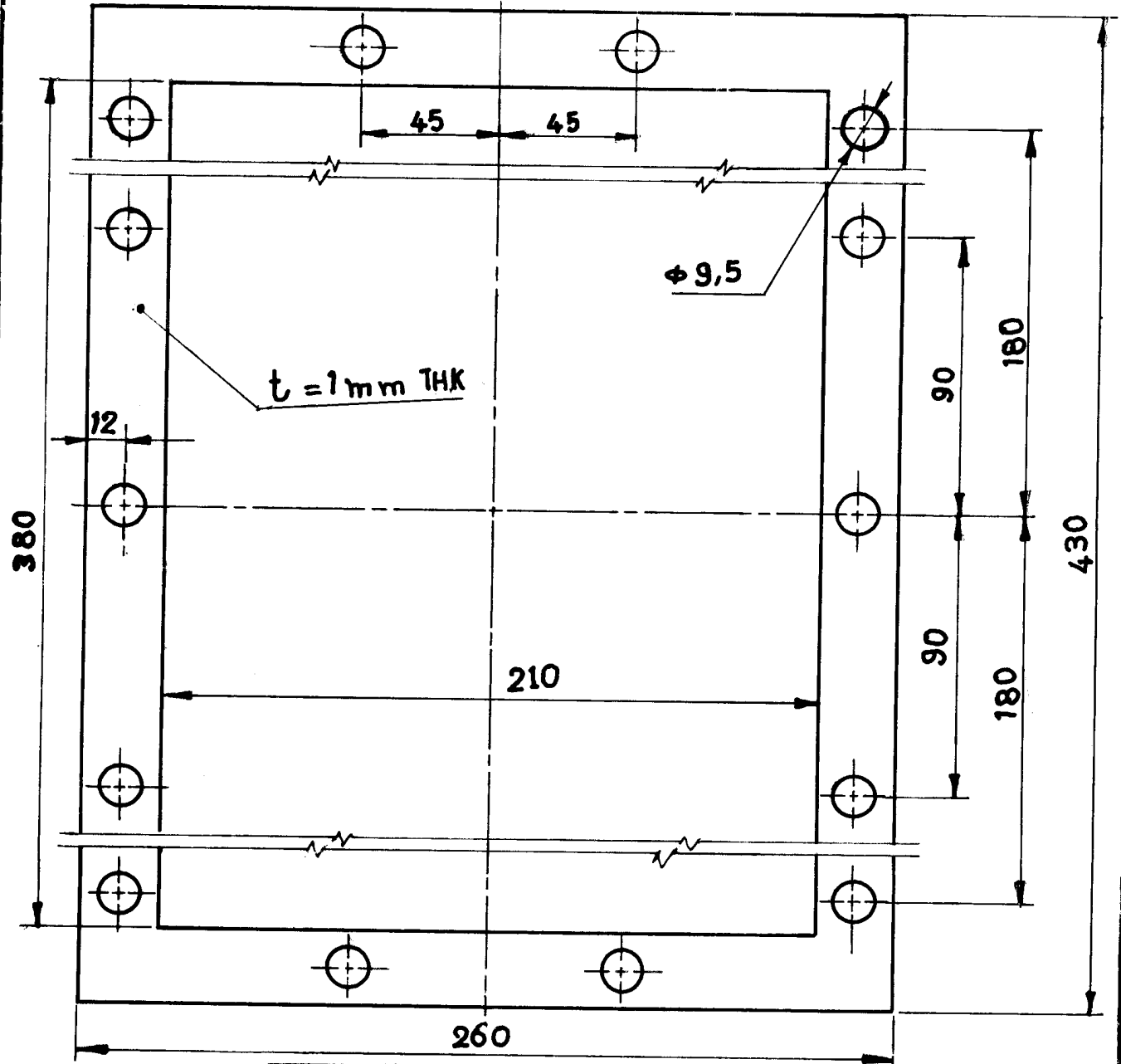
DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
456	Ø/M/F IS: 2102	1:2.5	74	0-7-1155-15-11046	78
				REF TO OLD DWG NO	
				29014/4 1155 42 178	

TITLE	CARD CODE	DRAWING NO :	REV
SRM - HELICAL GEAR (GEAR BOX DRIVE)	U 01	4-7-1155-15-00625	02

5 27-009

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REV 01	DATE	ALTERED
		CHECKED
ZONE		



		<b>ASBESTOS</b>	
		<b>SHEET: - 1mm THICK</b>	<b>11 X 1</b>
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT.
		MATL SPEC	QTY

EQPT: SRM

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

DRN	NAME	SIGN	DATE
CHD			19/12/89
APPD			23-12-89
			23-12-89

DEPT	Grade of Untol Dim	SCALE	WEIGHT (Kg)	REF TO ASSY/OLD DRG	Item NO.
CODE	C/M/F	1:2		9-7-1155-15-00216	46
				28990	

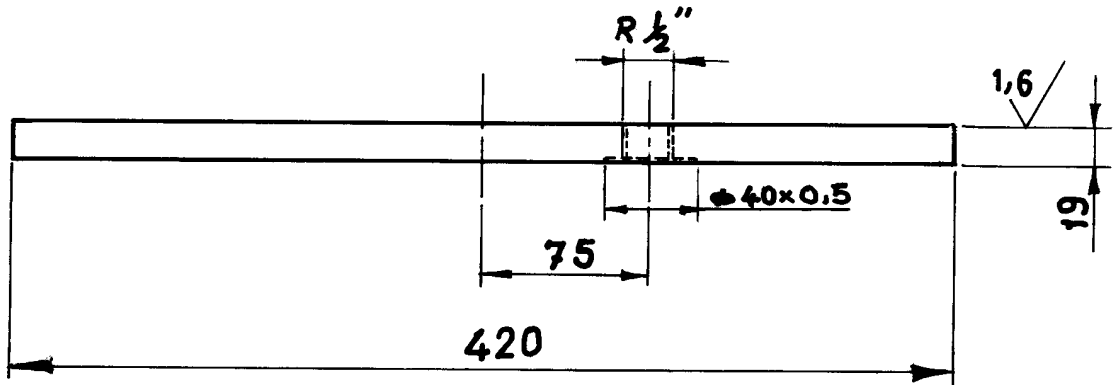
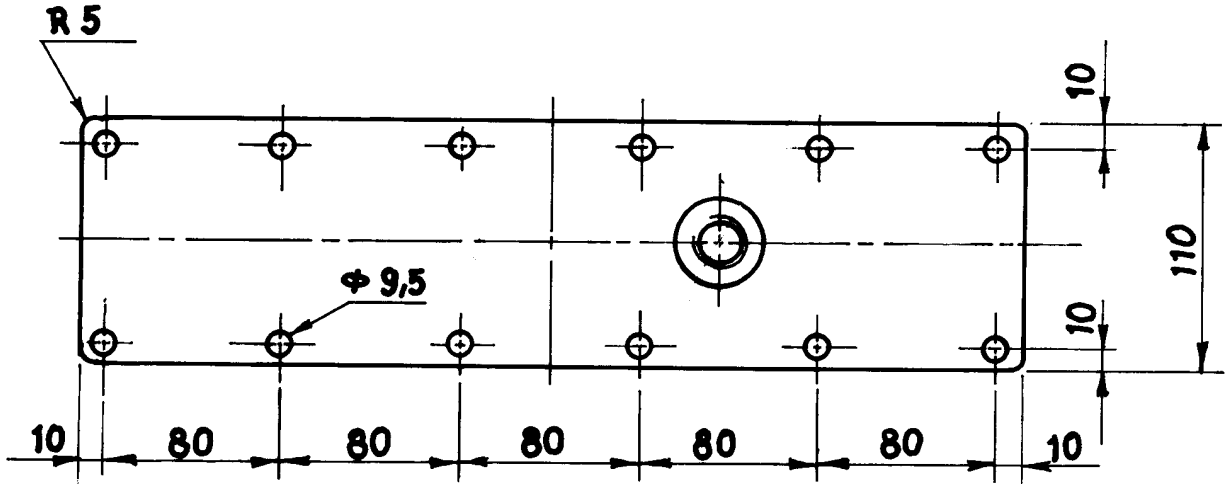
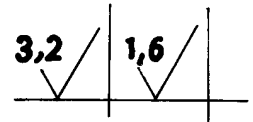
TITLE	CARD CODE	DRAWING NO.	REV
<b>PACKING RING</b> (GEAR BOX ASSEMBLY)	U 01	4-7-1155-15-03859	00

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETERS)

S 27-009

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REV 01	DATE	ALTERED
		CHECKED
ZONE		



		St:- 34	
		IS:- 1079	11x1
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT.
		MATL SPEC	QTY

EQPT: SRM



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

DRN	NAME	SIGN	DATE
CHD			18/12/89
APPD			23-12-89

DEPT	Grade of Tolerance Dim	SCALE	WEIGHT (Kg)	REF TO ASSY/OLD DRG	Item NO.
CODE	C/M/F	1:3 1/3		9-7-1155-15-00216 28989	47

TITLE	CARD CODE	DRAWING NO.	REV
COVER OF DISTRIBUTOR (GEAR BOX ASSEMBLY)	U 01	4-7-1155-15-03860	00

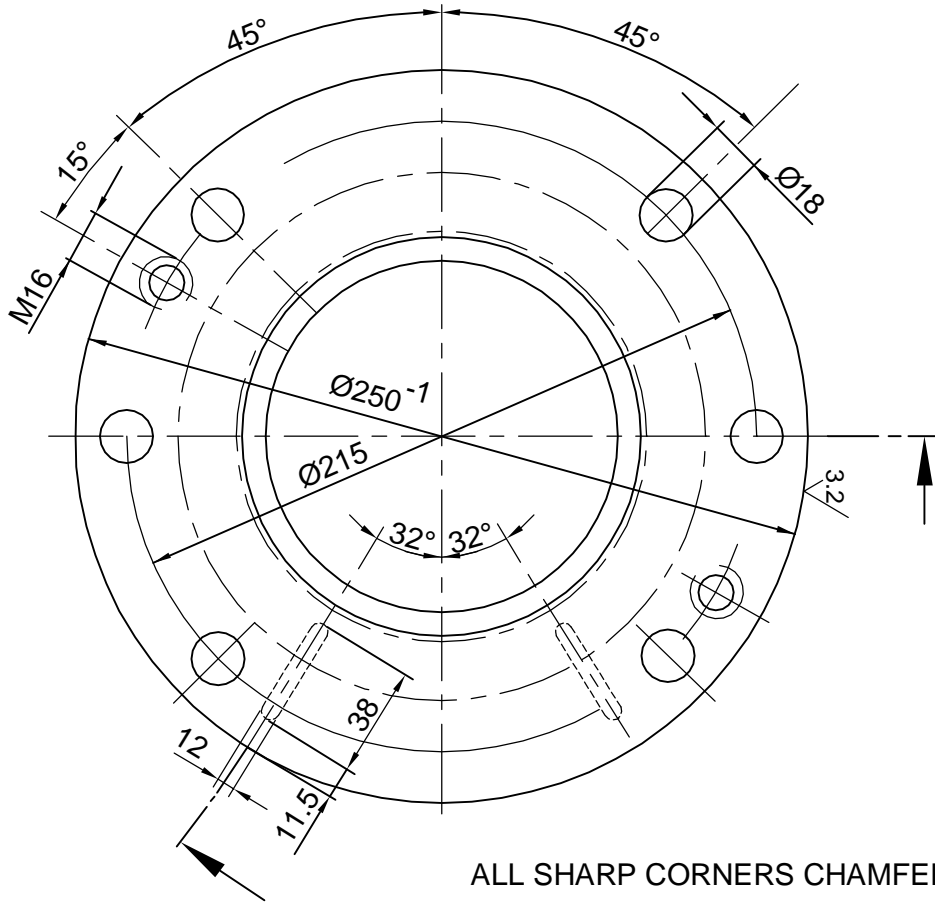
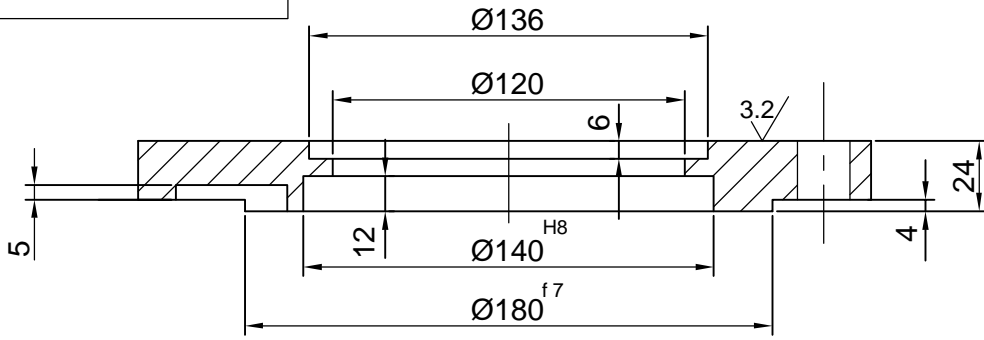
ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>D. Anand</i>
01	25.03.11	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

CONVERTED TO AUTO CAD DRAWING

1.6 // 3.2 //


$\text{H}^8$	+0.063
$\text{H}^8$	0
$\text{f}^7$	-0.043
$\text{f}^7$	-0.083



ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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ITEM NO	DESCRIPTION	DRAWING NO	St: 52 IS:1079	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: <b>STRETCH REDUCING MILL</b>						
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME <b>D.ANAND</b>	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
			CHD	<b>SSN.KUMAR</b>	<i>SSM. KUMAR</i>	17-03-11
			APPD	<b>G.LOGANATHAN</b>	<i>J. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM	
CODE 456	$\phi/M/f$ IS: 2102	1:2.5	7.1	0-7-1155-15-11046	50	
TITLE <b>SRM - PLUMMER BLOCK COVER</b> (GEAR BOX DRIVE)				REF TO OLD DWG NO	REV	
				28997	01	
			CARD CODE U 01	DRAWING NO :	REV	
				<b>4-7-1155-15-03863</b>	01	

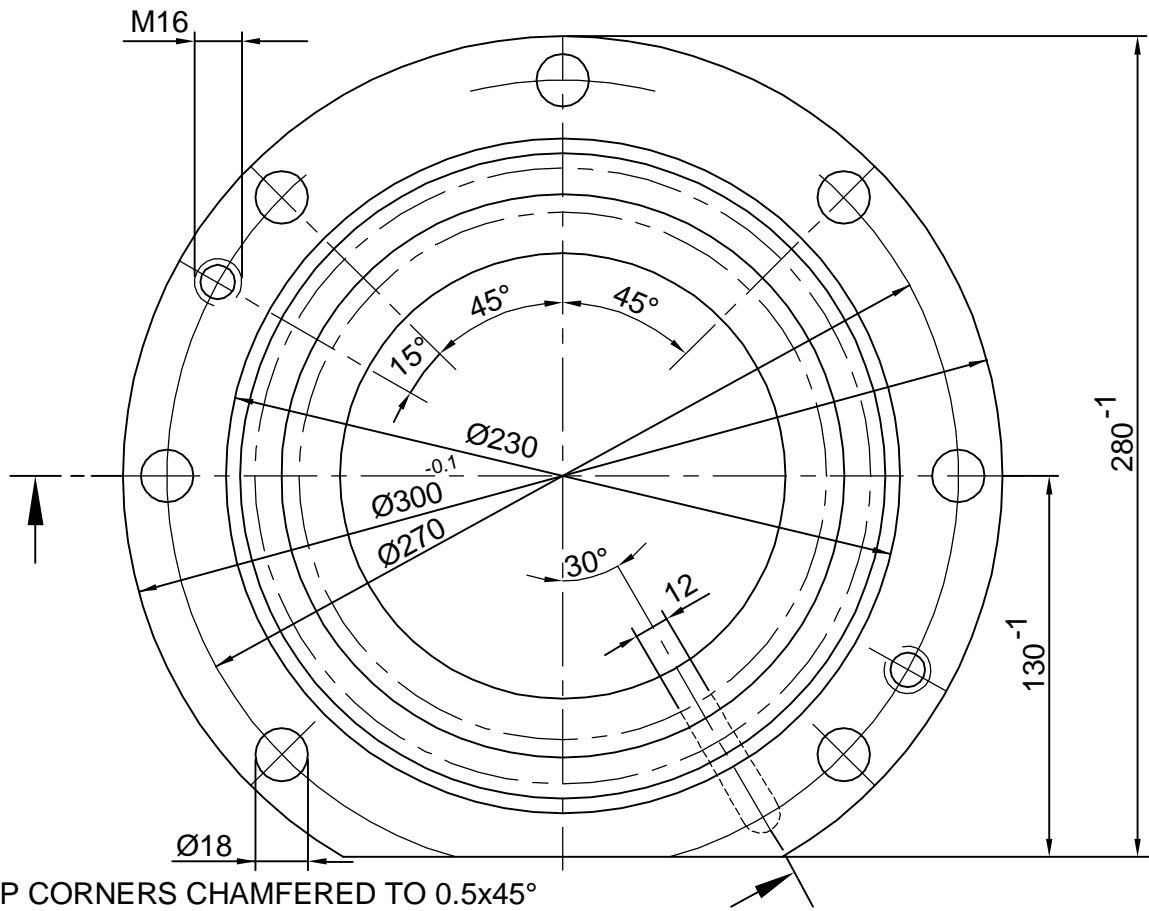
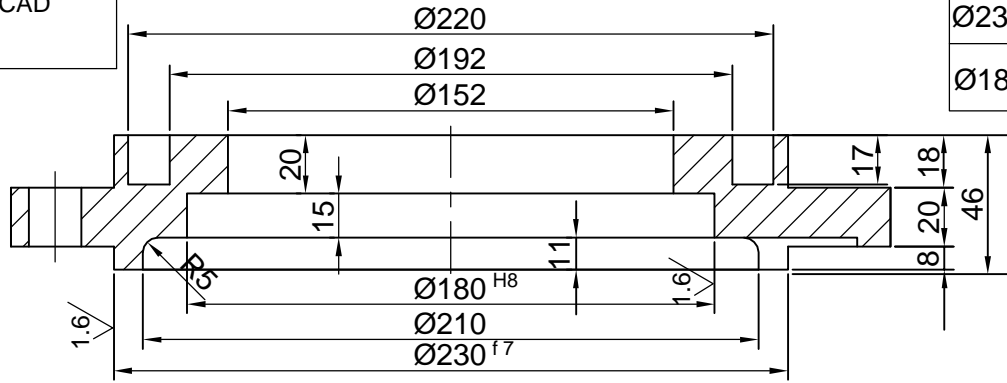
ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>D. Anand</i>
01	25.03.11	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

CONVERTED TO AUTO CAD DRAWING

3.2//1.6//


Ø230 <sup>f7</sup>	-0.050
	-0.096
Ø180 <sup>H8</sup>	+0.063
	0



ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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ITEM NO	DESCRIPTION	DRAWING NO	St: 52 IS:1079	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

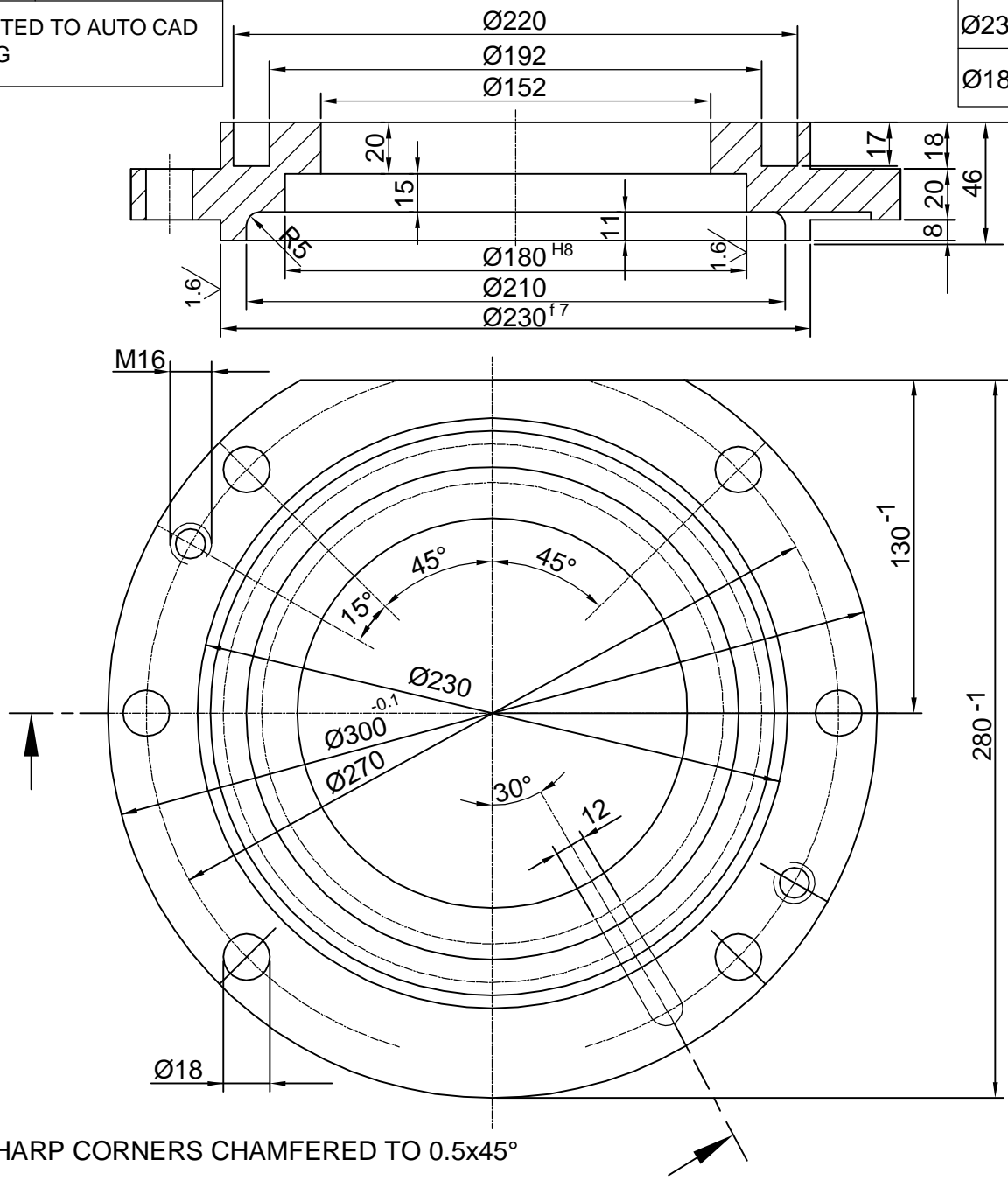
EQPT: <b>STRETCH REDUCING MILL</b>		NAME		SIGNATURE		DATE	
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	D.ANAND	<i>D. Anand</i>	17-03-11		
		CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11		
		APPD	G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11		
DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM		
SSTP	Ø/M/F	1:2.5	18.9	0-7-1155-15-11046	51		
CODE	IS: 2102			REF TO OLD DWG NO	29000		
TITLE			CARD CODE	DRAWING NO :		REV	
<b>SRM - PLUMMER BLOCK COVER</b> (GEAR BOX DRIVE)			U 01	<b>4-7-1155-15-03864</b>		01	

ALL DIMENSIONS ARE IN MM

REV 01	DATE 25-03-11	ALTERED <i>D. Anand</i>
		CHECKED <i>SSM. Kumar</i>
		APPROVED <i>J. Loganathan</i>


CONVERTED TO AUTO CAD  
DRAWING

	3.2	1.6
Ø230 <sup>f7</sup>	-0.050	-0.096
Ø180 <sup>H8</sup>	+0.063	0



ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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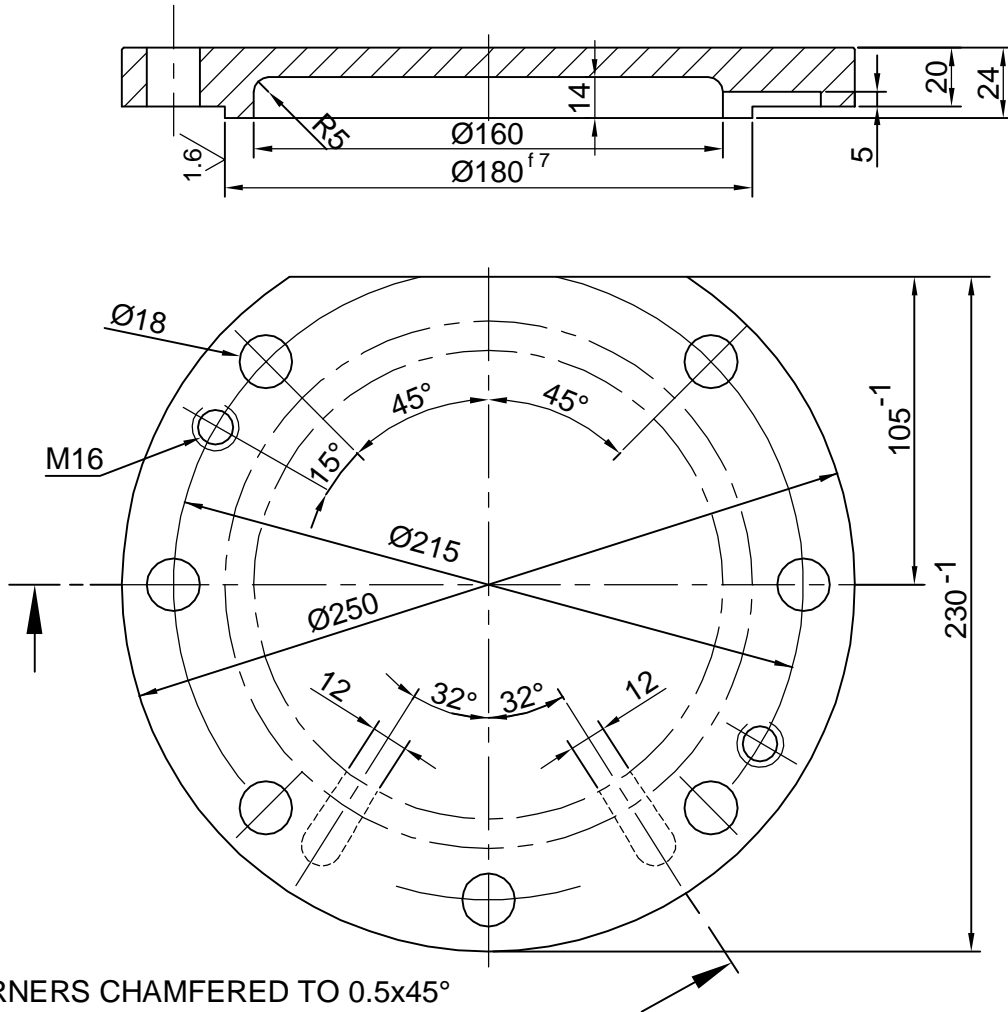
				St: 52 IS:1079	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT	
			MATL SPEC	QTY	
EQPT: <b>STRETCH REDUCING MILL</b>					
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME <b>D.ANAND</b>	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
		CHD	<b>SSN.KUMAR</b>	<i>SSM. KUMAR</i>	17-03-11
		APPD	<b>G.LOGANATHAN</b>	<i>J. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	$\phi$ / M / F IS: 2102	1:2.5	18.9	0-7-1155-15-11046	52
TITLE <b>SRM - PLUMMER BLOCK COVER</b> (GEAR BOX DRIVE)			CARD CODE U 01	REF TO OLD DWG NO 29001	DRAWING NO : <b>4-7-1155-15-03865</b>
				REV	01

ALL DIMENSIONS ARE IN MM

REV 01	DATE	ALTERED	REV 02	DATE	ALTERED
	16.08.96	CHECKED		26.03.2011	CHECKED
		APPROVED			APPROVED
SSN . KUMAR SANTHA KUMAR			D. Anand SSN. Kumar G. Loganathan		
GREASING SLOT ADDED IN LEFT SIDE			CONVERTED TO AUTO CAD DRAWING		


3.2 / 1.6

Ø180 <sup>f7</sup>	-0.043
	-0.083



ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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				St: 52 IS:1079	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT	QTY
EQPT: STRETCH REDUCING MILL					
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME	SIGNATURE	DATE
		CHD	D.ANAND	<i>D. Anand</i>	17-03-11
		APPD	SSN.KUMAR	<i>SSN. KUMAR</i>	17-03-11
			G.LOGANATHAN	<i>G. Loganathan</i>	17-03-11
DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
SSTP	Ø/M/F	1:2.5	5.4	0-7-1155-15-11046	53
CODE	IS: 2102			REF TO OLD DWG NO	
456				29002	
TITLE			CARD CODE	DRAWING NO :	REV
SRM - SEALING COVER (GEAR BOX DRIVE)			U 01	4-7-1155-15-03866	02

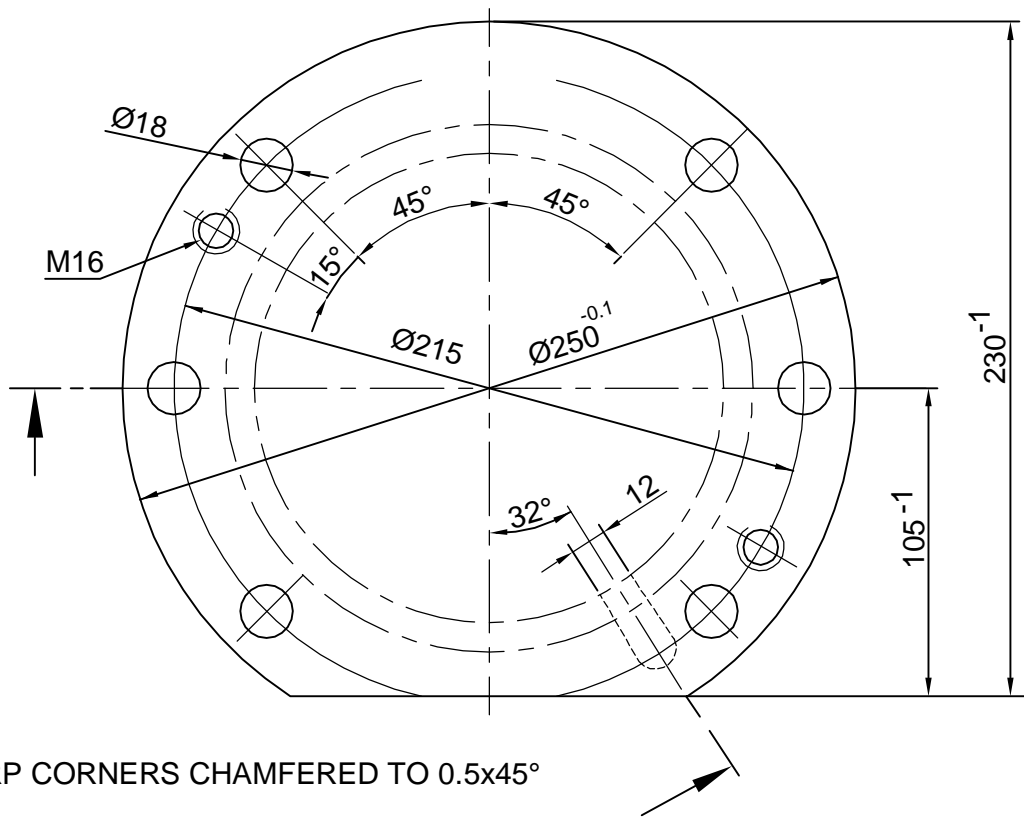
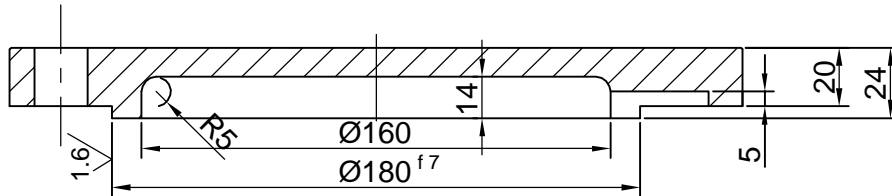
ALL DIMENSIONS ARE IN MM

REV 01	DATE 25.03.11	ALTERED <i>D. Anand</i>
		CHECKED <i>SSM. Kumar</i>
		APPROVED <i>G. Loganathan</i>

CONVERTED TO  
AUTO CAD DRAWING


3.2// 1.6//

Ø180	f7	-0.043
		-0.083



ALL SHARP CORNERS CHAMFERED TO 0.5x45°

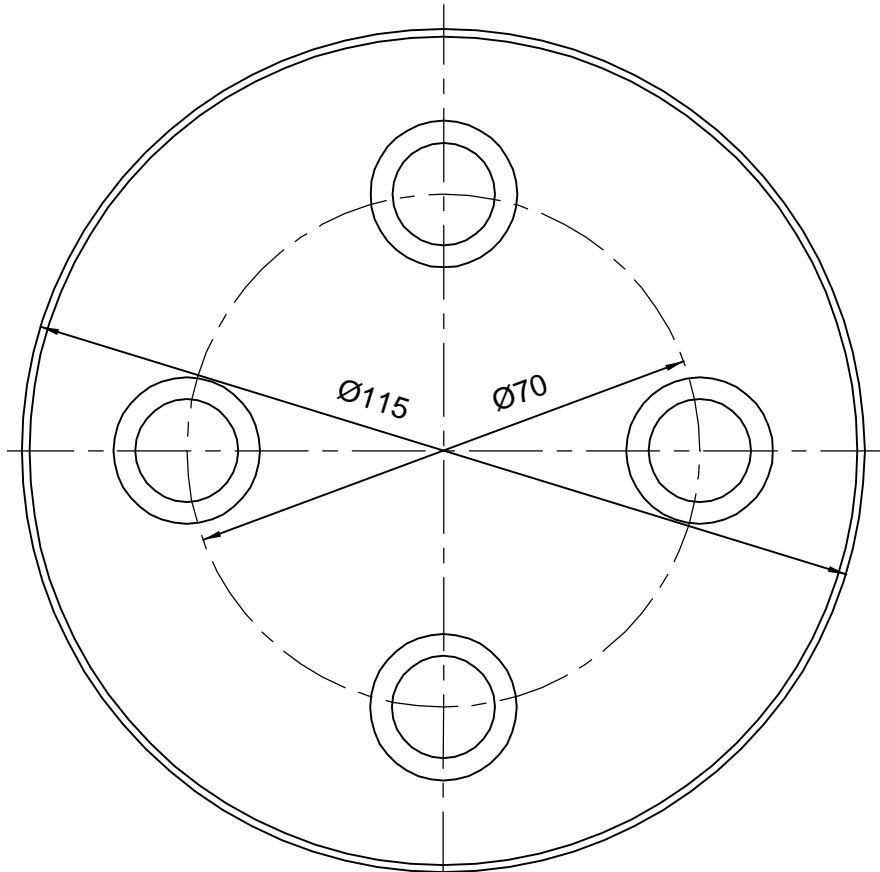
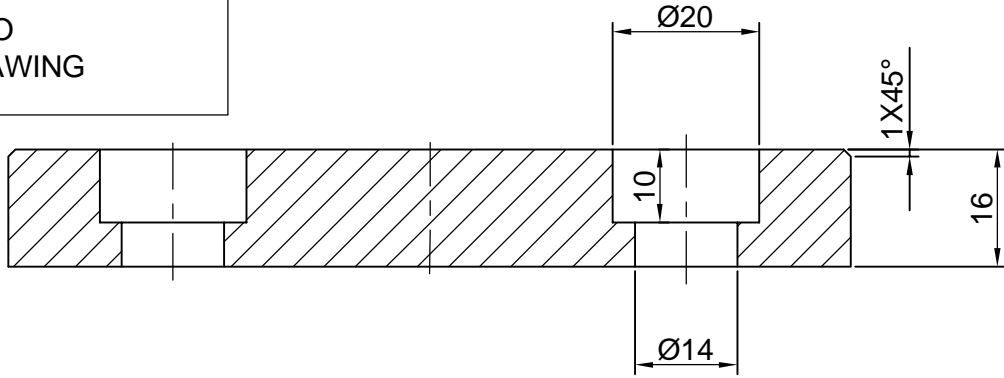
CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

				St: 52 IS:1079	
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE	UNIT WT
				MATL SPEC	QTY
EQPT: <b>STRETCH REDUCING MILL</b>					
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME D.ANAND	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
		CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
		APPD	G.LOGANATHAN	<i>G. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	Ø/M/F IS: 2102	1:2.5	5.4	0-7-1155-15-11046	54
TITLE		CARD CODE	DRAWING NO :		REV
<b>SRM - SEALING COVER (GEAR BOX DRIVE)</b>		U 01	<b>4-7-1155-15-03867</b>		01

ALL DIMENSIONS ARE IN MM


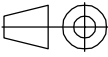
REV 01	DATE	ALTERED	<i>D. Anand</i>
	25-03-11	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>
<p>CONVERTED TO AUTO CAD DRAWING</p>			

3.2//1.6//



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ITEM NO	DESCRIPTION	DRAWING NO	ST-52 IS:1079	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

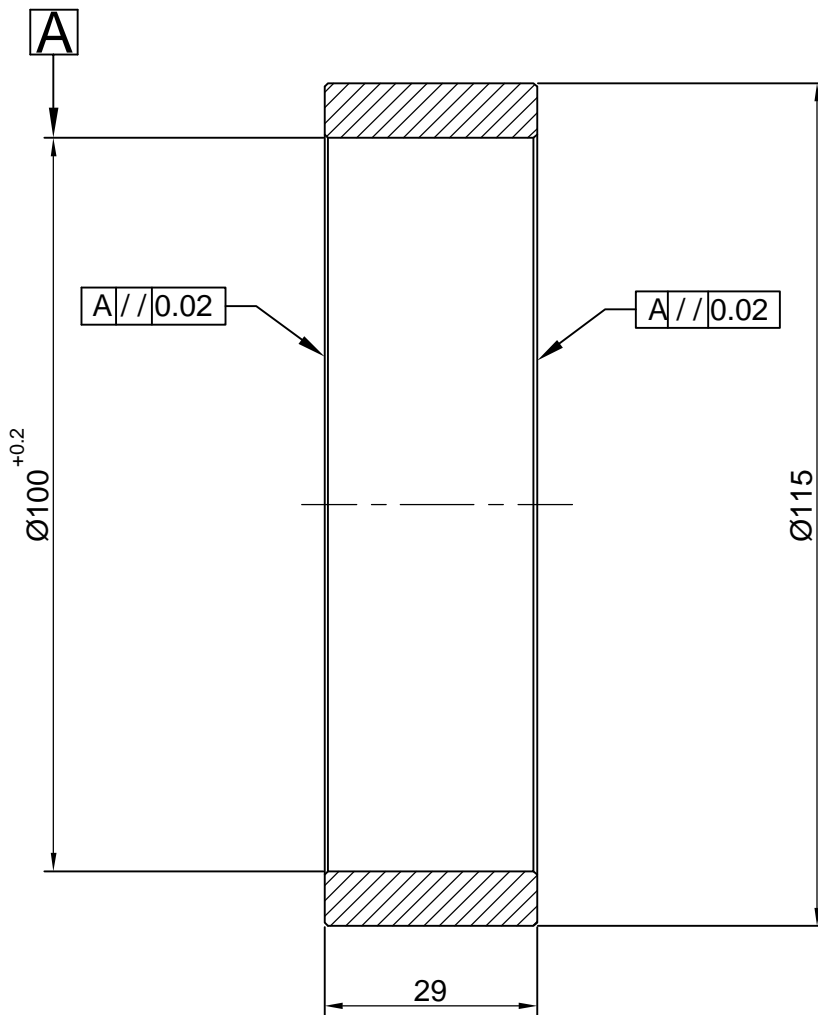
EQPT: <b>STRETCH REDUCING MILL</b>						
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME	SIGNATURE	DATE
			CHD	D.ANAND	<i>D. Anand</i>	17-03-11
			APPD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
				G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	$\phi/M/f$ IS: 2102		1:1	0.82	0-7-1155-15-11046	81
TITLE			CARD CODE	DRAWING NO :	REV	
<b>SRM - END DISC (GEAR BOX DRIVE)</b>			U 01	4-7-1155-15-03868	01	

ALL DIMENSIONS ARE IN MM

REV 01	DATE 25-03-11	CHECKED <i>SSM.Kumar</i>
		APPROVED <i>G. Loganathan</i>

1.6

CONVERTED TO  
AUTO CAD DRAWING


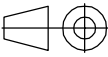


ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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			Fe 540 IS : 8500	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY

EQPT: STRETCH REDUCING MILL

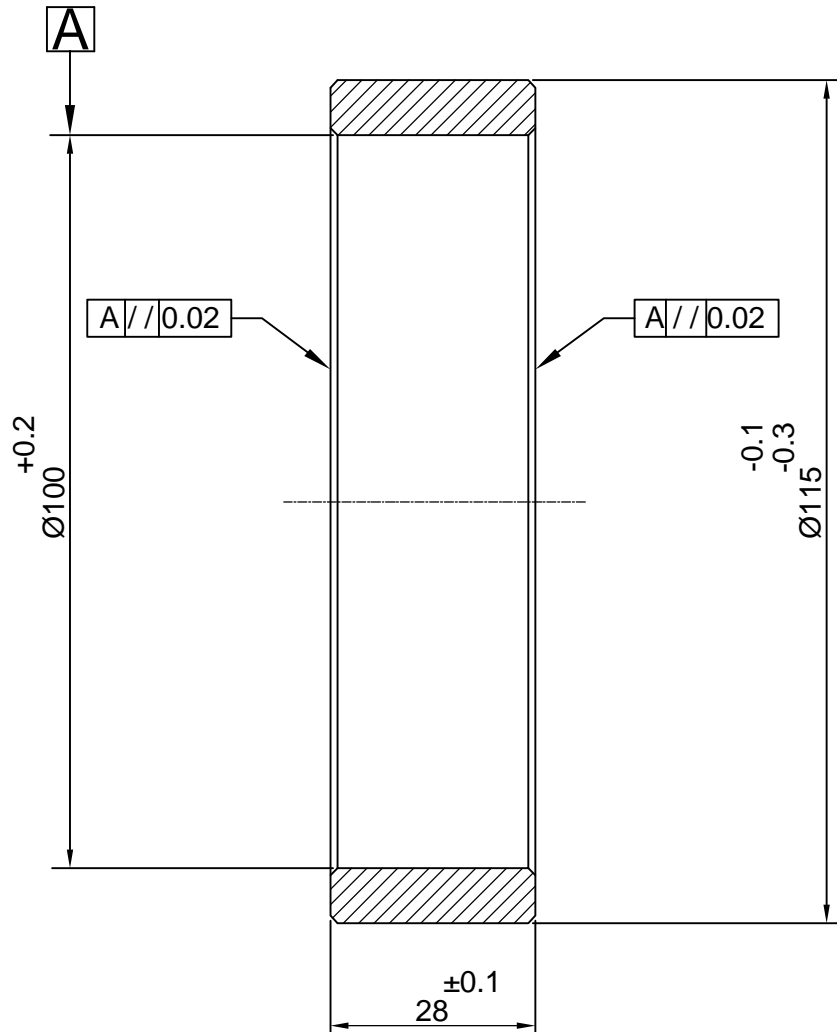
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME D.ANAND	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
			CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
			APPD	G.LOGANATHAN	<i>G. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	$\phi/M/\#$ IS: 2102		1:1	0.56	0-7-1155-15-11046	85
TITLE			CARD CODE	DRAWING NO :		REV
SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)			U 01	4-7-1155-15-03869		01

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>D. Anand</i>
01	26-03-11	CHECKED	<i>SSN. Kumar</i>
		APPROVED	<i>J. Loganathan</i>


**CONVERTED TO  
AUTO CAD DRAWING**

1.6/



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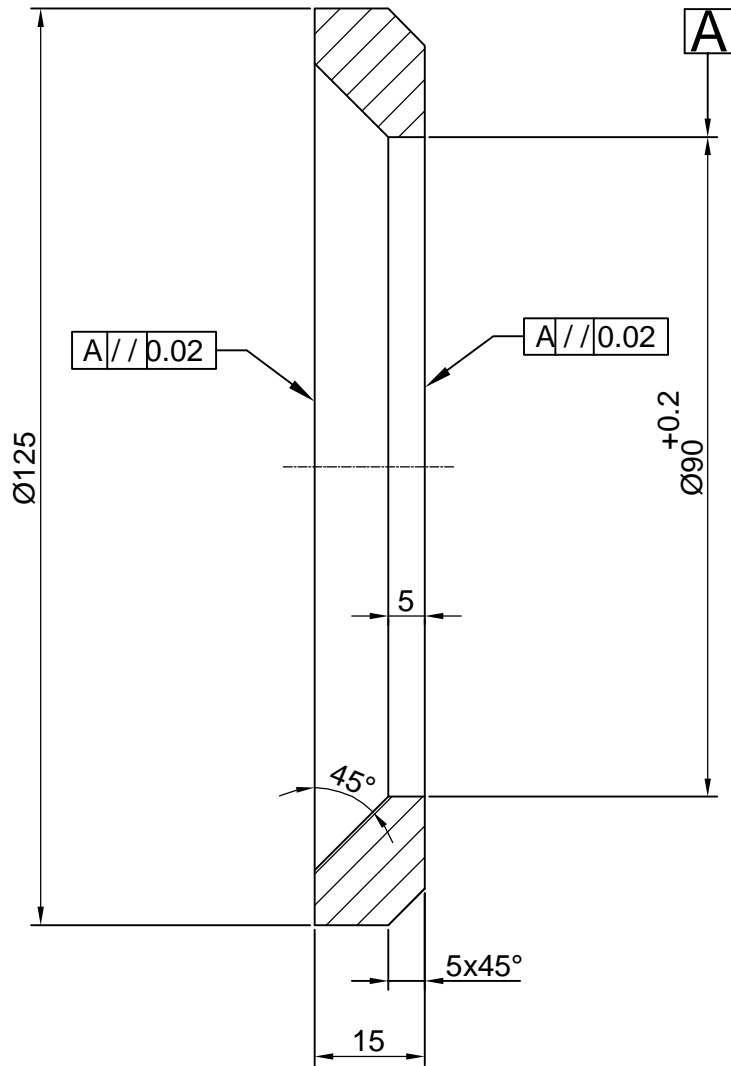
				Fe 540, IS : 8500			
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: <b>STRETCH REDUCING MILL</b>							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME	SIGNATURE	DATE		
		CHD	D.ANAND	<i>D. Anand</i>	17-03-11		
		APPD	SSN.KUMAR	<i>SSN. KUMAR</i>	17-03-11		
			G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11		
DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM		
SSTP	φ/M/f	1:1	0.55	0-7-1155-15-11046	86		
CODE	IS: 2102			REF TO OLD DWG NO			
456				29076			
TITLE			CARD CODE	DRAWING NO :	REV		
<b>SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)</b>			U 01	<b>4-7-1155-15-03870</b>	01		

ALL DIMENSIONS ARE IN MM

REV 01	DATE	ALTERED	<i>D. Anand</i>
	26.03.2011	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

1.6/

CONVERTED TO AUTO CAD  
DRAWING


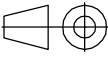


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ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY

EQPT: STRETCH REDUCING MILL

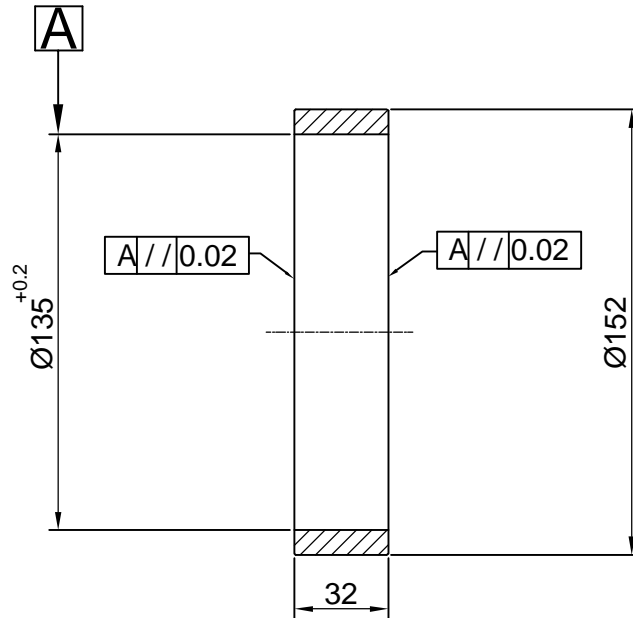
	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME	SIGNATURE	DATE
			CHD	D.ANAND	<i>D. Anand</i>	17-03-11
			APPD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
DEPT	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
SSTP	$\phi / M / F$ IS: 2102		1:1	0.52	0-7-1155-15-11046	87
CODE					REF TO OLD DWG NO	
456					29078	
TITLE			CARD CODE	DRAWING NO :		REV
SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)			U 01	4-7-1155-15-03871		01

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>D. Anand</i>
01	26.03.2011	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>


CONVERTED TO AUTO CAD DRAWING

1.6 /



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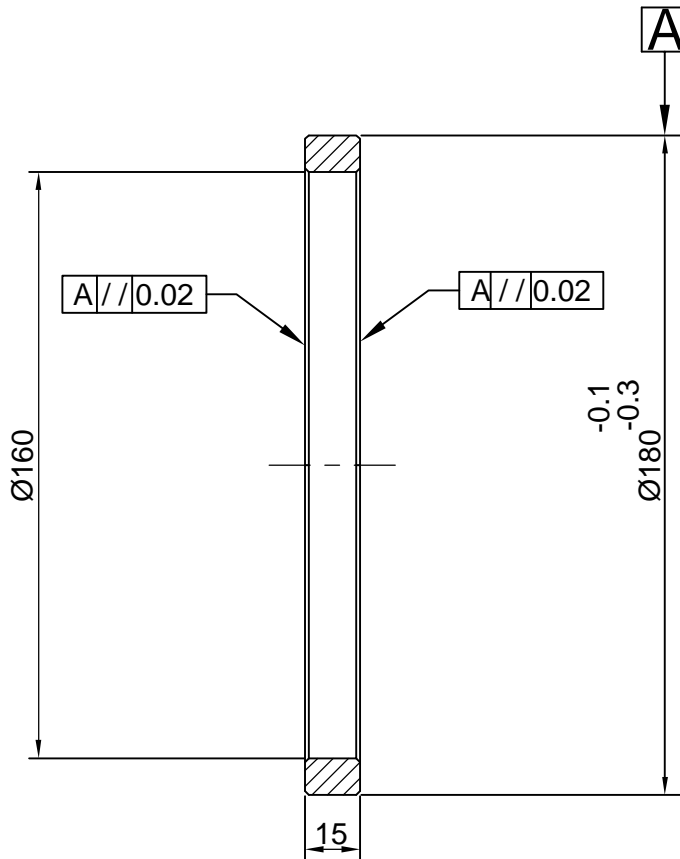
				Fe 540 IS : 8500		
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE	UNIT WT	
				MATL SPEC	QTY	
EQPT: <b>STRETCH REDUCING MILL</b>						
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME D.ANAND	SIGNATURE <i>D. Anand</i>	DATE 17-03-11	
		CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11	
		APPD	G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11	
DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM	
CODE 456	$\phi/M/f$ IS: 2102	1:2.5	0.96	0-7-1155-15-11046	88	
TITLE		CARD CODE	DRAWING NO :			REV
<b>SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)</b>		U 01	<b>4-7-1155-15-03872</b>			01

ALL DIMENSIONS ARE IN MM

REV 01	DATE	ALTERED	<i>D. Anand</i>
	26.03.2011	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

1.6/

CONVERTED TO AUTO CAD  
DRAWING




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			Fe 540 IS:8500	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY

EQPT: STRETCH REDUCING MILL

 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014	DRN	NAME D.ANAND	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
	CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
	APPD	G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11

DEPT SSTP	GRADE OF UNTOL. DIM ϕ/M/F IS: 2102	SCALE 1:2	WEIGHT (Kg) 0.6	REF TO ASSY DWG NO 0-7-1155-15-11046	ITEM 89
CODE 456				REF TO OLD DWG NO 29080	

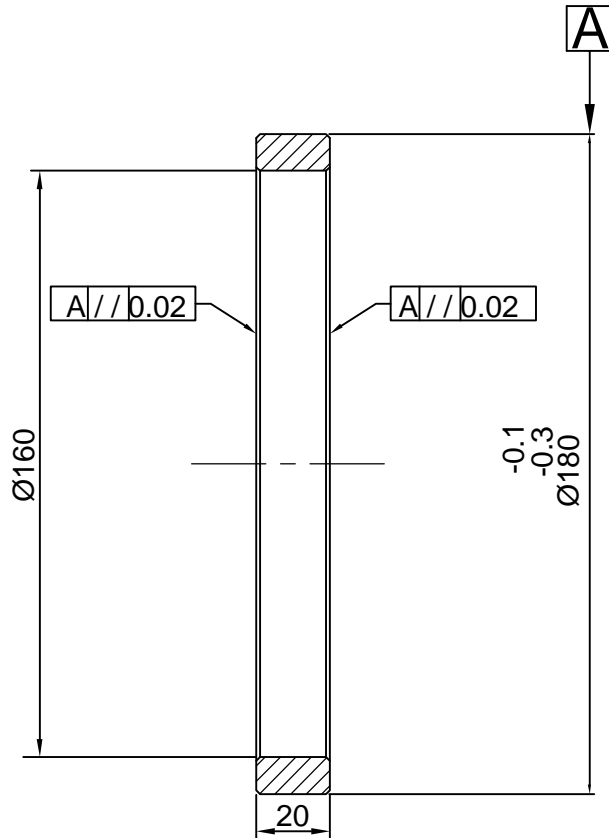
TITLE <b>SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)</b>	CARD CODE U 01	DRAWING NO : <b>4-7-1155-15-03873</b>	REV 01
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ALL DIMENSIONS ARE IN MM

REV 01	DATE	ALTERED	<i>D. Anand</i>
	26.03.2011	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

1.6/

CONVERTED TO AUTO CAD  
DRAWING


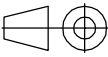


ALL SHARP CORNERS CHAMFERED TO 0.5x45°

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			Fe 540, IS : 8500	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY

EQPT: **STRETCH REDUCING MILL**

	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME <b>D.ANAND</b>	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
			CHD	<b>SSN.KUMAR</b>	<i>SSM. KUMAR</i>	17-03-11
			APPD	<b>G.LOGANATHAN</b>	<i>J. Loganathan</i>	17-03-11
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	$\phi/M/f$ IS: 2102		1:2	0.8	0-7-1155-15-11046	90
TITLE			CARD CODE	DRAWING NO :	REV	
<b>SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)</b>			U 01	<b>4-7-1155-15-03874</b>	01	

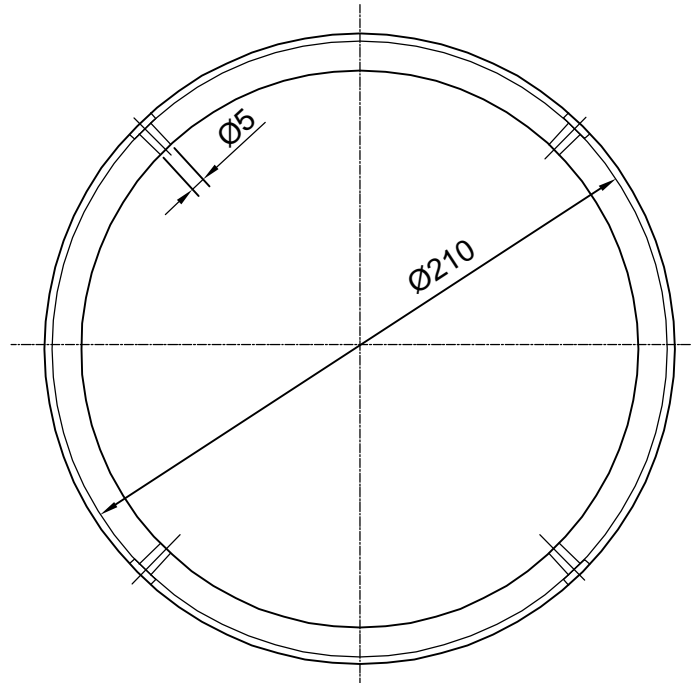
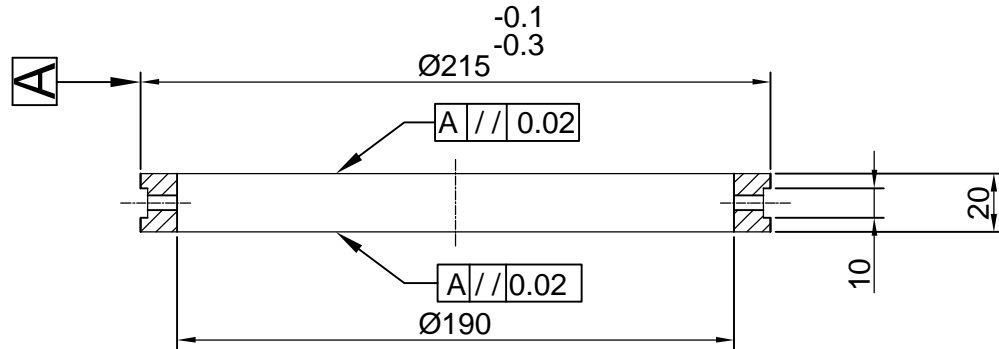
A4-SIZE

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>D. Anand</i>
01	26.03.2011	CHECKED	<i>SSM. Kumar</i>
		APPROVED	<i>J. Loganathan</i>

1.6/

CONVERTED TO AUTO CAD  
DRAWING



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ITEM NO	DESCRIPTION	DRAWING NO	Fe 540 IS:8500	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: **STRETCH REDUCING MILL**



**Bharat Heavy Electricals Ltd**  
SEAMLESS STEEL TUBE PLANT  
TIRUCHIRAPALLI - 620014

DRN	NAME	SIGNATURE	DATE
	D.ANAND	<i>D. Anand</i>	17-03-11
CHD	SSN.KUMAR	<i>SSM. KUMAR</i>	17-03-11
APPD	G.LOGANATHAN	<i>J. Loganathan</i>	17-03-11

DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
SSTP	φ/M/f	1:2.5	1	0-7-1155-15-11046	92
CODE	IS: 2102			REF TO OLD DWG NO	
456				29072	

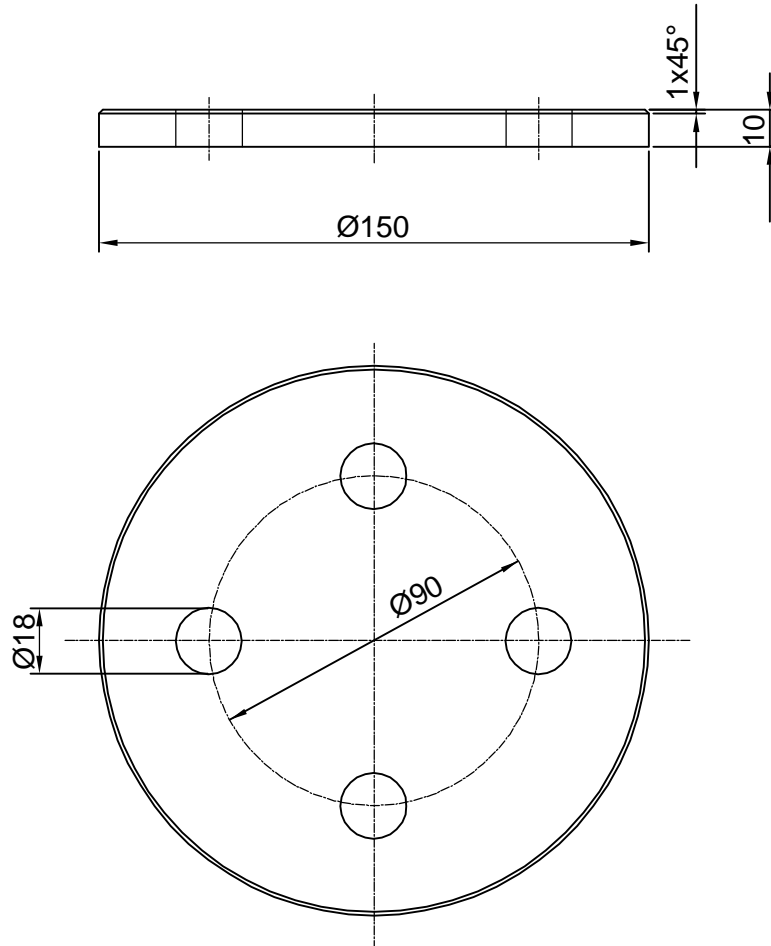
TITLE	CARD CODE	DRAWING NO :	REV
<b>SRM - DISTANCE SLEEVE (GEAR BOX DRIVE)</b>	U 01	<b>4-7-1155-15-03876</b>	01

ALL DIMENSIONS ARE IN MM

REV 01	DATE 26.03.2011	ALTERED <i>D. Anand</i>
		CHECKED <i>SSM. Kumar</i>
		APPROVED <i>G. Loganathan</i>

3.2/

CONVERTED TO AUTO CAD  
DRAWING



CAUTION: 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.

ITEM NO	DESCRIPTION	DRAWING NO	ST-52 IS:1079	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: **STRETCH REDUCING MILL**



**Bharat Heavy Electricals Ltd**  
SEAMLESS STEEL TUBE PLANT  
TIRUCHIRAPALLI - 620014

DRN	NAME <b>D. ANAND</b>	SIGNATURE <i>D. Anand</i>	DATE 17-03-11
CHD	<b>SSN. KUMAR</b>	<i>SSM. KUMAR</i>	17-03-11
APPD	<b>G. LOGANATHAN</b>	<i>G. Loganathan</i>	17-03-11

DEPT SSTP	GRADE OF UNTOL. DIM ϕ/M/F IS: 2102	SCALE 1:2	WEIGHT (Kg) 0.36	REF TO ASSY DWG NO 0-7-1155-15-11046	ITEM 94
CODE 456				REF TO OLD DWG NO 29019	

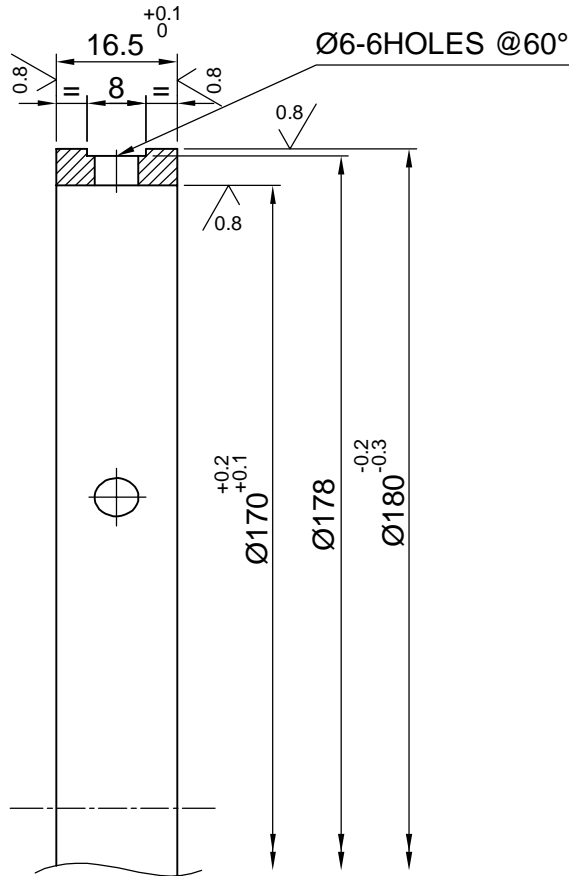
TITLE <b>SRM - END DISC (GEAR BOX DRIVE)</b>	CARD CODE U 01	DRAWING NO : <b>4-7-1155-15-03877</b>	REV 01
---	-------------------	--	-----------

ALL DIMENSIONS ARE IN MM

REV 01	DATE 21.01.12	ALTERED S.KIRUBAHARAN
		CHECKED SSN.KUMAR
		APPROVED G.LOGANATHAN

1.6 / 0.8 /

REF. ASSY DRG.NO & ITEM NO.  
WERE 9-7-1155-15-00216 & 170




**NOTE TO SHOP MTCE**  
ON RECEIPT WIDTH 16.5<sup>+0.1</sup> TO BE GROUND  
TO MATCH THE ASSY

HARDEN TO HRC 60<sup>±2</sup>

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ITEM NO	DESCRIPTION	DRAWING NO	103Cr1 IS:4398	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: STRETCH REDUCING MILL

 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014	DRN	NAME B.ASHOKKUMAR	SIGNATURE <i>B. Ashokkumar</i>	DATE 22.02.03
	CHD	SSN.KUMAR	<i>SSN.KUMAR</i>	21.03.03
	APPD	S.SHANMUGASUNDARAM	<i>S.S. Shanmugaram</i>	21.03.03

DEPT SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
456	IS: 2102	1:1	0.32	0-7-1155-15-11046	181
				REF TO OLD DWG NO	

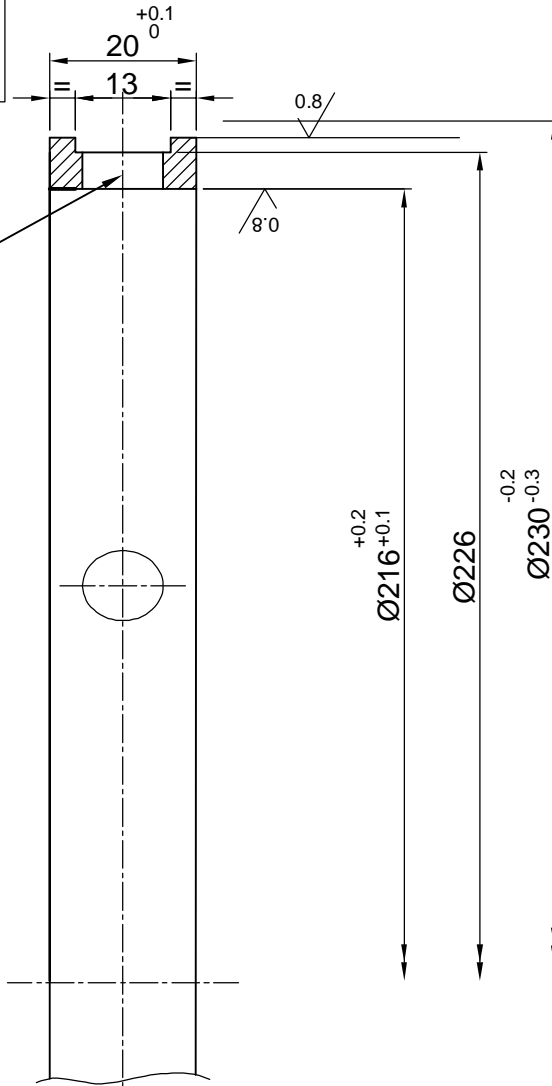
TITLE	CARD CODE	DRAWING NO :	REV
<b>SRM - SPACER</b> FOR BRG 30220J2/DF-GEAR BOX ASSY	U 01	<b>4-7-1155-15-06206</b>	01

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	S.KIRUBAHARAN
01	21.01.12	CHECKED	SSN.KUMAR
		APPROVED	G.LOGANATHAN

1.6/0.8/

DIMENSIONS Ø230,Ø226  
 Ø216,20 &13 WERE RESPECTIVELY  
 Ø214,Ø209,Ø190,14.5 &10  
 REF. DRG NO.&ITEM DRG NO.WERE  
 9-7-1155-15-00216 & 171



HOLE Ø11- 6 HOLES @ 60°

**NOTE TO SHOP MTCE**

ON RECEIPT WIDTH 20<sup>+0.1</sup> TO BE GROUND  
 TO MATCH THE ASSY

HARDEN TO HRC 60<sup>±2</sup>

CAUTION: 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.

ITEM NO	DESCRIPTION	DRAWING NO	103Cr1 IS:4398	UNIT WT
			MATL CODE	QTY
			MATL SPEC	

EQPT: STRETCH REDUCING MILL

	Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014	DRN	NAME	SIGNATURE	DATE
		CHD	B.ASHOKKUMAR	<i>S. SHANMUGASUNDARAM</i>	22.02.03
		APPD	SSN.KUMAR	<i>SSN.KUMAR</i>	21.03.03
			S.SHANMUGASUNDARAM	<i>S.S. SHANMUGASUNDARAM</i>	21.03.03

DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
SSTP	Ø/M/F	1:1	0.77	0-7-1155-15-11046	182
CODE	IS: 2102			REF TO OLD DWG NO	
456					

TITLE	CARD CODE	DRAWING NO :	REV
SRM - SPACER FOR BRG 30226J2/DF-GEAR BOX ASSY	U 01	4-7-1155-15-06207	01