

16000-103-02-2
DRAWING NO.

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP

FOR VAR 02	12.5 / (1.6 / 3.2 / 6.3)
FOR VAR 01	✓ (1.6 / 3.2 / 6.3)

TOLERANCE ON GEAR BLANK

TIP DIAMETER = 253 ^{+0.0} / -0.13
 RADIAL AND AXIAL RUN OUT OF REFERENCE SURFACES = 0.021

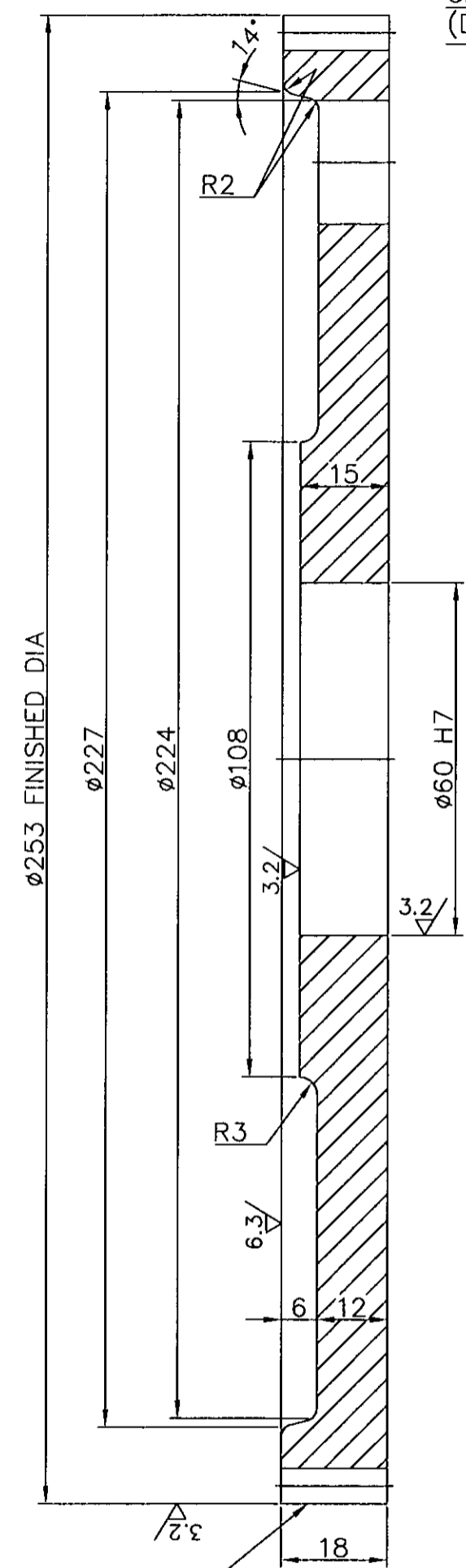
TOLERANCE ON GEAR

TEETH RUN OUT = 0.080 (TIR) WRT BORE
 WIDTH ACROSS ELEVEN TEETH = 88.70917 ^{-0.12} / -0.20
 ALL OTHER TOLERANCES ARE TO BE AS PER QCP

ATTENTION FOR 01 ONLY

- ALL CAST DIMNS TO BE ^{+1.5} / -0.0
- CORNER RADII WHEREVER NOT MENTIONED TO BE 3mm
- MACHINING ALLOWANCE TO BE MAXIMUM 5mm WHWREVER NECESSARY (SPECIFIED)

1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

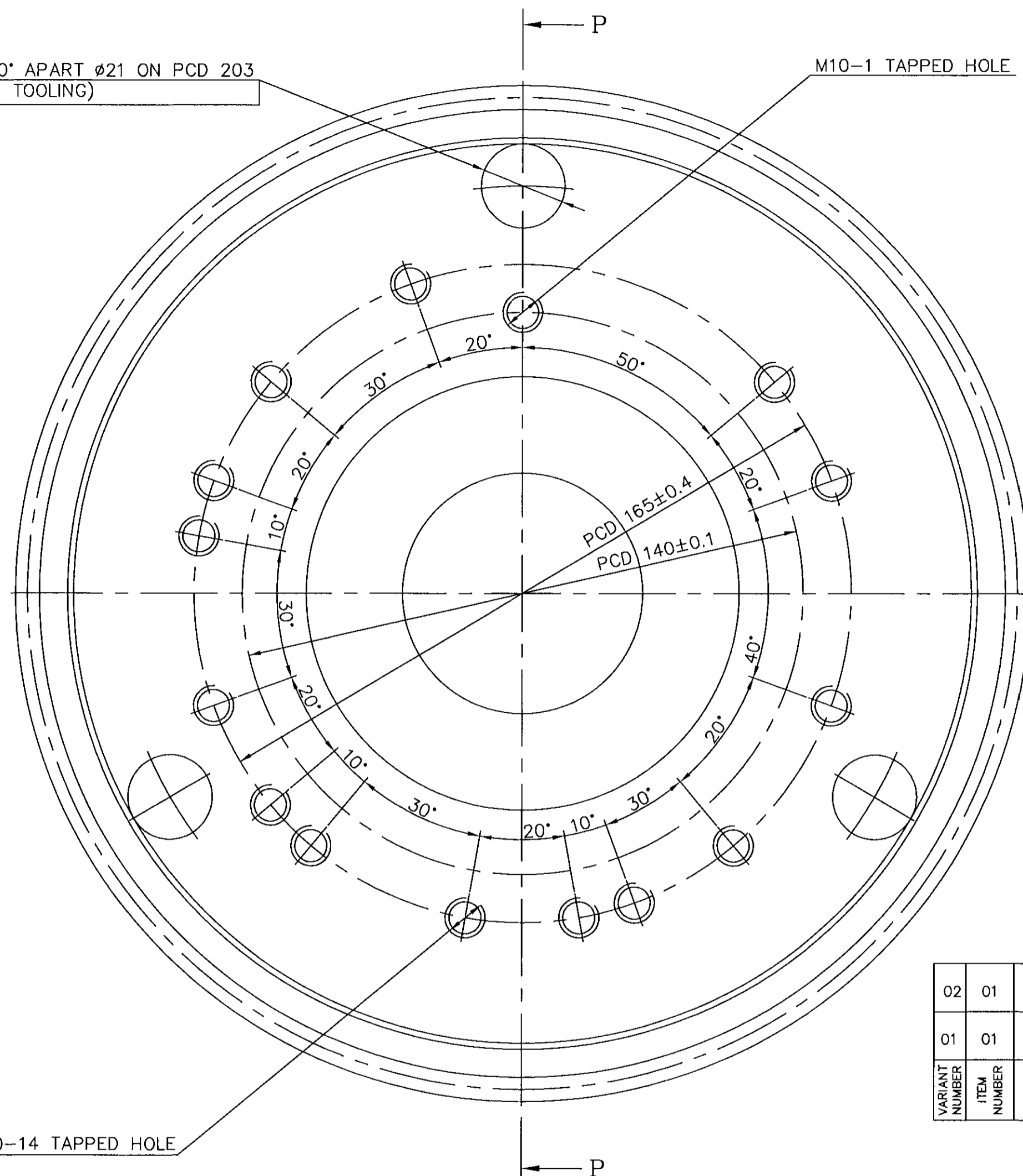


MODULE-2.75mm, PCD 247.5mm
 No. OF TEETH-90 DEPTH OF CUT 6.185mm
 PRESSURE ANGLE-20° OUT SIDE DIA-253mm

3HOLES 120° APART ø21 ON PCD 203
 (DRIVE FOR TOOLING)

M10-1 TAPPED HOLE

M10-14 TAPPED HOLE



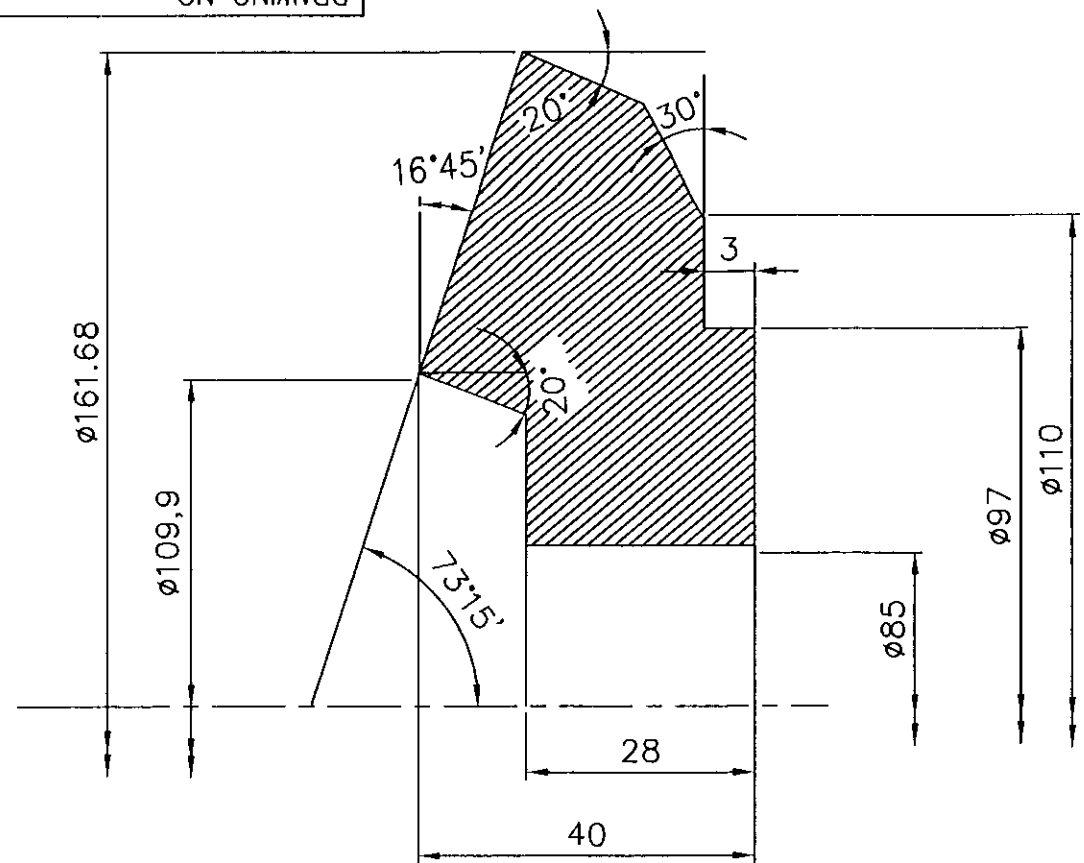
02	01	PL 25 ø255		IS 2062 Fe410 W		5.630				
				15-011-081						
01	01	CASTING 65-45-12		ASTM A536		5.630				
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	ZONE
					VAR NO	MATERIAL SPECN		DI	QUANTITY	

PART CODE : 842030125300

No OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI - 620014.									
DRN	V. Arumugham	SIGN	DATE	NO.OF VAR.					
CHD	K. Pritharan								
APPD	S. Narayanan								
DEPT	SB	SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS			NO. OF ITEMS		
CODE	330	NTS							
TITLE							CARD CODE	DRAWING NO.	REV
GEAR							U 01	2-20-301-00091	05

REV	DATE	ALTERED
05	11.06.01	CHD & APPD
ZONE	DRG.UPDATED AND REDRAWN.	
DCN:SB:1298		

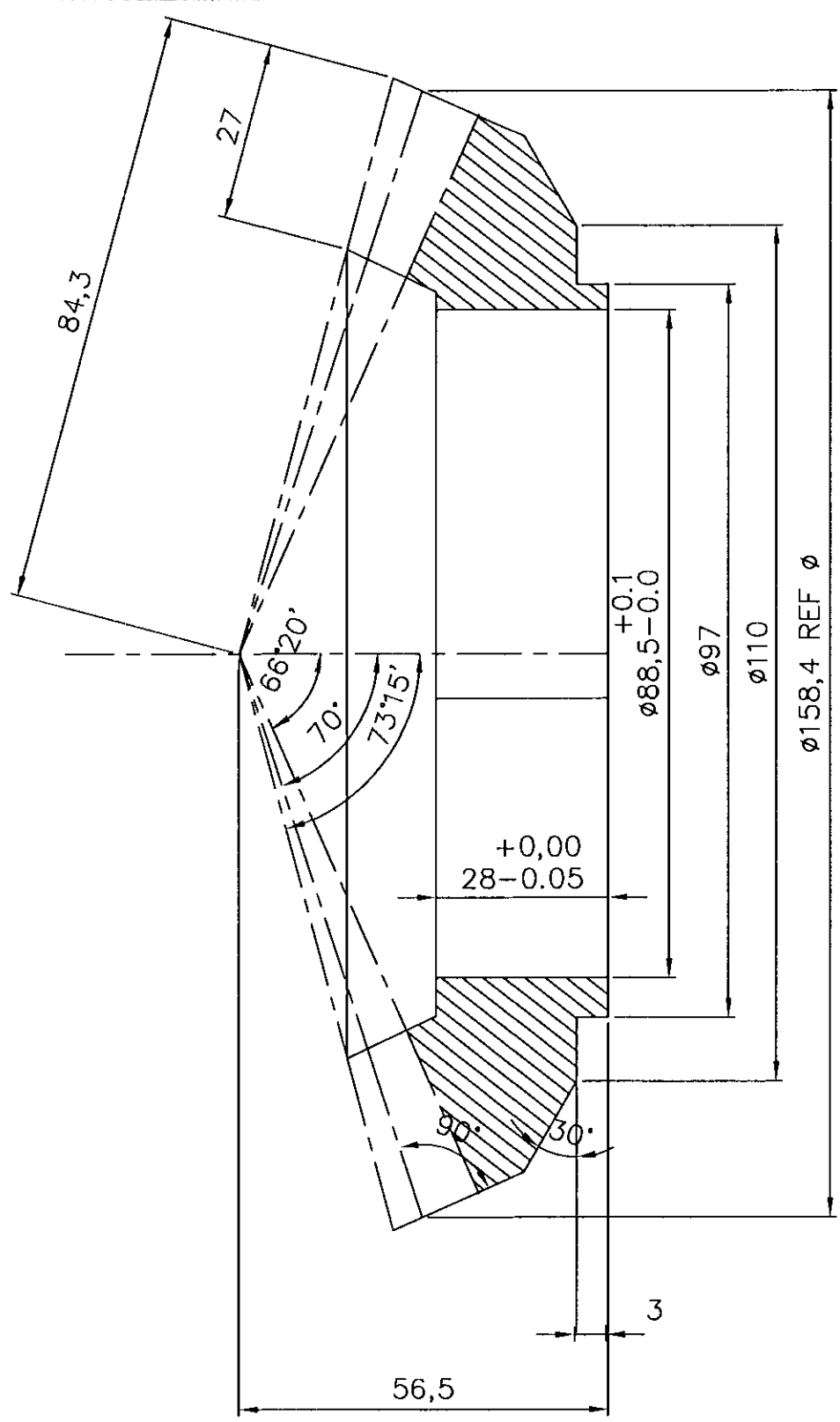
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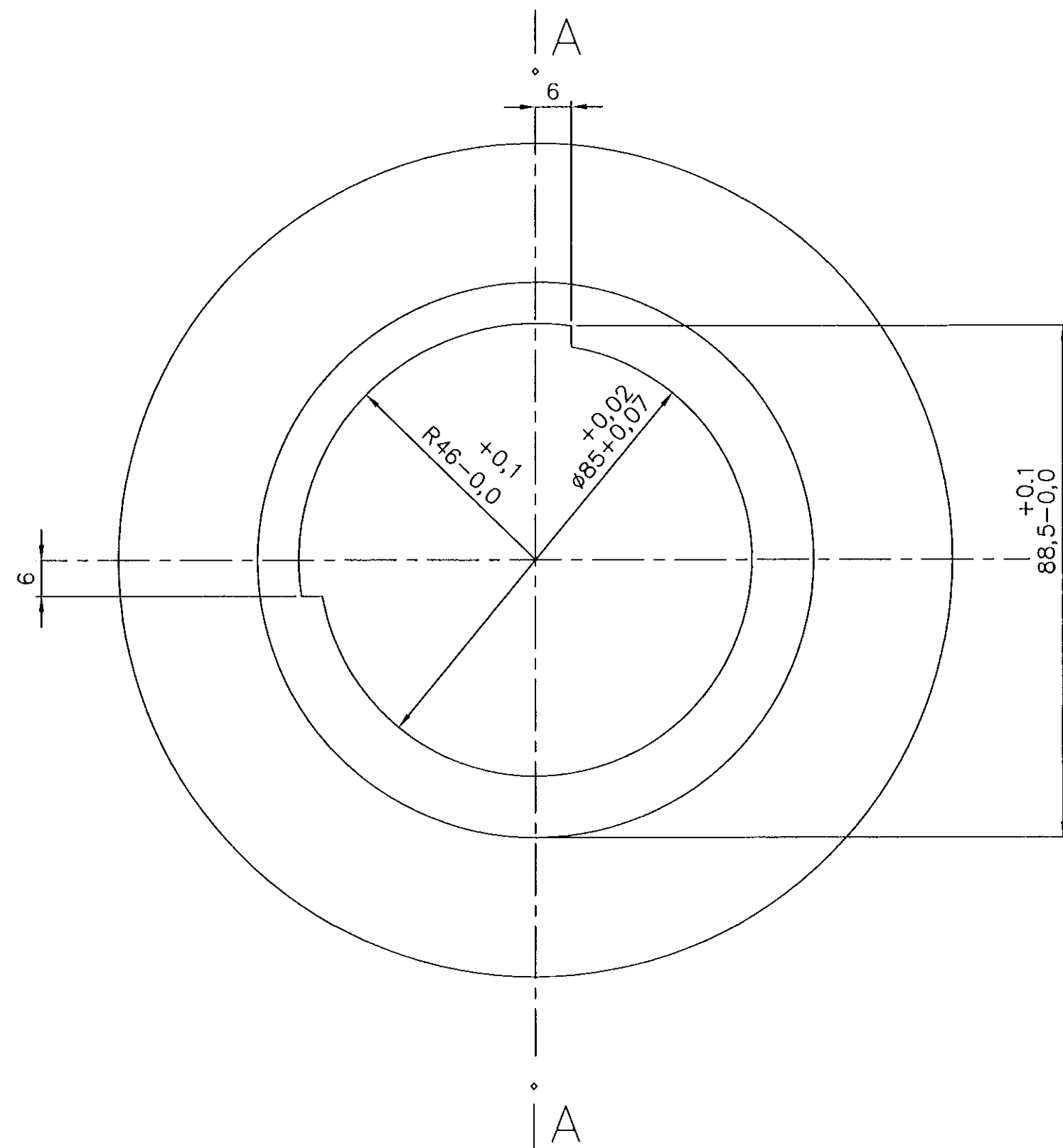
MODULE	4,8
NO. OF TEETH	33
CONE DISTANCE	84,3mm.
TIP DIA	161,68mm.
PRESSURE ANGLE	20°
SHAFT ANGLE	90°
FACE ANGLE	73°15'
ROOT ANGLE	66°20'
NO OF PINION TEETH	12

INSTRUCTION TO CUT THE TEETH ON BEVEL GEAR SHAPER: -
 USE 4,5 MODULE BLADE (OR 4 MODULE) TO CUT THE FINISH TEETH.
 FOR CALCULATIONS OF OTHER MACHINE SETTINGS USE MODULE AS 4,8.

DETAILS OF GEAR BLANK



SECTION-AA



NOTES:-

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

PART CODE : 842083174300

No OFF	PL.50; D175	15-042-240	SA 517 GR.F		2.22				
DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI - 620014.	DRN	V. Arumugham.	SIGN	DATE	NO. OF VAR.
	CHD	K. Pritharan.			
	APPD	S. Natarajan.			

DEPT	SB	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	330	NTS			
TITLE	BEVEL GEAR			DRAWING NO.	REV
			U 01	2-20-831-00171	03

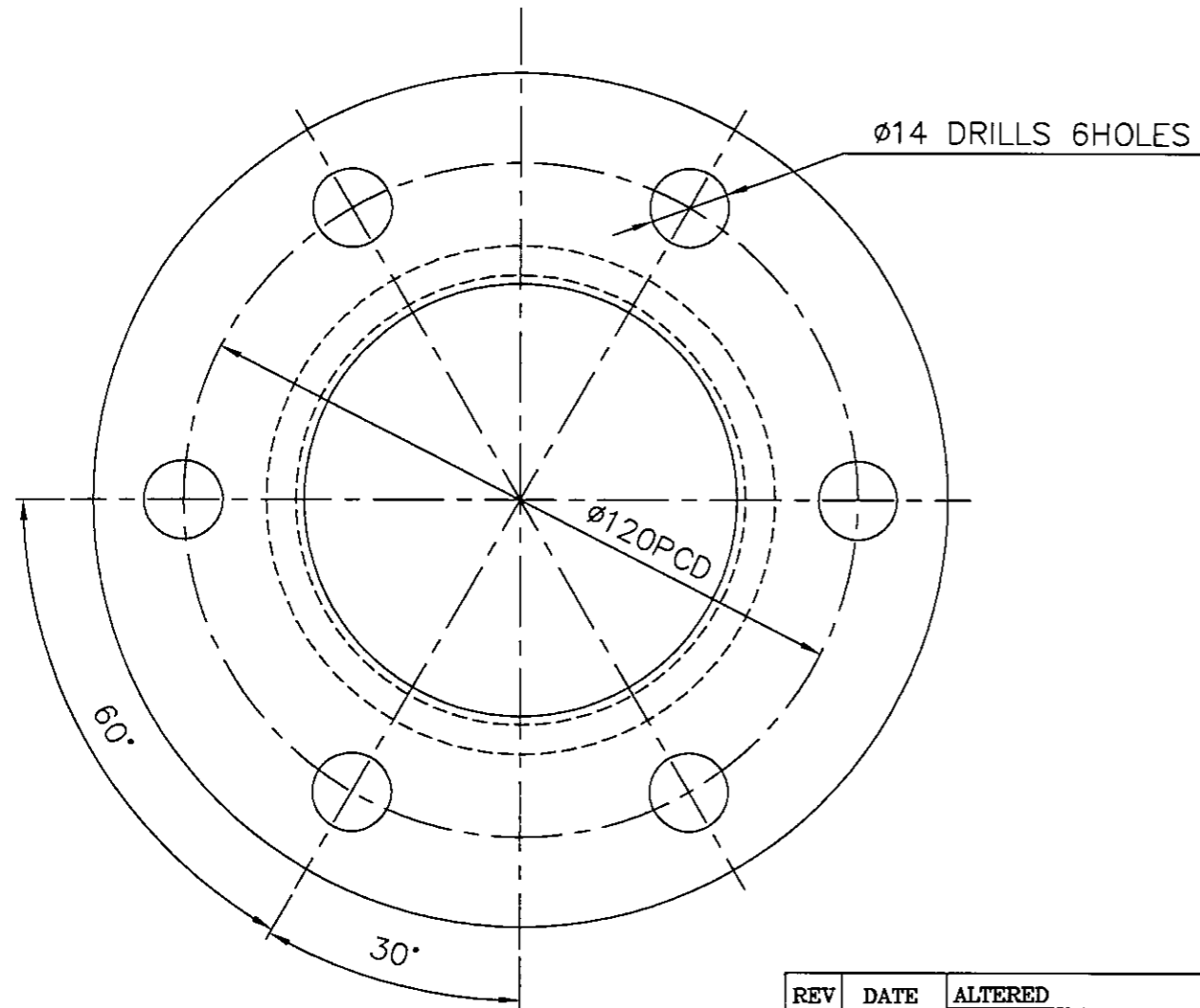
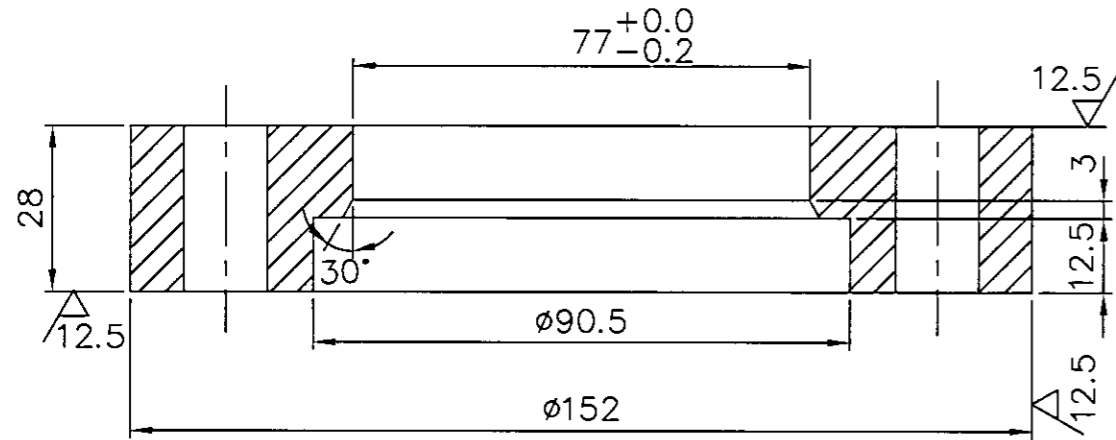
REV	DATE	ALTERED
03	11.06.01	CHD & APPD
ZONE	DRG.UPDATED AND REDRAWN.	

DCN: SB: 1298

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3-20-001-00133
DRAWING NO.

6.3/ (12.5/)



NOTES:-

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

PART CODE : 842000109200

01	FORGING	92 037 149	A 105			2.10			1
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121	DRN	V.ARUMUGAM	SIGN	DATE	NO. OF VAR.
	CHD	K.SRIDHARAN			
	APPD	S.NATARAJAN			

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	330		2.10	M 66172	

TITLE	CARD CODE	DRAWING NO.	REV
LANCE FLANGE	U 01	3-20-001-00133	04

REV	DATE	ALTERED
04	11.06.01	CHD & APPD

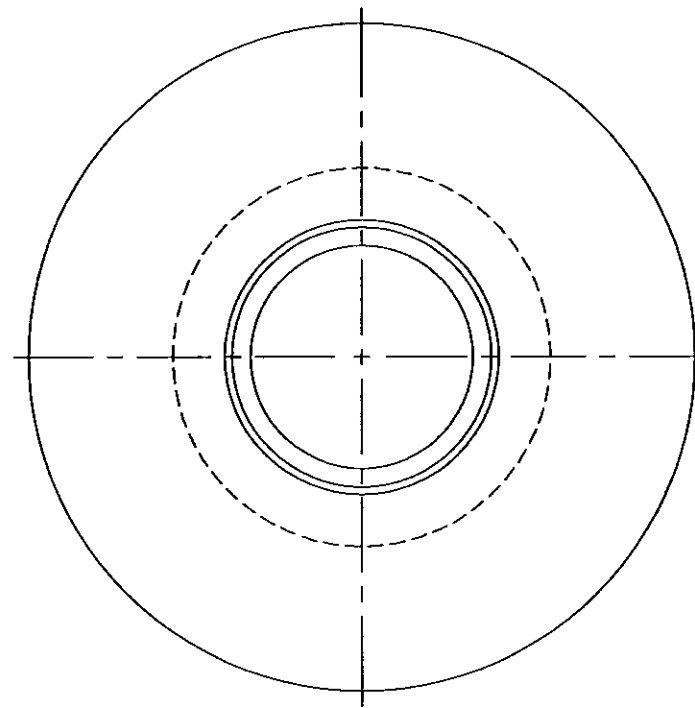
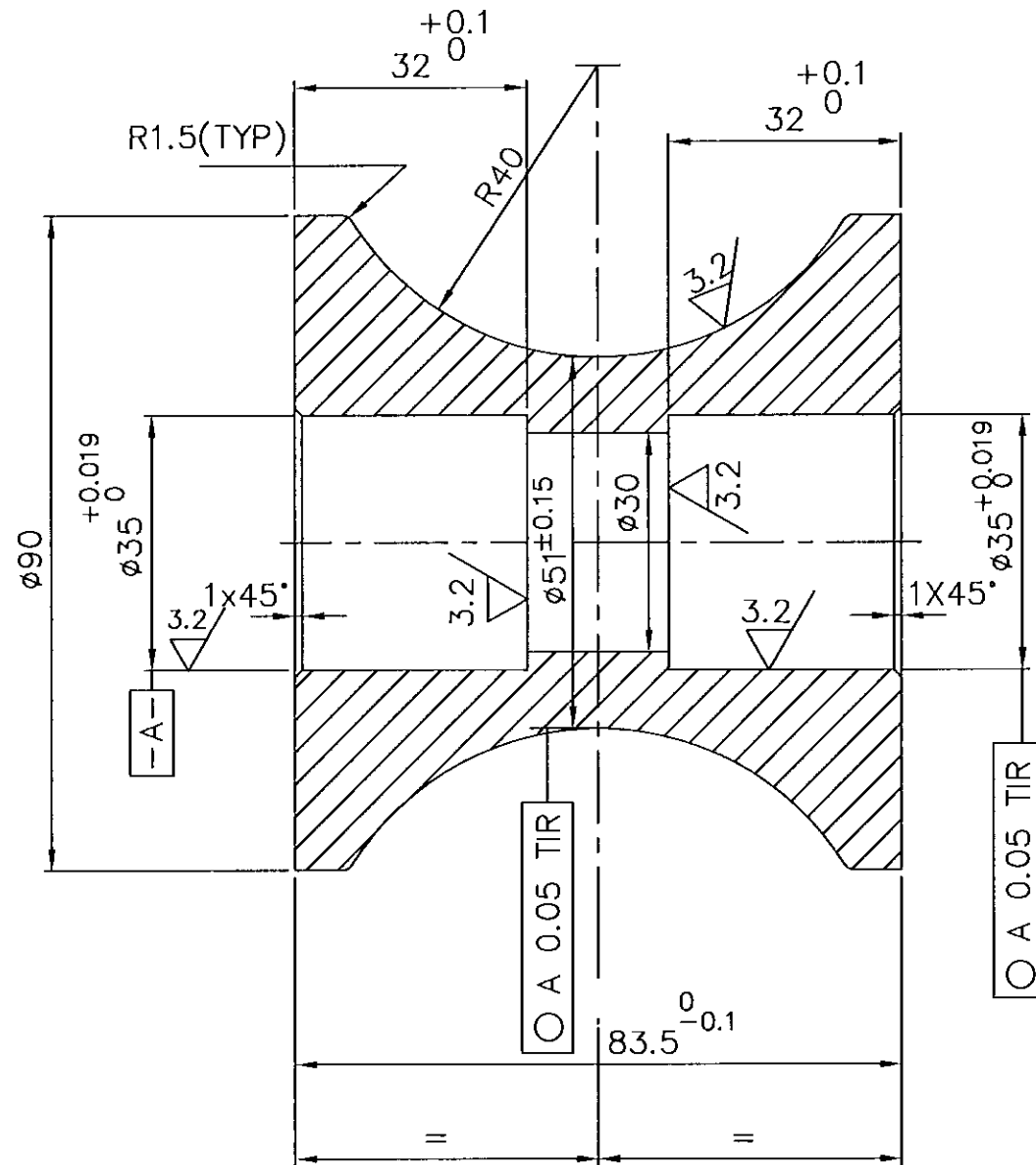
DRG.UPDATED AND REDRAWN.

DCN: SB: 1298

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3-20-001-00181
DRAWING NO

12.5/(3.2/)



PART CODE : 842000124900

NOTES: -

- HEAT TREAT TO 32 TO 38 RC.
- SHARP CORNERS SHOULD BE ROUNDED OFF.
- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

01	ROUND DIA 100	15 024 264	SA 182 F6aCl3			1.850			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

365-121	BHARAT HEAVY ELECTRICALS LTD.,		DRN	V.ARUMUGAM	SIGN	DATE	NO. OF VAR.
	UNIT: HIGH PRESSURE BOILER PLANT.		CHD	K.SRIDHARAN			
	TIRUCHIRAPALLI-620014.		APPD	S.NATARAJAN			

REV	DATE	ALTERED
03	11.06.01	CHD & APPD

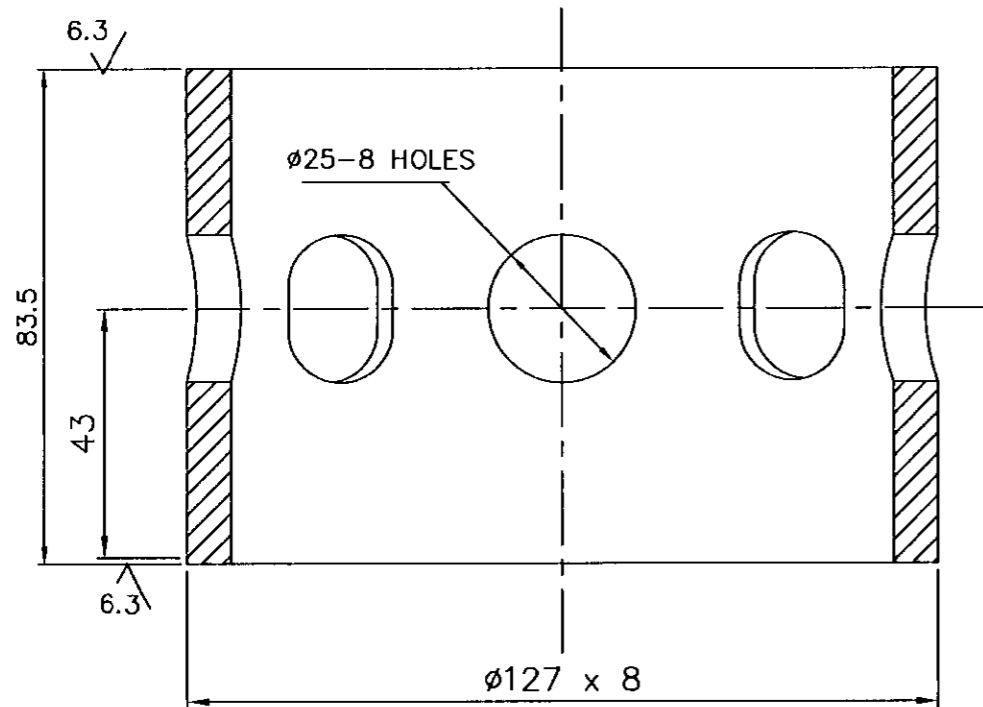
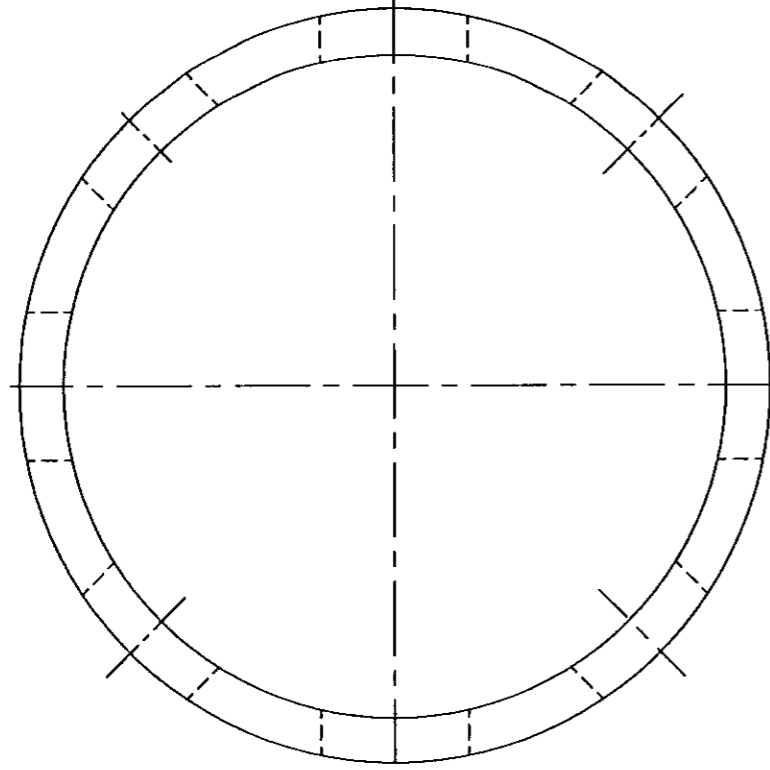
DRG.UPDATED AND REDRAWN.

DCN: SB: 1298

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DEPT VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE 330	NTS	1.850	3-20-001-00059 CVI DRG NO.142641.	
TITLE			DRAWING NO.	REV
ROLLER			3-20-001-00181	03
FOR T-30 MARK IE-LANCE BEARING ASSY.			U 01	

DRAWING NO. 3-20-003-00184



NOTE: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000312900

01	TUBE D 127 X 8 L=86	150821786500	SA 106 GrB			2.660			01
NO OF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

	DRN	NAME	SIGN	DATE	NO. OF VAR.
	CHD	V.ARUMUGAM			
	APPD	S.NATARAJAN			

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS	NO. OF ITEMS
CODE	330	NTS			

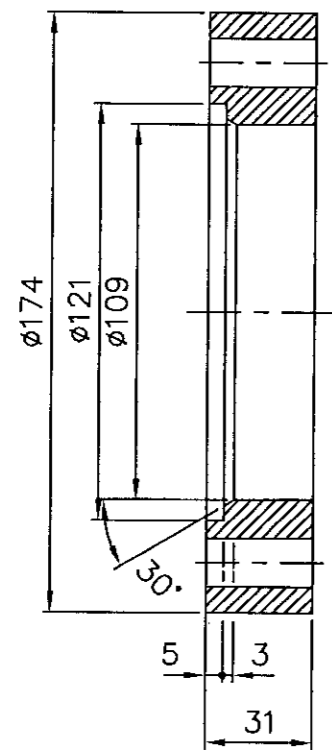
TITLE	CARD CODE	DRAWING NO.	REV
SPACER	U 01	3-20-003-00184	02

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

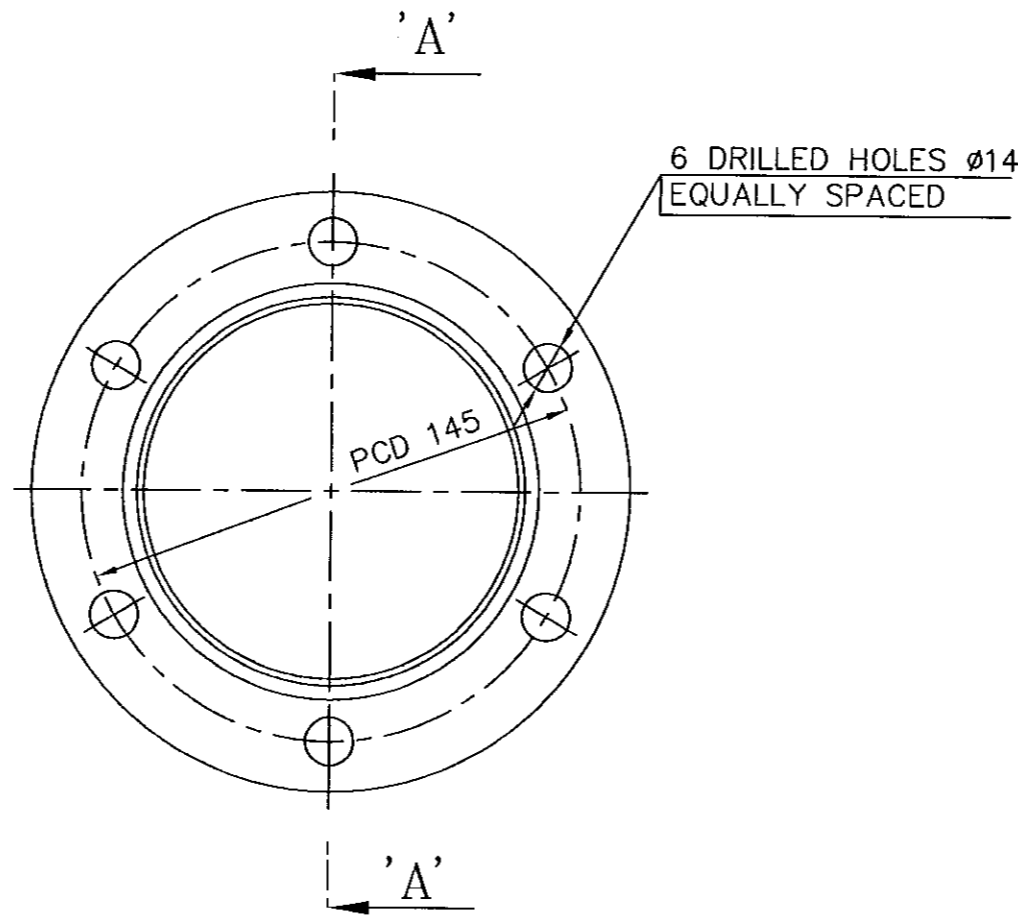
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3-20-051-00428
DRAWING NO.

12.5/



SECTION A-A



NOTES:-

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

PART CODE : 842005151300

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
01	PLATE 35 x 174	15 942 116	SA 515 GR70			2.80			1

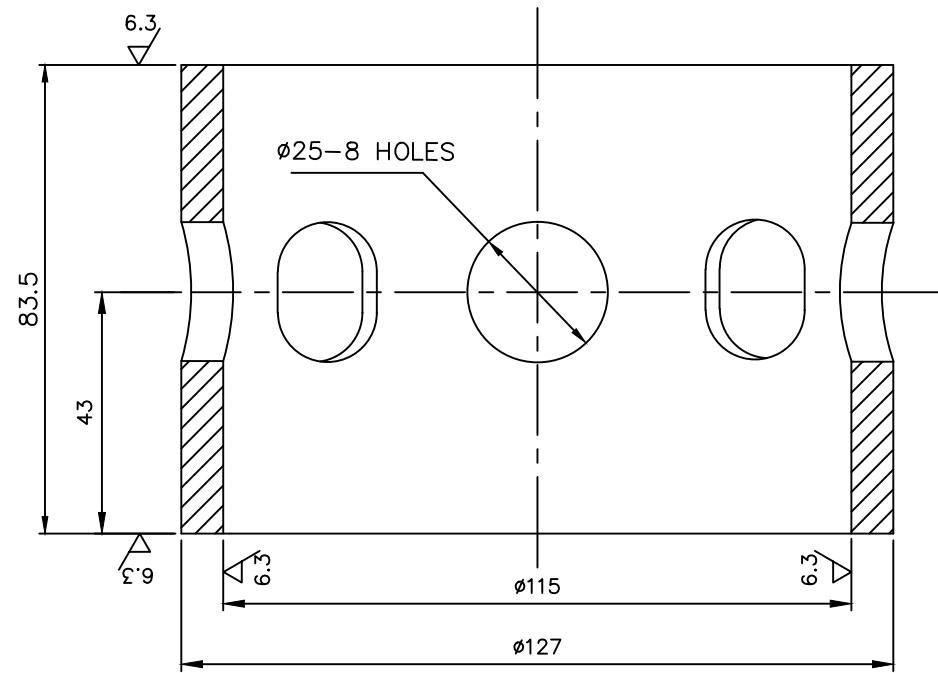
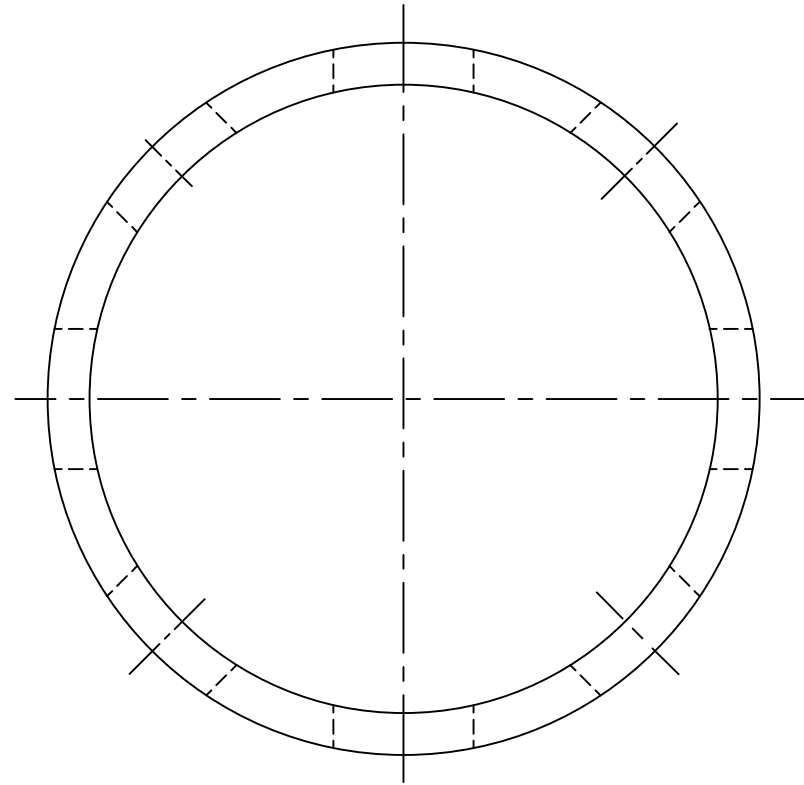
REV	DATE	ALTERED
04	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR.
DEPT	VSB	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS				
CODE	330	NTS	2.80	M-59219					
TITLE					CARD CODE	DRAWING NO.			REV
LANCE FLANGE					U 01	3-20-051-00428			04

3-20-053-01969
DRAWING NO.

6.3 / ~



NOTE:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005312900

01	PIPE Ø127X8	150821786500	SA 106 GrB	-	-	1.974	-	-	-
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121	DRN	J.SANKAR	SIGN	J.S	DATE	29.03.14	NO. OF VAR.
	CHD	S.K.GUPTA	SIGN	S.K.G	DATE	29.03.14	
	APPD	HIRENDRA RAUT	SIGN	H.R	DATE	29.03.14	

DEPT	SB	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	330	NTS	1.974	-	

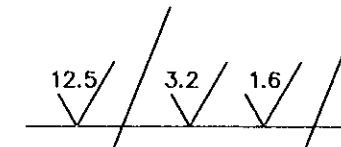
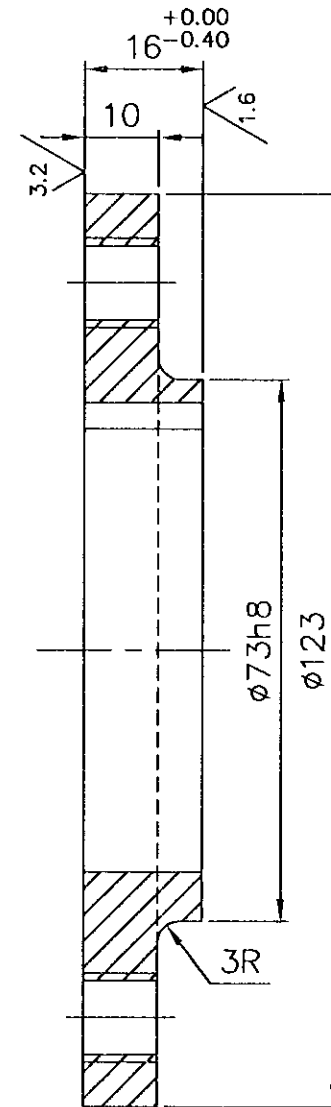
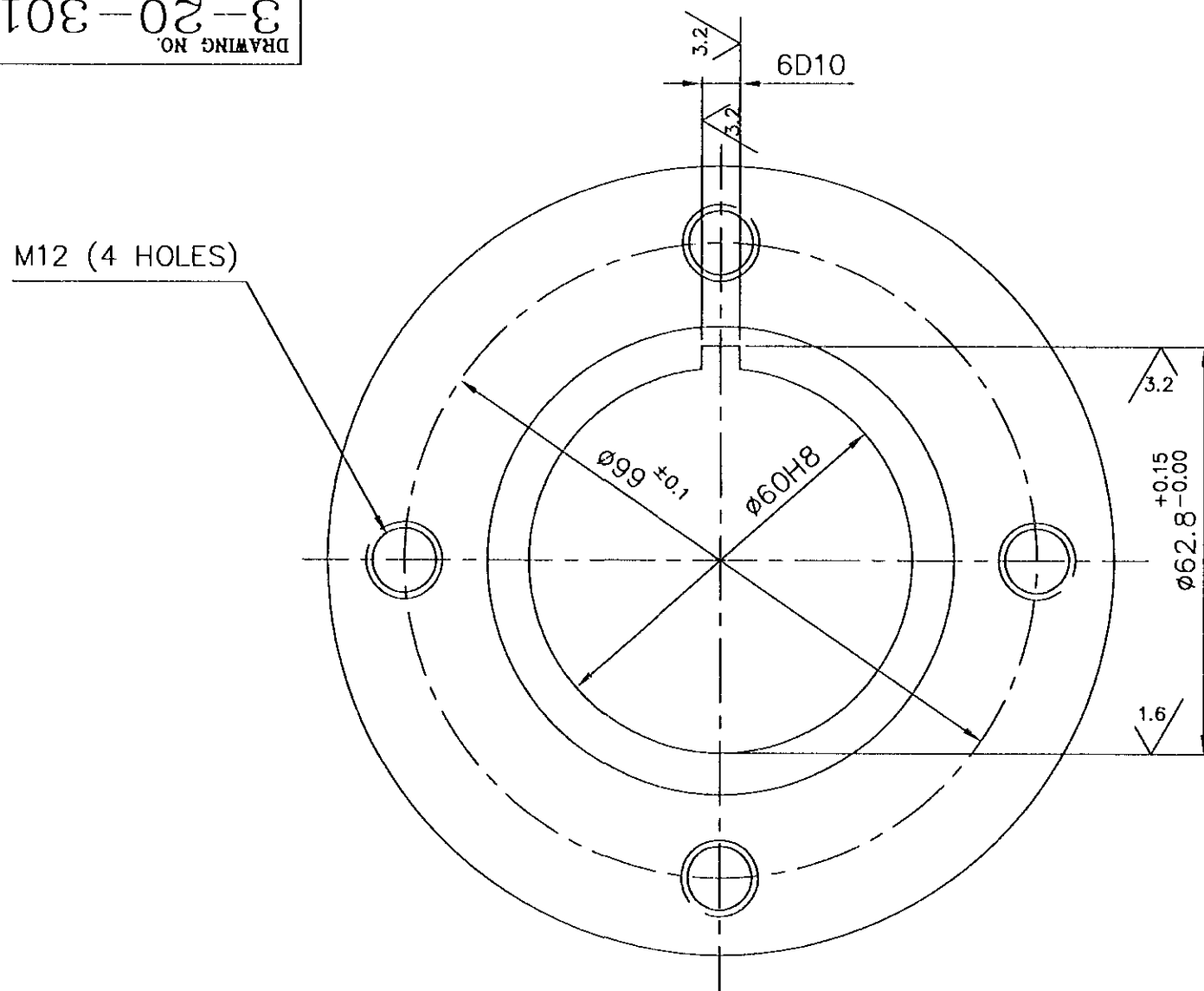
TITLE	CARD CODE	DRAWING NO.	REV
SPACER	U 01	3-20-053-01969 00	00

REV	DATE	ALTERED
		CHD & APPD

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ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

3-20-301-00158
DRAWING NO.



TOLERANCE	VALUE
73 h8	-0.0 73 ^{-0.046}
60 H8	+0.046 60 ^{-0.0}
6 D10	+0.098 6 ^{+0.040}

NOTES:-

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

PART CODE : 842030125400

01	FORGING	92 037 151	SA 105			0.76		4 20 001 02332	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121	DRN	V.ARUMUGAM	SIGN	DATE	NO. OF VAR.
	CHD	K.SRIDHARAN			
	APPD	S.NATARAJAN			

REV	DATE	ALTERED
02	11.06.01	CHD & APPD

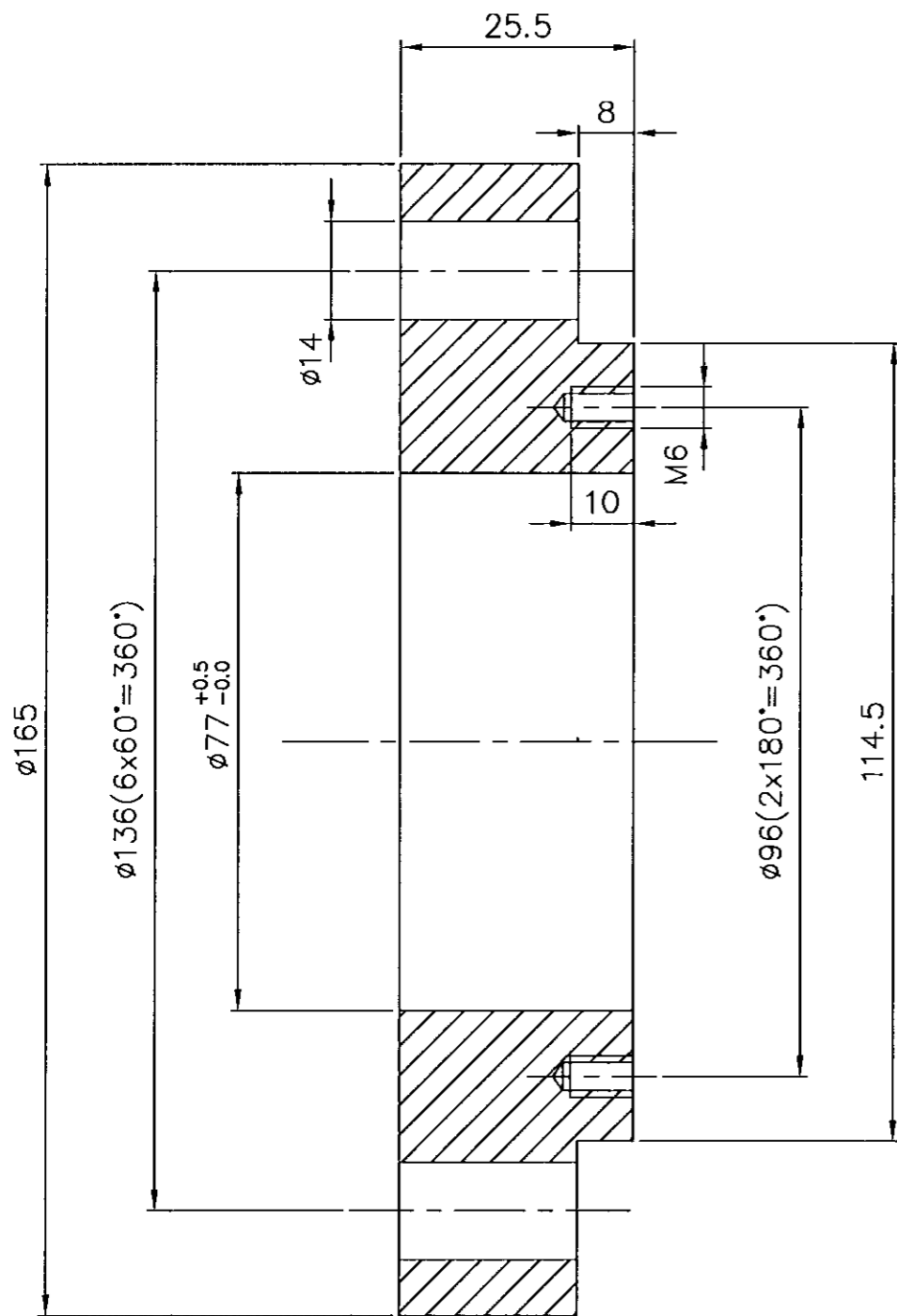
DRG.UPDATED AND REDRAWN.

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	330	NTS	0.76		

TITLE	CARD CODE	DRAWING NO.	REV
EXTENSION FLANGE	U 01	3-20-301-00158	02

DCN: SB: 1298

3-20-791-00201
DRAWING NO.



6.3/

NOTES:-

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

PART CODE : 842079123600

01	PLATE 32, Ø70	15 011 130	IS2062Fe410WB			1.970			1
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

365-121	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.	DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR.
		CHD	K.SRIDHARAN			
		APPD	S.NATARAJAN			

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	330	NTS	1.97	M-78064 TYPE: FP 5-24	

TITLE	CARD CODE	DRAWING NO.	REV
LANCE FLANGE	U 01	3-20-791-00201	01

REV	DATE	ALTERED
01	11.06.01	CHD & APPD

DRG.UPDATED AND REDRAWN.

DCN: SB: 1298

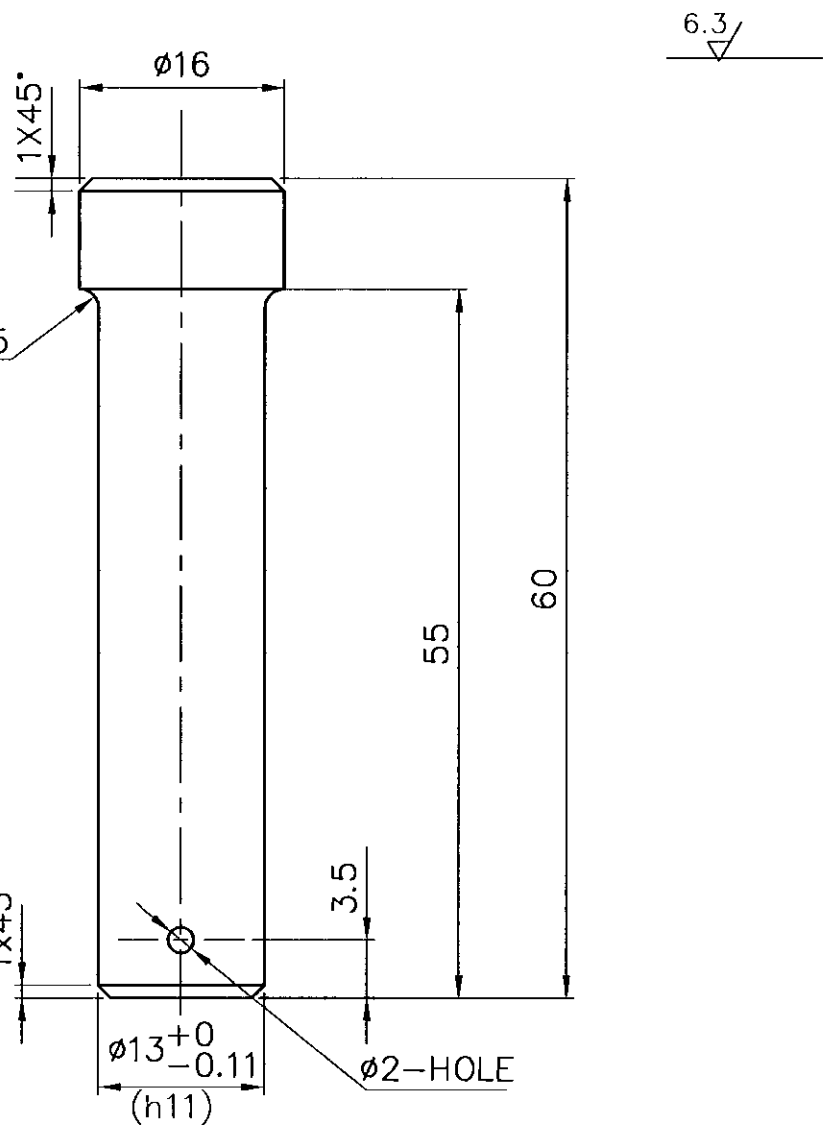
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
05	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		



NOTE:

- 1.DIMENSIONS SHOWN AFTER CADMIUM PLATING.
- 2.CADMIUM PLATED FROM 0.012 TO 0.018mm.THICKNESS.
3. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000104400

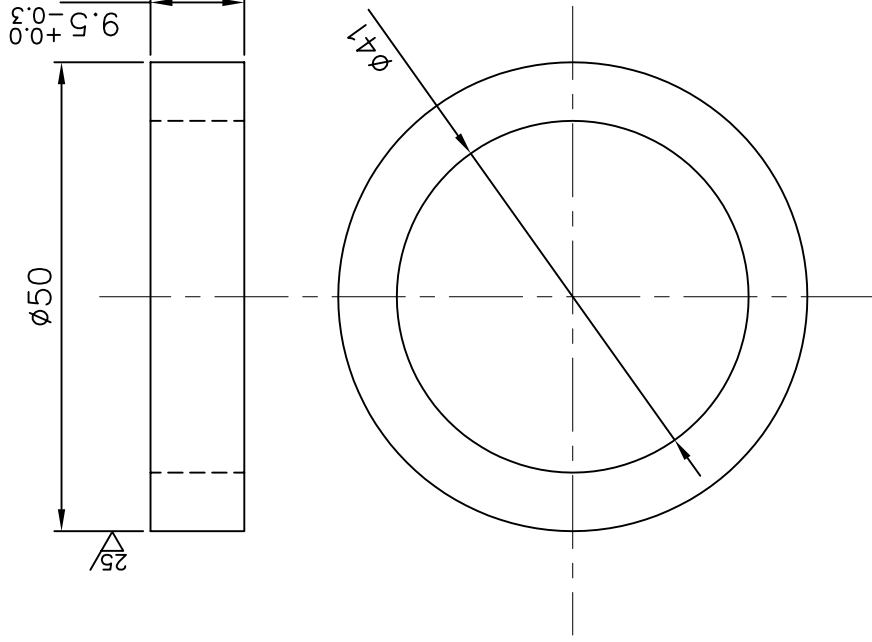
01	ROUND D16;L 60	15 039 115	SA 193 B7			0.090				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
<p>BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122</p>				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN					
				APPD	S.NATARAJAN					
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS		
CODE 330		N:TS	0.090	S 93491						
TITLE				CARD CODE	DRAWING NO.			REV		
SHOULDER PIN (FOR TRAV.CARRIAGE ASSY)				U 01	4-20-001-00004			05		

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	K.S.
06	31.07.06	CHD & APPD	S.N.
DRAWING REDRAWN			
DCN: 800547 Dt.02.01.06			

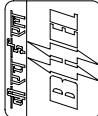
6.3 (25/)



NOTE: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000106300

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	01
	TUBE D51X7.1	150880970000	SA213T11			0.010				
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME	SIGN	DATE	NO.OF VAR		
				CHD	V.ARUMUGAM	V.A.	31.07.06			
				APPD	K.SRIDHARAN	K.S.	31.07.06			
					S.NATARAJAN	S.N.	31.07.06			
DEPT SB	SCALE	WEIGHT (KG):	REFERENCE INFORMATIONS							
330	NTS	0.01	S:67613 R2							
TITLE		CARD CODE	DRAWING NO.							
SPACER		U 01	4-20-001-00029 06							
		REV								

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CORPORATE DRG ID
TP-DG-4-20-001-00029

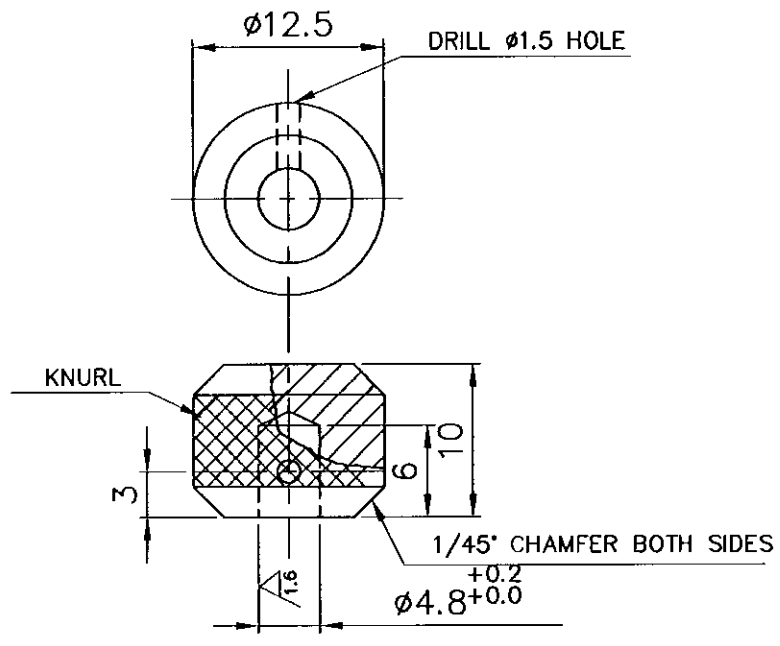
CORPORATE DRG ID
TP-DG-4-20-001-00029

Size A4

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REV	DATE	ALTERED
06	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN:SB:1298		


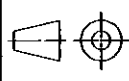
12.6/ (1.6/)



NOTES:-

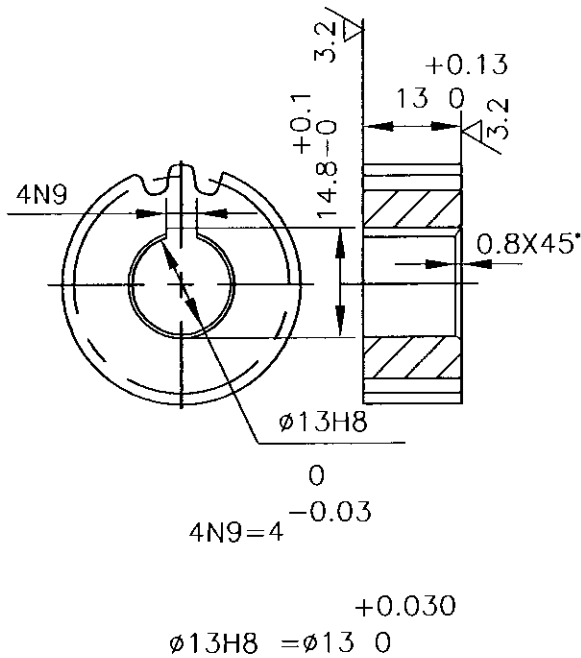
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. SHARP CORNERS TO BE ROUNDED OFF.

PART CODE : 842000105700

01	ROUND Ø16; L 10	150242520000	A182 F6 α			0.010			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN				
					APPD	S.NATARAJAN				
DEPT SB			SCALE NTS	WEIGHT (KG). 0.010	REFERENCE INFORMATION S-82658				NO. OF ITEMS	
CODE 330	TITLE LOCK PIN KNOB (FOR COMPLINE ASSY)			CARD CODE U 01	DRAWING NO. 4-20-001-00039				REV 06	

REV	DATE	ALTERED
04	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

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


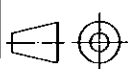


MODULE	1:5
NO OF TEETH	19
PITCH DIA	28.5
PRESSURE ANGLE	20°
WHOLE DEPTH OF TOOTH	3.375
OUT SIDE DIA	31.5
BOTTOM CLEARANCE	0.375
ROOT DIA	24.75
DESCRIPTION	DIM

NOTES: -

1. RADIAL AND ARIAL RUNOUT OF REFERENCE SURFACE : 0.0105
2. TEETH RUNOUT 0.036 TIR wrt BORE. -0.04
3. WIDTH ACROSS THREE TEETH $\overset{0.0}{=} 11.470$ -0.066
4. GEAR BLANK TIP DIA $31.5 - 0.039$
5. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000100700

-	DIA 36	15 039 088	A 193 B7	N	-	0.09	-	-	01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			NTS	0.09	-					
TITLE					CARD CODE	DRAWING NO.			REV	
MOTER PINION					U 01	4-20-001-00045			04	

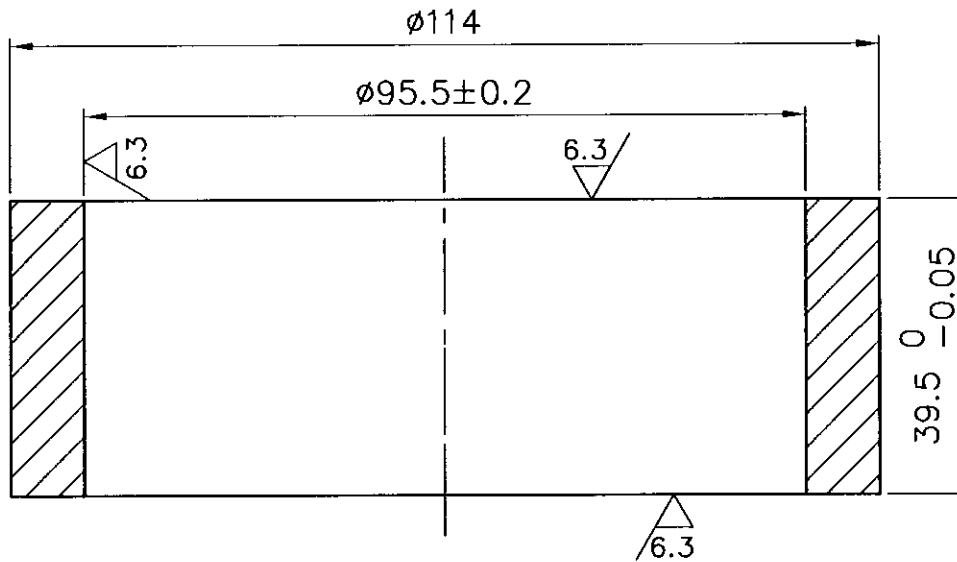
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN:SB:1298		


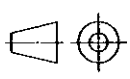
12.5 (6.3)



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. CORNERS TO BE ROUNDED OFF

PART CODE : 842000103200

01	PIPE DIA 127 X 20	150821886000	SA106 GrB			1.15				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME		SIGN	DATE	NO.OF VAR	
				CHD	V.ARUMUGAM					
				APPD	K.SRIDHARAN					
					S.NATARAJAN					
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS		
CODE 330		NTS	1.15							
TITLE				CARD CODE	DRAWING NO.				REV	
SPACER				U 01	4-20-001-00071				03	

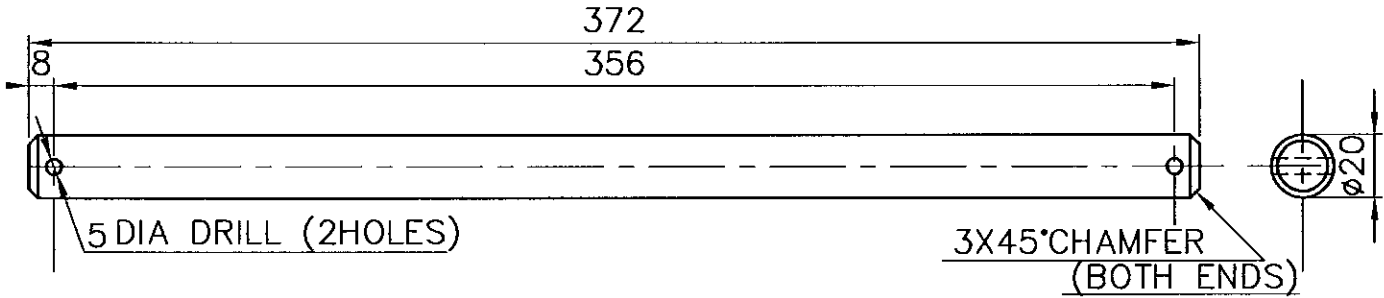
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN:SB:1298		


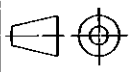
12.5
▽



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000110100

01	ROUND DIA 22 L = 372	153393430000	SA 105			0.910			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			NTS	0.910						
330										
TITLE	HINGE PIN				CARD CODE	DRAWING NO.			REV	
					U 01	4-20-001-00093			03	

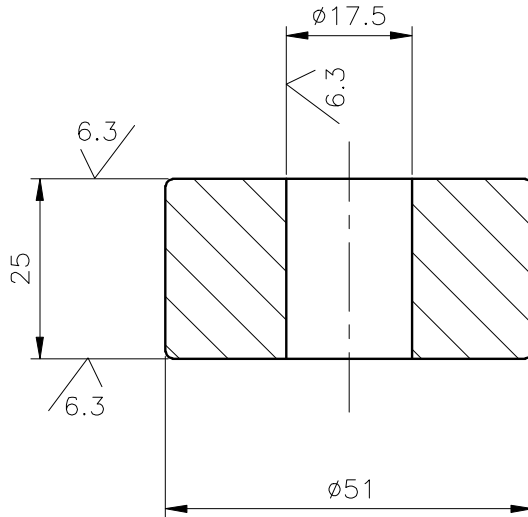
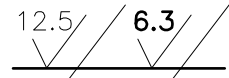
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.


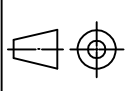
REV	DATE	ALTERED	J.S
02	07.03.11	CHD & APPD	K.S
DRAWING CONVERTED AS CAD.			
DCN: SB : 801133/5012916			



NOTE:

1. SHARP CORNERS TO BE ROUNDED OFF.

PART CODE : 842000124600

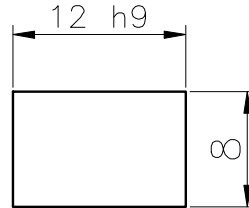
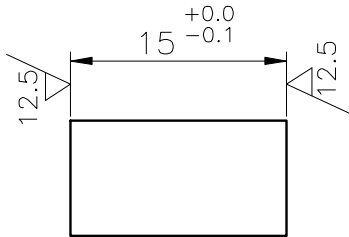
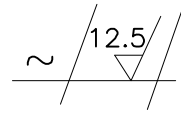
01	ROUND BAR DIA 63, L=30	150041380000	IS 1875 CL 4				0.74		1	
ITEM No	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	NO OF OFF	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	J.SANKAR	SIGN	J.S	DATE	07.03.11	NO. OF VAR
				CHD	K.SRIDHARAN	K.S	07.03.11			
				APPD	K.SRIDHARAN	K.S	07.03.11			
DEPT	SB	 SCALE NTS	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS		
CODE	330		0.53							
TITLE				CARD CODE	DRAWING NO.				REV	
ROLLER (FOR: T-30MK I-LANCE BEARING ASSY).				U 01	4-20-001-00097				02	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.



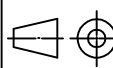
REV	DATE	ALTERED	J.S
02	15.03.11	CHD & APPD	K.S
DRAWING CONVERTED AS CAD. SUB-DELY. PART NUMBER INCLUDED.			
DCN : SB : 801133/5012916			



NOTES:-

- 1.HEAT AND QUENCH IN OIL AT 1550°F TO 1600°F.
- 2.TEMPER AT 800°F. RC- 38-42.
- 3.DIMENSIONS ARE SHOWN AFTER CADMIUM PLATED.
- 4.THICKNESS OF CADMIUM/CHROMIUM/ZINC PLATING 0.005MM.
- 5.BREAK ALL SHARP CORNERS.

PART CODE : 842000106500 / 963536460000

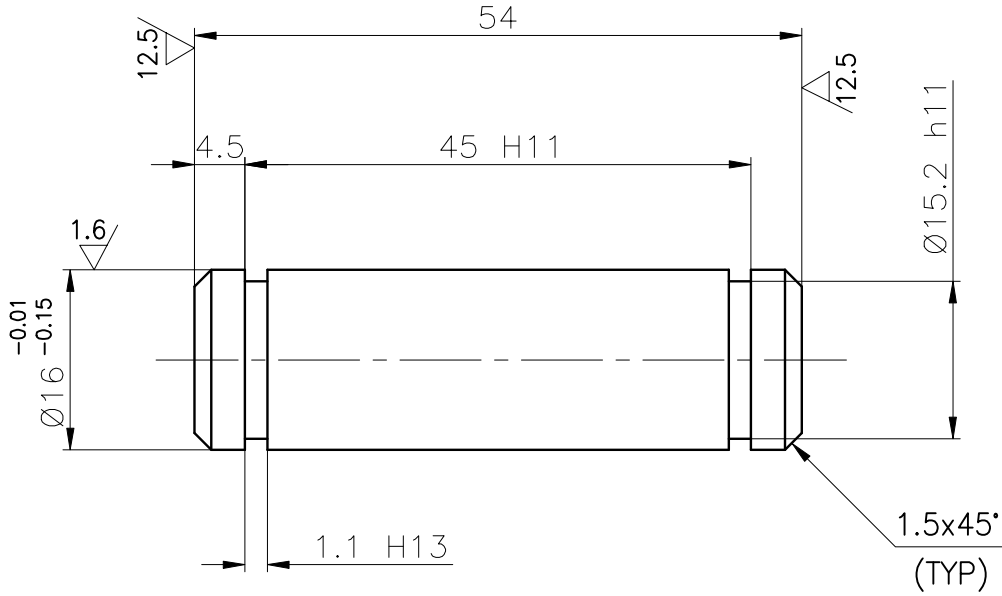
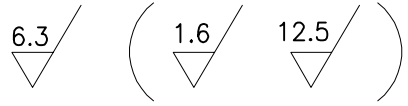
01	ROUND ROD	150391150000/ 150390860000	A193 B7			0.12			
ITEM No	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	NO OF OFF
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	NAME J.SANKAR		SIGN J.S	DATE 15.03.11	NO.OF VAR
				CHD	K.SRIDHARAN		K.S	15.03.11	
				APPD	K.SRIDHARAN		K.S	15.03.11	
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.02	REAR END PLATE ASSEMBLY.				
TITLE				CARD CODE	DRAWING NO.				REV
KEY 12 X 8 X15				U 01	4-20-001-00275				02

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED	J.S
04	15.03.11	CHD & APPD	K.S
DRAWING CONVERTED AS CAD.			
DCN : SB : 801133/5012916			



NOTES:-

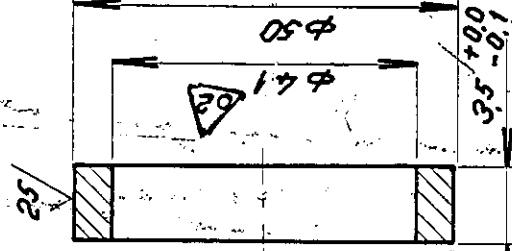
TO BE HARDENED TO RC 32-38.

TOLERANCE VALUE	
15.2 h 11	15.2 ⁰ _{-0.110}
1.1 H 13	1.1 ^{+0.140} ₀
45 H 11	45 ^{+0.160} ₀

PART CODE : 842000108700

01	DIA-25MM	150242550000	A182 F6 ACL3				0.25		1	
ITEM No	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	NO OF OFF	
				DRN J.SANKAR CHD K.SRIDHARAN APPD K.SRIDHARAN		NAME J.SANKAR SIGN J.S DATE 15.03.11		NO OF VAR 15.03.11 15.03.11		
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				SCALE NTS		WEIGHT (KG). 0.21		REFERENCE INFORMATIONS S-66056 (4-20-001-00002)		NO. OF ITEMS
DEPT SB CODE 330				TITLE PIVOT PIN (FOR HEAD OPERATOR ASSY.)		CARD CODE U 01		DRAWING NO. 4-20-001-00277		REV 04

01	DATE 13. 9. 76	ALTERED <i>Dec</i>	CHECKED	02	DATE 7.1.81	ALTERED KAC	CHECKED N
ZONE	STL. NR 2 ADDED. STL. NR 1 GIVEN FOR CARBON STEEL.		φ41 WAS φ40. E.C.N. 459.				



00389 119

02	15/088/097/55	15/088/097/55	01	TUBE	D. 51 x 71, L. 35
01	SA	SA	01	TUBE	D. 51 x 71, L. 35
15	17 20 21	RVN	63	UNIT WGT. (KGF)	75 76 20
16	BPS	32	70	NO. OFF	
17	ITEM No.	41	A	COMP GROUP	
18	REF. DRG./BPS No.	STL	C		

19	CARD TYPE	TYPE	19	CARD TYPE 2
MATERIAL NO.		TOTAL WGT. (KGF)		
FIRST ANGLE	SCALE	TYPE		
DIMENSIONS IN MILLIMETRES				

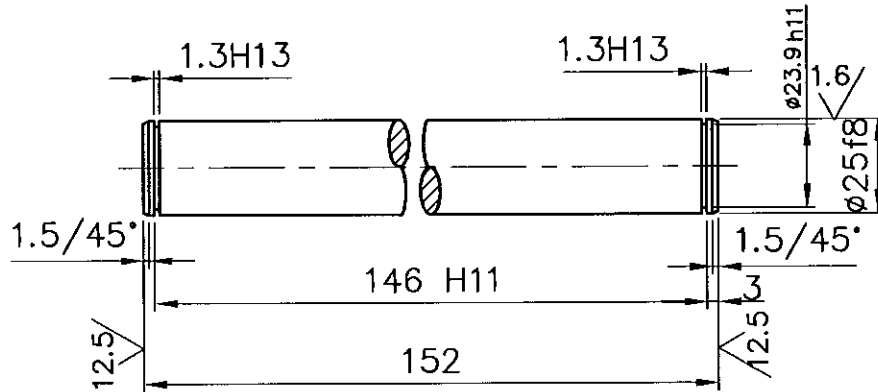
CAUTION		DRAWING NO.		REVISION	
THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF SHARAT HEAVY ELECTRICALS BOILER PLANT UNIT, TIRUCHI. IT SHALL NOT BE USED WITHOUT THE WRITTEN PERMISSION IN EXCESS THEREOF FOR ANY OTHER PART FOR WHICH IT IS SENT TO THAN FOR WHICH IT IS SENT TO		SPARE PARTS (REAR END ASSY)		779 02	
DRAWN		DATE		CARD CODE	
CHECKED		DATE		UOI	
APPROVED		DATE			

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3//12.5/1.6//




		+0.14
1.3 H13	= 1.3	+0.00
146 H11	= 146	+0.25 +0.00
23 h11	= 23	+0.0 -0.13
25 f8	= 25	-0.02 -0.053

NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. HEAT TREAT TO RC.32-38

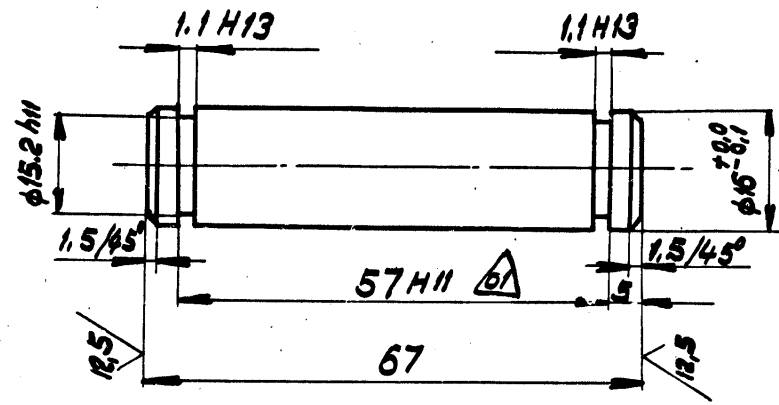
PART CODE : 842000124500

01	D32:L,152	15 024 257	A 182 F6o C13			0.580			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		SCALE		WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE		NTS		0.580					
330									
TITLE					CARD CODE	DRAWING NO.			REV
FOR: T.30 MARK I LANCE BEARING ASSY.					U 01	4-20-001-00295			03
ROLLER PIN									

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

01	DATE	ALTERED	V.E.K.
	21.5.76.	CHECKED	
ZONE 0198	DIMN 57H11 WAS 57.		
02	MATL. A182 F6 WAS A182410. KOL 21/1/76.		

3,2 / 12,5 /



MICROFILMED ON
ROLL 00289 FRAME 10A


15/024/254															10		ROUND BAR					
A182 F6															1		D20 x 67L.					
15	17	20	21	REF. DRG./BPS No.			RVN	34	MATERIAL CODE		56	57	63	68	75	76	20	DESCRIPTION/REMARKS				
							32	44	MATERIAL SPECN.		A	COMP. GROUP	UNIT wt. (kg)	No. OFF.	BMI	D						
19																	CARD TYPE 1		19		CARD TYPE 2	

BILL OF MATERIAL No.

FIRST ANGLE 	SCALE 1	DRAWN	<i>C. S. M.</i>	TOTAL wt. (kg)	
		CHECKED	<i>N. K. Roy</i>	TYPE	
		APPROVED	<i>N. K. Roy</i>		
ALL DIMENSIONS IN MILLIMETRES		DATE	8.7.75.	NEW/OLD DRG. No.	

CAUTION

THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED, BOILER PLANT UNIT, TIRUCHY-620 014. AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.



05-249

TITLE FOR 7.30 MNT LANCE BEARING ASSY.

ROLLER PIN

CARD CODE	DRAWING No.	REVISION
U01	4.20.001.00296	02

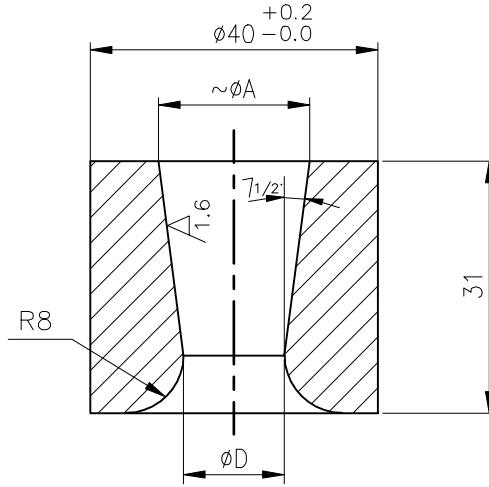
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED	J.S
09	12.01.11	CHD & APPD	K.S
VAR. No.8 INCLUDED.			
DCN: SB: 801133/5012916			


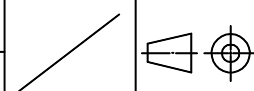
(1.6/)
3.2/



STYLE NO.	ϕD	ϕA	PARTCODE	WEIGHT
01	25	32	842000110300	0.180
02	19	26	842000109500	0.240
03	16	23	842000127600	0.260
04	11.5	18.5	842000127700	0.300
05	27	34	842000129900	0.170
06	28	35	842000130100	0.160
07	14	21	842062112600	0.220
08	9	16	842000110400	0.294

NOTES:-

1. SHARP CORNERS TO BE ROUNDED OFF.
2. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

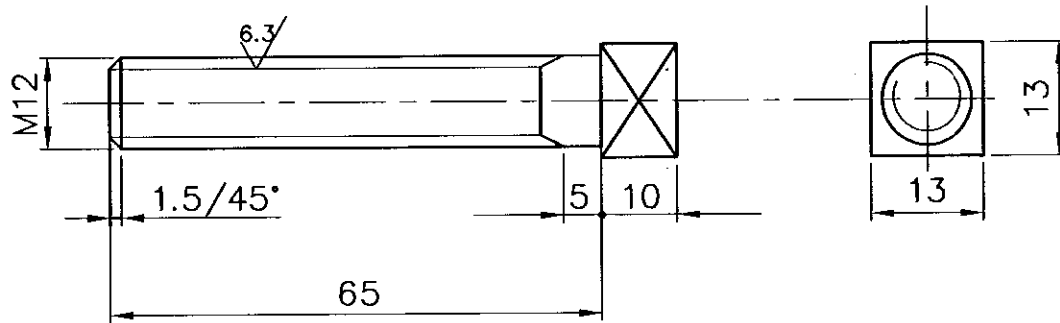
	-	920510180000	SA297GRHH	-	-	-	-	-	-
ITEM No	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	NO OF OFF
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-127	DRN	V.ARUMUGAM	SIGN	V.A.	DATE	09.11.04	NO.OF VAR		
	CHD	K.SRIDHARAN	K.S.	09.11.04					
	APPD	S.NATARAJAN	S.N.	09.11.04					
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	-						
TITLE					CARD CODE	DRAWING NO.			REV
NOZZLE					U 01	4-20-001-00314			09

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN:SB:1298		


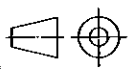
12.5 (6.3)



NOTES:-

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
TO BE ZINC PLATED TO A THICKNESS OF 0.005MM.
DIMENSIONS GIVEN IN DRAWING ARE AFTER ZINC PLATING
SHARP CORNERS ROUNDED OFF

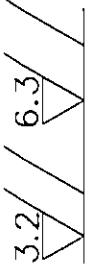
PART CODE : 842000161800

01	ROUND D 20; L 75	150390840000	ASTM 193 Gr.B7			0.060			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.060					
TITLE					CARD CODE	DRAWING NO.			REV
SQUARE HEAD SCREW					U 01	4-20-001-00338			03
FOR: T-30 MARK I (REAR END PLATE ASSY)									

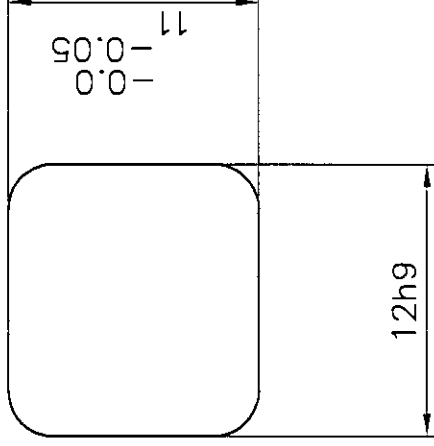
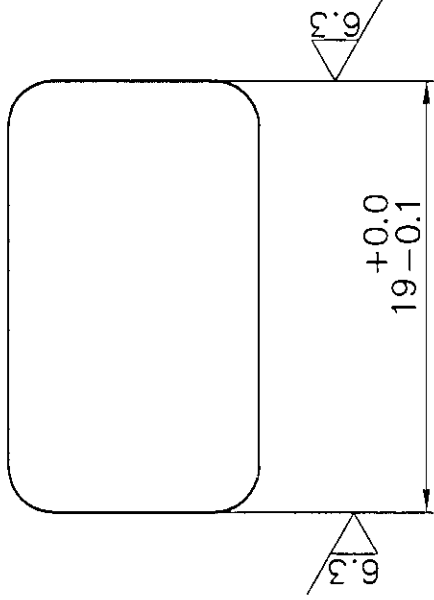
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP
 ALL DIMENSIONS ARE IN MILLIMETRES.

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		



$$h9 = 9^{-0.043}_{-0.0}$$



NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
- ALL CORNERS TO BE ROUNDED OFF TO R 1mm.

PART CODE : 842000104200

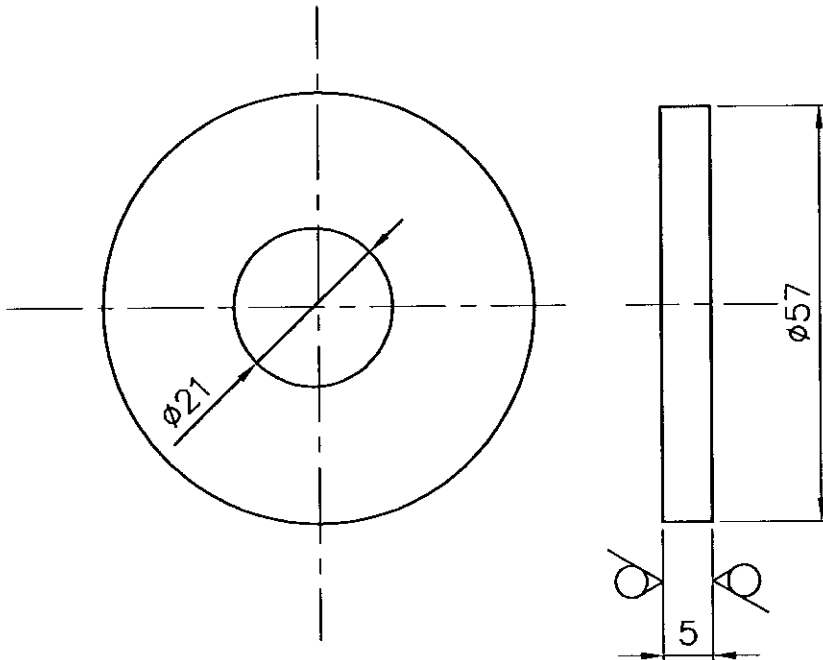
01	ROUND BAR	15 027 135	IS 1875 Cl 4		0.020		01		
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	ITEM No	
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.		DRN	NAME	SIGN	DATE	NO.OF VAR			
365-122		DEPT SB	SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS				NO.OF ITEMS
CODE 330		SCALE NTS							
TITLE		KEY 12.11.19		CARD CODE	DRAWING NO.		REV		
FOR TRAVELLING CARRIAGE ASSY.				U 01	4-20-001-00385		01		

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		


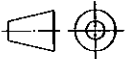
12.5/ (V)



NOTES: -

1. SHARP CORNERS TO BE ROUNDED OFF.
2. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE: 842000110200

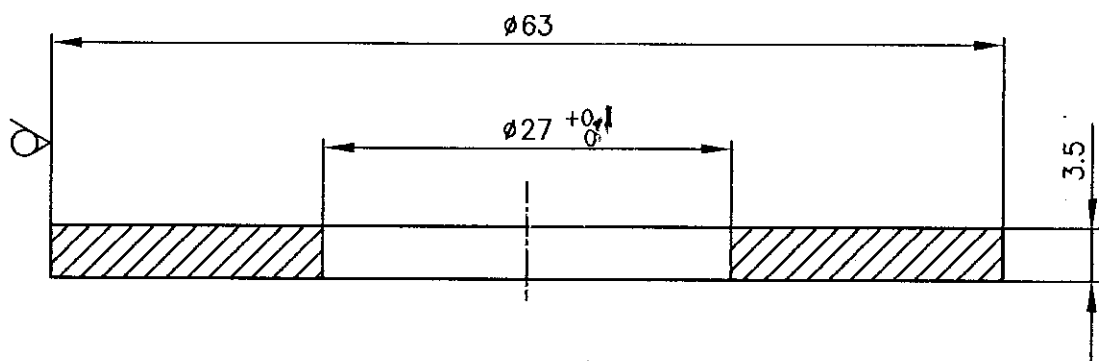
01	PL.5X ϕ 57	15-011-029	IS: 2062Fe410WA			0.170			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			NTS	0.170						
330										
TITLE					CARD CODE	DRAWING NO.			REV	
WASHER					U 01	4-20-001-00740			02	

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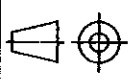
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD

(∇) ∇ 12.5



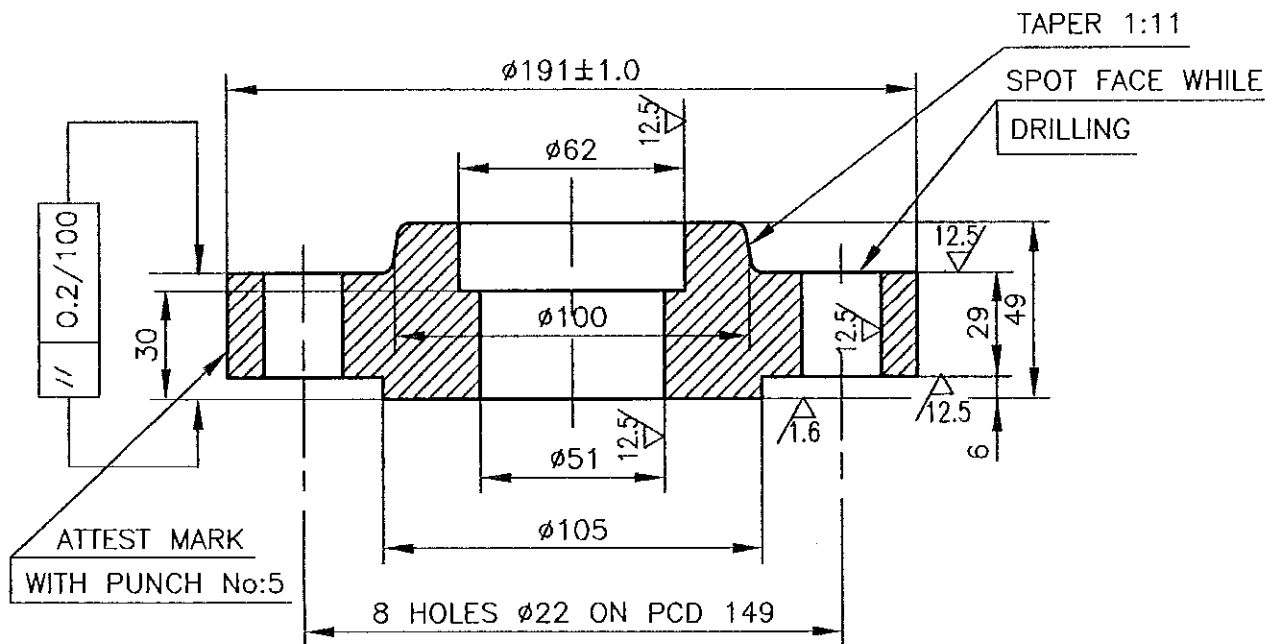
PART NUMBER: 842000127200

	ROUND Ø63	15 339 143	SA 105	—		0-070	0-090	—	—
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME	SIGN	DATE	NO. OF VAR
					CHD	N.GANESAN.	N. Ganesan	24-6-96	
					APPD	S.NATARAJAN.	S. Natarajan	24-6-96	
DEPT SB CODE 330		SCALE NTS	WEIGHT (KG). 0.070	REFERENCE INFORMATION				NO. OF ITEMS	
TITLE SPACER					CARD CODE U 01	DRAWING NO. 4-20-001-02428			REV 00

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REV	DATE	ALTERED
		CHD & APPD


25 / (12.5 / 1.6)

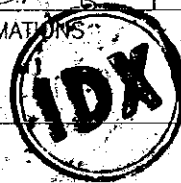


NOTES:

- SHARP CORNERS TO BE ROUNDED OFF.
- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURE.
- TO STAMP:
MANUFACTURES MARK:
INSPECTION
ANSI B16.5
SIZE 2.5",600#
- MAX WORKING PRESSURE : 54 KG/CM²
- MAX WORKING TEMP.500°C
- DIMENSIONS & MATERIALS AS PER ANSI B16.5 Nb2 1/2" -600 CLASS

COMPONENT CODE: 842000130000

-	FORGING ROUND	-	A182F22 CL3 ATTEST	N & T	-	6.1	-	-	01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME	SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN	<i>[Signature]</i>	21/12/2K	
					APPD	S.NATARAJAN	<i>[Signature]</i>	21/12/2K	
DEPT VL		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE	330	N.T.S	6.1						
TITLE					CARD CODE	DRAWING NO.			REV
COMPANION FLANGE					U 01	4-20-001-02769			00



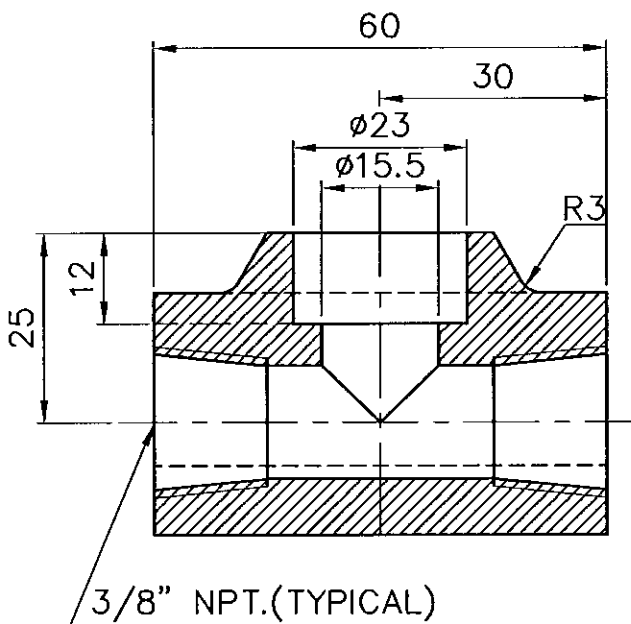
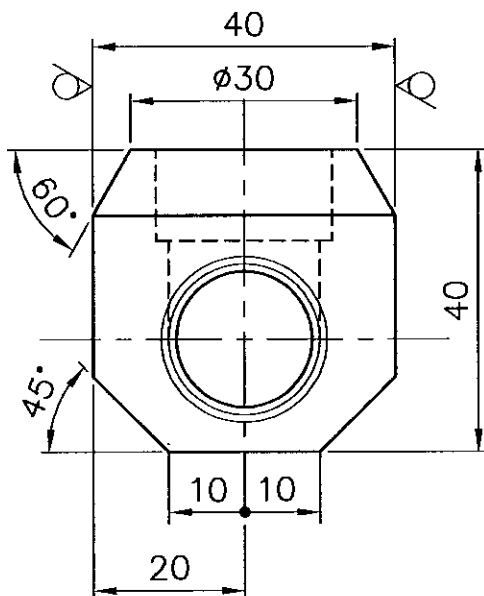
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		


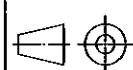
12.5 (V)



NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

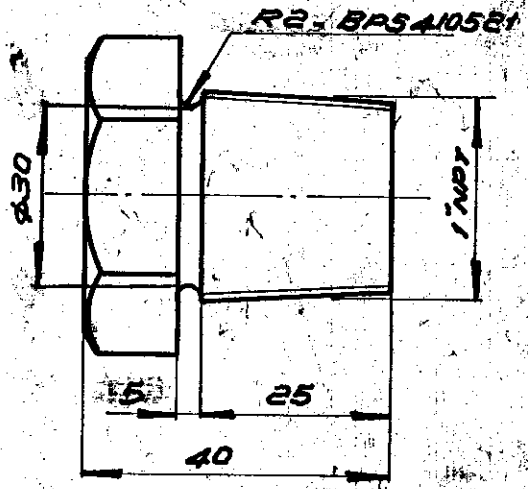
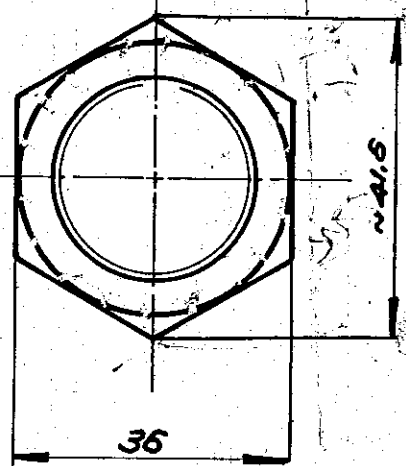
PART CODE : 842000280500

01	PLATE 40	15942272	SA387GR.22			1.25			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.50					
TITLE				CARD CODE	DRAWING NO.				REV
T - PIECE 3/8" NPT				U 01	4-20-002-00517				02

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OI	DATE	ALTERED	REVNO	DATE	ALTO.
	5.5.77	<i>Kal</i>	02	09.10.93	CKD
ZONE	MATE BMQ45 WAS		DEN: SB 5712		
0075	BMQ 20.		MATE CODE & MATE SPECN		
			ALTERED. MATE SIZE ALSO		
			CHANGED FROM $\phi 50, L=40$		
			TO $\phi 63, L=40$ OMAC CODE INTRODUCED		

3.2



OMAC PART NO: 842000308500 Δ 00383 380

15	17	20	21	34	36	56	57	63	75	76	20
STYLE No.	ITEM No.	BPS	REF. DRG./BPS No.	MATERIAL CODE	MATERIAL SPECN.	COMP. GROUP	UNIT wt. (kg)	No. OFF	DI	DI	DESCRIPTION/REMARKS
				15 004 138	15 1875 GL 4						FOUND $\phi 63, L=40$
CARD TYPE 1				CARD TYPE 2							

BILL OF MATERIAL No.

FIRST ANGLE	SCALE	DRAWN	TOTAL wt. (kg)
	1:1	<i>OF RAKSHIN KANTHAN</i>	0.32
ALL DIMENSIONS IN MILLIMETRES		CHECKED	TYPE
		<i>N. K. Srinivasan</i>	
		APPROVED	
		DATE	NEW/OLO DRG. No.
		07th APRIL, 1976	

CAUTION

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TITLE	DRAWING No.	REVISION
PLUG 1" NPT		
CARD CODE	4-20-003-00609	02
UOI		

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

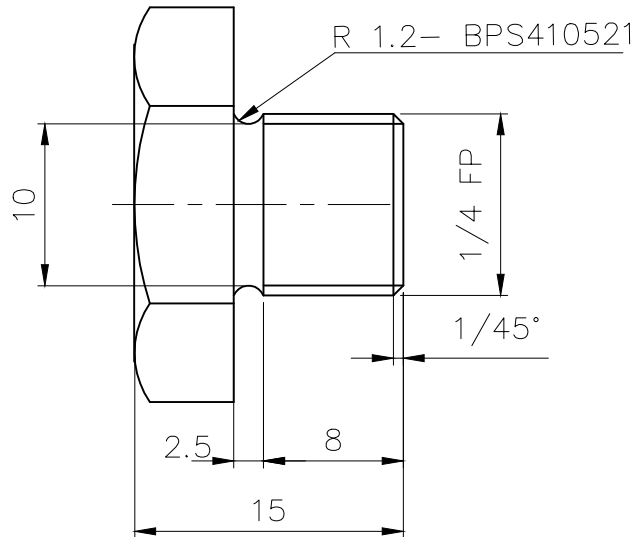
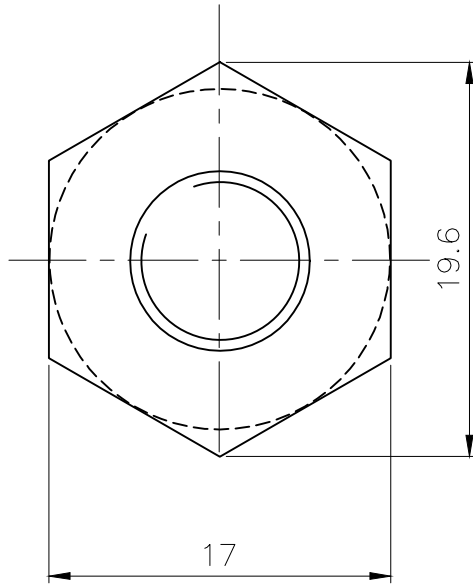
REV 03	DATE 28.12.13	ALTERED CHD & APPD	J.S S.K.G & H.R
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DRAWING CONVERTED AS CAD & RAW MATERIAL
UPDATED.

DCN: SB: 801646 / 5017434

3.2/
√


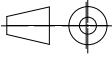
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NOTE: -

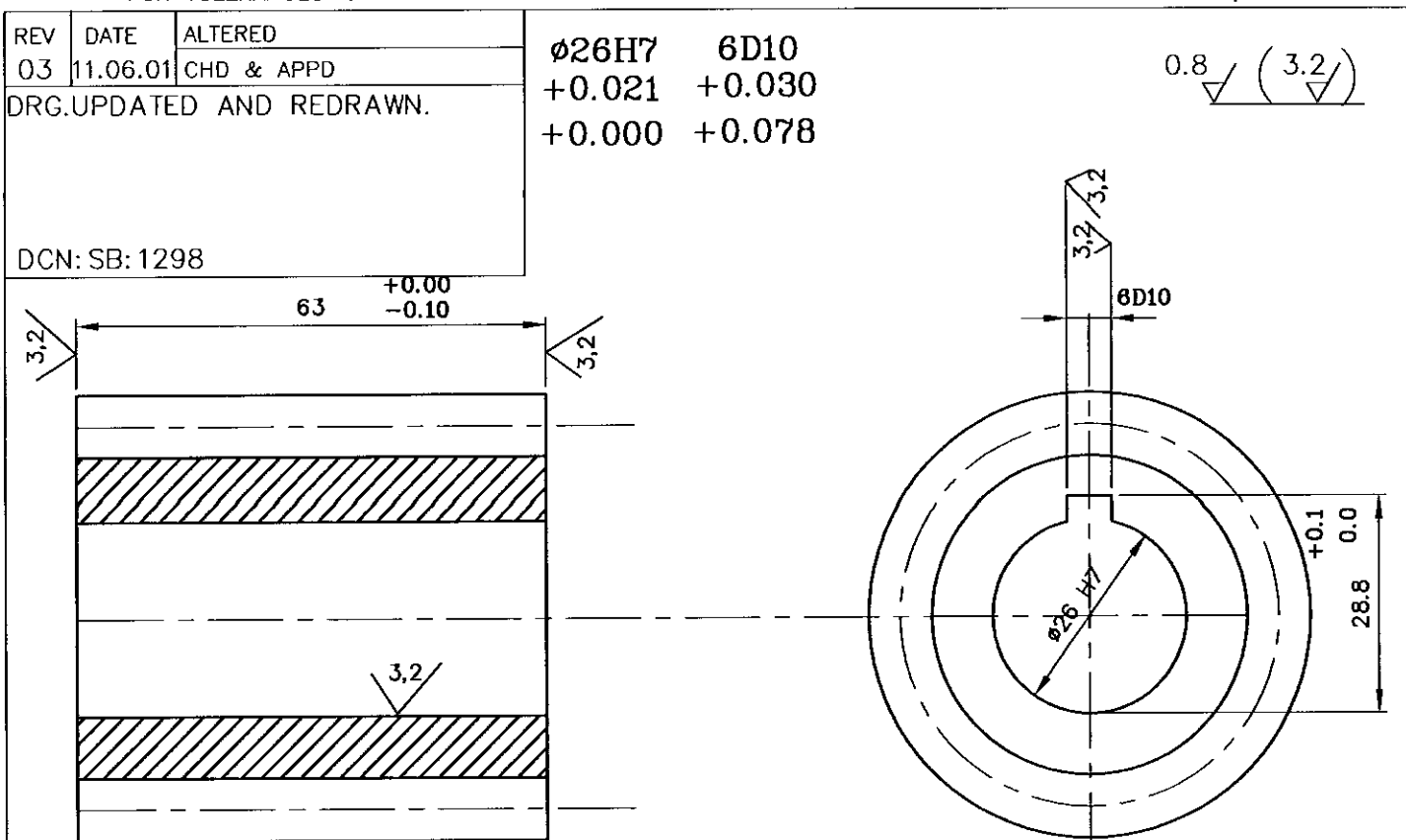
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842000308600

01	Ø 22X15	-	IS 1875CL4	-	-	0.02	-	-	-
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI - 620014.				DRN	NAME J.SANKAR	SIGN J.S	DATE 28.12.13	NO.OF VAR
					CHD	S.K.GUPTA	S.K.G	28.12.13	
					APPD	HIRENDRA RAUT	H.R	28.12.13	
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.02	-					
TITLE	PLUG FP 1/4"				CARD CODE U 01	DRAWING NO. 4-20-003-00610			REV 03

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

DIA.PITCH 6(NORMAL)
 NO.OF STARTS 2
 PITCH CIRCLE DIA 2"(50.8mm)
 DIRECTION OF THREAD RIGHT HAND
 LEAD ANGLE 9°28'
 PRESSURE ANGLE 14 1/2°

SUEFACE HARDNESS:
 CASE HARDENED TO
 62 RC TO THICKNESS
 OF 0.6mm
 CORE HARDNESS 45 RC

FINAL CONDITION HARDENED THREAD GROUND AND POLISHED

LEAD 1.0472'
 OUT SIDE DIA 2 1/3"(59.27mm)

QUALITY GRADE NO: -7
AS PER GOST CONTACT AREA

RADIAL RUN OUT: 0.020
 CHORDAL TOOTH THICKNESS } 6.6497 -0.210
 AT ADDENDUM : } -0.285
 AXIAL PITCH ERROR: ± 0.014

1.CZh - MIN 60%
 2.CZb - MIN 65%

PART CODE : 842005150500

01	ROUND D 80 L 63.5	15 027 136	IS1570 13 Ni3Cr80		0.75			01		
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR	
				CHD	V.ARUMUCAM					
				APPD	S.NATARAJAN					
DEPT SB		SCALE		WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE		NTS		0.75						
TITLE	WORM			CARD CODE	DRAWING NO.				REV	
	T30 MK -II E TR.CARRIAGE ASSY			U 01	4-20-051-00821				03	

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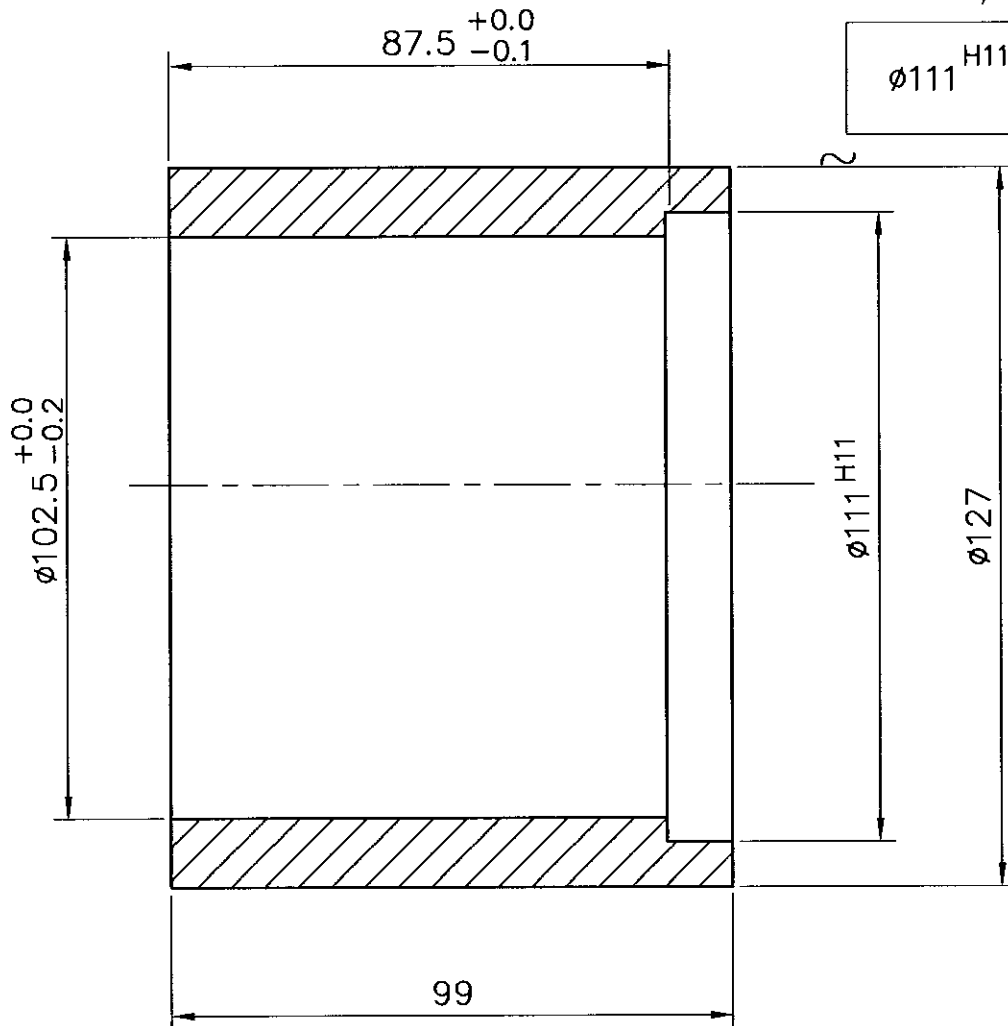
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3 / ~ /


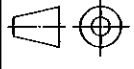
Ø111 H11	-0.00
	+0.22



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005149300

01	TUBE Ø127 X 20 99 LONG	15 082 188 60	SA 106 Gr.B			0.3420			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 330		NTS	3.420	0-20-051-00037				08	
TITLE				CARD CODE	DRAWING NO.			REV	
SPACER TUBE (T30 MK IIE TR.CARRIAGE ASSY.)				U 01	4-20-051-00895			01	

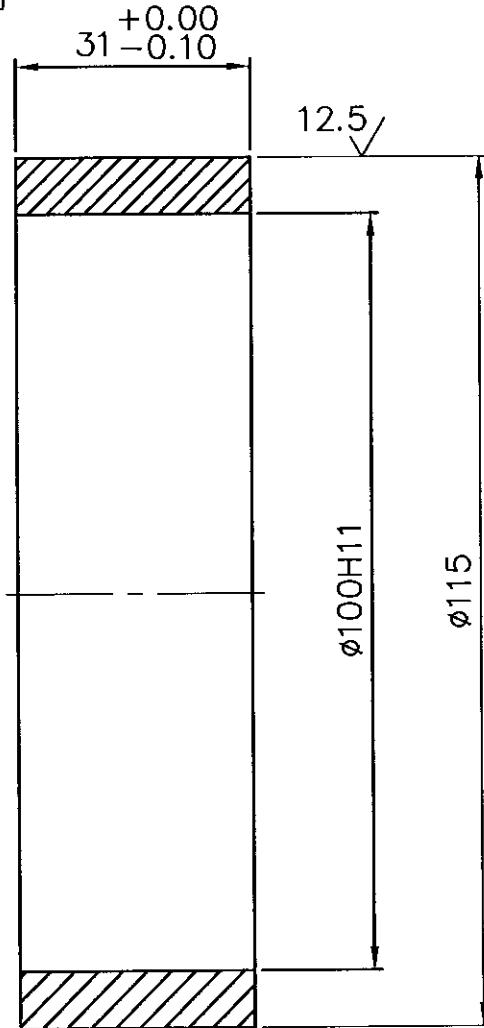
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3 ✓ / 12.5 ✓


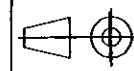


ø100H11	+0.22 -0.00
---------	----------------

NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. ALL SHARP CORNERS TO BE ROUNDED OFF

PART CODE : 842005149400

01	TUBE ø127x20 L31	150821886000	SA106 GrB			0.620			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN			
					APPD	S.NATARAJAN			
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.62	0-20-051-00037					
TITLE	T 30 MK II E TR.CARRIAGE ASSY. SPACER				CARD CODE	DRAWING NO.			REV
					U 01	4-20-051-00896			01

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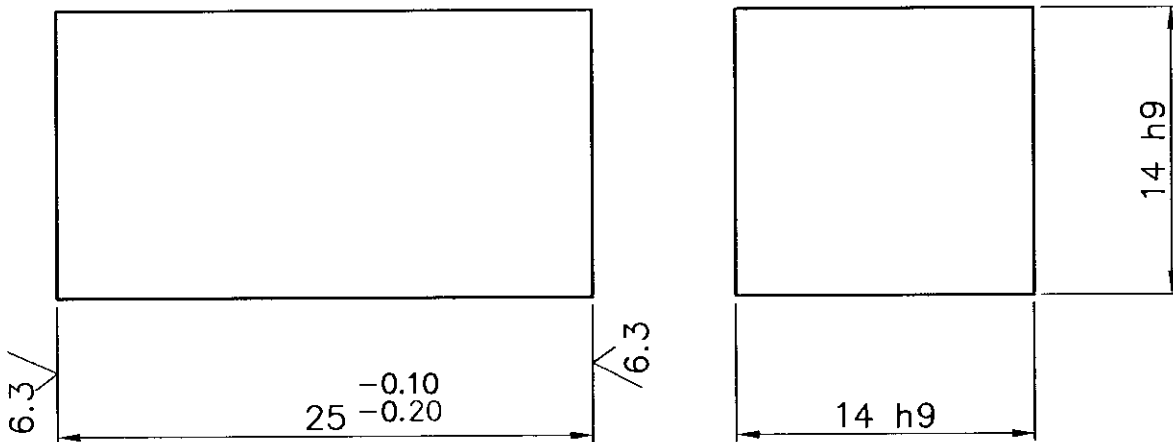
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

3.2// 6.3//

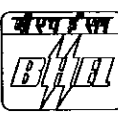
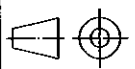
14 h9	+0.00 -0.043
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NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005150300

01	ROUNDED BAR D 40 ; L 25	15 027 135	IS 1875 Cl 4			0.040			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE NTS	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330				0.04	0-20-051-00037				
TITLE T30 MK IIE TR. CARRIAGE ASSY WORM KEY					CARD CODE U 01	DRAWING NO. 4-20-051-00899			REV 02

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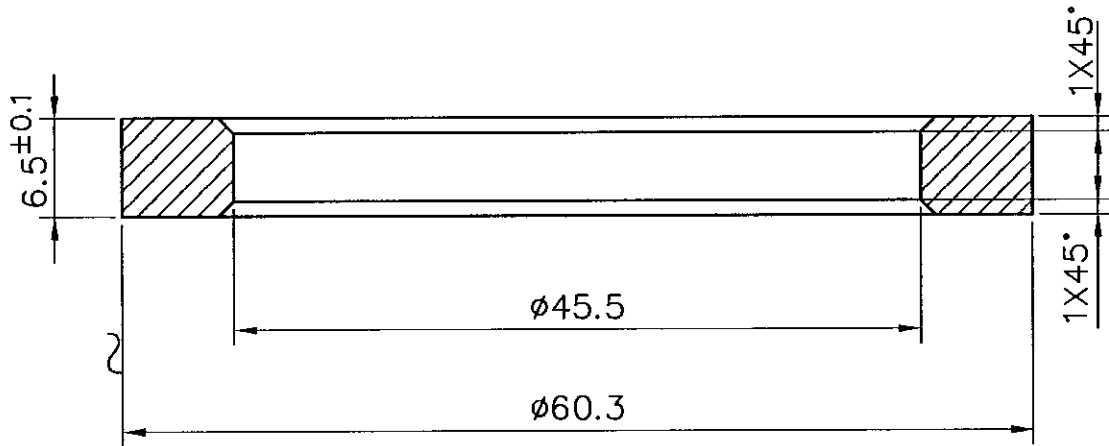
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


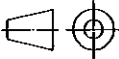
3.2 / ~ /



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

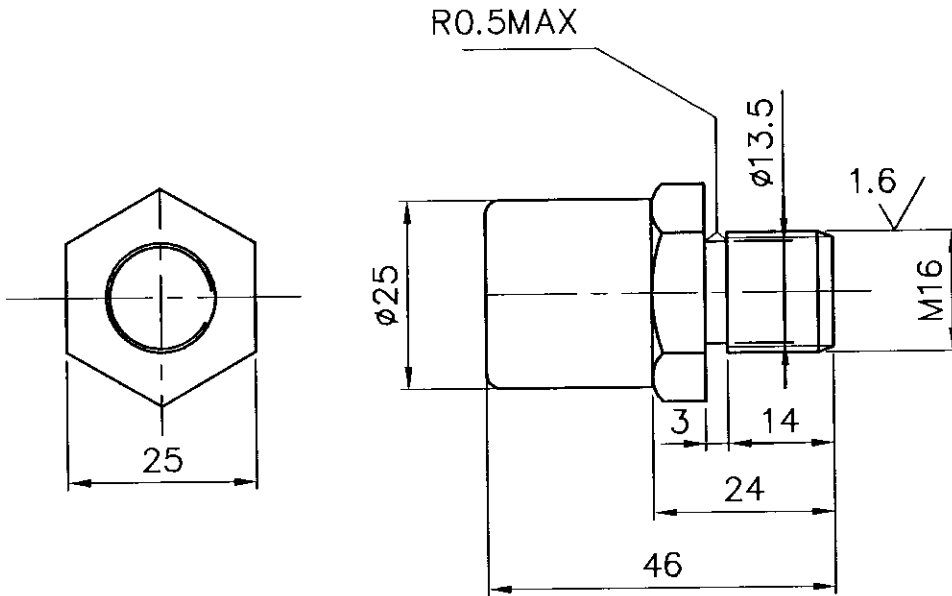
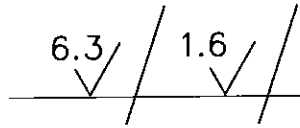
PART CODE : 842005149700

01	PIPE ø60.3 X 8.74	15 082 031	SA 106 Gr.B			0.050			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
365-122				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 330		NTS	0.050	0-20-051-00037					
TITLE	SPACER (T30 MK IIE TR.CARRIAGE ASSY.)			CARD CODE	DRAWING NO.			REV	
				U 01	4-20-051-00904			02	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. SURFACE TO BE HARDENED (BY CASE HARDENING)
TO A DEPTH OF 0.15MM AND HARDNESS RC.54 TO 58
3. CORE HARDNESS TO 40 TO 42 RC.

PART CODE : 842005149800

01	ROUND D32 L 46	15 027 150	IS 1570 13Ni13Cr80			0.140			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		SCALE		WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS
CODE 330		NTS		0,14		0-20-051-00037			
TITLE				CARD CODE	DRAWING NO.			REV	
T.30 MK IIE TR.CARRIAGE ASSY TRIP PIN				U 01	4-20-051-00905			01	

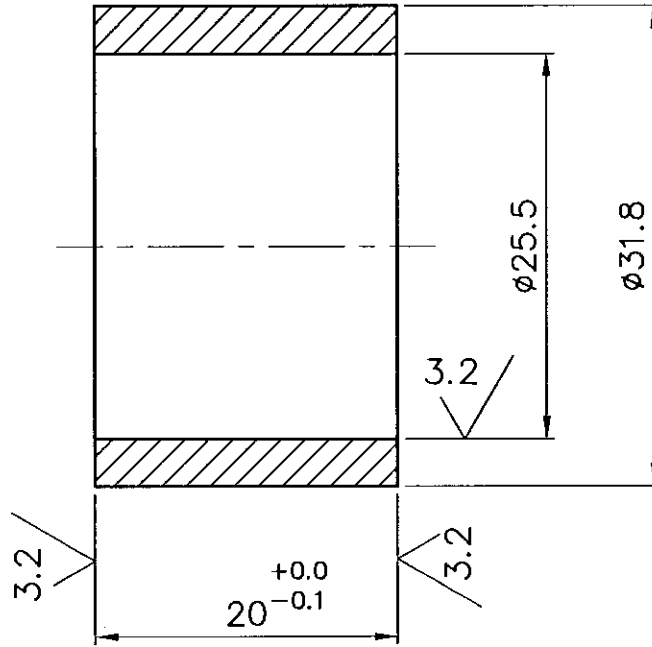
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


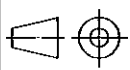
~ / 3.2 /



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005149600

01	TUBE ϕ 31.8X5;L 20	15 086 025 60	SA 210Gr A1			0.050			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME	SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM			
					APPD	K.SRIDHARAN			
						S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.05	0-20-051-00037				
TITLE T30 MK II E TR.CARRIAGE ASSY. SPACER					CARD CODE	DRAWING NO.			REV
					U 01	4-20-051-00926			01

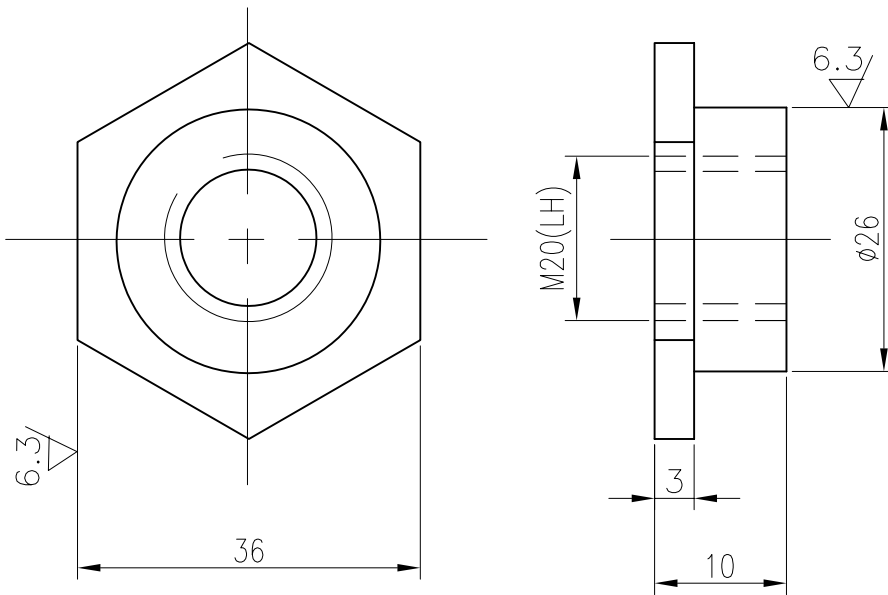
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ALL DIMENSIONS ARE IN MILLIMETRES.


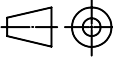
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	V.A
01	14.12.06	CHD & APPD	K.S
DRG REDRAWN & REVISED. PART CODE GIVEN.			
DCN No. SB 800547 Dt.02.01.06			

3.2 / 6.3 /



PART CODE: 842005155000

	ROUND $\phi 40$	150271350000	IS 1875CL.4			0.03			
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.	DRN	V.ARUMUGAM	V.A	SIGN	DATE	NO.OF VAR		
		CHD	K.SRIDHARAN	K.S	14.12.06				
		APPD	S.NATARAJAN	S.N	14.12.06				
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE	330		NTS	0.03					
TITLE	SPRING NUT			CARD CODE	DRAWING NO.			REV	
				U 01	4-20-051-00931			01	

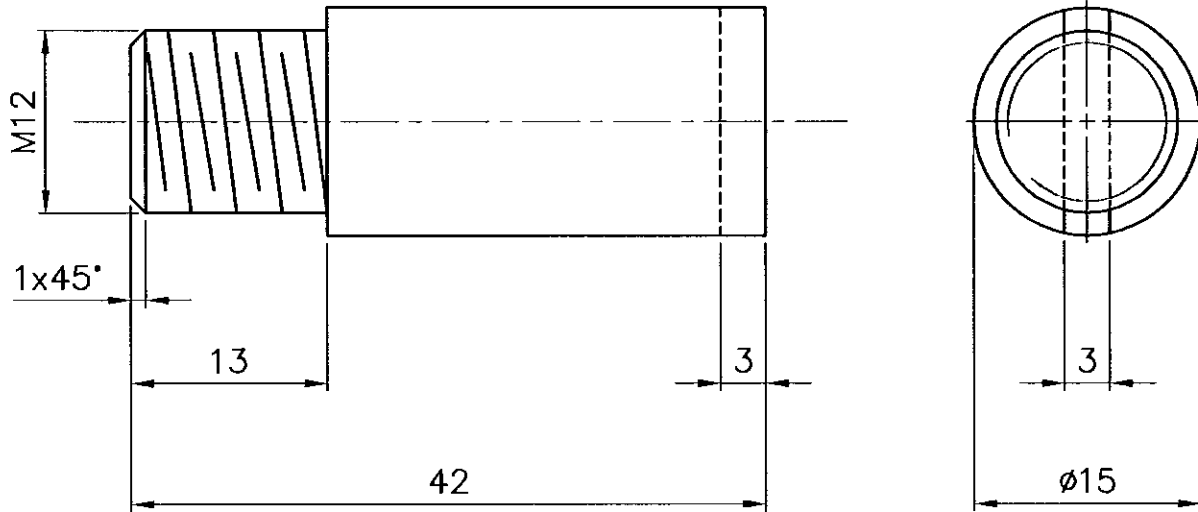
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


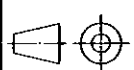
6.3 / 



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005155200

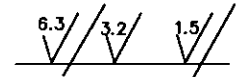
01	ROUND40XL42	15 027 135	IS 1875 CI 4			0.010			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330			NTS	0.04	0-20-051-00039				
TITLE				CARD CODE	DRAWING NO.				REV
STOP PIN				U 01	4-20-051-00933				02

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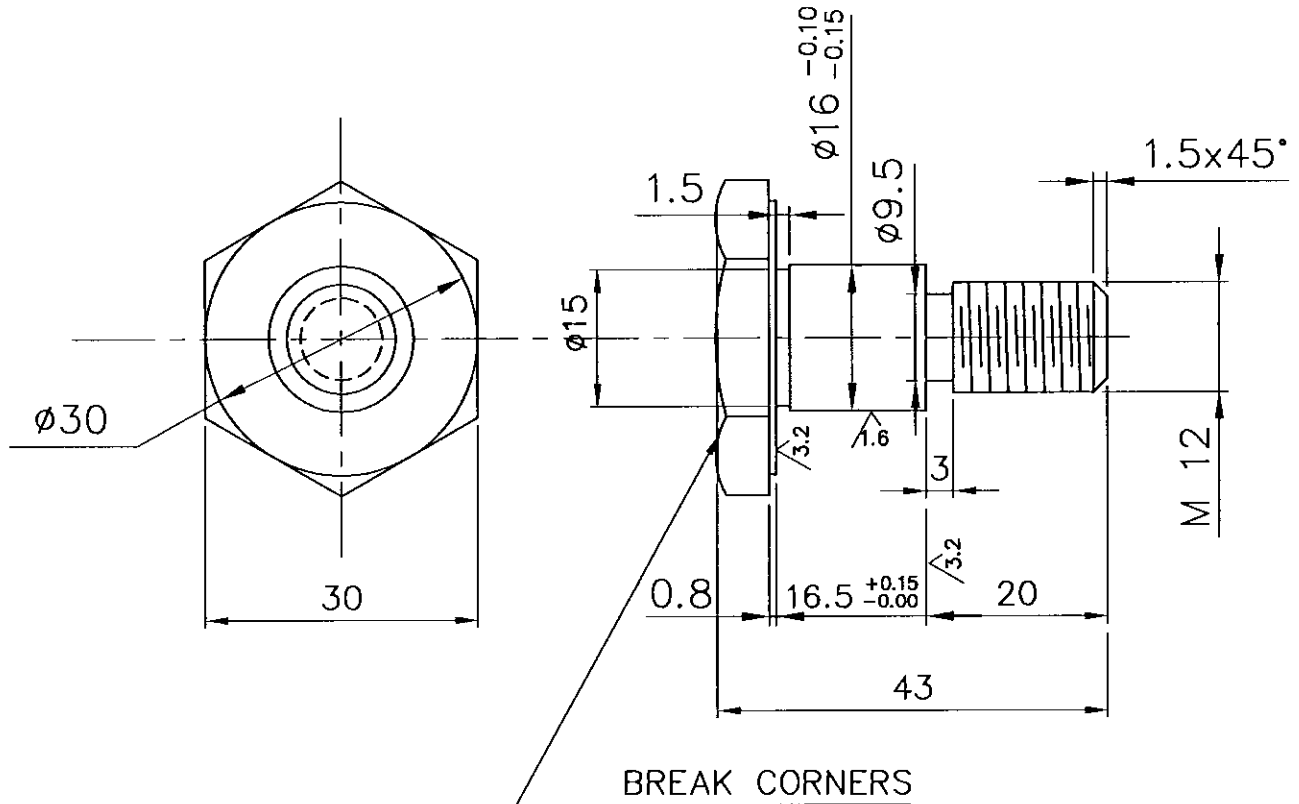
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		



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NOTES: -
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

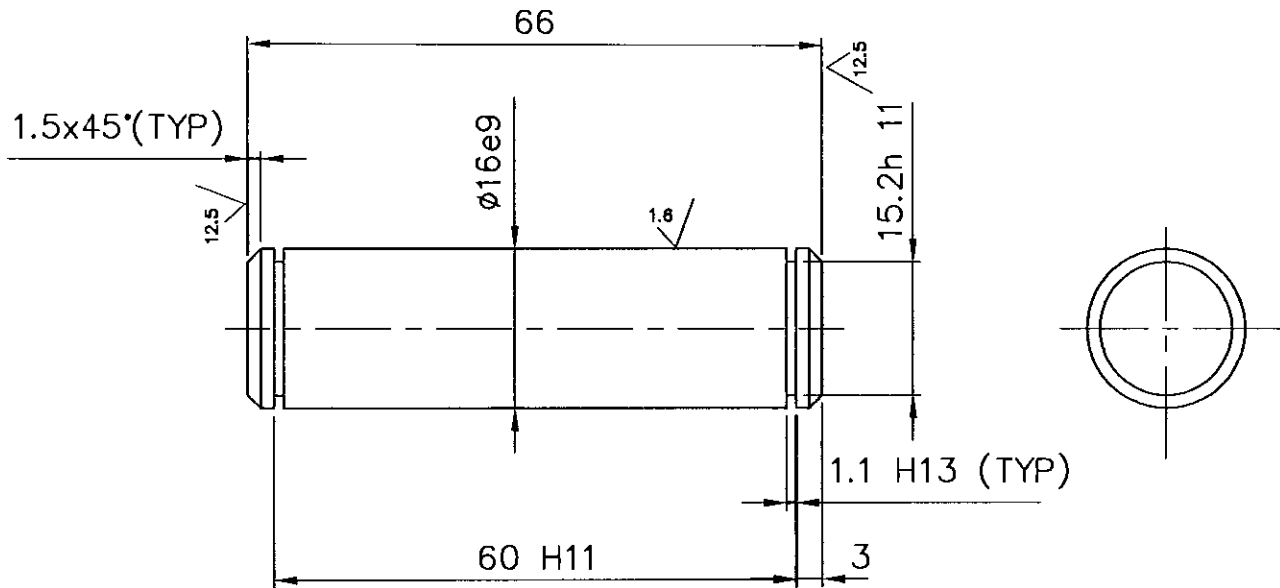
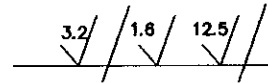
PART CODE : 842005155400

01	ROUND 36 L = 43	15 024 258	A 182 F6a Cl3			0.06			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
				NAME V.ARUMUGAM SIGN DATE NO.OF VAR					
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI 620014.				CHD K.SRIDHARAN					
365-122				APPD S.NATARAJAN					
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330			NTS	0.06	0.20.051.00039				
TITLE				CARD CODE	DRAWING NO.				REV
PIVOT SCREW FOR T-30 MKII				U 01	4-20-051-00935				01

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



- NOTES: -
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
 2. TO BE HARDENED TO RC.32-38

15.2h 11	16e9	60 H 11	1.1 H13
15.2 +0.000 -0.110	16 -0.032 -0.075	60 +0.190 -0.000	1.1 +0.140 -0.000

PART CODE : 842005155800

01	ROUND DIA 28 L = 66	15 024 256	A 182 F6a C13			0.10			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
				EC.009 DRN V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN		DATE	NO.OF VAR
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330			NTS	0.10	0.20.051.00039				
TITLE					CARD CODE	DRAWING NO.			REV
VALVE LEVER PIN					U 01	4-20-051-00936			01

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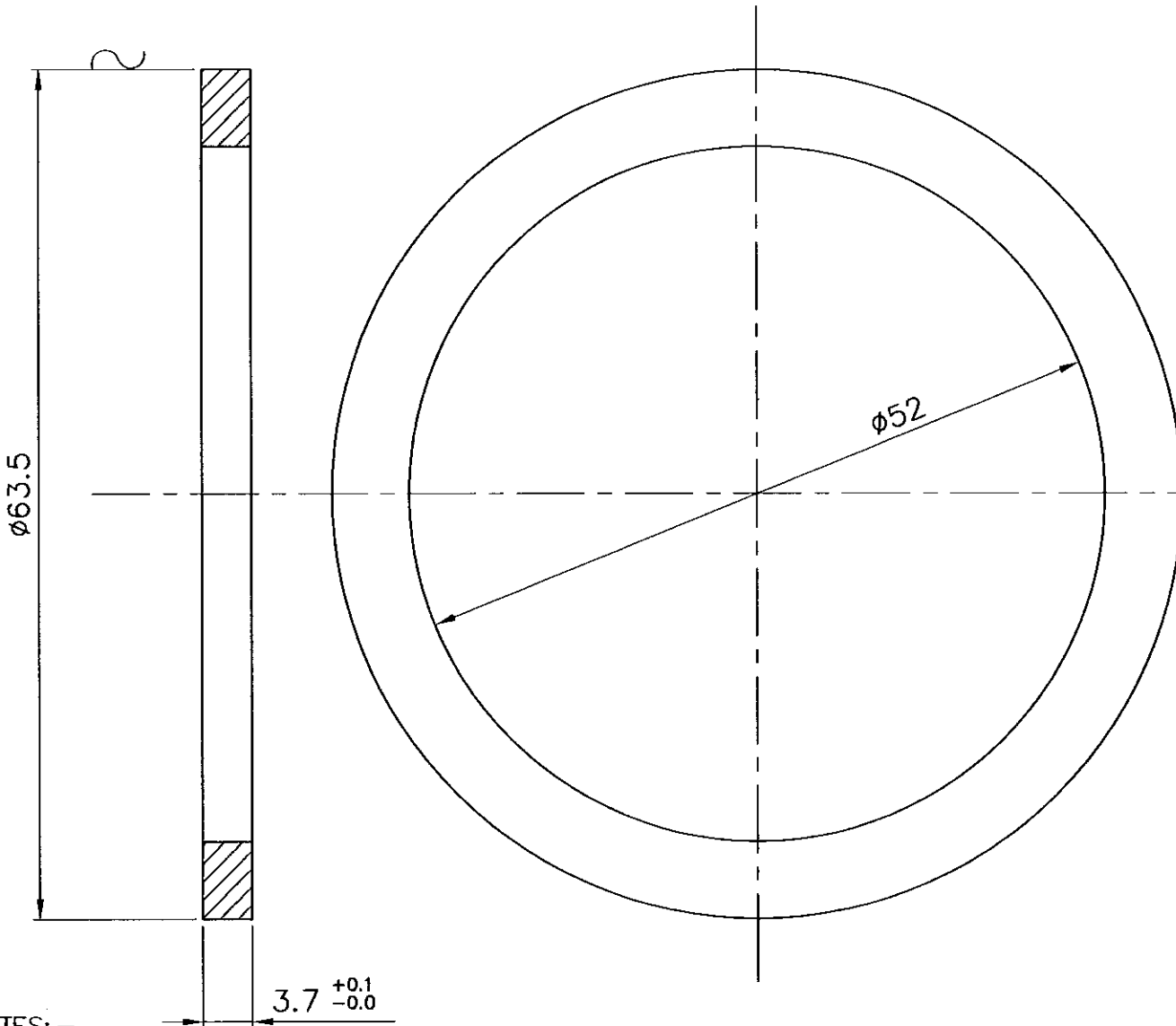
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3

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NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

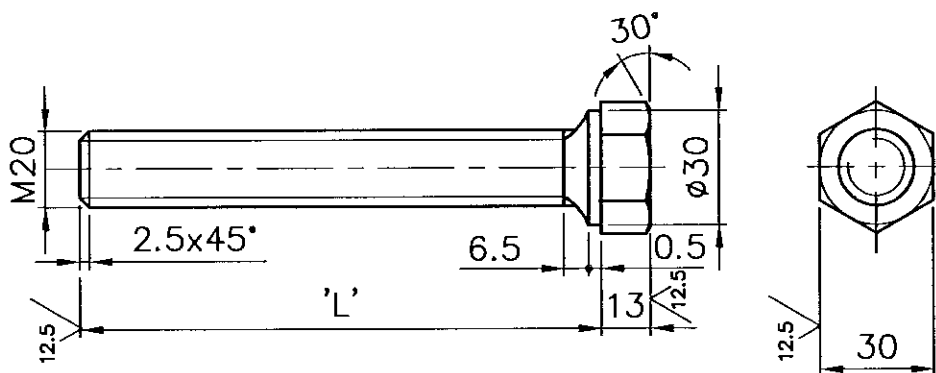
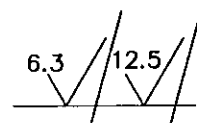
PART CODE : 842005152800

01	TD63.5x6.3: 3.8THK	15 086 118 65	SA 210 Gr.A1			0.03			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
<p>BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.</p>				DRN	NAME		SIGN	DATE	NO.OF VAR
365-122				CHD	V.ARUMUGAM				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS
CODE 330			NTS	0.03		3-20-051-00464			
TITLE				CARD CODE	DRAWING NO.			REV	
T-30 MK. II E				U 01	4-20-051-00937			01	
SPACER RING (J.S.TRA.)									

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



PART CODE	STYLE	'L'
842005155600	01	135
	02	115

NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. TO BE CADMIUM PLATED TO A THICKNESS OF 0.005MM.
3. DIMENSIONS GIVEN IN DRAWING ARE AFTER PLATING.

01	ROUND D 40 x L=148	15 027 135	IS 1875 CI 4			0.350			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
365-122					CHD	K.SRIDHARAN			
					APPD	S.NATARAJAN			
DEPT SB				SCALE	WEIGHT (KG).	REFERENCE INFORMATION			NO. OF ITEMS
CODE 330		NTS			0.650	0-20-051-00039			
TITLE					CARD CODE	DRAWING NO.			REV
HEX - SCREW M20					U 01	4-20-051-00954			01

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ALL DIMENSIONS ARE IN MILLIMETRES.

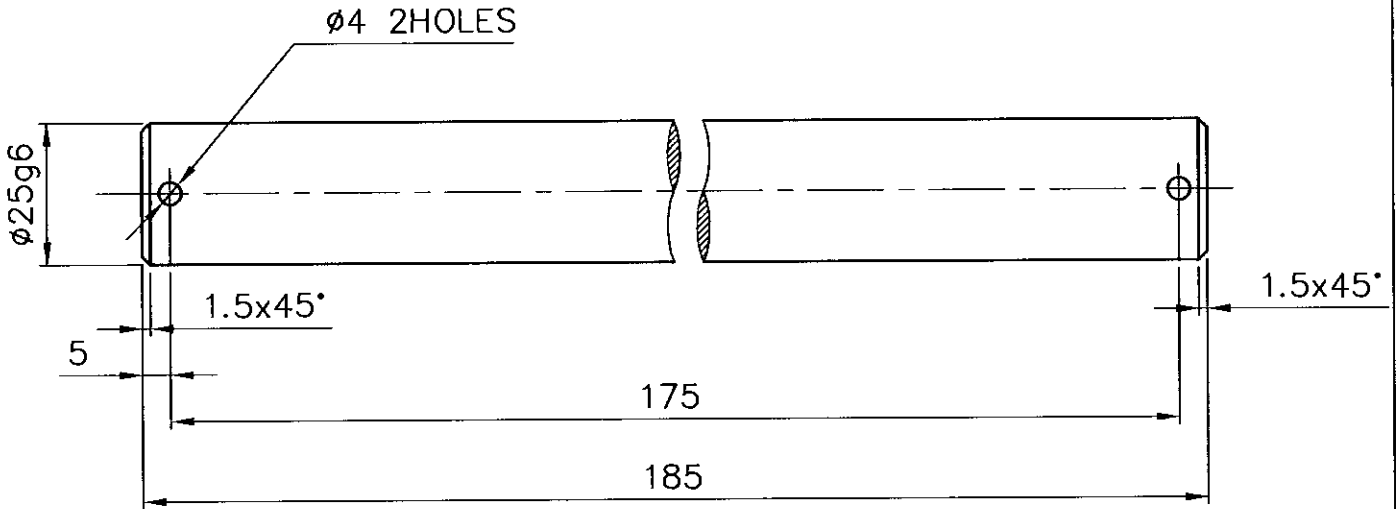
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

3.2
ALL OVER


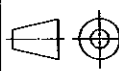
$\phi 25g6 = \phi 25$
-0.009
-0.020



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

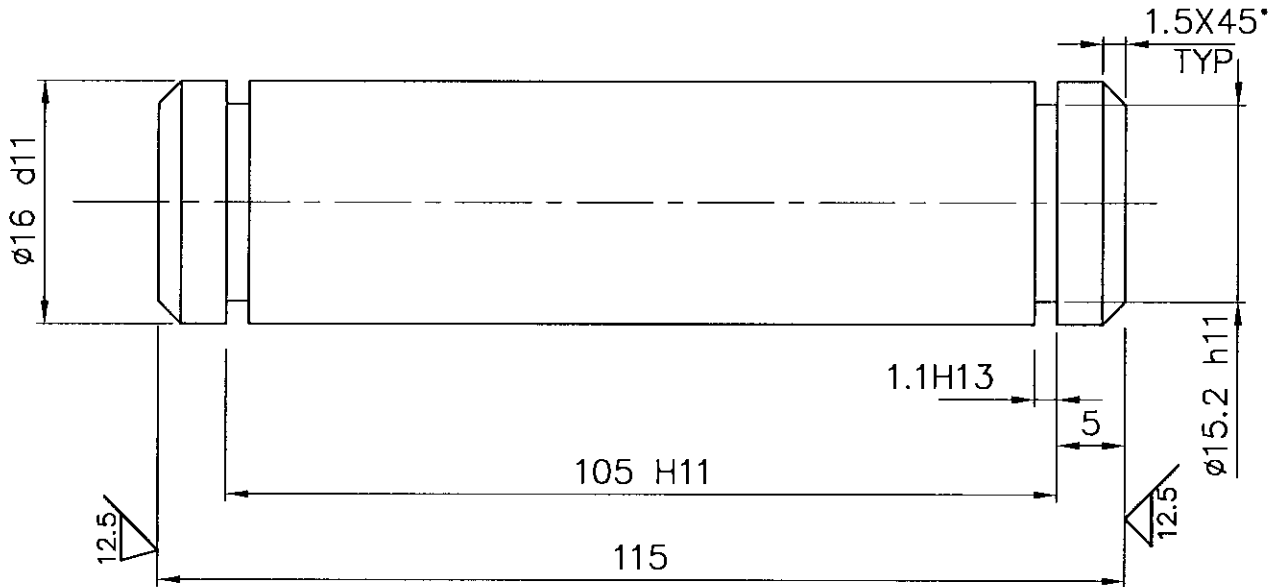
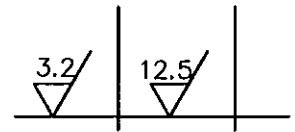
PART CODE : 842005151200

01	ROUND 32 L= 185	15 024 257	SA 182 F6a CI3			0.70			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTNTS	0.70	2-20-051-00195				
TITLE T30 MARK IIE					CARD CODE	DRAWING NO.			REV
ROLLER PIN					U 01	4-20-051-00978			01

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



ϕ 16 d11	ϕ 15.2 h11	1.1 H13	105 H11
-0.050 ϕ 16 ^{-0.160}	+0.00 ϕ 15.2 ^{-0.11}	+0.14 1.1 ^{-0.00}	+0.22 105 ^{-0.00}

NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005159100

01	ROUND DIA 28 L = 115	15 024 256	SA 182 F6a C13			0.180			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
365-122					CHD	K.SRIDHARAN			
					APPD	S.NATARAJAN			
DEPT SB		SCALE		WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330		NTS		0.18	2-20-051-00195				
TITLE				CARD CODE	DRAWING NO.				REV
T30 MARK II E TOP ROLLER PIN				U 01	4-20-051-00980				02

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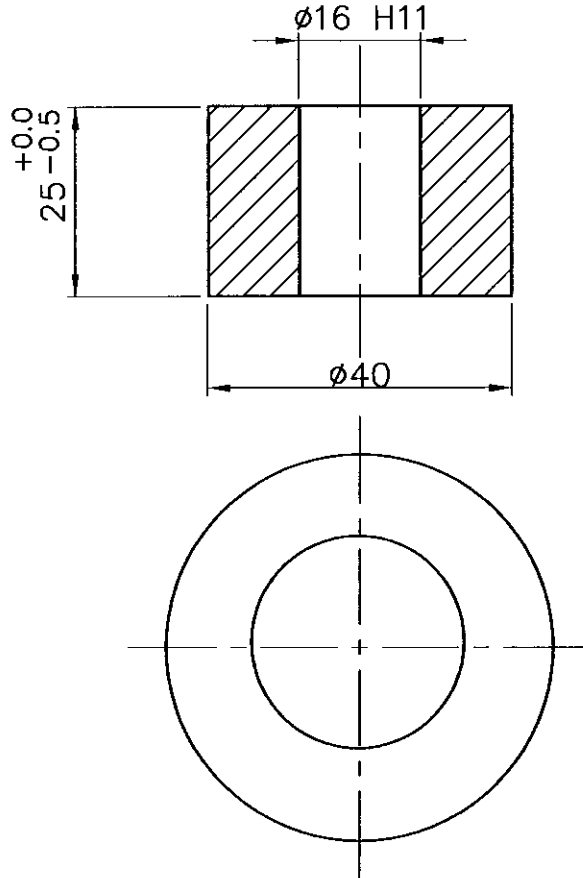
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

3.2/


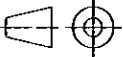
Ø16H11	+0.110
	-0.000



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. SHARP CORNERS TO BE ROUNDED OFF:

PART CODE : 842005151100

01	ROUND 63; L=25	15 004 138	IS1875 CI 4			0.20			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.						DRN	NAME	SIGN	DATE	NO.OF VAR
						CHD	K.SRIDHARAN			
						APPD	S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.20	2-20-051-00195					
TITLE	T 30 MARK II E			CARD CODE	DRAWING NO.			REV		
TOP ROLLER				U 01	4-20-051-00981			01		

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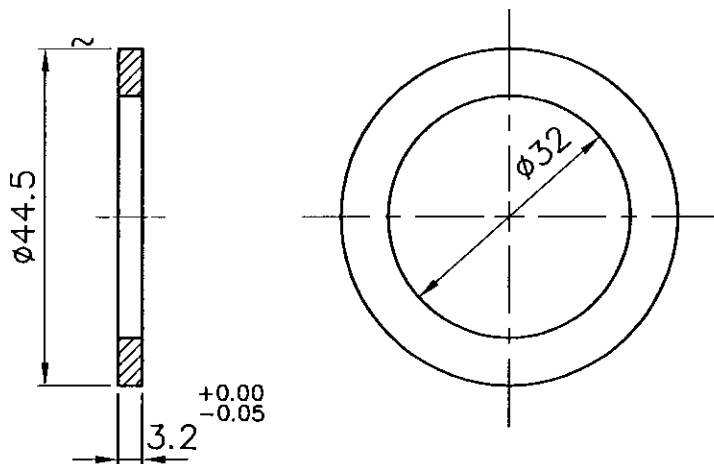
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		


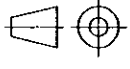
6.3 / ~ /



NOTES: -

- 1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005153300

01	TD44.5X6.3; 3.2THK	15 086 066	SA 210 Gr A1			0.02			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECH	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS
CODE 330			NTS	0.02		3-20-051-00463			
TITLE				CARD CODE	DRAWING NO.			REV	
SPACER RING.(J.S.ROT.)				U 01	4-20-051-01001			01	

ALL DIMENSIONS ARE IN MILLIMETRES.

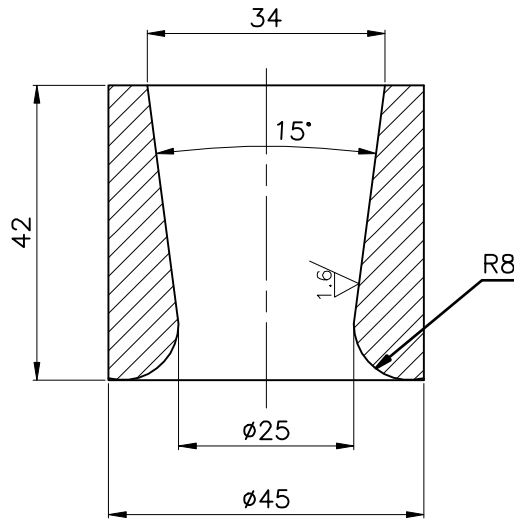
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	J.S
02	26.08.10	CHD & APPD	K.S

3.2/ (1.6/)

DIMENSION 34 INTRODUCED.


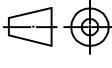
DCN: SB: 801023/5011214



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005151600

01	CAST BAR D 52	920510180000	SA 297 Gr HH			0.300			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME	SIGN	DATE	NO. OF VAR
					CHD	J.SANKAR	J.S	26.08.10	
					APPD	K.SRIDHARAN	K.S	26.08.10	
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.300						
TITLE					CARD CODE	DRAWING NO.			REV
NOZZLE					U 01	4-20-051-01396			02

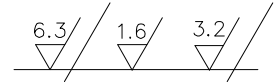
Size A4

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

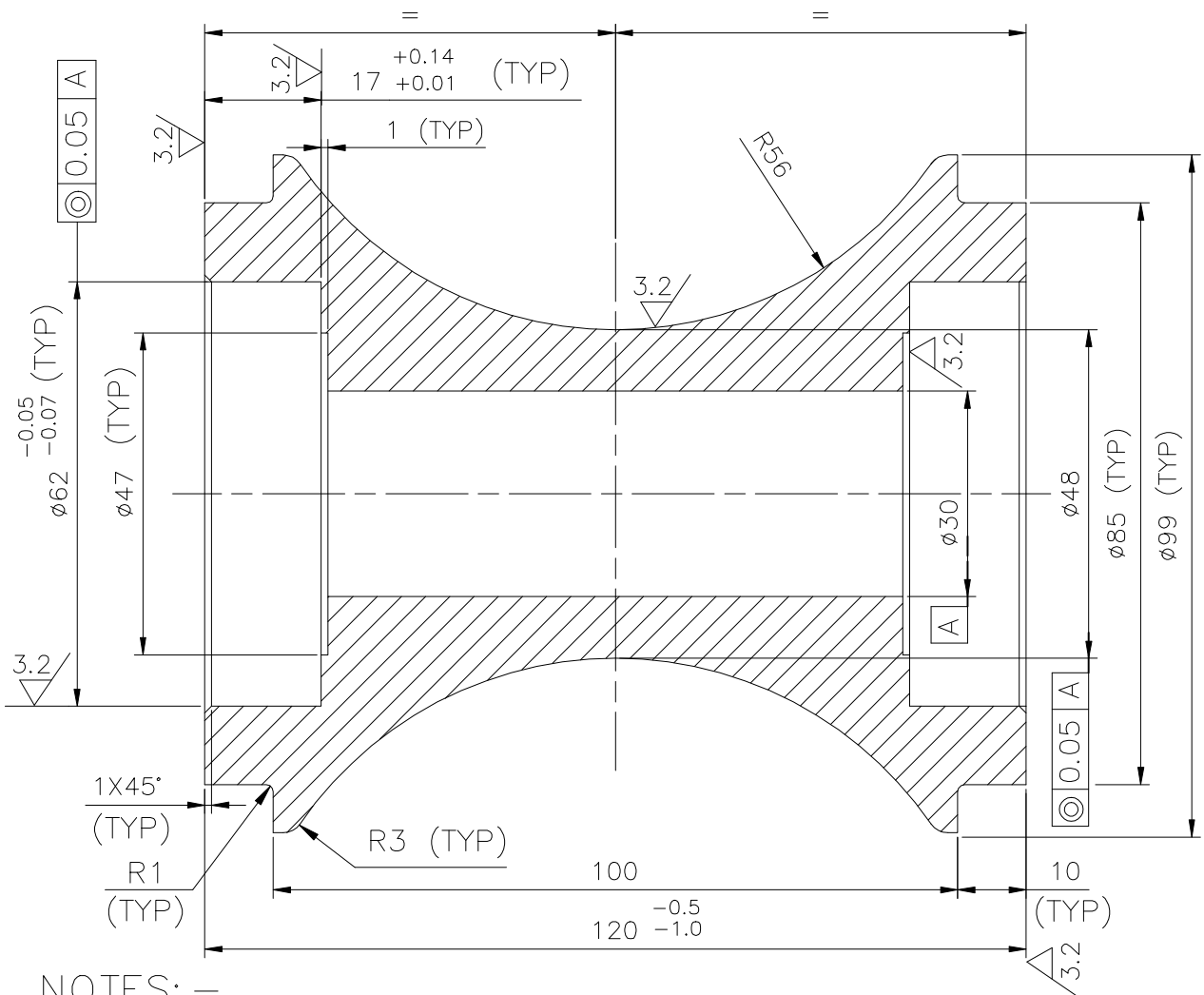
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	J.S
02	01.08.11	CHD & APPD	R.S. & K.S
DRAWING CONVERTED AS CAD.			
DCN:SB: 801133 / 5012916			



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NOTES: -

1. FOR QUALITY REQUIREMENTS, REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. HEAT TREAT TO 34 TO 38 HRC.

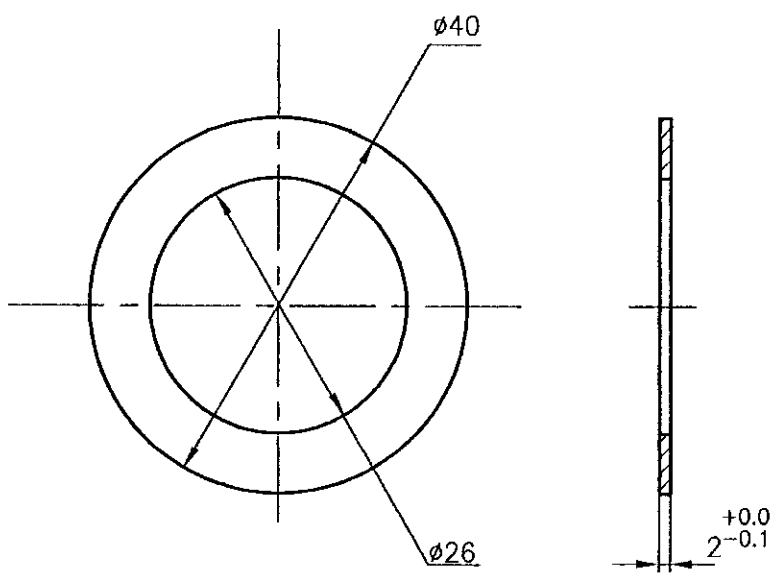
PART CODE: 842005151001

01	DIA.100 L=120	150242640000	A182 F6ACL3			8.02				
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
<p>BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.</p>						DRN	NAME	SIGN	DATE	NO. OF VAR
						CHD	J.SANKAR	J.S	01.08.11	
						APPD	RAVINDER SINGH	R.S.	01.08.11	
						APPD	K.SRIDHARAN	K.S	01.08.11	
DEPT SB	/		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			N T S	2.120						
330										
TITLE						CARD CODE	DRAWING NO.		REV	
LANCE ROLLER						U 01	4-20-051-02745		02	

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REV	DATE	ALTERED
		CHD & APPD


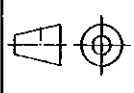

12.5
✓



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

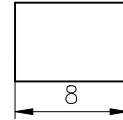
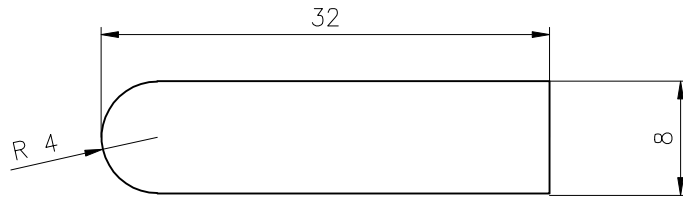
PART CODE: 842005106500

01	ROD ø 50	15 339 142	SA 105	-	-	0.010	-	-	-
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				NAME DRN V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN DATE 5/12/2000 5/12/2000 5/12/2000		NO.OF VAR	
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE	330		NTS	0.010					
TITLE				CARD CODE					DRAWING NO.
SPACER				U 01	4-20-051-02746	00			

ALL DIMENSIONS ARE IN MILLIMETRES.

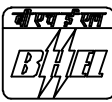
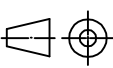
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD



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PART CODE : 842005138300

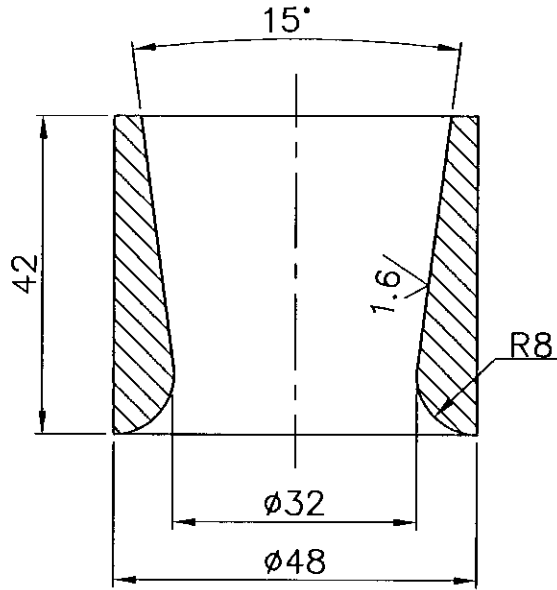
	PARELLEL KEY TYPE 'A' 8X7X45	415010804500	IS-1875						
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI- 620014.				DRN	NAME J.SANKAR	SIGN J.S	DATE 31.07.08	NO.OF VAR
					CHD	K.SRIDHARAN	K.S	31.07.08	
					APPD	S.NATARAJAN	S.N	31.07.08	
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.010	3-20-051-00463					
TITLE KEY					CARD CODE U 01	DRAWING NO. 4-20-051-03512			REV 00

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		


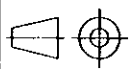
3.2/ (1.6/)



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842005159300

01	CAST BAR D 50	92 051 018	SA 297 Gr HH			0.340			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.						DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
						CHD	K.SRIDHARAN			
						APPD	S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE	330		NTS	0.340						
TITLE					CARD CODE	DRAWING NO.			REV	
NOZZLE					U 01	4-20-055-01483			01	

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ALL DIMENSIONS ARE IN MILLIMETRES.

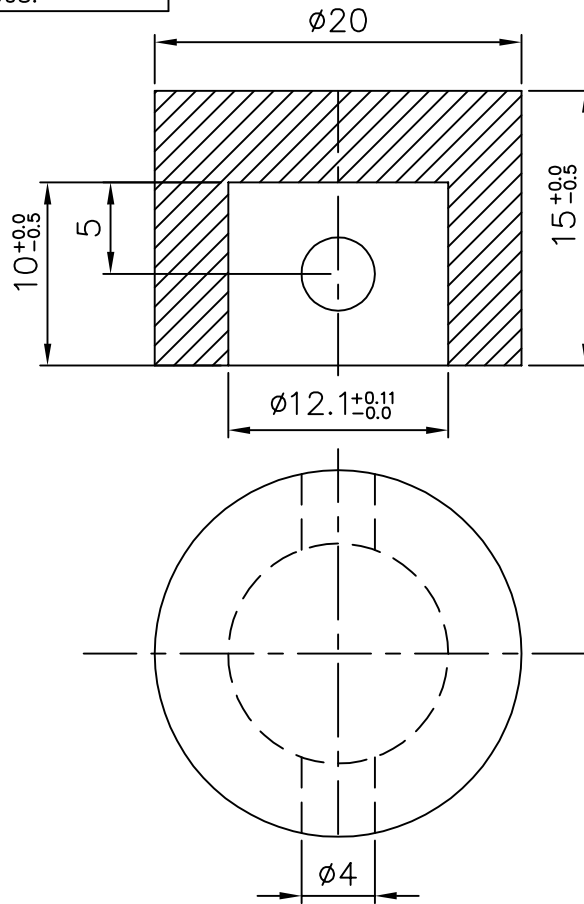
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	K.S.
04	19.02.08	CHD & APPD	S.N.

DIM $\phi 12.1 \pm 0.11$ WAS $\phi 12 \pm 0.11$

DCN:SB:901846 Dt. 19.02.2008.

(3.2/)



NOTES:-

1. HEAT TREAT TO 38-41 HRC
2. AFTER MACHINING SHARP CORNERS TO BE CHAMFERED
3. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURES

PART CODE : 842020104900

01	ROUND DIA 20	150242540000	A182 F6a Cl3			0.02				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.	DRN	V.ARUMUGAM	SIGN	V.A.	DATE	29.01.08	NO.OF VAR		
		CHD	K.SRIDHARAN	K.S.	29.01.08					
		APPD	S.NATARAJAN	S.N.	29.01.08					
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS		0.02						
TITLE					CARD CODE	DRAWING NO.			REV	
VALVE STEM CAP					U 01	4-20-201-00198			04	

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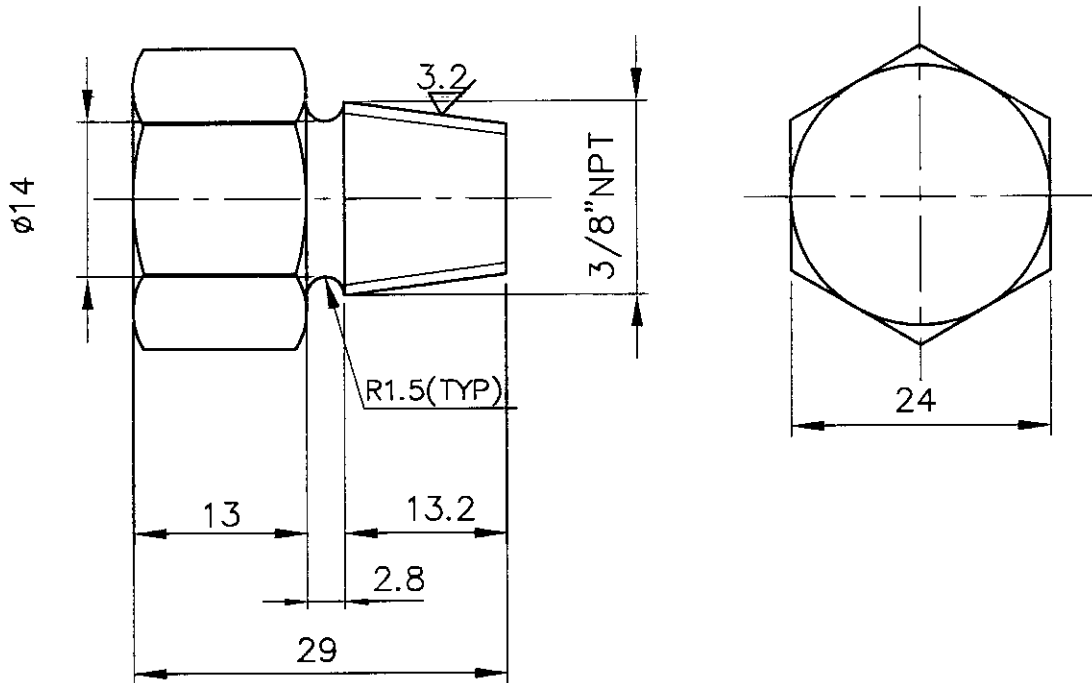
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
04	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN:SB:1298		


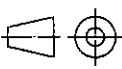
12.5 (3.2)



NOTES:-

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842020130700

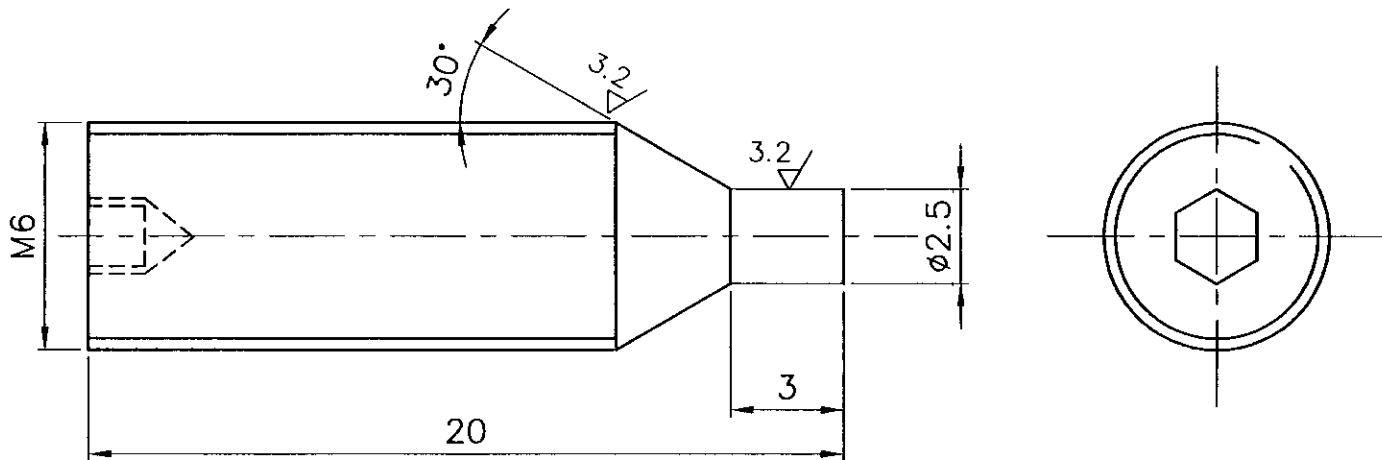
01	ROUND DIA 32 L = 30	150390870000	A193 B7			0.320			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME V.ARUMUGAM		SIGN	DATE	NO. OF VAR
					CHD	K.SRIDHARAN				
					APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.320						
TITLE					CARD CODE	DRAWING NO.			REV	
3/8" NPT. PLUG					U 01	4-20-201-00199			04	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
04	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN:SB:1298		



$\sqrt{3.2}$



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. TO BE CADMIUM PLATED TO 0.005 MM THICK.

PART CODE : 842020117700

01	GRUB SCREW M6-20	41235-06-025				0.01				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECH	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				NAME DRN V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN		DATE		NO.OF VAR
DEPT SB		 SCALE NTS		WEIGHT (KG). 0.01		REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330	TITLE SOC.HD.LOCK SCREW			CARD CODE U 01	DRAWING NO. 4-20-201-00242				REV 04	

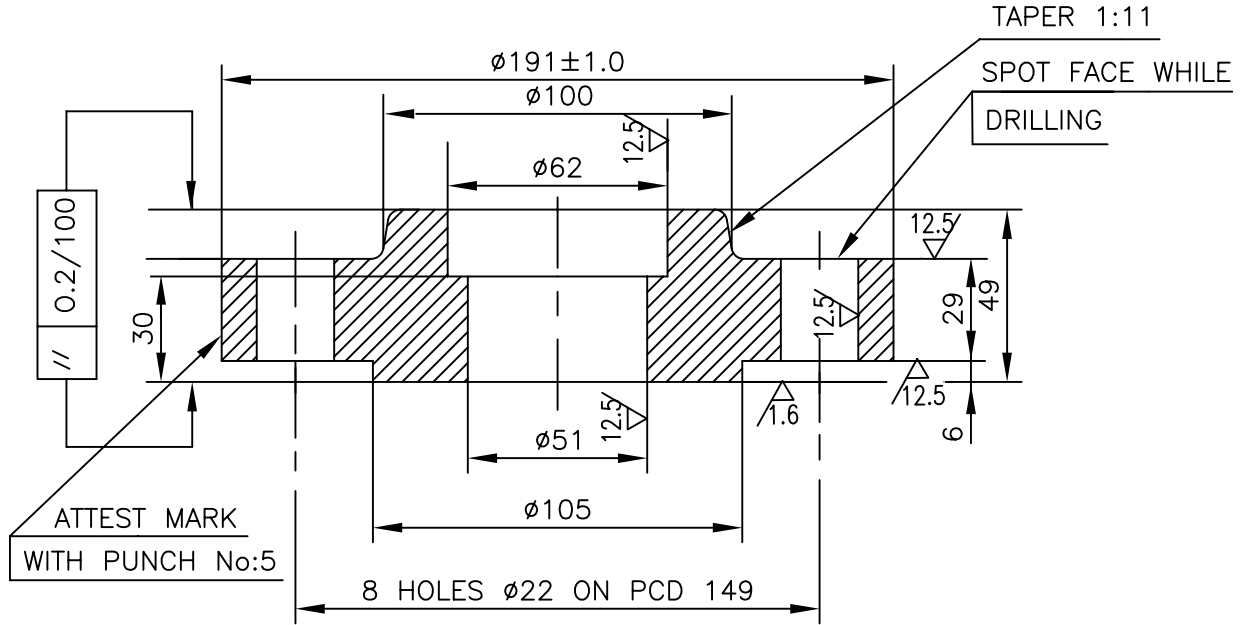
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
04	20.05.03	CHD & APPD
DRG REDRAWN.		

25/ (12.5/ 1.6/)



NOTES:

01. SHARP CORNERS TO BE ROUNDED OFF.
02. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURE.
03. TO STAMP:
MANUFACTURES MARK:
INSPECTION
ANSI B16.5
SIZE 2.5",600#
04. MAX WORKING PRESSURE : 54 KG/CM²
05. MAX WORKING TEMP.427°C
06. DIMENSIONS & MATERIALS AS PER ANSI B16.5 Nb2 1/2" -600 CLASS

COMPONENT CODE: 842020138400

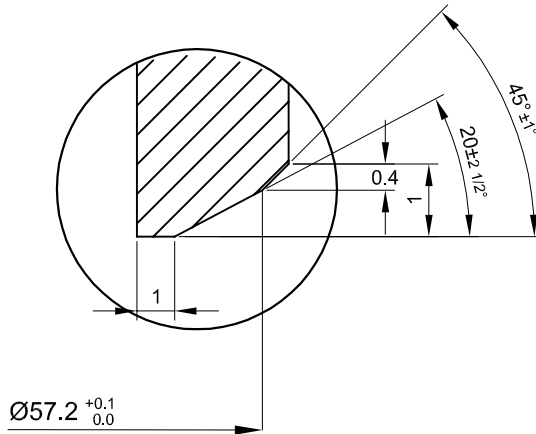
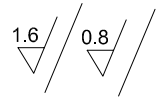
-	FORGING	92012196	SA 105 ATTEST	N	-	6.1	-	-	01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN				
					APPD	S.NATARAJAN				
DEPT VL		SCALE		WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS	
CODE 330		N.T.S		6.1		-				
TITLE COMPANION FLANGE					CARD CODE U 01	DRAWING NO. 4-20-201-00285			REV 04	

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ALL DIMENSIONS ARE IN MILLIMETRES.

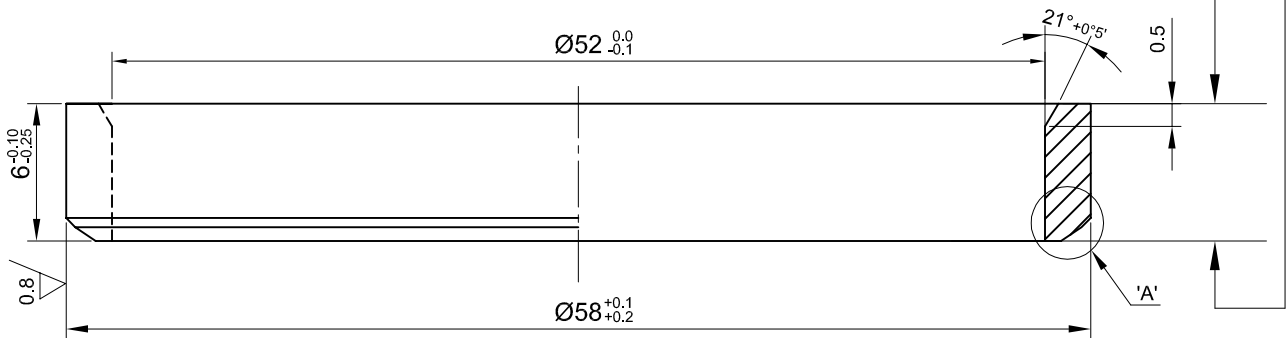
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV 06	DATE 02.11.07	ALTERED CHD & APPD	K.S S.N
CHAMFER AT 21° INTRODUCED TO A DEPTH OF 0.5MM			
DCN:SB:800691 Dt.16.06.07			



DETAIL-'A'

THESE SURFACES MUST BE PARALLEL WITHIN 0.025 MM



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. ID TO OD CONCENTRICITY - 50 MICRONS (TIR).
3. HARDNESS 41 - 44 HRC.
4. FOR CASTING REFER DRG NO. 4-20-001-01419 & 4-20-001-01420

PART CODE : 842020144100

01		92 025 093	STELLITE 12						01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 365-122	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.	 SCALE NTS	WEIGHT (KG). 0.030	DRN	S.THIRUMARAN	SIGN	S.T	DATE	02.11.07	NO.OF VAR
				CHD	K.SRIDHARAN	K.S	02.11.07			
				APPD	S.NATARAJAN	S.N	02.11.07			
DEPT SB						REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330										
TITLE SEAT INSERT					CARD CODE U 01	DRAWING NO. 4-20-201-00565				REV 06

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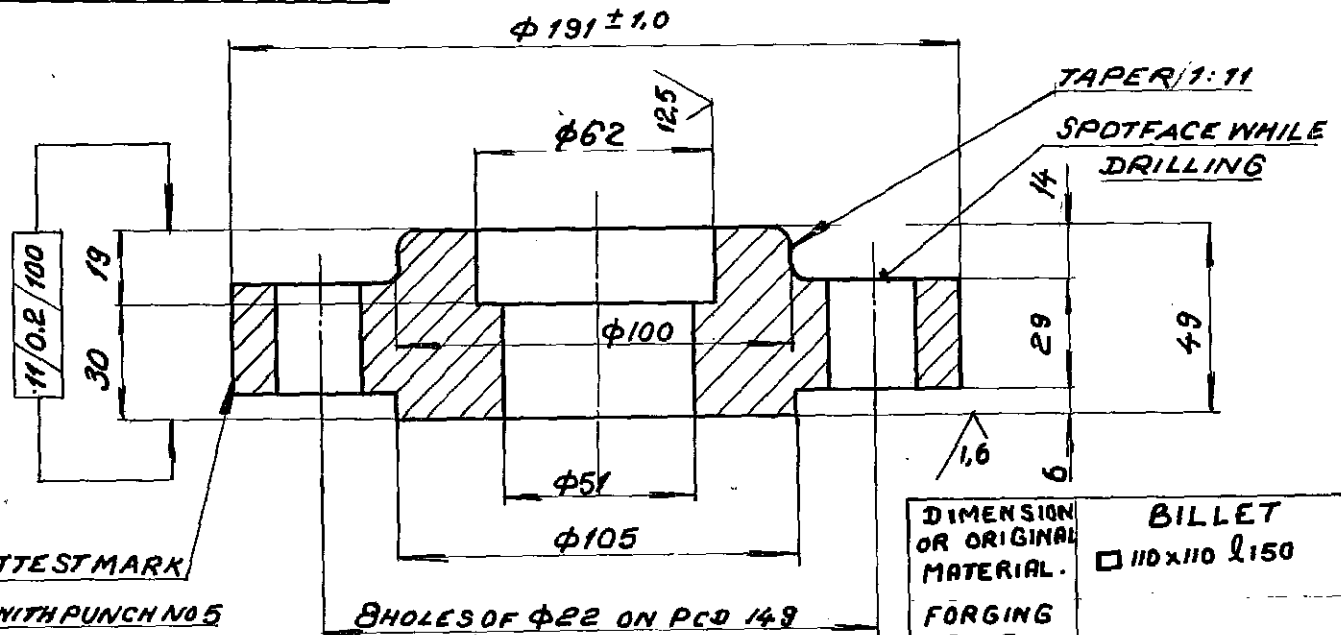
REV 01	DATE 11/17/77	ALTERED CHECKED	REV 02	DATE	ALTERED CHECKED
FLANG DESIGN ASPER ANSI B16.5-1973-2 1/2" SIZE, 600# WAS 2" SIZE ASA 600#					

25/125/16

NOTE

SHARP CORNERS ROUNDED OFF.

FOLLOW THE INSTRUCTIONS FOR HEAT TREATMENT OF MATERIAL
TOLERANCE ON PITCH CIRCLE DIAMETER FOR BOLT HOLES AND
CHORD DISTANCE BETWEEN BOLT HOLES SHALL BE ACC. TO BPS
410504 (CSN 014260)



DIMENSION OR ORIGINAL MATERIAL.	BILLET
FORGING SIZE	□ 110x110 & 150
CONSUMPTION WEIGHT.	FORGING WEIGHT
15.2	9.82
	WORK CENTRE No.
	3433

ATTEST MARK

WITH PUNCH NO 5

8 HOLES OF φ22 ON PCD 149

TO STAMP

MANUFACTURERS MARK

INSPECTION

2 1/2" 600#
ANSI
B16.5-1973

03	φ340x90	92/033/292	A	6.10
02	φ280x80	SA 182 F12	A	1
01	φ290x75	92/033/121	A	6.10
		BS1503-620B	A	1
		92/033/130	A	6.10
		13 CR. MO. 44	A	1

CARD TYPE 2

CARD TYPE 1



BHARAT HEAVY ELECTRICALS LIMITED
 BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT SOOT BLOWER	CODE	SCALE	WEIGHT (kg)	REF TO ASSY DRG	LT No.
TITLE COMPANION FLANGE ANSI 2 1/2" SIZE, 600 #	DRAWN N.G	CHECKED	APPROVED	NAME N.G	DATE 16/6/77

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN MACHINING TOLERANCE ± 0.25 mm UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±

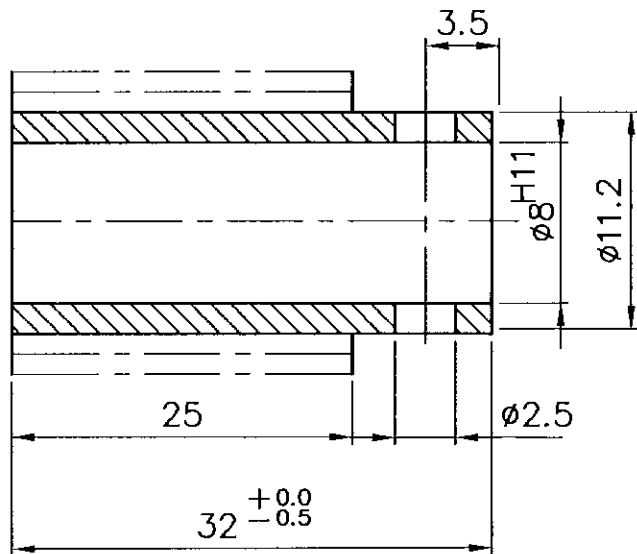
DRAWING No	16/REV 17
4-20-201 - 00940.	01
SHEET No.	No. OF SHEETS

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REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

1.6

H 11	+0.09
	0.0



GEAR DATA	
MODULE (NORMAL)	1.5mm
PR ANGLE	20°
LEAD ANGLE	21°48'
NO OF STARTS	4(RH)
P.C.D	15mm
CENTRE DISTANCE	34.5mm
OUTER DIA	18mm
ROOT DIA	11.25mm

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NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

WORM TO RUN WITH WORM GEAR

DRG.NO.3-20-301-00126

MODULE =1.5mm P.R ANGLE =20°

NO OF TEETH=36(RH) O.D=57mm

PITCH=54mm HELICAL ANGLE =21°48'

PART CODE : 842030147200

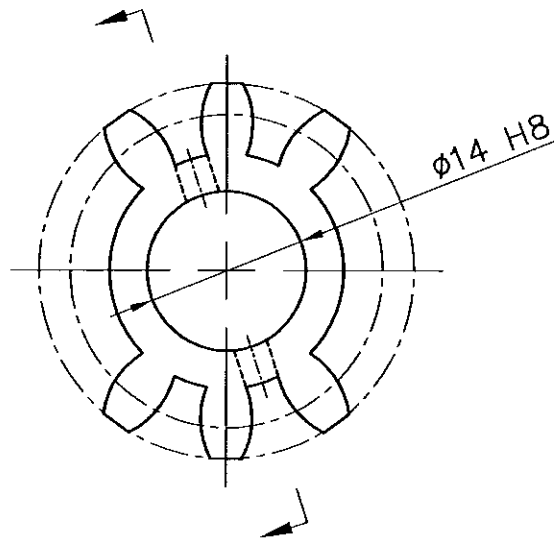
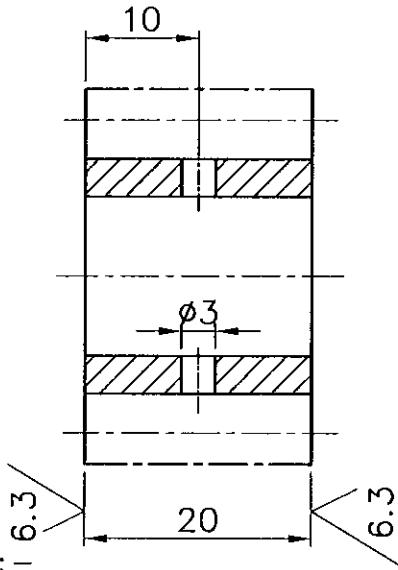
01	D 25 X 32	15/339/139	SA 105			0.02			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
				BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.		DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN					
				APPD	S.NATARAJAN					
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.02						
TITLE					CARD CODE	DRAWING NO.			REV	
WORM					U 01	4-20-301-00464			03	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		

1.6 $\sqrt{\text{ }}$ (6.3 $\sqrt{\text{ }}$)



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

TOLERANCE ON GEAR BLANK

TIP DIA : $33 - \begin{matrix} 0.000 \\ 0.039 \end{matrix}$
 RADIAL AND AXIAL RUN
 OUT OF REFERENCE SURFACES ± 0.0158

TOLERANCE ON GEAR

TEETH RUN OUT = $0.063(\text{TIR})_{\text{w.r.t. BORE}}$
 WIDTH ACROSS 2 TEETH = $12.5626 - \begin{matrix} 0.075 \\ 0.135 \end{matrix}$

GEAR DATA	
No. OF TEETH	10
MODULE	2.75mm
PITCH CIRCLE DIA	27.5
PRESSURE ANGLE	20°
OUTER DIA	33
TOOTH DEPTH	6.1875
BOTTOM CLEARANCE	0.6875
ROOT DIA	20.625

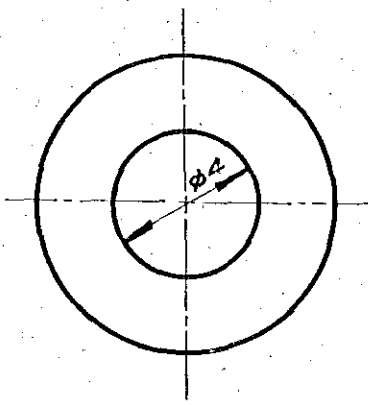
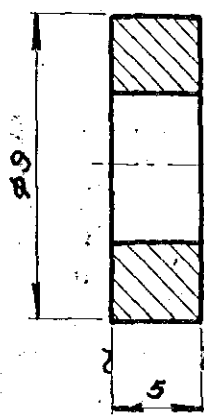
PART CODE : 842030129600

01	D40 x 20	150271350000	IS1875C14			0.070				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO. OF VAR	
				CHD	V.ARUMUGAM					
				APPD	K.SRIDHARAN					
					S.NATARAJAN					
DEPT SB			SCALE	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS
CODE			NTS	0.070		T 16990				
330										
TITLE				CARD CODE	DRAWING NO.				REV	
PINION				U 01	4-20-301-00465				02	

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OI	DATE	ALTERED
		CHECKED
ZONE		

12.5



CADMIUM PLATED TO 0.05mm

00383

506

15	17	20	21	REF. DRG./BPS No.	RVN	34	MATERIAL CODE	56	57	63	UNIT wt. (kg)	68	75	76	20	DESCRIPTION/ REMARKS
					32	44	MATERIAL SPECN.	A	C	70	No. OFF		BMI	5		
				15/01/029			BMC 20									PL 5 x D9
				19	CARD TYPE 1										19	CARD TYPE 2

BILL OF MATERIAL No.

FIRST ANGLE	SCALE	DRAWN	<i>V. R. Banthar</i>	TOTAL wt. (kg)	
		CHECKED		TYPE	
ALL DIMENSIONS IN MILLIMETRES		APPROVED			
		DATE	7.10.75	NEW/OLD DRG. No.	5.137/160



CAUTION
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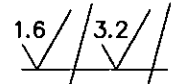
TITLE	SPACER	
CARD CODE	DRAWING No.	REVISION
UOI	4-20-301-00470	

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

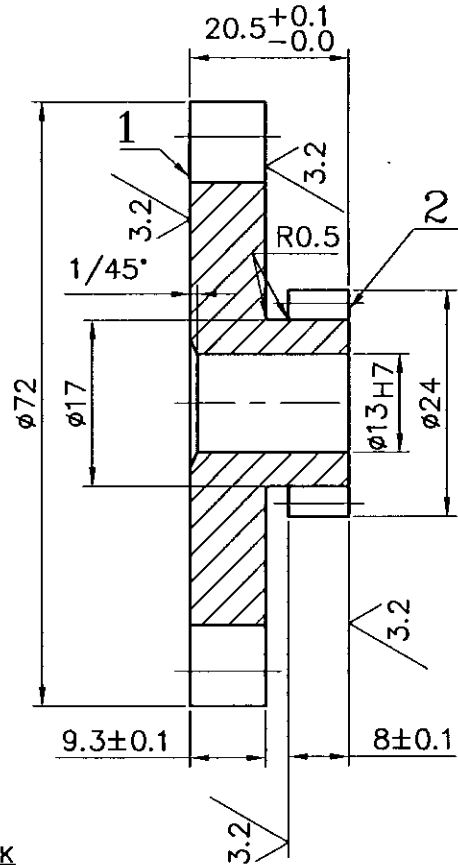
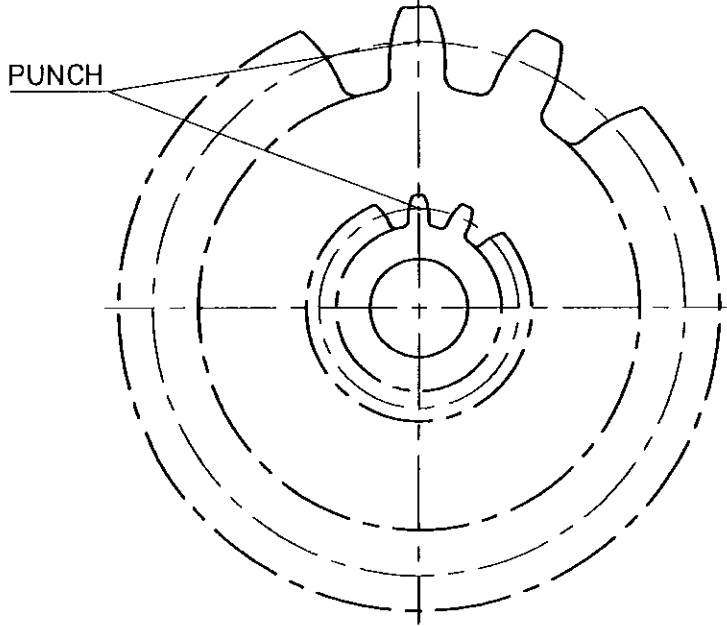
REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

TOLERANCE ON GEAR

TEETH RUNOUT FOR GEAR1 & GEAR 2 = 0.036
 (TIR WRT BORE)
 WIDTH ACROSS 6 TEETH FOR GEAR1 = 25.32147^{-0.05}_{-0.073}
 WIDTH ACROSS 2 TEETH FOR GEAR2 = 6.9364^{-0.04}_{-0.066}



NOTE: -
 TEETH MUST BE TIMED AS SHOWN TO ASSURE PROPER MESHING



GEAR DATA	1	2
No. OF TEETH	46	14
MODULE	1.5	1.5
PICH CIRCLE DIA.	69	21
PRESSURE ANGLE	20'	20'
TIP DIA	72	24
ROOT DIA	65.25	17.25
BOTTOM CLEARANCE	0.375	0.375
TOOTH DEPTH	3.375	3.375

TOLERANCE ON GEAR BLANK

DATA	GEAR1	GEAR2
TIP DIA	+0.0 72-0.046	+0.0 24-0.033
RADIAL & AXIAL RUNOUT ON REF. SURFACES	0.0112	0.0104

NOTES: - 1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
 TO BE HARDENED TO RC 38-42

PART CODE : 842030127600

01	Ø80 x 20.5	15 039 119	SA 193 Gr B7			0.290			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS NTS	0.29	T-13364					
TITLE				CARD CODE	DRAWING NO.			REV	
GEAR CLUSTER				U 01	4-20-301-00495			03	

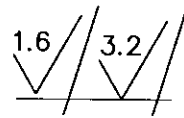
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
03	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

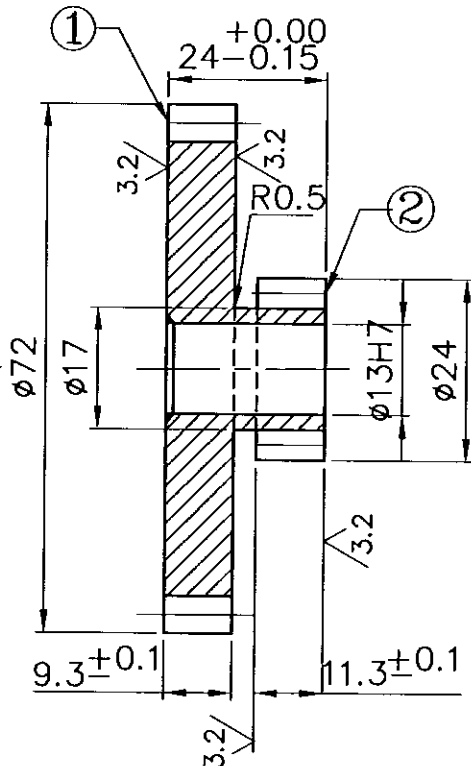
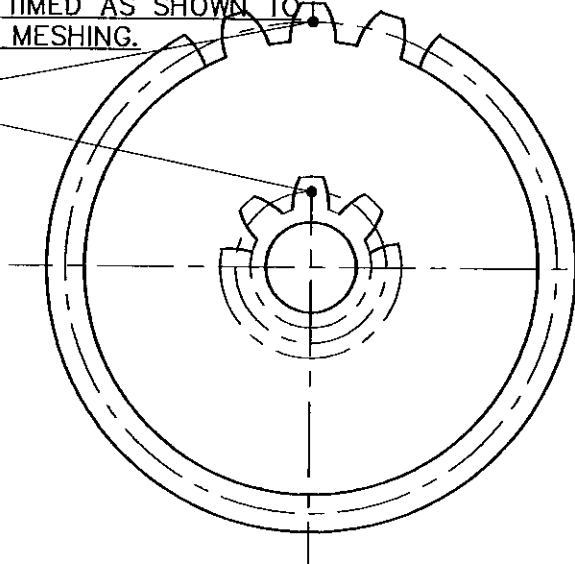
TOLERANCE ON GEAR	
TEETH RUNOUT FOR GEAR 1 & 2 GEAR	0.036 -0.050
WIDTH ACROSS 6 TEETH FOR GEAR 1	25.32147 -0.05 -0.073
WIDTH ACROSS 2 TEETH FOR GEAR 2	-0.04 6.9364 -0.068



NOTE: -

TEETH MUST BE TIMED AS SHOWN TO ASSURE PROPER MESHING.

PUNCH



GERA DATA	1	2
NO.OF TEETH	46	14
MODULE	1.5	1.5
PITCH CIRCLE DIA	69	21
PRESSURE ANGLE	20°	20°
TIP DIA	72	24
ROOT DIA	65,25	17,25
BOTTOM CLEARANCE	0.375	0.375
TOOTH DEPTH	3,375	3,375

TOLERANCE ON GEAR BLANK.

	GEAR 1	GEAR 2
TIP DIA	72 0.0 -0.046	24 0.0 -0.33
RADIAL & AXIAL RUNOUT ON REF. SURFACES	0.0112	0.0104

NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE. TO BE HARDENED TO RC. 38-42

PART CODE : 842030127700

01	D80X24	15 039 119	SA 193 Gr B7			0.30			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
				DRN NAME V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN	DATE	NO.OF VAR	
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				SCALE NTS		WEIGHT (KG) 0.30	REFERENCE INFORMATIONS		
DEPT SB 330 TITLE GEAR CLUSTER				CARD CODE U 01		DRAWING NO. 4-20-301-00496			REV 03

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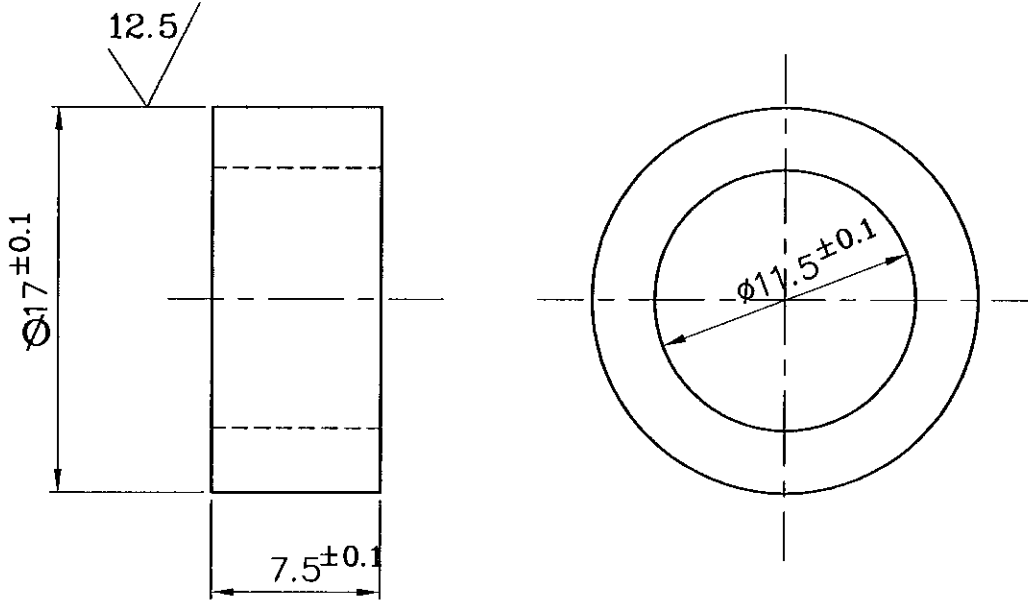
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		


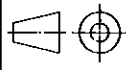
1.6 $\sqrt{\text{ (12.6) }}$



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

D22X7.5 PART CODE : 842030128000

01	D 22 X 7.5	153393430000	SA 105			0.010				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.VARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			0.01							
TITLE					CARD CODE	DRAWING NO.			REV	
SPACER					U 01	4-20-301-00502			02	

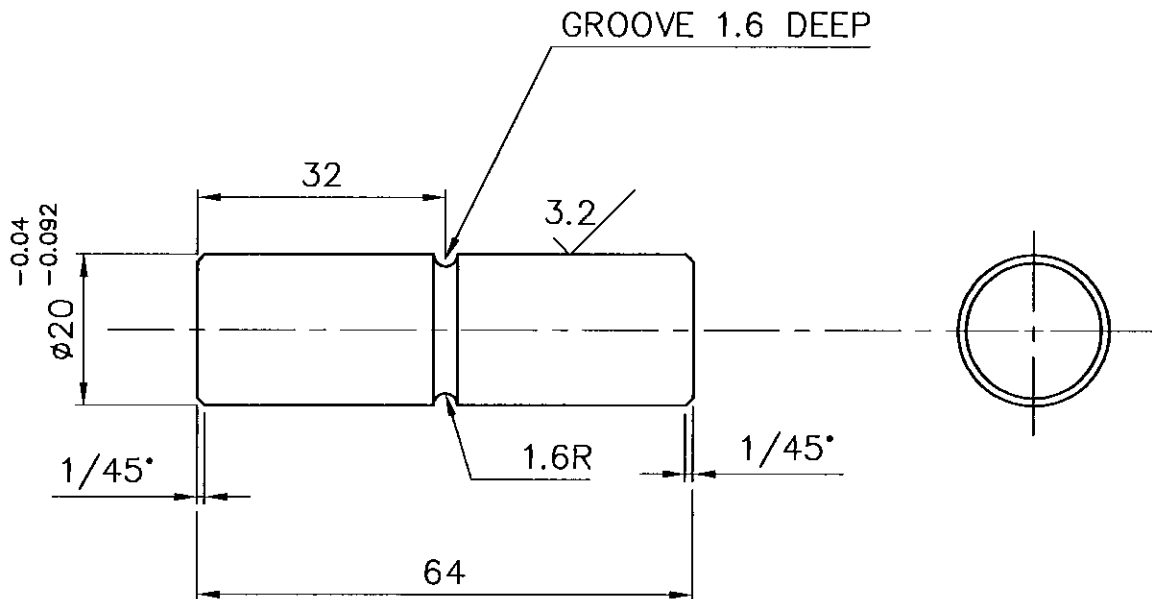
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

12.5 / (3.2)


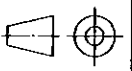
e 9	-0.04
	-0.09



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842030125900

01	D 25,L=64	15024255	SA182F6CI3			0.140				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME		SIGN	DATE	NO.OF VAR	
				CHD	V.ARUMUCAM					
				APPD	K.SRIDHARAN					
					S.NATARAJAN					
DEPT SB		SCALE		WEIGHT (KG).		REFERENCE INFORMATION			NO. OF ITEMS	
CODE 330		NTS		0.140		S - 62667				
TITLE				CARD CODE	DRAWING NO.			REV		
VALVE LEVER PIN				U 01	4-20-301-00511			02		

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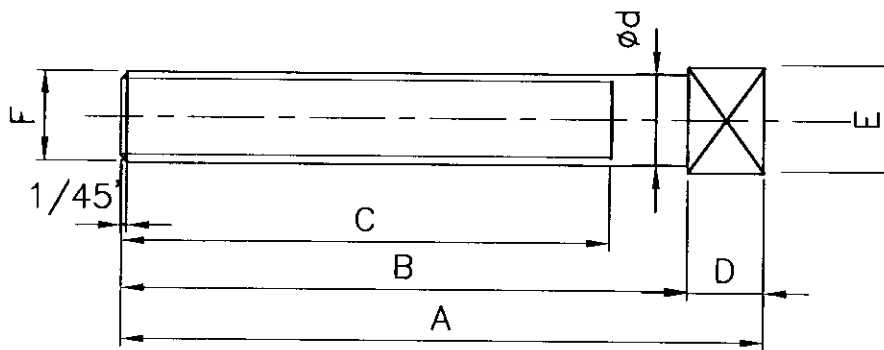
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


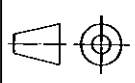
6,3
FINISH ALL OVER

PART CODE	∅d	style	A	B	C	D	E	F	REMARKS
842030125800	12	01	85	75	65	10	SQ.14	M12.6g	SEE NOTE
-	10	02	70	60	51	10	SQ.12	M10.6g	SEE NOTE



NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
- TO BE ZINC PLATED TO 0.005mm AND PASIVATED
- DIMENSIONS SHOWN AFTER ZINC PLATING

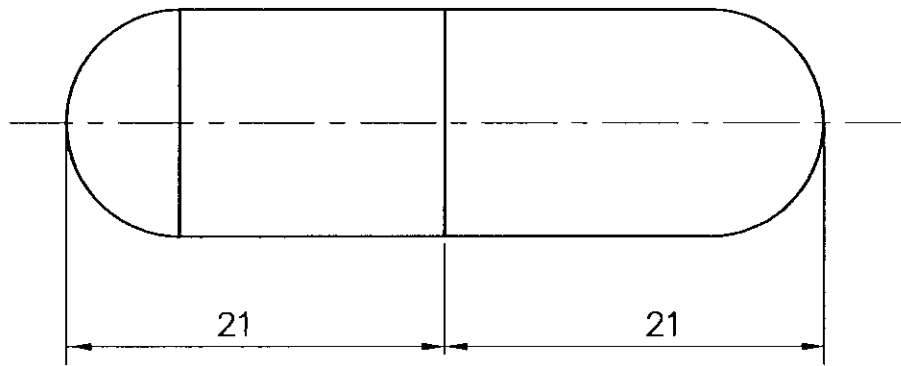
01	D 28,L =70	15 039 095	A143GrB7			0.06			02
01	D 28,L =85	15 039 095	A143GrB7			0.08			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME		SIGN	DATE	NO. OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS
CODE	330		0.08						
TITLE				CARD CODE	DRAWING NO.				REV
SQ. HD. BOLT				U 01	4-20-301-00512				02

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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP


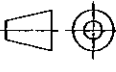
REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTE: -

1. TWO PIECES TO BE MADE FROM 8x7x45 KEY
2. ONE PIECE REQUIRED PER POWERPACK.
ASSY. [ITEM No.35]
3. OTHER PIECE IS REQUIRED FOR D5-E
MAIN ASSY. [ITEM No.21]
4. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842030124800

01	KEY 8x7x45	41501 08 045							01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS							
TITLE					CARD CODE	DRAWING NO.			REV	
KEY					U 01	4-20-301-00522			01	

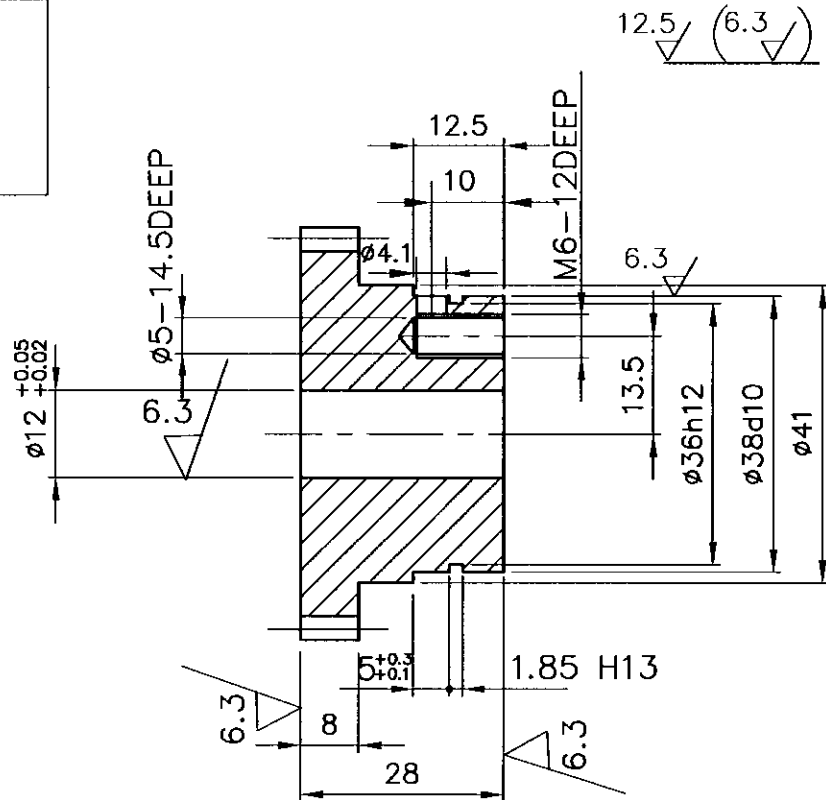
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

TOLERANCE	VALUE
36h12	36 ⁰ / _{-0.250}
38d10	38 ^{-0.08} / _{-0.180}
1.85 H13	1.85 ⁰ / _{-0.140}



GEAR DATA

TO RUN WITH WORM


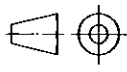
DRG.4-20-301-00464

MODULE	1.5	MODULE	1.5
PRESSURE ANGLE	20°	PRESSURE ANGLE	20°
NO. OF TEETH	36 RH	NO. OF STARTS	4(RH)
PCD	54	PCD	15
CENTRE DISTANCE	34.5	CENTRE DISTANCE	34.5
HELICAL ANGLE	68°12'	HELICAL ANGLE	68°12'
OUTER DIA	57	OUTER DIA	18
ROOT DIA	50.25	ROOT DIA	11.25

NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
- GEAR TOOTH PROFILE TO BE CORRESPONDED WITH THE PROCESS OF WORM MANUFACTURE.

PART CODE : 842030124900

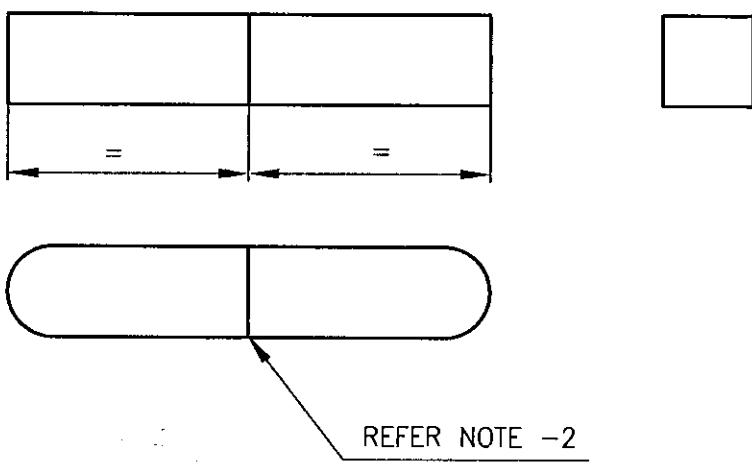
01	ROD $\phi 63 \times 35$	16 006 340	IS 305 GR AB1			0.330			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECH	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE		NTS	0.330						
TITLE	CAM SHAFT GEAR			CARD CODE	DRAWING NO.			REV	
				U 01	4-20-301-01895			01	

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.


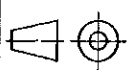
REV	DATE	ALTERED
		CHD & APPD

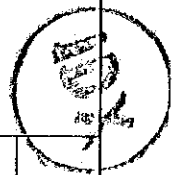


NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. KEY SHALL BE SPLIT INTO TWO HALVES BY HACKSAW CUTTING.
3. SHARP CORNERS TO BE ROUNDED OFF.

PART CODE: 842030102800

KEY (6X6X32)	415010603200					0.010				
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
	 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.									
		DRN	V.ARUMUGAM	SIGN	<i>[Signature]</i>	DATE	1.2.99	NO.OF VAR		
		CHD	K.SRIDHARAN	<i>[Signature]</i>	DATE	01.02.99				
	APPD	S.NATARAJAN	<i>[Signature]</i>	DATE	01.02.99					
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS	NO. OF ITEMS				
CODE 300			NTS	0.010						
TITLE	KEY (6X6X32)			CARD CODE	DRAWING NO.	REV				
				U 01	4-20-301-02605	00				

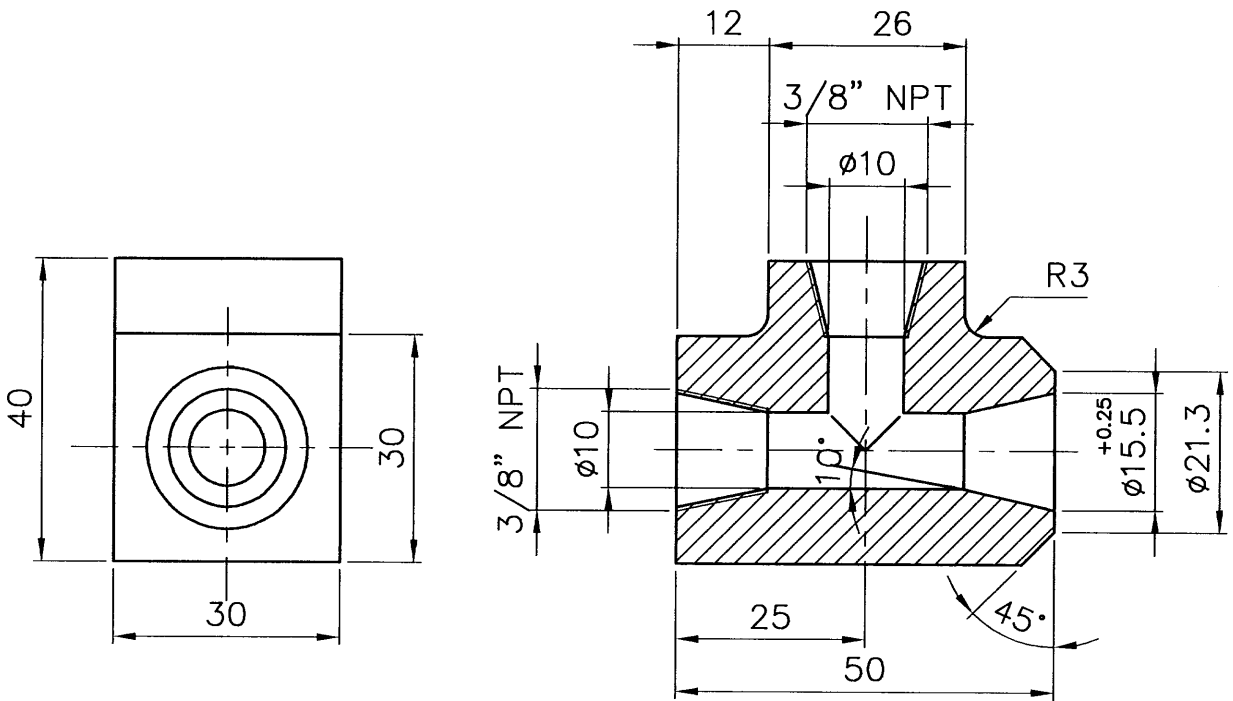


ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		


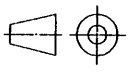
12.5/√



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842040168300

01	D50 X L50	15339142	SA 105			0.20			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			0.20						
TITLE				CARD CODE	DRAWING NO.				REV
T-PIECE 3/8" NPT				U 01	4-20-401-00655				02

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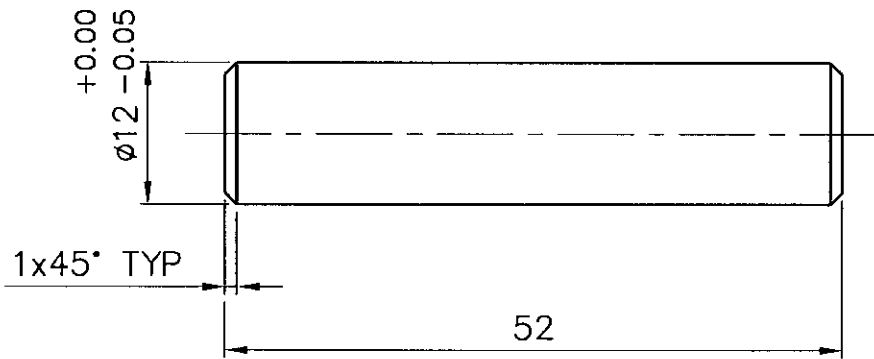
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3/


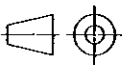
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. TO BE HARDENED TO R.C.34-38

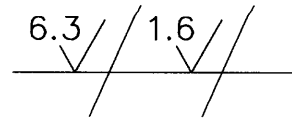
PART CODE : 842051146000

01	ROUND DIA 28	15 024 256	A 182 F6aCl3			0.05				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.05	1-20-511-00146					
TITLE					CARD CODE	DRAWING NO.				REV
PIN					U 01	4-20-511-01219				01

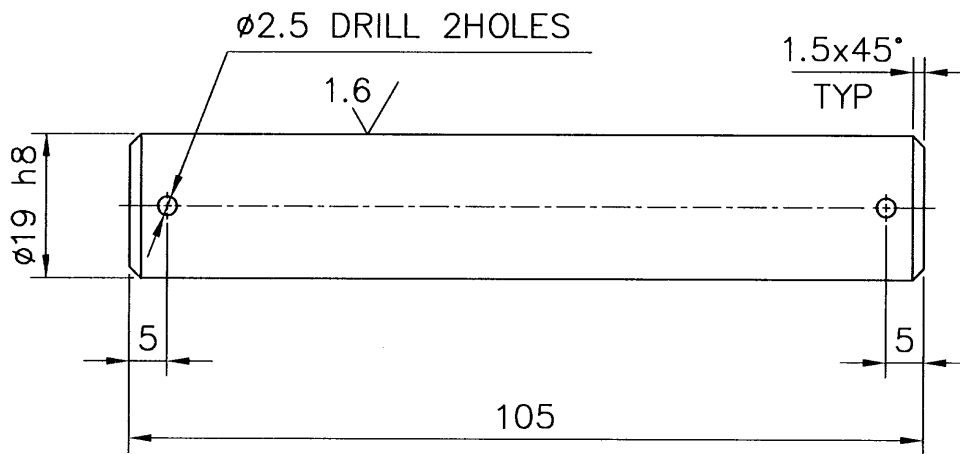
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		




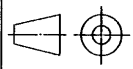
$\phi 19$ h8	0.0 -0.03
--------------	--------------



NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842051145900

01	ROUND DIA 28 L = 105	15 024 256	A 182F6aC13			0.23				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN					
				APPD	S.NATARAJAN					
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.230	1-20-511-00146				13	
TITLE				CARD CODE	DRAWING NO.				REV	
LEVER PIN				U 01	4-20-511-01220				02	

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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

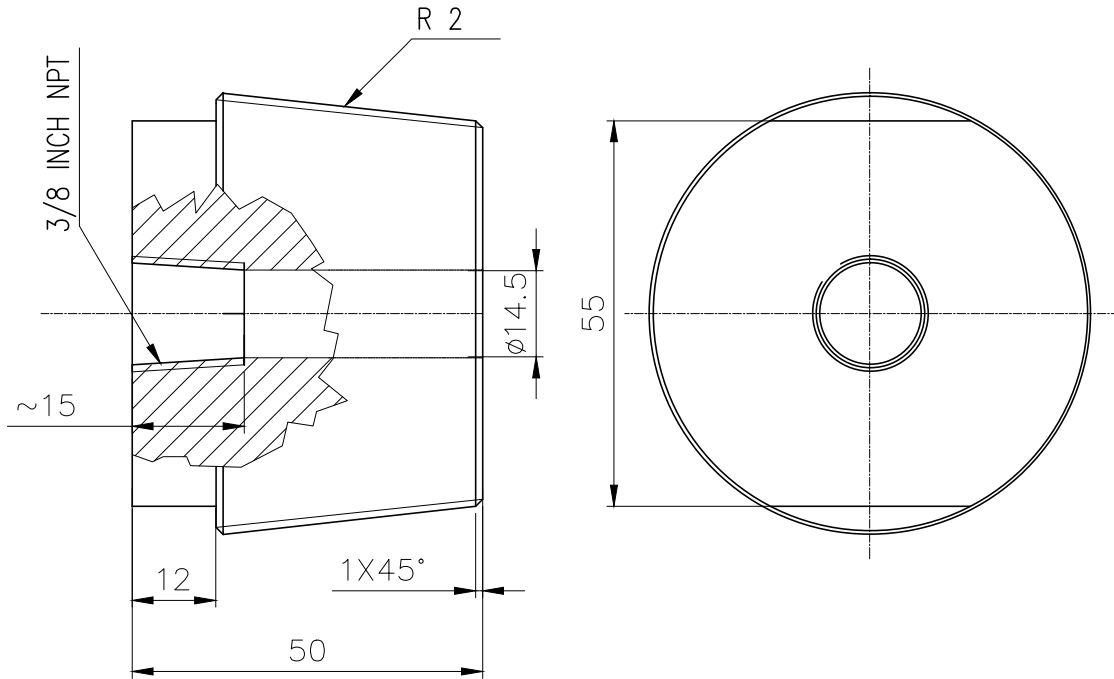
REV	DATE	ALTERED	J.S
03	04.02.15	CHD & APPD	S.K.G & H.R

RAW MATERIAL SPECIFICATION UPDATED.

DCN:SB: 801880 / 5019244

3.2


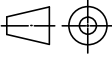
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

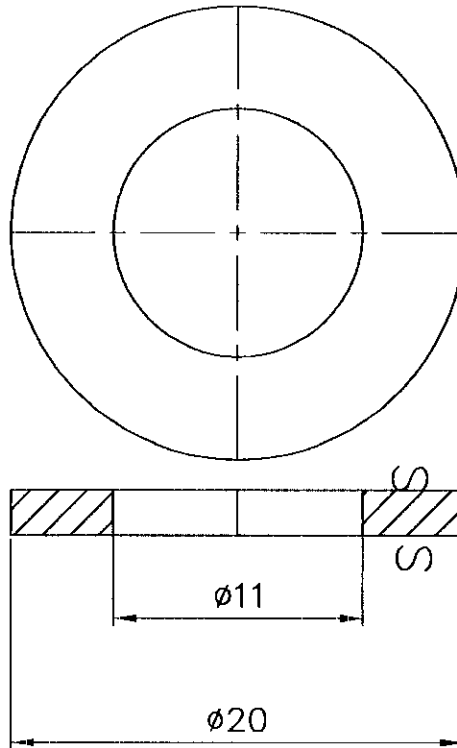
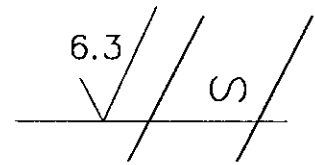
PART CODE :842051145600

01	ROUND 63 X L 50	150392270000/ 150391180000	A194 Gr4/SA193B7	—	—	0.40	—	—	—
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	NAME V.ARUMUGAM	SIGN V.A	DATE 11.06.01	NO.OF VAR
365-122					CHD	K.SRIDHARAN	K.S	11.06.01	
					APPD	S.NATARAJAN	S.N	11.06.01	
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.40	1-20-511-00146					
TITLE	PLUG P2" TR.3/8" NPT			CARD CODE U 01	DRAWING NO. 4-20-511-01221			REV 03	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP


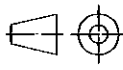
REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842051146200

01	SHEET 2 X D20	16 011 245	IS 1972			0.010			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122						DRN	NAME	SIGN	DATE	NO. OF VAR
						CHD	V.ARUMUGAM			
						APPD	K.SRIDHARAN			
							S.NATARAJAN			
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			0.01		1.20.511.00146					
330		TITLE			CARD CODE	DRAWING NO.			REV	
WASHER			U 01	4-20-511-01227			01			

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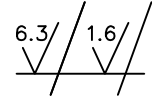
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

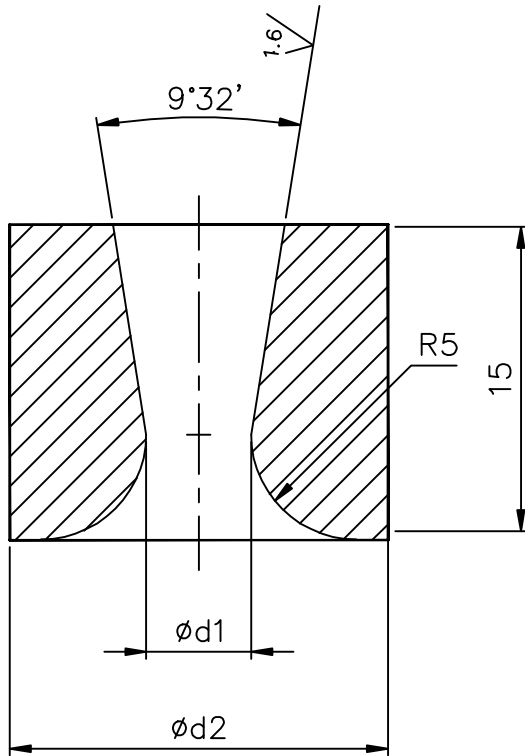
REV	DATE	ALTERED	J.S
04	24.09.09	CHD & APPD	K.S

STYLE No.17 ADDED.

DCN : 800909/5009626



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STYLE No.	DIMENSION	
	$\phi d1$	$\phi d2$
01	5	18
02	5.5	18
03	6.0	18
04	6.5	18
05	7	18
06	7.5	18
07	8	18
08	8.5	23
09	9	23
10	9.5	23
11	10	23
12	10.5	23
13	11	23
14	11.5	23
15	12	23
16	12.5	23
17	4	18

NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

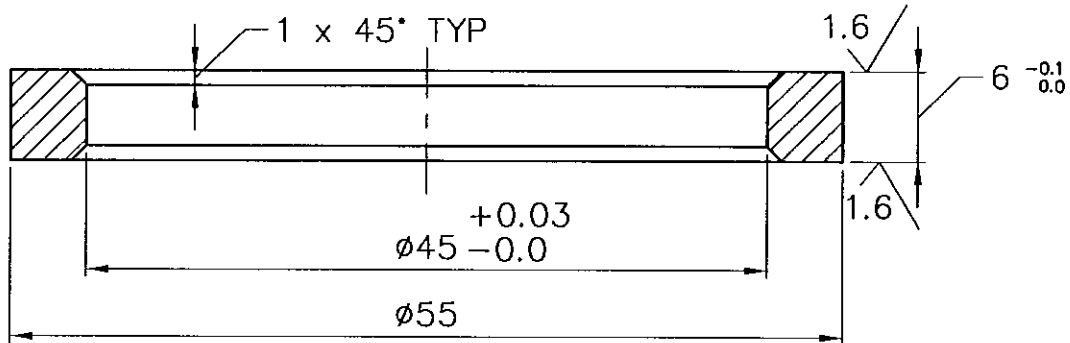
01	ROD D25 x 15	92 051 046	SA 297 GR H H			0.053			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
<p>BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.</p>					DRN	NAME	SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN	K.S	24.09.09	
					APPD	K.SRIDHARAN	K.S	24.09.09	
DEPT SB		SCALE		WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 330		NTS		-					
TITLE					CARD CODE	DRAWING NO.			REV
NOZZLE (VENTURI)					U 01	4-20-621-00916			04

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN:SB:1298		


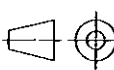
12.5 $\sqrt{\text{V}}$ (1.6 $\sqrt{\text{V}}$)



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842079119500

01	TUBE D57/ 10; L6	150891700000	SA213T22			0.010			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE NTS	WEIGHT (KG). 0.010	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330	TITLE SPACER			CARD CODE U 01	DRAWING NO. 4-20-791-00334			REV 02	

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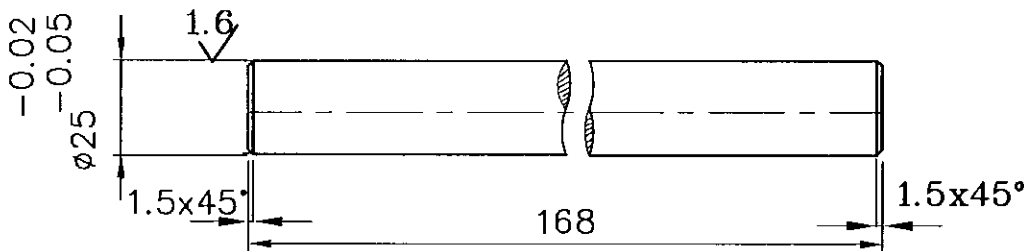
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN:SB:1298		

12.5/ (1.6/)


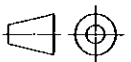
f 8	-0.02
	-0.05



NOTES:-

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. MATL HARDENED TO 32 - 38 HRC

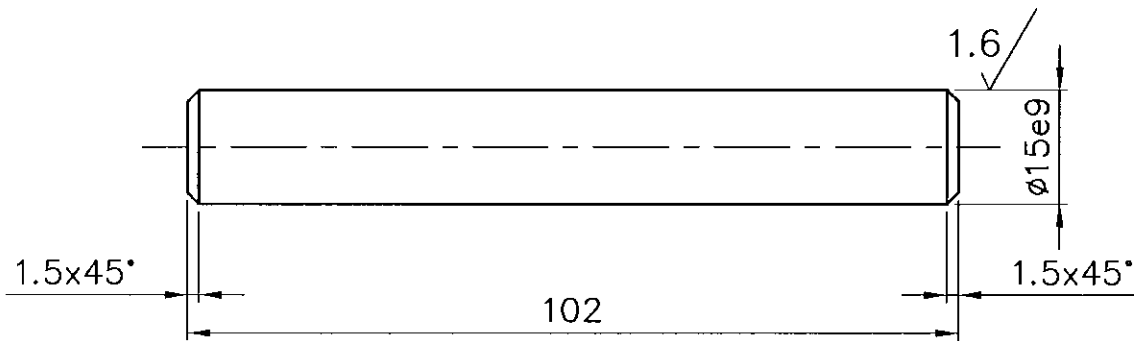
PART CODE : 842079119900

01	DIA 32 X 168	150242570000	A182 F6a CI3			0.650			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN			
					APPD	S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE	330		NTS	0.650					
TITLE					CARD CODE	DRAWING NO.			REV
ROLLER PIN					U 01	4-20-791-00340			02

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

1.6 $\sqrt{\text{ (12.5) }}$


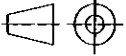
$\phi 15e9$	-0.032
	-0.075



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842079120000

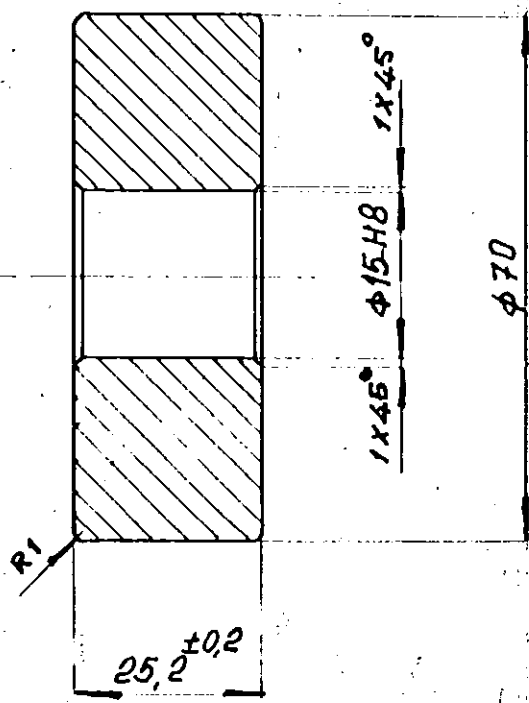
01	ROD DIA 20: L=102	15024254	A182F6aCl3			0.16			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME V.ARUMUGAM	SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE NTS	WEIGHT (KG). 0.16	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330				CARD CODE U 01	DRAWING NO. 4-20-791-00347			REV 01	
TITLE ROLLER PIN									

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A	DATE	ALTERED	02	DATE	APD: <i>Praka</i>
	29.10.76	CHECKED	<i>Praka</i>	17/06/83	CRB: <i>Praka</i>
ZONE	MATEL CODE, SPECN AND DESCRIPTION REVISED		EC No: 663	MATEL CODE 15 339 144 WAS 15 004 116 MATEL. SPEC. SA 105 WAS BMCG 45	

3.2 ✓


φ 15 HB	+0,027
	-0,000



00389 056

15 339 144	72	ROD DIA 80
SA 105	1	L 26
15 339 144	72	ROD DIA 80
SA 105	1	L 26
15 339 144	72	ROD DIA 80
SA 105	1	L 26

15 339 144	72	ROD DIA 80
SA 105	1	L 26
15 339 144	72	ROD DIA 80
SA 105	1	L 26

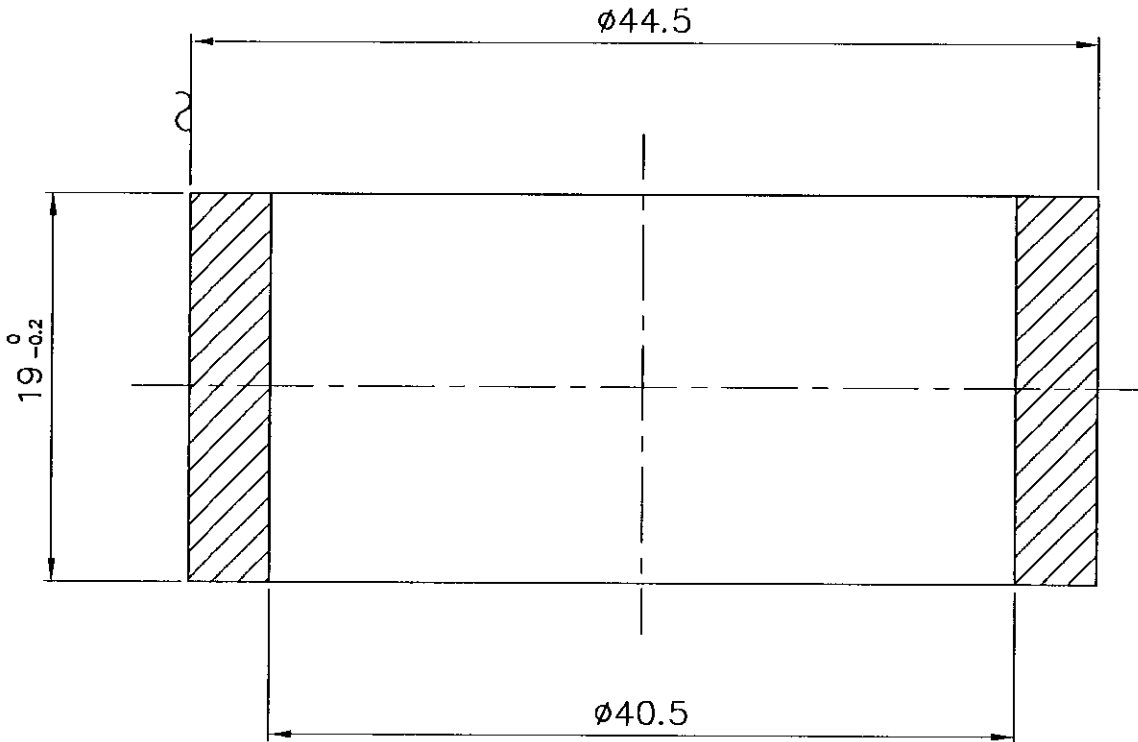
<p>CAUTION</p> <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHY-14 AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.</p> 	<p>ROLLER</p> <p>DRAWING NO. 4-20-791-00349</p> <p>REVISION 2</p>
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


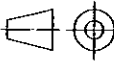
12.5 (V)



NOTES: -

- 1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842079122900

01	TUBE D44.5x4 L19	15/086/062	SA210Gr.A1			0.05			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.05						
TITLE					CARD CODE	DRAWING NO.			REV	
SPACER					U 01	4-20-791-00353			02	

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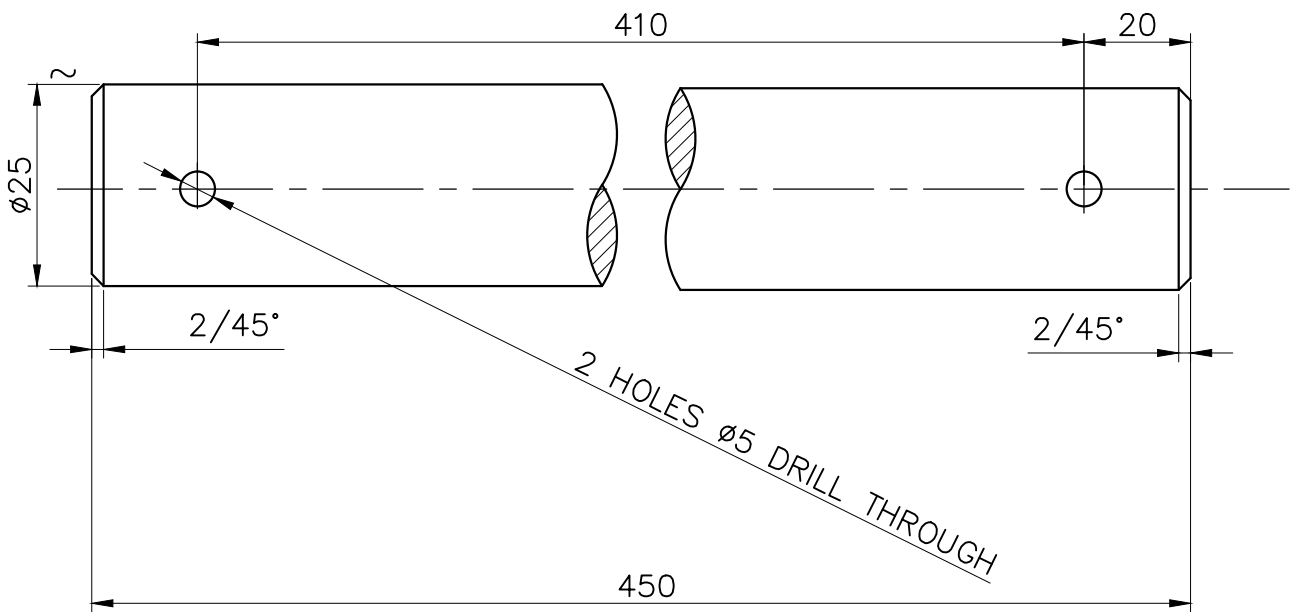
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP


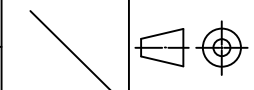
REV 02	DATE 10.04.13	ALTERED CHD & APPD	J.S K.S
DRAWING CONVERTED AS CAD & UPDATED.			
DCN: SB: 801294 / 5014784			

12.5 / ~ /

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PART CODE : 842079106500

01	ROUND ROD DIA25, L450	153391390000	SA 105				1.73		
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME J.SANKAR	SIGN J.S	DATE 10.04.13	NO.OF VAR
					CHD	K.SRIDHARAN	K.S	10.04.13	
					APPD	K.SRIDHARAN	K.S	10.04.13	
DEPT SB CODE 330		SCALE NTS	WEIGHT (KG). 1.54	REFERENCE INFORMATIONS HANGER SUPPORT ASSEMBLY				NO. OF ITEMS	
TITLE HANGER PIN		CARD CODE U 01	DRAWING NO. 4-20-791-00417	REV 02					

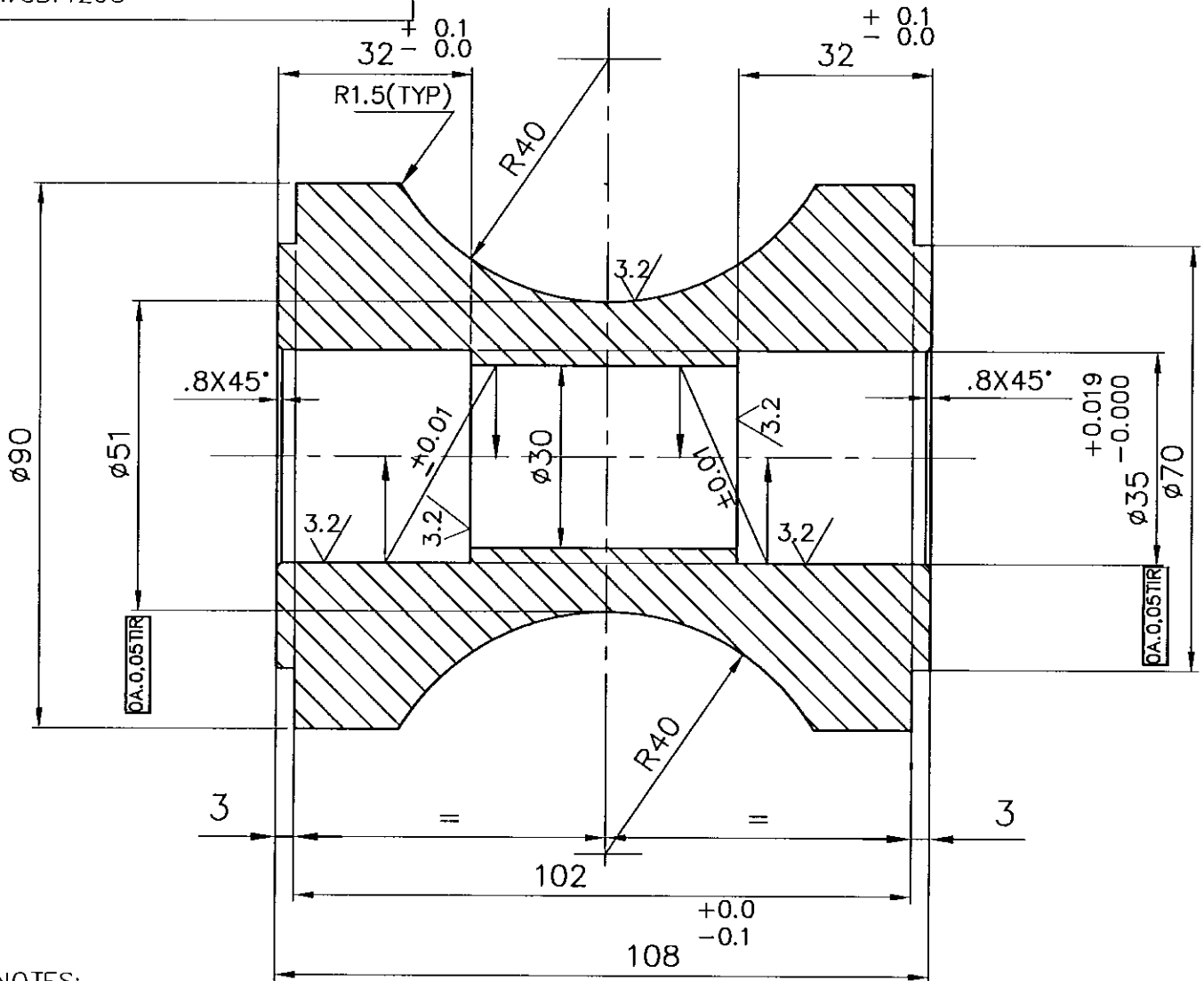
Size A4

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV 02	DATE 11.06.01	ALTERED CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

12.5 / (3.2)



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. SHARP CORNERS TO BE ROUNDED OFF.
3. HEAT TREAT TO 36-38 HRC

PART CODE : 842079100795

01	ROUND 100 L=115	15-024-264	A182 F6a			2.9			
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB	SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		2.9							
TITLE				CARD CODE	DRAWING NO.			REV	
HOUR GLASS ROLLER				U 01	4-20-791-00795			02	

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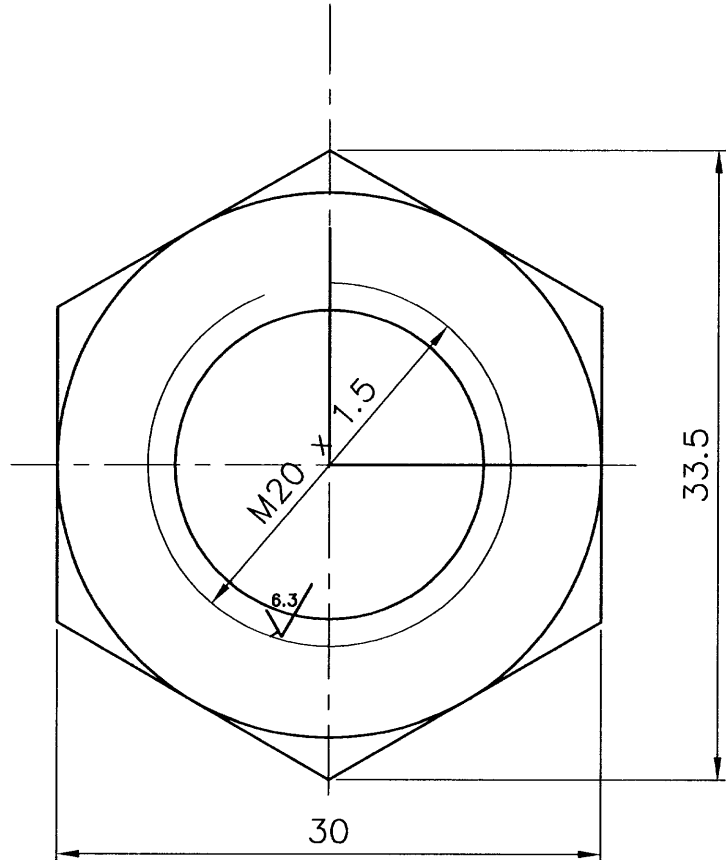
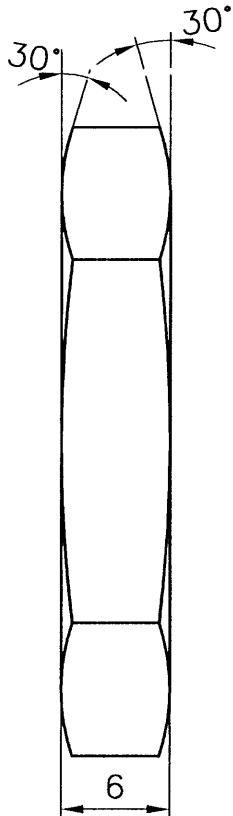
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV 02	DATE 11.06.01	ALTERED CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB: 1298		

12.5 (6.3)

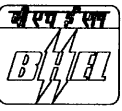
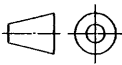
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NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. TO BE CADMIUM/CROMIUM PLATED
3. TO A THICKNESS OF 0.005 MM
4. ALL DIMENSIONS ARE FINAL DIMENSIONS AFTER PLATING


PART CODE : 842079123500

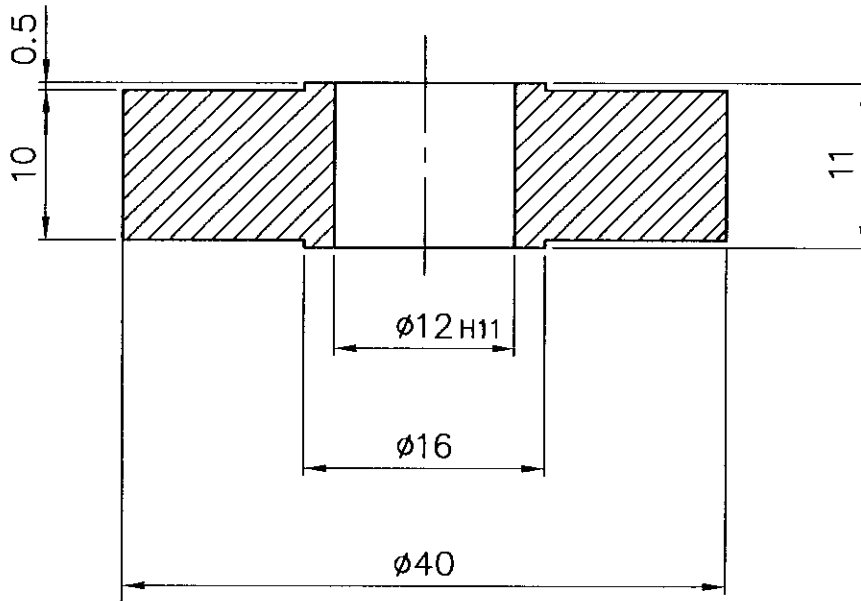
01	ROUND 36 X 6L	15-039-088	SA193 B 7							
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME V.ARUMUGAM	SIGN	DATE	NO.OF VAR		
				CHD	K.SRIDHARAN					
				APPD	S.NATARAJAN					
DEPT SB			SCALE NTS	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 330										
TITLE LOCK NUT M20X1.5				CARD CODE U 01	DRAWING NO. 4-20-791-00803				REV 02	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATAED AND REDRAWN.		
DCN: SB:1298		


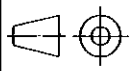
6.3

 $\phi 12 H_{11}^{+0.111}_{0.0}$



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083101100

01	ROD D56XL11	15 024 261	A182F6aCl3			0.09				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
				BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.		DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR
						CHD	K.SRIDHARAN			
						APPD	S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE	330		NTS	0.09	SINGLE MOTOR DRIVE					
TITLE					CARD CODE	DRAWING NO.			REV	
ROLLER					U 01	4-20-831-00825			01	

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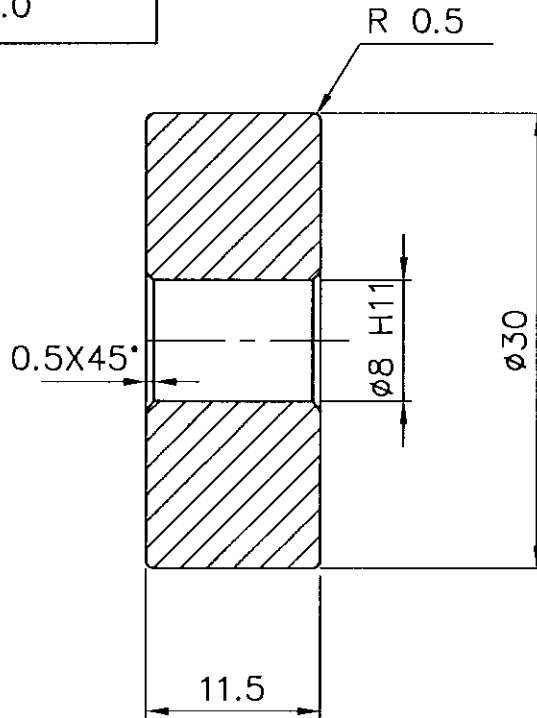
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

3.2


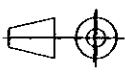
DIMENSION	TOLERANCE
∅8 H11	+0.09 0.0



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083175200

01	ROD DIA 32 L = 12	15 024 257	A182 F60 Cl3			0.05			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0,05					
TITLE					CARD CODE	DRAWING NO.			REV
ROLLER					U 01	4-20-831-00869			01

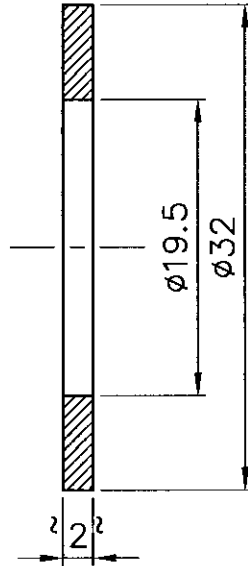
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		


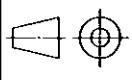
12.5 / ~ /



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083175800

01	SH 2 ; $\phi 32$	15 011 104	IS 1079 Fe330			0.010				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122				DRN	NAME		SIGN	DATE	NO.OF VAR	
				CHD	V.ARUMUGAM					
				APPD	K.SRIDHARAN					
					S.NATARAJAN					
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.01						
TITLE				CARD CODE	DRAWING NO.				REV	
WASHER				U 01	4-20-831-00870				01	

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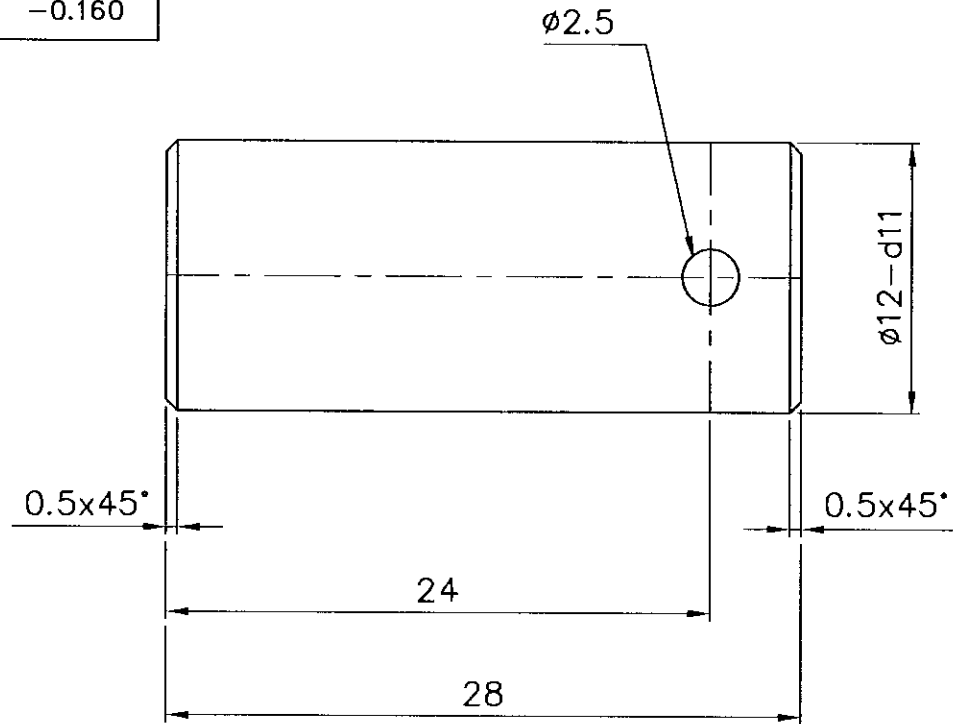
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3/


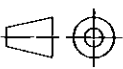
DIMENSION	TOLERANCE
ø12 d11	-0.050
	-0.160



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083175400

01	ROD D28; L=40	15 024 256	A182F6aC13			0.04			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR	
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB		 SCALE NTS	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 330			0.04						
TITLE				CARD CODE	DRAWING NO.				REV
SHOULDER PIN				U 01	4-20-831-00872				02

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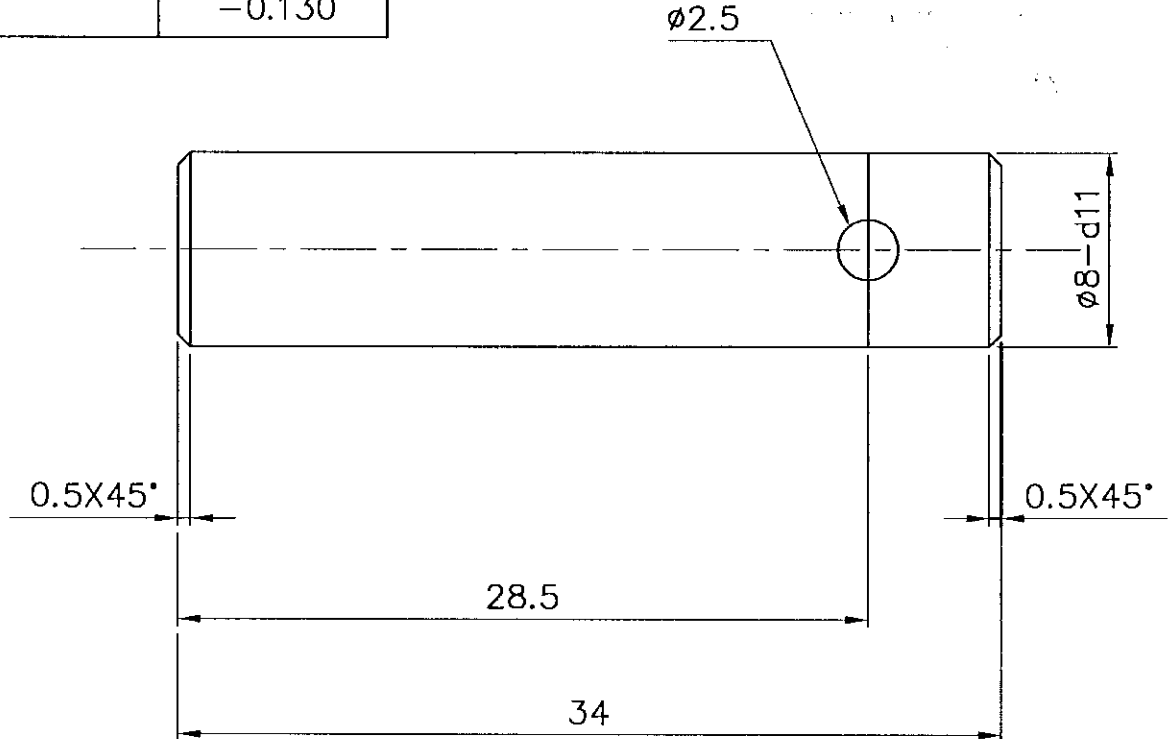
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

6.3/√


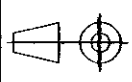
DIMENSION	TOLERANCE
ø8 d11	-0.040
	-0.130



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083175500

01	ROD.DIA 28;L38	15 024 256	A 182 F6ø C13			0.010			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		 SCALE NTS	SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330					0.02				
TITLE				CARD CODE	DRAWING NO.				REV
ROLLER PIN				U 01	4-20-831-00873				02

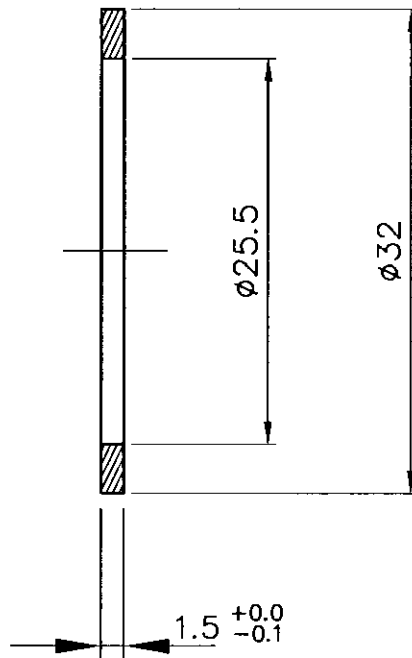
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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


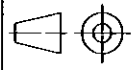
12.5



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083175700

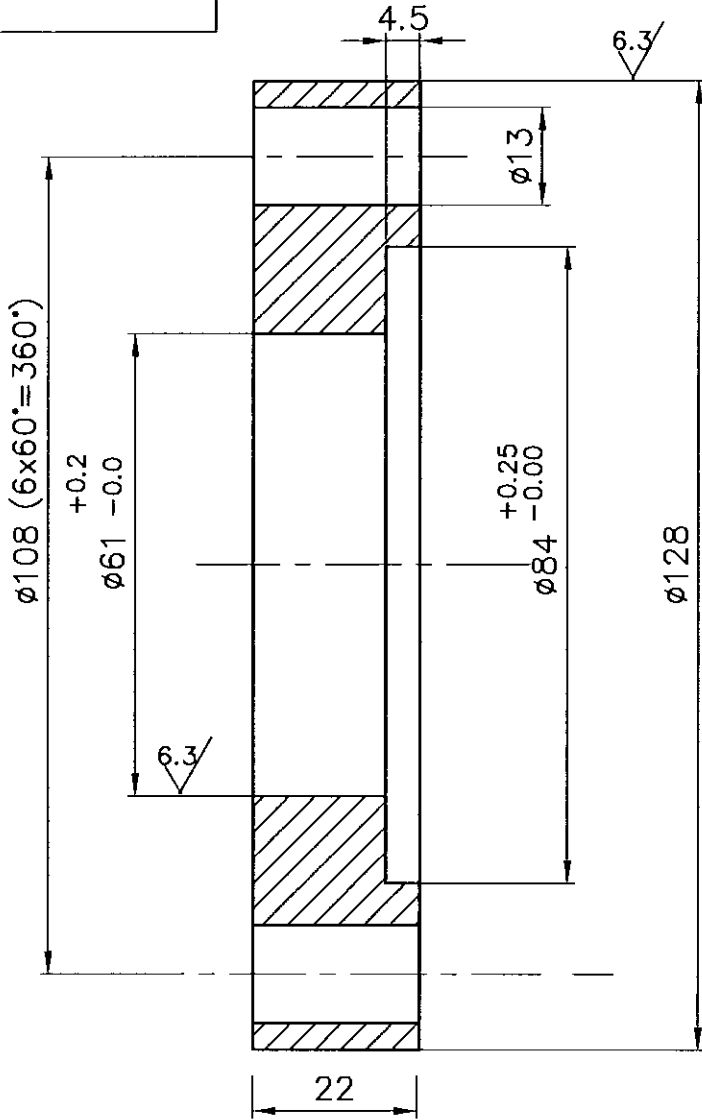
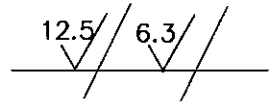
01	SH.3,15, D.32	15-011-182	IS2062Fe410WB			0.010			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 <p>BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.</p>				DRN	NAME	SIGN	DATE	NO.OF VAR	
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.01					
TITLE				CARD CODE	DRAWING NO.				REV
SPACER				U 01	4-20-831-00875				01

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


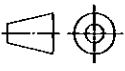


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NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083178600

01	FL.FORGING	92 037 775	SA 105			1.480			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO.OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
						S.NATARAJAN			
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATION				NO. OF ITEMS
CODE 330			1.48		3-20-831-00483				
TITLE					CARD CODE	DRAWING NO.			REV
LANCE FLANGE					U 01	4-20-831-00997			01

ALL DIMENSIONS ARE IN MILLIMETRES.

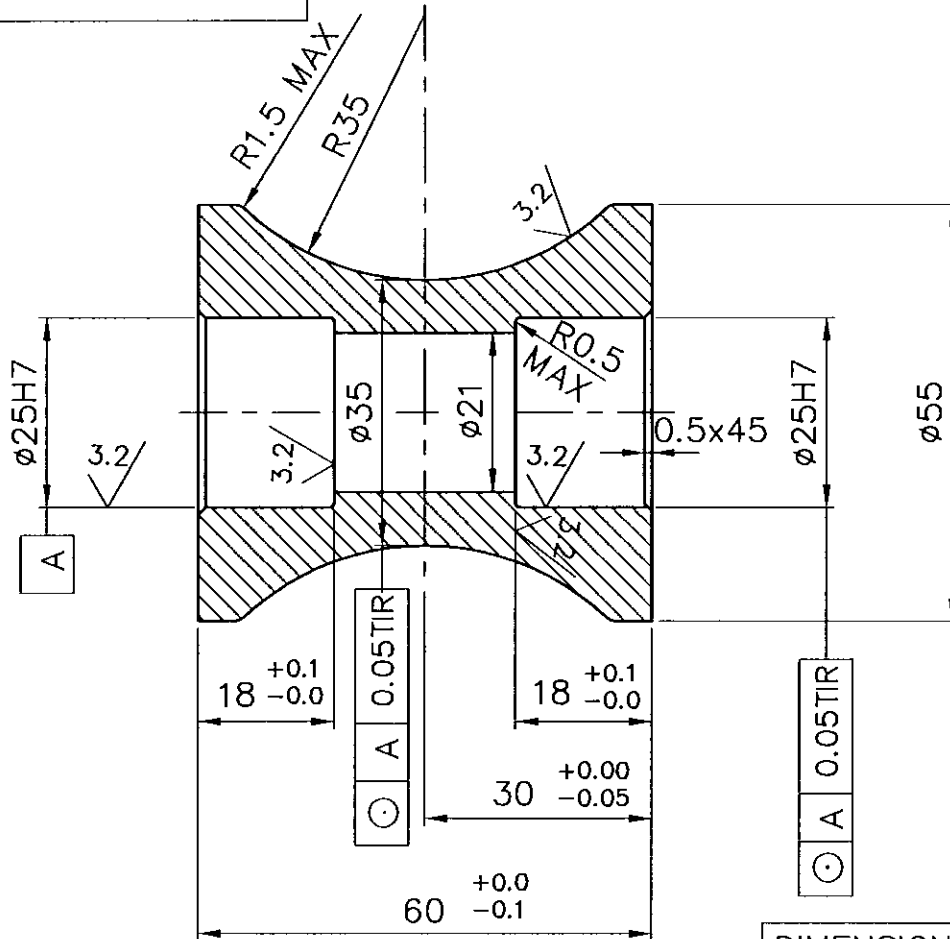
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD

DRG.UPDATED AND REDRAWN.

12.5/ / 3.2/ /

DCN: SB:1298




DIMENSION	TOLERANCE
ø25.H7	+0.021
	-0.000

NOTES: -

1. HEAT TREAT TO 32 - 38 RC.
2. SHARP CORNERS TO BE ROUNDED OFF.
3. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083176300

01	ROUND D.63; L60	15 024 262	A 186 F6a CI3			0.55			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.55					
TITLE					CARD CODE	DRAWING NO.			REV
HOUR GLASS ROLLER					U 01	4-20-831-00998			01

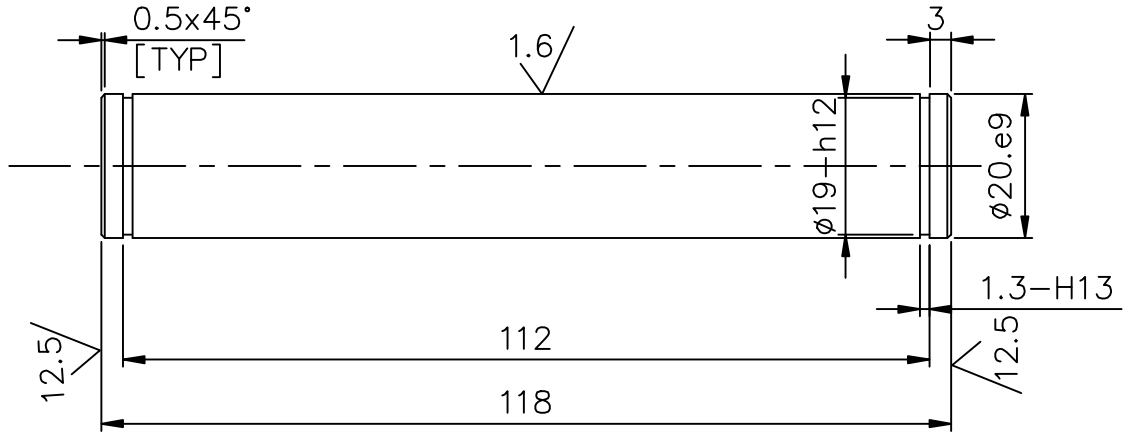
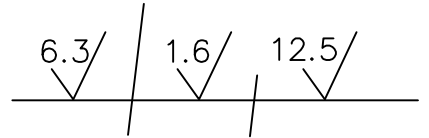
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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED	J.S
02	26.02.11	CHD & APPD	K.S
Ø19h12 WAS Ø19H12. Ø19h12 TOLERANCE MODIFIED.			
DCN: SB: 801133/5012916			



DIMENSION	TOLERANCE
Ø20.e9	-0.040 -0.092
Ø19.h12	+0.000 -0.210
1.3 H13	+0.014 -0.000

NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

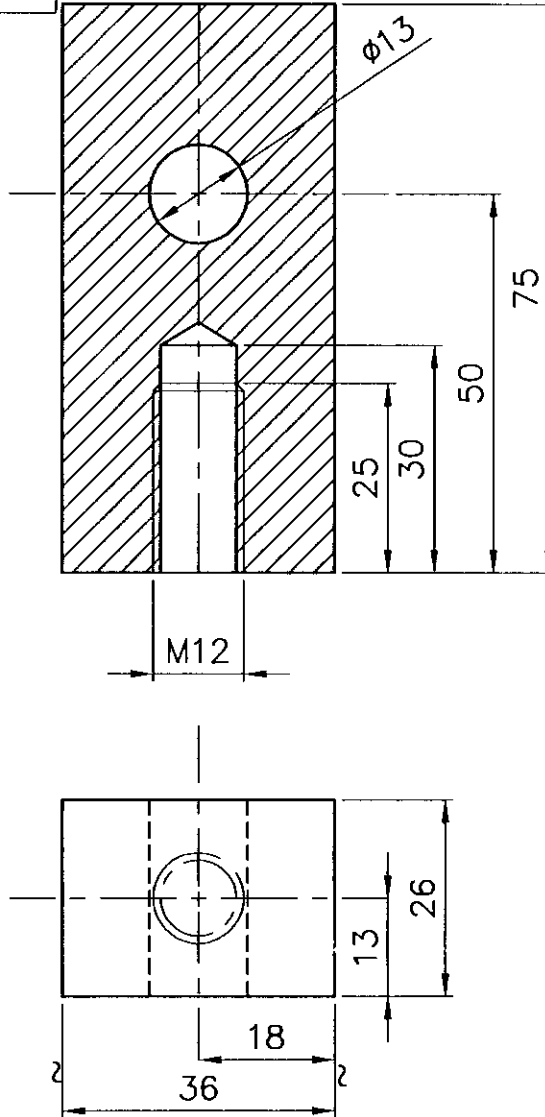
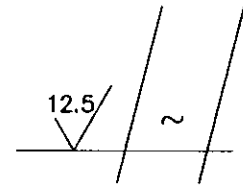
PART CODE : 842083176800

01	ROD	150242560000/ 150245240000	A 182 F6a CL.3			0.290			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	V.ARUMUGAM	SIGN	V.A	DATE	11.06.01	NO.OF VAR
				CHD	K.SRIDHARAN		K.S	11.06.01		
				APPD	S.NATARAJAN		S.N	11.06.01		
DEPT	SB	SCALE NTS		WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE	330			0.29						
TITLE					CARD CODE	DRAWING NO.			REV	
PIN					U 01	4-20-831-01000			02	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP


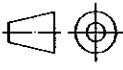
REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083176900

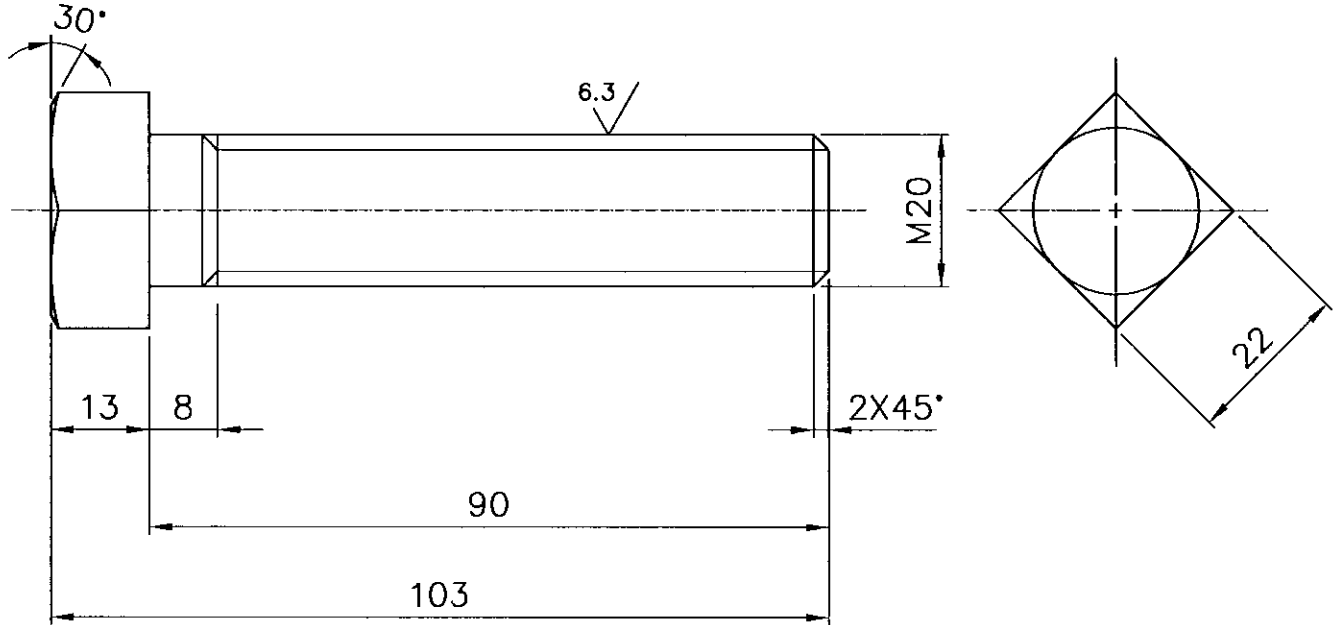
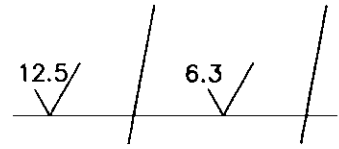
01	PL.36 X 26 X 75	15 011 124	BM-C 16			0.5				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.						DRN	NAME	SIGN	DATE	NO.OF VAR
						CHD	V.ARUMUGAM			
						APPD	K.SRIDHARAN			
							S.NATARAJAN			
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330			NTS	0.5	0-20-831-00042					
TITLE						CARD CODE	DRAWING NO.		REV	
SPACER						U 01	4-20-831-01018		01	

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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
2. TO BE ZINC PLATED TO A THICKNESS OF 0.005mm -0.01mm. DIMENSIONS GIVEN IN THE DRG. ARE AFTER ZINC PLATING.

PART CODE : 842083177300

01	ROUND DIA. 32; L. 103	15 039 087	A 193 B7			0.27			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECH	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
				DRN V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN		DATE	NO.OF VAR
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI 620014.				SCALE		WEIGHT (KG).		REFERENCE INFORMATIONS	
DEPT SB				NTS		0.27		NO. OF ITEMS	
COQE 330	TITLE			CARD CODE	DRAWING NO.			REV	
	SQUARE HEAD SCREW M20X90			U 01	4-20-831-01024			01	

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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

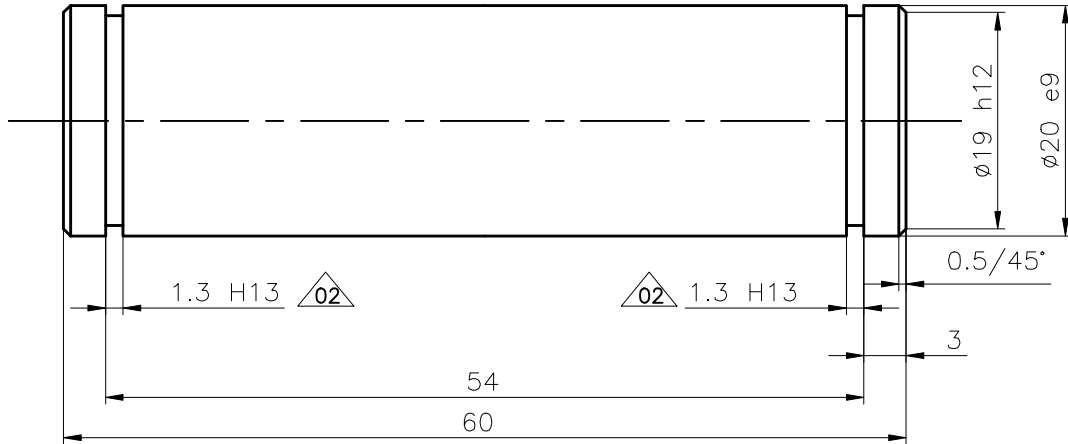
REV	DATE	ALTERED	J.S
02	16.08.10	CHD & APPD	K.S

12.5

1.3 H13 WAS 1.3 h1.3

DCN: SB: 801023/5011214

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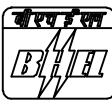
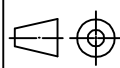


1.3 H13	+0.140
	0.0
ø19 h12	+0.000
	-0.210
ø20 e9	-0.040
	-0.092
DIMENSION	TOL

NOTES:-

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE: 842083176700

01	ROUND DIA 28 L = 60	150242560000	SA 182 F6a CI3			0.150			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-127	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME J.SANKAR	SIGN J.S	DATE 16.08.10	NO.OF VAR
					CHD	K.SRIDHARAN	K.S	16.08.10	
					APPD	K.SRIDHARAN	K.S	16.08.10	
DEPT SB		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 330		NTS	0.15	0-20-831-00042					
TITLE	PIN			CARD CODE U 01	DRAWING NO. 4-20-831-01029			REV 02	

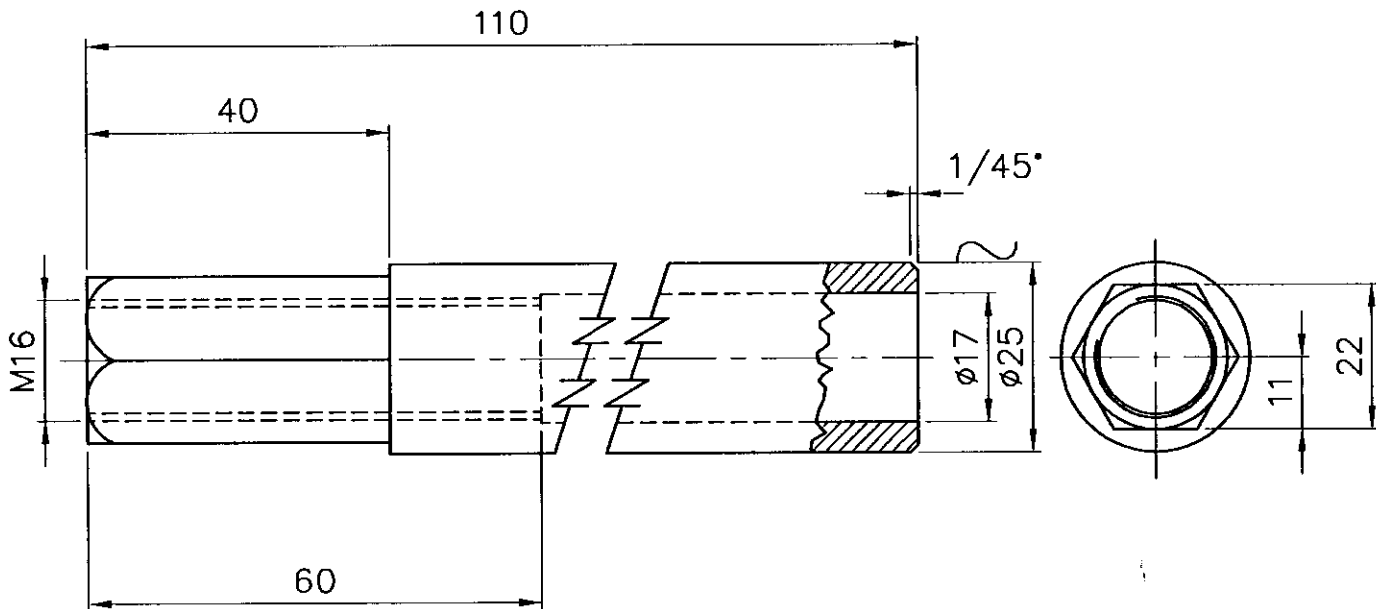
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


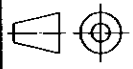
12.5 / 2 /

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NOTES: -
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083177500

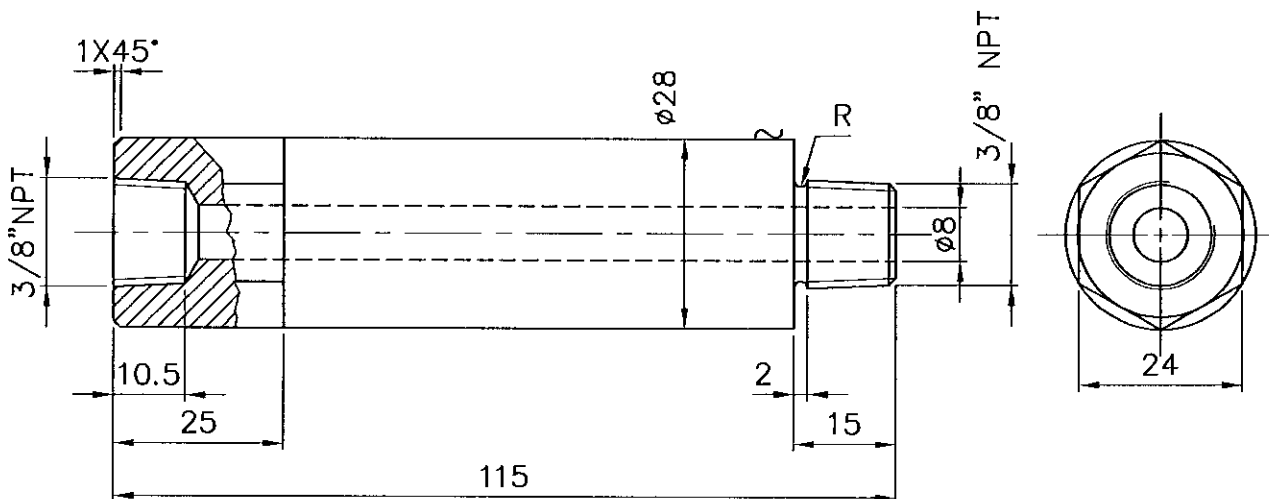
01	ROUND DIA 25 L = 110	15 339 139	SA 105			0.22			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
					CHD	K.SRIDHARAN				
					APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			NTS	0.22	0.20.831.00042					
TITLE	LOCK NUT				CARD CODE	DRAWING NO.			REV	
					U 01	4.20.831.01030			02	

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


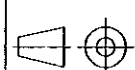
12.5
✓/2/



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083177200

01	ROUND DIA 28 L = 115	15 024 256	SA182F6aCl3			0.44			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).		REFERENCE INFORMATION			NO. OF ITEMS
CODE	330		NTS	0.44		0-20-831-00042			
TITLE				CARD CODE	DRAWING NO.			REV	
NIPPLE				U 01	4-20-831-01031			01	

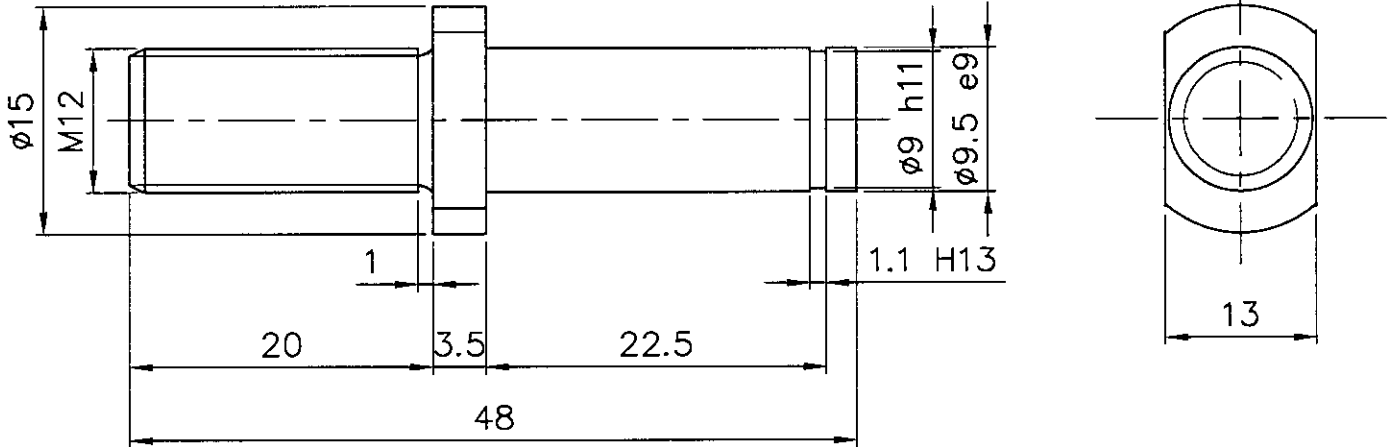
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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

6.3




DIMENSION	TOLERANCE
1.1 H13	0.0
	-0.140
$\phi 9$ h11	0.0
	-0.09
$\phi 9.5$ e9	-0.025
	-0.061

NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083176000

01	ROUND DIA 40	15 027 135	IS 1875 Cl 4			0.05			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO. OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB		SCALE		WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS
CODE		NTS		0.05					
TITLE				CARD CODE	DRAWING NO.			REV	
ROLLER PIN				U 01	4-20-831-01041			02	

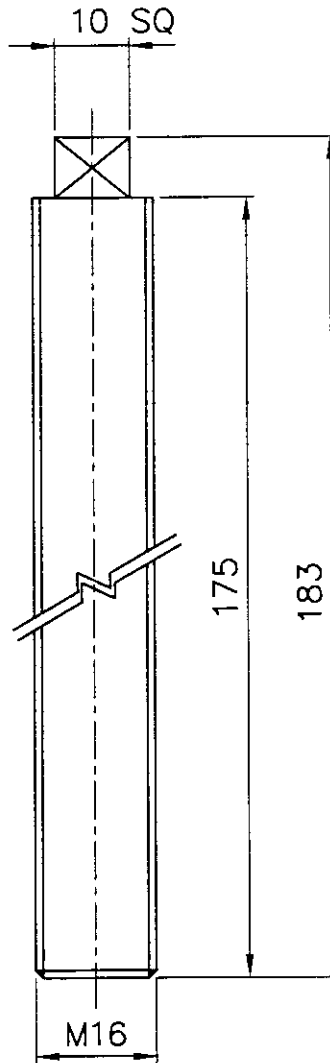
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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		

6.3 / ✓



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083177400

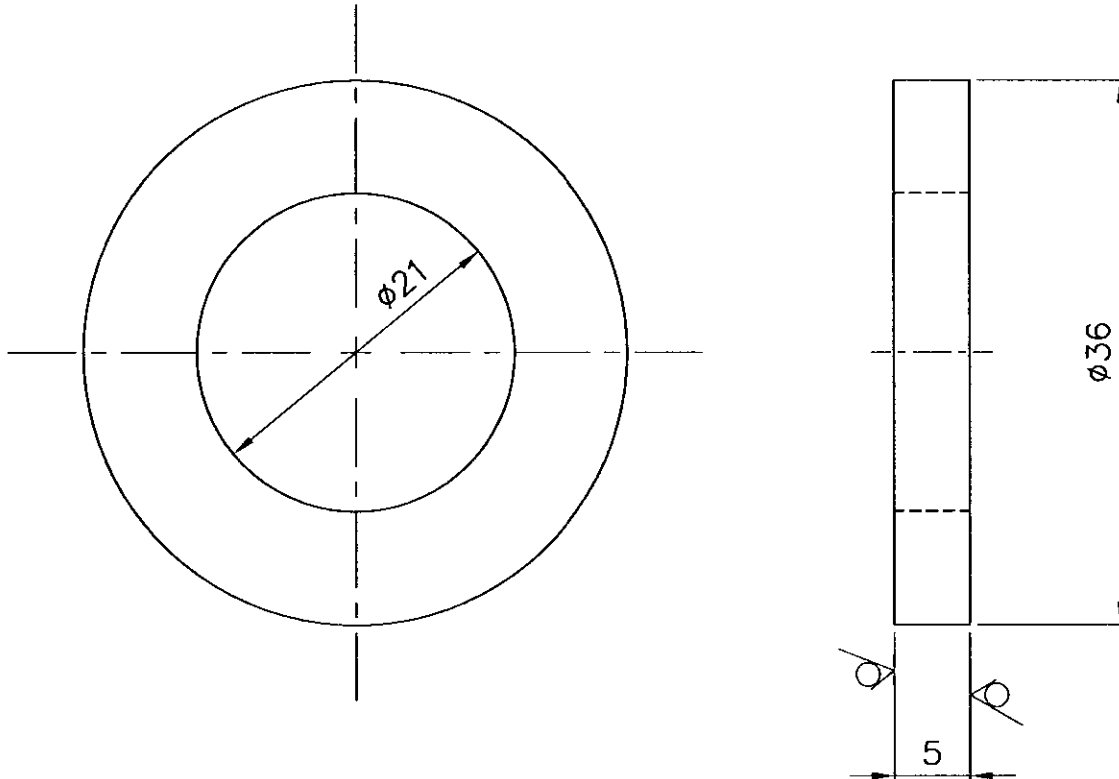
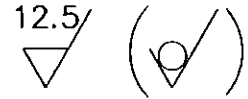
01	ROUND DIA 28 L = 183	15 039 095	A 193 B7			0.28				01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No		ITEM No
				DRN V.ARUMUGAM CHD K.SRIDHARAN APPD S.NATARAJAN		SIGN		DATE		NO.OF VAR
DEPT SB			SCALE	WEIGHT (KG).		REFERENCE INFORMATION				NO. OF ITEMS
CODE 330			NTS	0.28						
TITLE				CARD CODE	DRAWING NO.				REV	
ADJUSTING SCREW M16X175				U01	4-20-831-01042				01	

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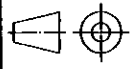
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		



NOTES: -
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083179800

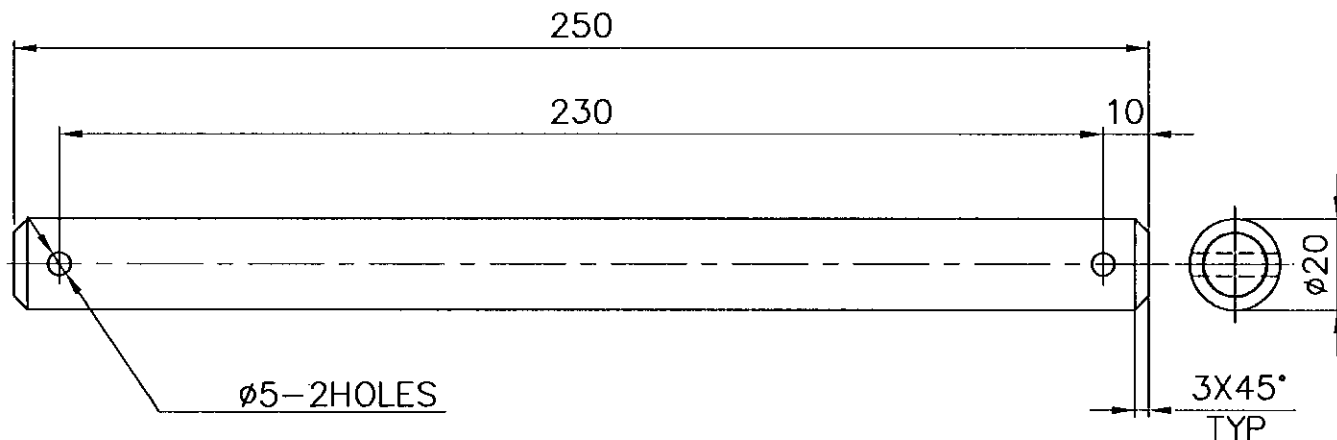
01	PL 5; D 36	15 011 029	IS 2062Fe410WA			0.036			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB		 SCALE NTS	WEIGHT (KG).		REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE			0.036							
TITLE	WASHER			CARD CODE	DRAWING NO.			REV		
			U 01	4-20-831-02002			01			

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP


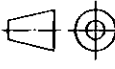
REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842083179900

01	ROUND DIA 25	15 339 139	SA 105			0.600			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME V.ARUMUGAM		SIGN	DATE	NO.OF VAR
				CHD	K.SRIDHARAN				
				APPD	S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330			NTS	0.600					
TITLE				CARD CODE	DRAWING NO.				REV
HINGE PIN				U 01	4-20-831-02003				02

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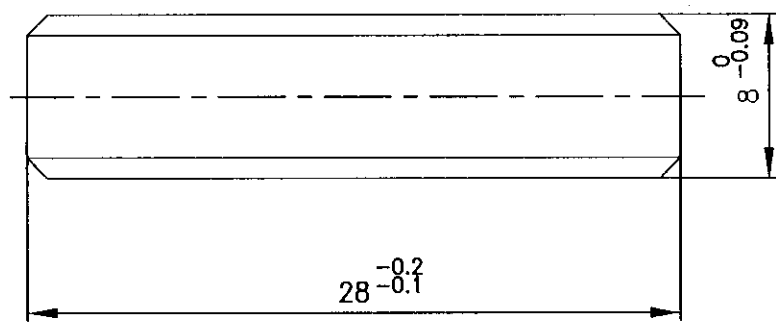
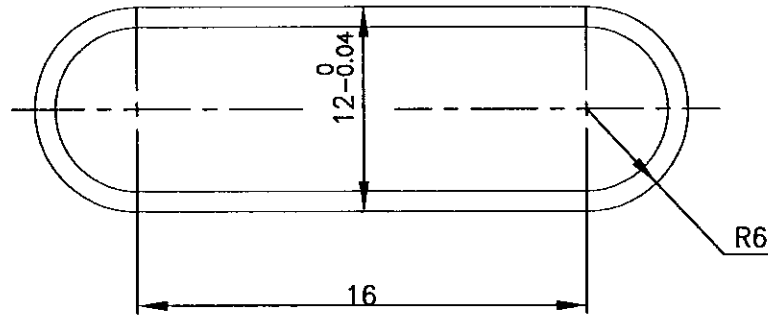
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD

1.6/
▽


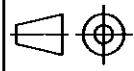
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NOTES:-

1. SHARP CORNERS TO BE CHAMFERED 0.5 X 45°
2. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE: 842083116200

	KEY PL 12X8X32	415011203200					0.022		
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
	 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.								
		DRN	V.ARUMUGAM	SIGN	DATE	NO.OF VAR			
		CHD	K.SRIDHARAN		21/09/2004				
		APPD	S.NATARAJAN		21/09/2004				
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE	300		NTS	0.022					
TITLE	KEY (28x12x8)			CARD CODE	DRAWING NO.			REV	
				U 01	4-20-831-02661			00	

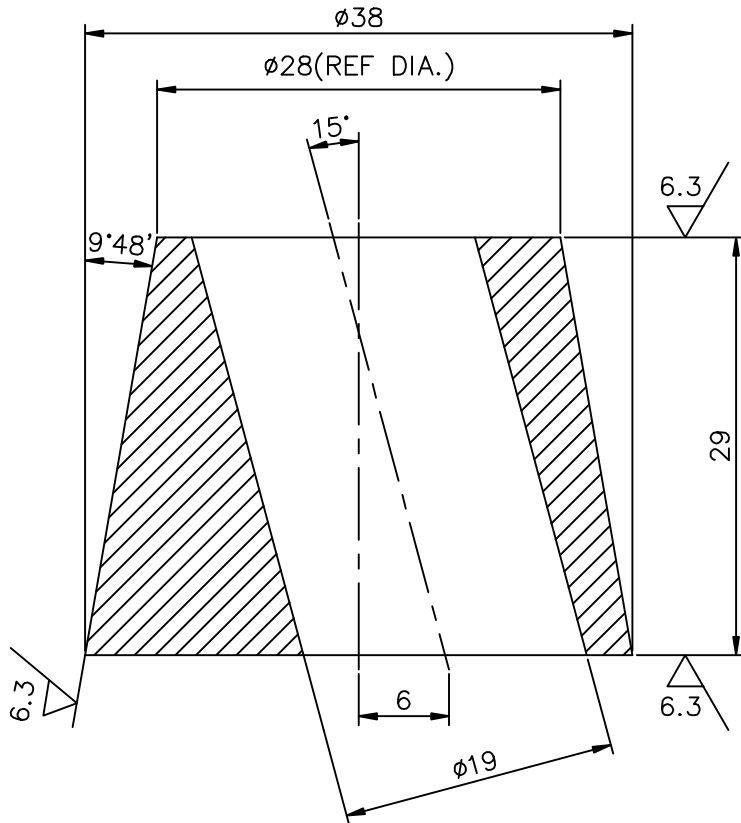
ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

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REV	DATE	ALTERED	J.S
02	12.12.11	CHD & APPD	SKG & K.S
RAW MATERIAL SPECIFICATION UPDATED.			
DCN : SB : 801133 / 5012916			


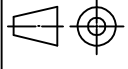
6.3 $\sqrt{\quad}$ (12.5 $\sqrt{\quad}$)



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842095260300

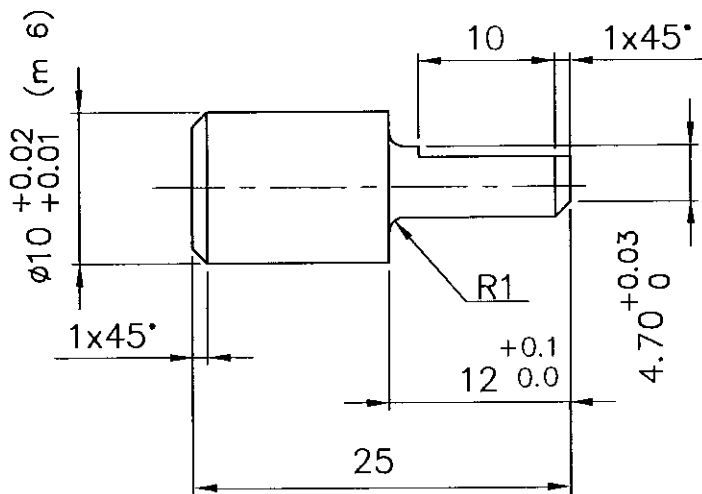
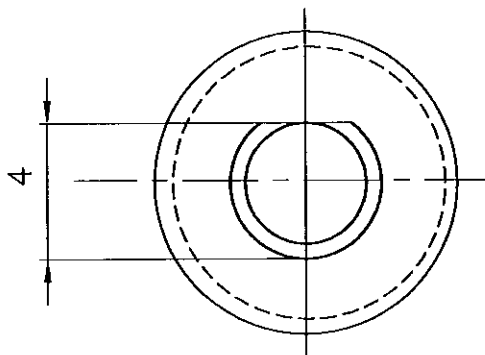
01		150243260000	SA479TY304			0.100			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME	SIGN	DATE	NO. OF VAR
					CHD	V.ARUMUGAM	V.A	11.06.01	
					APPD	K.SRIDHARAN	K.S	11.06.01	
						S.NATARAJAN	S.N	11.06.01	
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 330		NTS		0.100	S-76030				
TITLE					CARD CODE	DRAWING NO.			REV
NOZZLE					U 01	4-20-952-01541			02

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
02	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		


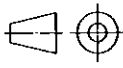
6.3/ (0.8/)



NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842095242200

01	DIA 28	15 039 095	SA 193 B7			0.010			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE			NTS	0.010						
TITLE	PIN			CARD CODE	DRAWING NO.				REV	
				U 01	4-20-952-01587				02	

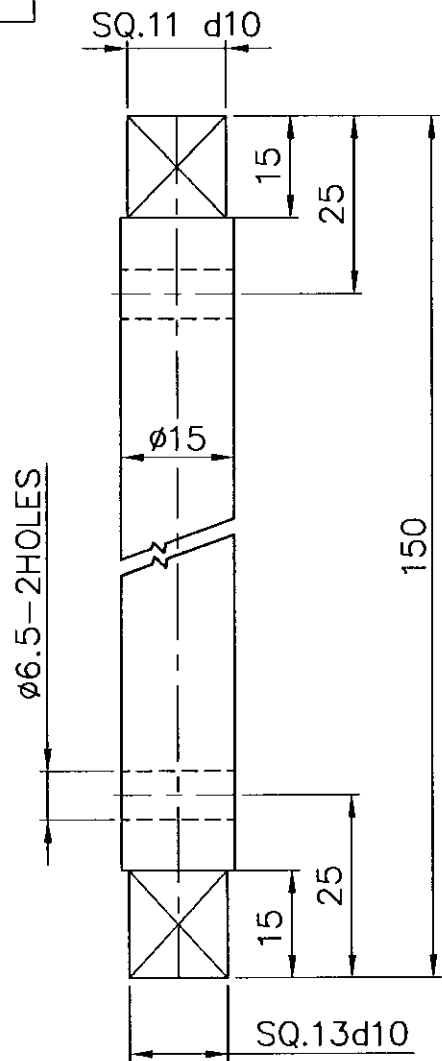
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ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB: 1298		

12.5/


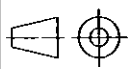


DIMENSION	TOLERANCE
SQ 11 d10	-0.050
	-0.120
SQ 13 d10	-0.050
	-0.120

NOTES: -

- FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.
HARDENED AND TEMPERED TO HRC 40-42

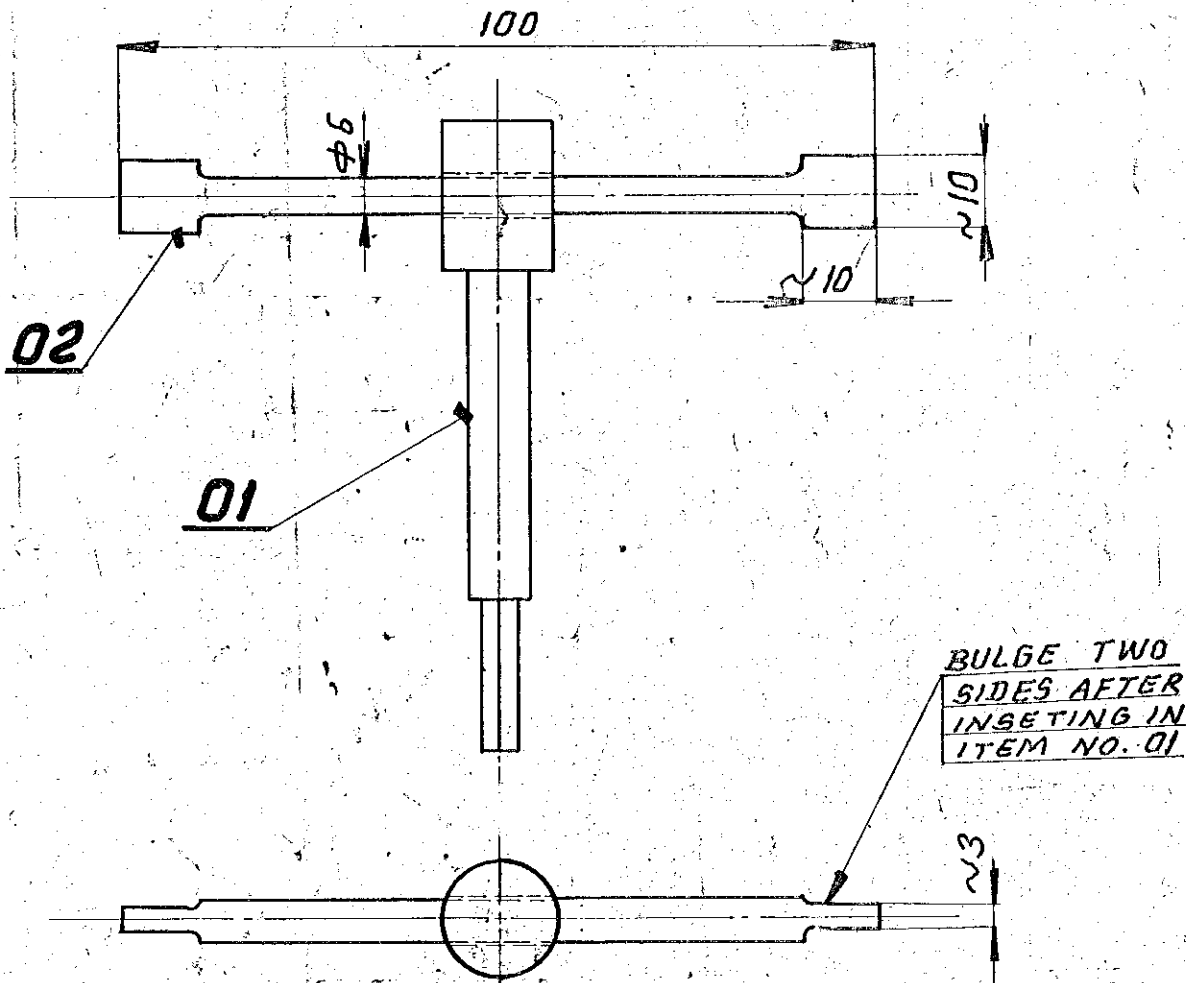
PART CODE : 842099634300

01	ROUND, DIA 28 L = 150	15 039 095	A 193 B7			0.190			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME		SIGN	DATE	NO. OF VAR
				CHD	V.ARUMUGAM				
				APPD	K.SRIDHARAN				
					S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE			NTS	0.190					
330									
TITLE				CARD CODE	DRAWING NO.				REV
KEY				U 01	4-20-996-01140				01

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REV 01	DATE 26.11.88	ALTERED CHECKED	REV 02	DATE	ALTERED
MATL CODE 15004026			CHECKED		
WAS 15004320.					

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SHARP CORNERS TO BE ROUNDED OF

61	62	51	22	18	20	22	23	34	35	36	39	30	58	59	61	65	73	79	80
VARIANT No.		DESCRIPTION		IT. No.		STD		DRAWING No.		MATERIAL CODE		MATERIAL SPECN		COWP GROUP		UNIT WL (kg)		QUANTITY	
		ROUND		D. 6; L. 100		02				15/004/026		C				0.02			
		KEY.		D. 16; L. 150		01		4-20-996-01142		15/039/115		C				0.06			
										A 193 B7		C				1			

CARD TYPE 2

CARD TYPE 1



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED

BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT	CODE	SCALE	WEIGHT (kg)	REF. TO ASSY. DRG.	IT. No.
			0.08		

TITLE	DRAWN	NAME	SIGN	DATE
SPECIAL KEY	O.K	O.K		28.12.78
	CHECKED			
	APPROVED			

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm UNLESS OTHERWISE SHOWN. NON-MACHINING TOLERANCE \pm

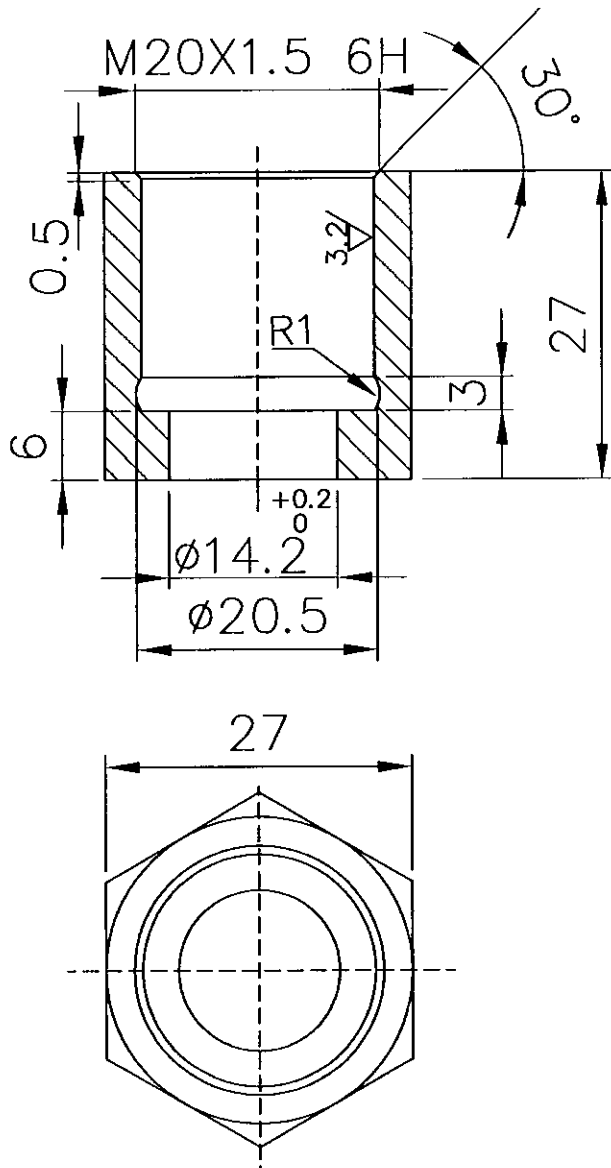
DRAWING No.	4-20-996-01141
CARD No.	14110-066-02-4
REV	01

ALL DIMENSIONS ARE IN MILLIMETRES.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
01	11.06.01	CHD & APPD
DRG.UPDATED AND REDRAWN.		
DCN: SB:1298		


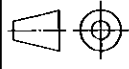
12.5/ (3.2/)



NOTES: -

1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842099839500

01	DIA 40	15 339 141	SA 105			0.040			01	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME		SIGN	DATE	NO.OF VAR
					CHD	V.ARUMUGAM				
					APPD	K.SRIDHARAN				
						S.NATARAJAN				
DEPT SB			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE			NTS	0.04	4-03-0-96330-04					
TITLE				CARD CODE	DRAWING NO.				REV	
UNION NUT M20X1.5				U 01	4-20-998-01760				01	

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