



429-002/A

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

Page
1/3


PHONE :2577629
GRAMS : BHARATELEC
FAX NO: 2520719
E-mail: srchandran@bheltry.co.in
Web:

	Enquiry No 2661400584 - 55	Enquiry Date 27.08.2014	Due Date for Quotation 27.09.2014
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	7504B0600600 SHAFT AS PER DRG.NO. 3M-04B-17-12308	NO	10.000	10.00	27.11.14
20	7504B1703000 WORM WHEEL BOSS AS PER DRG NO. 3M-04B-17-12319	NO	10.000	10.00	27.11.14
30	7504B1707000 COVER AS PER GRG. NO. 3M-04B-17-12463	NO	5.000	5.00	27.11.14
40	7504B1701900 ELEVATING SCREW ROD AS PER DRG.NO. 3M-04B-17-12761 NOTE: SL.NO. 40 TO 60 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY.	NO	6.000	6.00	27.11.14
50	7504B0600800 NUT AS PER DRG.NO. 4M-04B-05-03716	NO	6.000	6.00	27.11.14
60	7504B0600900 NUT AS PER DRG.NO. 4M-04B-05-03566	NO	6.000	6.00	27.11.14
70	7504B1702000 SPLINE COUPLING AS PER DRG.NO. 3M-04B-17-12762	NO	15.000	15.00	27.11.14
80	7504B0601100 SPUR GEAR AS PER DRG.NO.4M-04B-17-20229	NO	10.000	10.00	27.11.14
90	7504B1707100 SPUR GEAR AS PER GRG. NO. 4M-04B-17-24400 NOTE: SL.NO. 90 AND 100 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY.	NO	10.000	10.00	27.11.14
100	7504B1707400 DOUBLE GEAR AS PER GRG. NO. 4M-04B-17-24891	NO	10.000	10.00	27.11.14

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of
tenderers who have submitted their offer and who may like to be present for the tender
opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**


MANAGER / PURCHASE
(FOSSIL BOILERS)
Yours faithfully,



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2661400584 / 27.08.2014


110	7504B1707200 SPUR GEAR AS PER GRG. NO. 4M-04B-17-24415	NO	10.000	10.00	27.11.14
120	7504B1701000 ECCENTRIC PIN AS PER DRG.NO. 4M-04B-17-24524	NO	10.000	10.00	27.11.14
130	7504B1707300 SPUR GEAR AS PER GRG. NO. 4M-04B-17-24857	NO	10.000	10.00	27.11.14
140	7504B0502200 LOCK NUT AS PER DRG.NO.4M-04B-17-26937	NO	15.000	15.00	27.11.14
150	7504B1701200 SPUR GEAR AS PER DRG.NO. 4M-04B-17-27030 NOTE: SL.NO. 150 AND 160 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY.	NO	15.000	15.00	27.11.14
160	7504B1701300 SPUR GEAR AS PER DRG.NO. 4M-04B-17-27031	NO	15.000	15.00	27.11.14
170	7504B0601900 RING AS PER DRG NO. 4M-04B-06/17-27153	NO	10.000	10.00	27.11.14
180	7504B0600500 NUT AS PER DRG.NO. 4M-04B-06/17-27154	NO	15.000	15.00	27.11.14
190	7504B1707500 SPACER AS PER GRG. NO. 4M-04B-17-27167	NO	10.000	10.00	27.11.14
200	7504B1707600 WORM GEAR BOX (BODY) WELDMENT AS PER GRG. NO. 1M-04B-17-02740	NO	6.000	6.00	27.11.14
210	7508A0401700 SLIDING PIECE AS PER GRG. NO. 3M-08A-04-15160	NO	2.000	2.00	27.11.14
220	7510A6301300 V-ROLLER AS PER GRG. NO. 4M-10A-63-29717	NO	40.000	40.00	27.11.14

General Note:

GENERAL NOTE:

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3/3

2661400584 / 27.08.2014

PLEASE SUBMIT YOUR OFFER IN "TWO PART BID SYSTEM"
AS PER ANNEXURE ENCLOSED.

ENCLOSURES:
ANNEXURE II,III,IV,V,VI,VII & DRAWINGS


Enclosures:

"LD clause has to be confirmed without fail."

"Payment to vendors will be made only thro E-Payment mode"

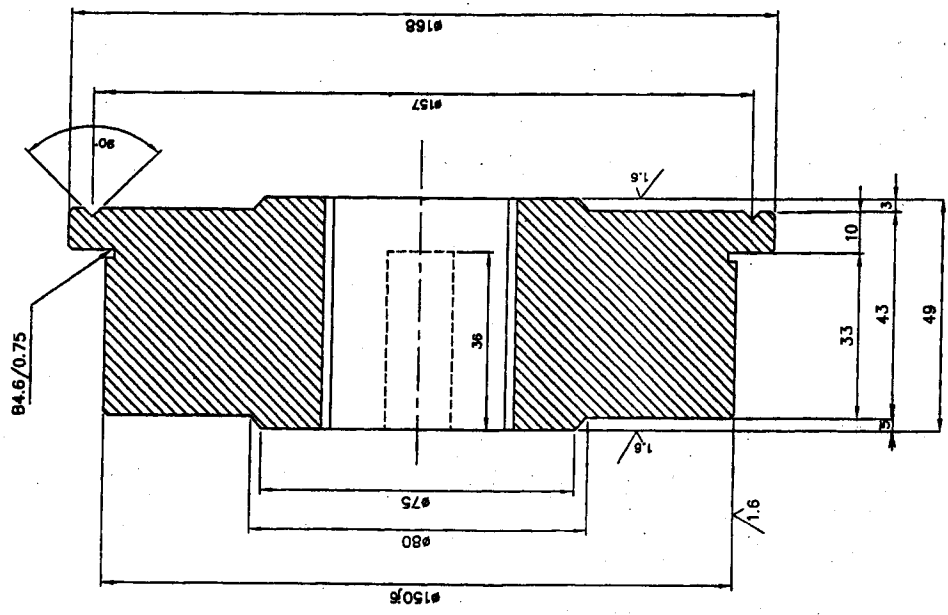
The offers should reach us 30 minutes before the time of opening of tenders.
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For **BHARAT HEAVY ELECTRICALS LIMITED**


MANAGER / PURCHASE
(FOSSIL BOILERS)
Yours faithfully,

CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF BHMT HEAVY ELECTRONICS LIMITED.
 MICROFILM - 689 84.

ALL DIMENSIONS ARE IN MM



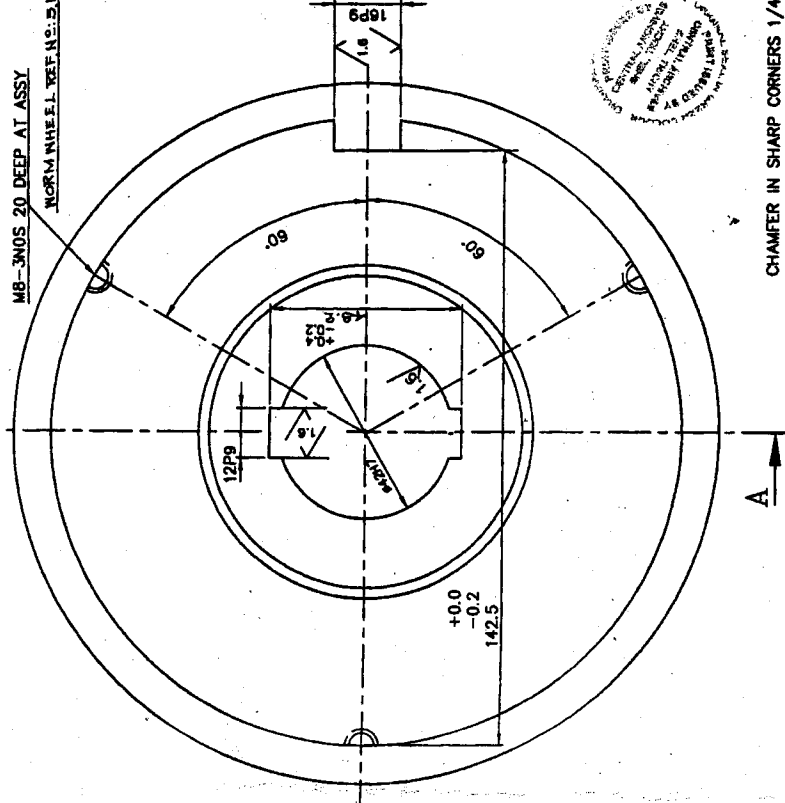
SECTION - AA

CHAMFER IN SHARP CORNERS 1/45°

±0.014	16P9	-0.016
-0.011		-0.081
+0.025	12P9	-0.018
+0.000		-0.081

MB-340S 20 DEEP AT ASSY

NORM WHEEL REF NS: 3.M.04B.096

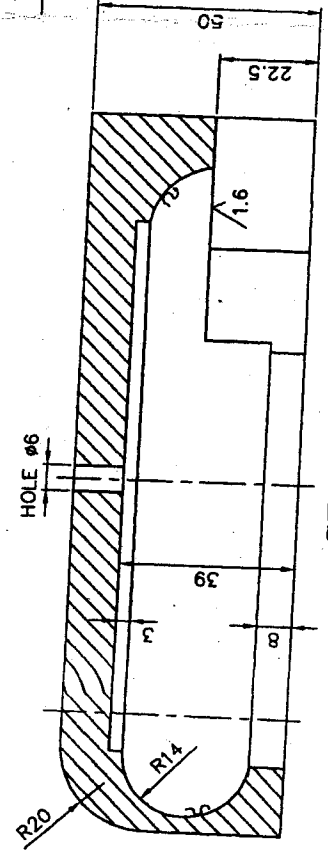
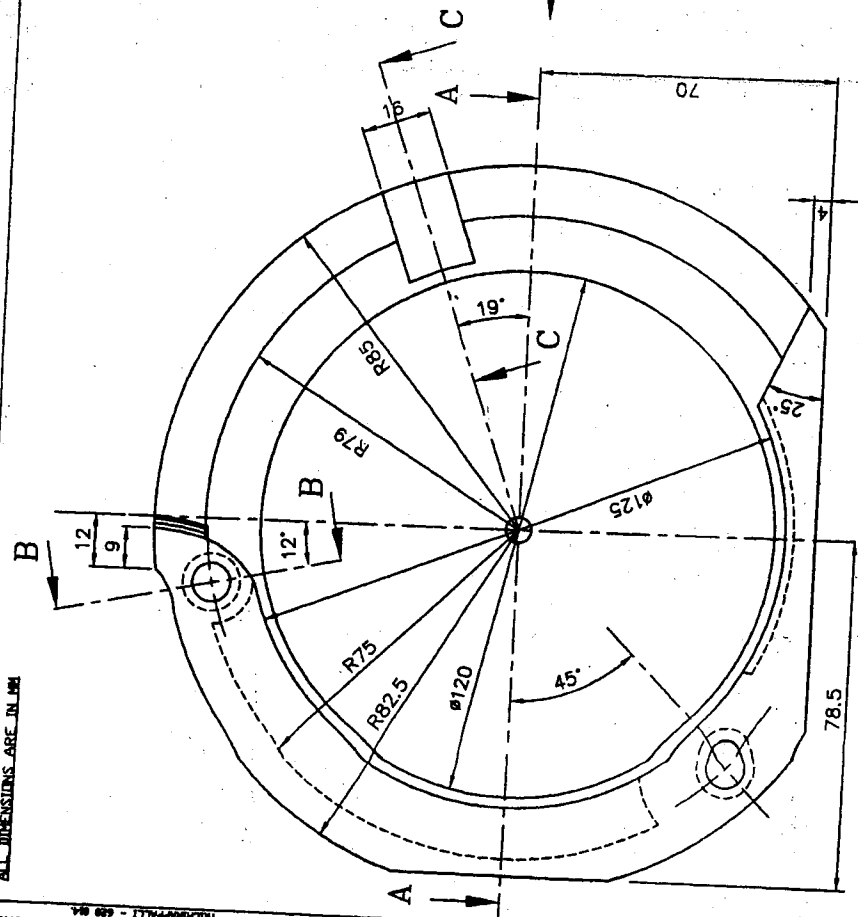


CHAMFER IN SHARP CORNERS 1/45°

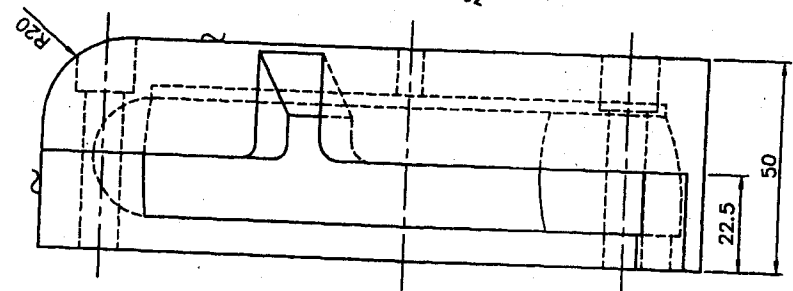
IS: 7283	5.85		
45c8	MATERIAL	STANDARD	NET.VIN KSS
DESCRIPTION		COMPONENT CODE: 00	EQUIPMENT CODE: 17
168x49L		ALTERATIONS	DCN REF DATE SIGN INKX
DESCRIPTION		M.K.V	
REFERENCE: PART: 525 6425		CHECKED	
SCALE: DRAWN		APPROVED	
1:1		DATE	1-08-03
MACHINE: RADIAL DRILLING (PORTABLE)		TYPE: DRITTO (NEW)	
TITLE: WORM WHEEL BOSS		DRAWING No	
(BED LONG TRAVEL GEAR BOX ASSY)		3-M-04B-12319	
		REV. 17	
		Sheet No	

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 TROOPWALL - 688 04

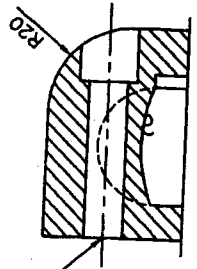
ALL DIMENSIONS ARE IN MM



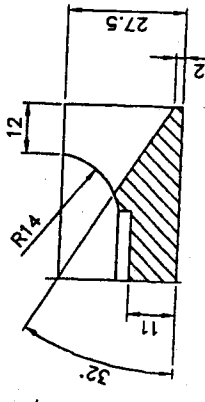
SEC-AA



VIEW-P



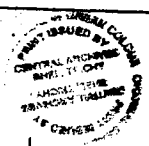
SEC-BB



SEC-CC

2 HOLES ø9/CBRø13.5
 13 DEEP ON POD 140

3.2 / 1.6



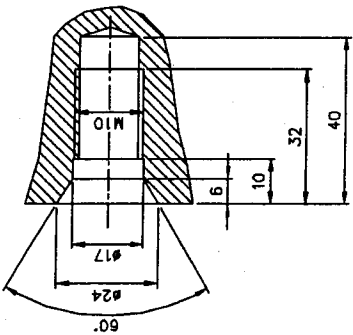
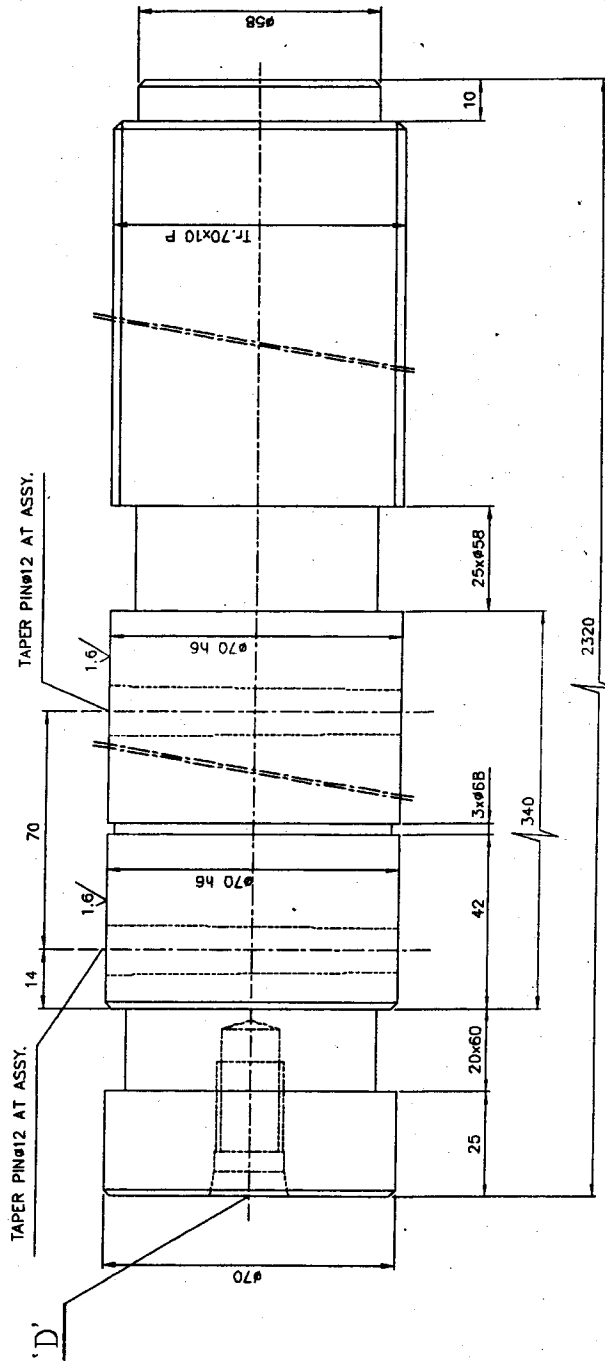
SCANNED

DESCRIPTION	FG220	IS: 210	0.8
REFERENCE	MATERIAL	STANDARD	NET WT. IN KGS.
SCALE	1:1	ALTERATIONS	DRAWING No.
DRAWN	G.G.R.	DATE	22/09/04
CHECKED		DATE	
APPROVED		DATE	
MACHINE	RADIAL DRILLING M/C	TYPE	DRT-10
TITLE	COVER	DRAWING No.	31041B17112463
(SPEED CHANGE LEVER ASSY.)		REV.	
		Sheet No.	
		Sheet	

ALL DIMENSIONS ARE IN MM

CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF SHARAF HEAVY ELECTRICALS LIMITED. TRICHY/PALAI - 620 014.

970 h6	-0.000	32/1.6/√
	-0.019	



FOR MATING NUT REF.DRG.NO.4-M-04B05-3568
4-N-04B05-3716
CHAMFER ALL SHARP CORNERS TO 1/45°

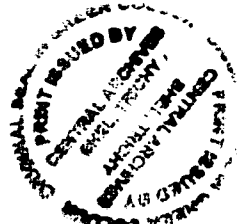
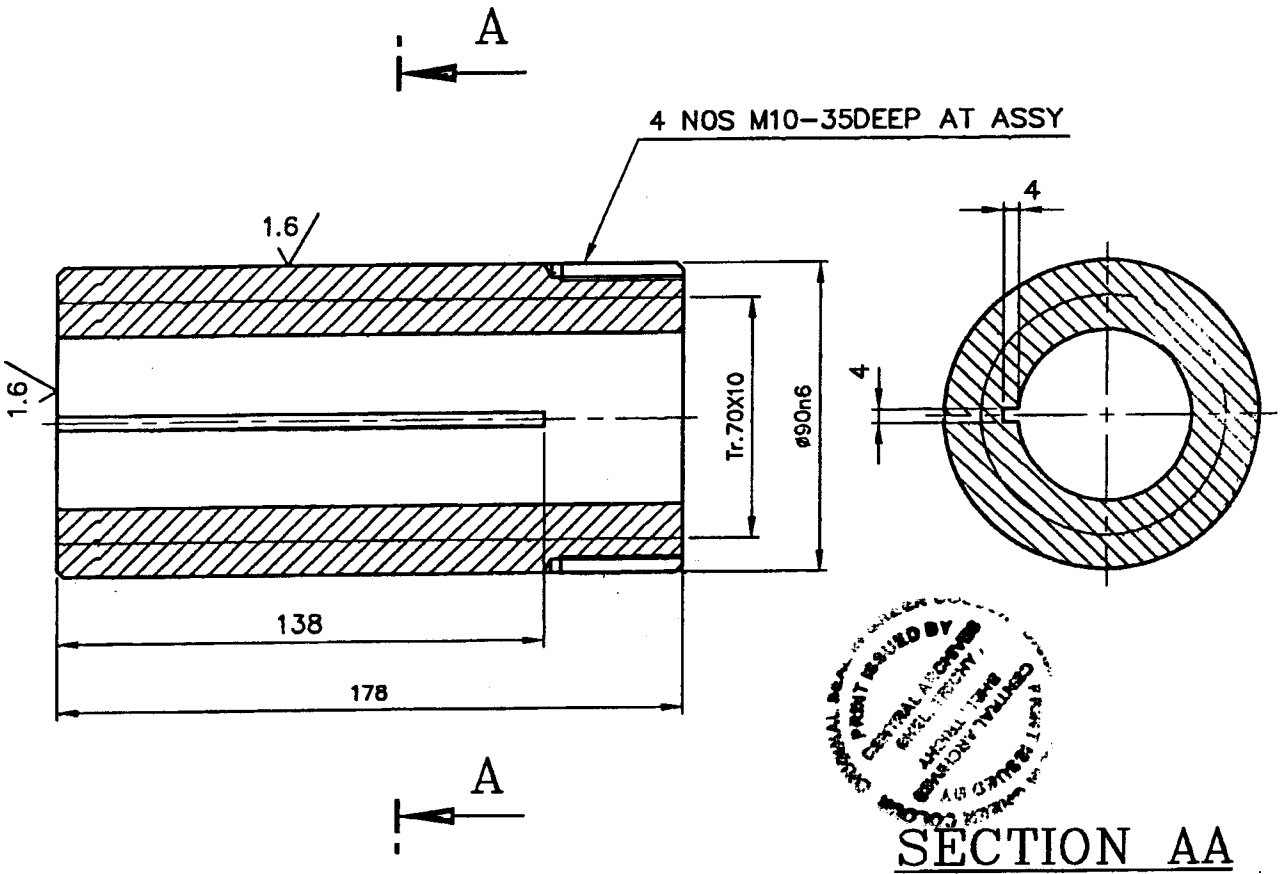


ROD#70x2320 L	45 CB	IS: 7283	60.50		
DESCRIPTION	MATERIAL	STANDARD	NET WT. IN KGS	DRAWING No.	TRF No.
REFERENCE:		ALTERATIONS:	DCN REF DATE	STGN	INDEX
SCALE	DRAWN	P. Albertrose			
CHECKED	R. Ramamoorthy				
APPROVED	C.S. Jayasheelan				
DATE	13-08-06				
MACHINE: RADIAL DRILLING M/C			TYPE: DRT 10(NEW)		
TITLE: ELEVATING SCREW ROD (T: 70x10P x 2320 L) (ELEVATING MECHANISM)			DRAWING No.		
			3MO4B17112761		
			Sheet No.		

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ALL DIMENSIONS ARE IN MM

ø90n6	+0.023	3.2 // 1.6 // ✓
	+0.045	



SECTION AA

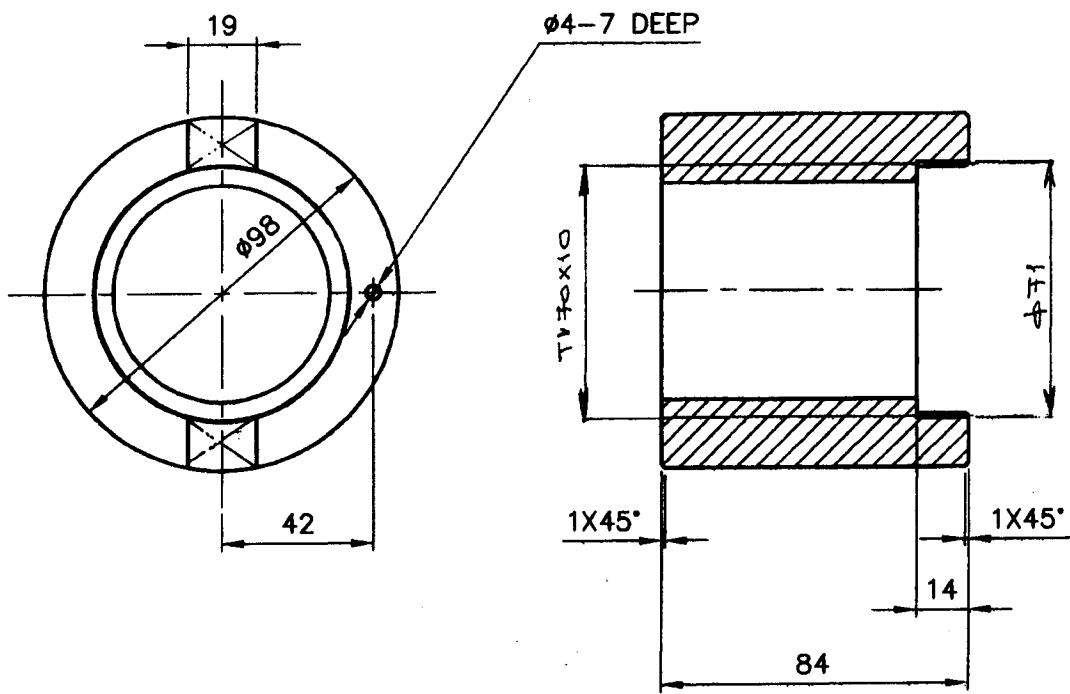
MATING SCREW REF. DRG NO: - 3-M-04B-1179

	ø90X178	PCUSn7	IS: 28	4.95	2-M-04B-0544	12
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:	225731 815 D1		COMPONENT CODE: 24	EQUIPMENT CODE: 05		
SCALE	DRAWN/TCO	ALTERATIONS:		DCN REF	DATE	SIGN. INDEX
1:2	R. Narayanan					
	CHECKED					
	APPROVED					
	DATE					
	06.12.68/04.12.98					
	MACHINE: RADIAL DRILLING	TYPE: VRP.104A / DRT10		REV.		
	TITLE:	DRAWING No: 05				
	NUT	4-M-04B-03716				
	(Tr. 70X10)	No. of Sheets:		Sheet No:		

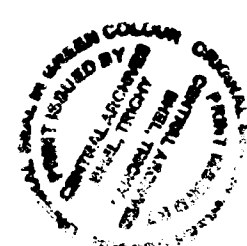
PLEASE VISIT THE WEBSITE OF BHARAT HEAVY ELECTRICALS LIMITED TRICHURAPPALI - 620 014.

ALL DIMENSIONS ARE IN MM

3.2 ✓✓✓



MATING SCREW REF.DRG.NO: - 3-M-04B-1179

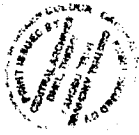
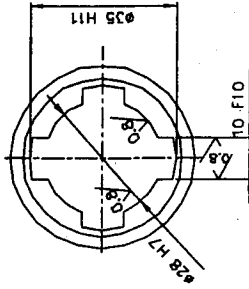
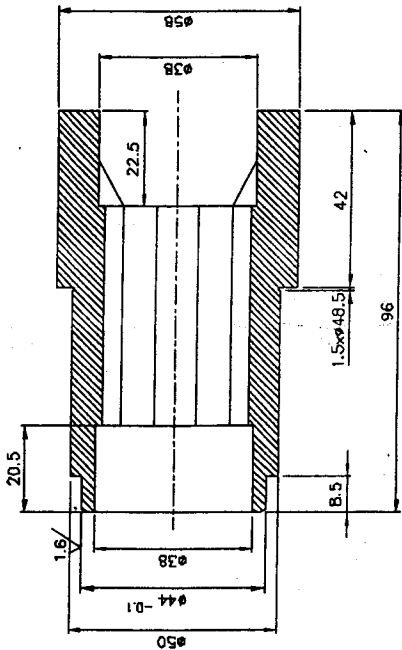
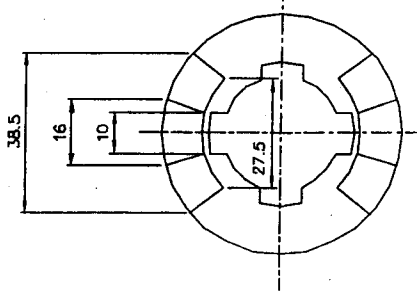
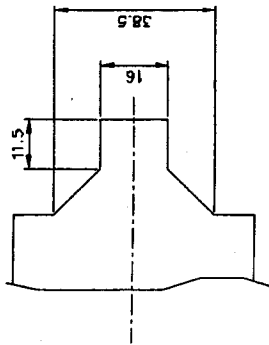


	Ø98X34L	FG220	IS: 210	1.82	2-M-04B-0544	10
X						
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:	810-F1		COMPONENT CODE: 24	EQUIPMENT CODE: 05		
SCALE	DRAWN/TCD		ALTERATIONS:	DCN REF	DATE	SIGN. INDEX
1:2	R. Narayanan					
	CHECKED					
	APPROVED			1		
	DATE	02.11.68/12.12.98				
	MACHINE: RADIAL DRILLING MACHINE	TYPE: VR 104A / DRT 10				
	TITLE: NUT (Tr70X10)	DRAWING No: 05	4-M-04B-03566		REV.	
	No. of Sheets:	Sheet No:				

6 290

ALL DIMENSIONS ARE IN MM

CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF BIRLA HEAVY ELECTRICALS LIMITED
 POCHEMPALLI - 600 014



NOTE:--
 CASE HARDENED TO HRC 60
 CASE DEPTH 0.8mm
 CHAMFER ALL SHARP CORNERS TO 1/45°

ROD#58x96 L	13M113C73	IS: 4432	1:15
DESCRIPTION	MATERIAL	STANDARD	NET WT IN KGS.
REFERENCE	ALTERATIONS:	DCH REF	DATE SIGN.
SCALE DRAWN	P. Albertrose	CHECKED	R. Ramamoorthy
1:1	APPROVED	C.S. Jayasheelam	DATE
	11-08-06		
MACHINE: RADIAL DRILLING M/C			
TITLE: SPLINE COUPLING (ELEVATING MECHANISM)			
DRAWING No: 31M04B1171127612			
TYPE: DRT 10(NEW)			
Sheet No: 1			
Sheet Size: 1100x700			

10 F10	+0.013	+0.071	±0.160	±0.000	32/1.6
			±0.021	±0.000	
			±0.021	±0.000	

10 F10	+0.013	+0.071
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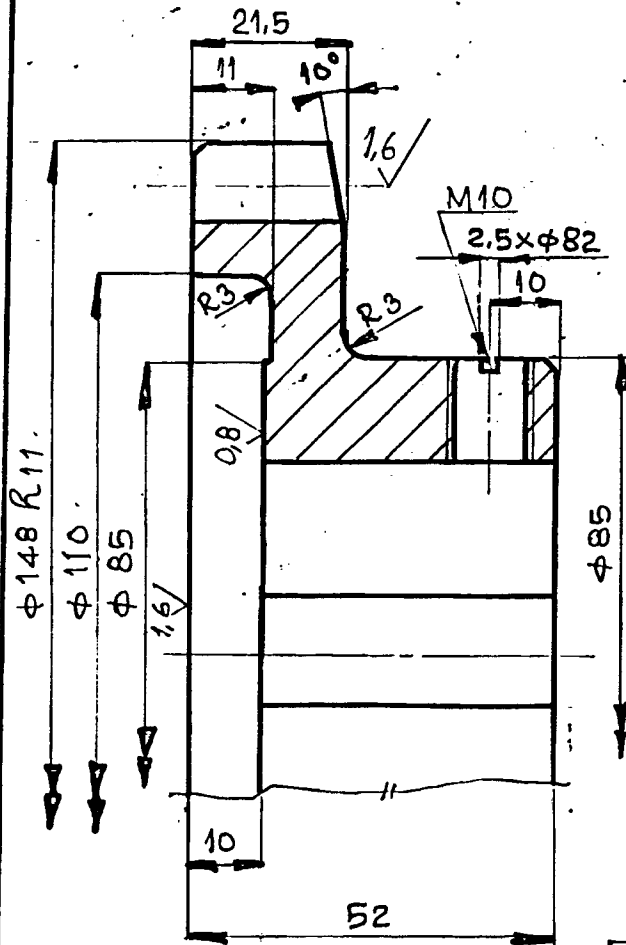
±0.160	±0.000	32/1.6
±0.021	±0.000	
±0.021	±0.000	

CAUTION

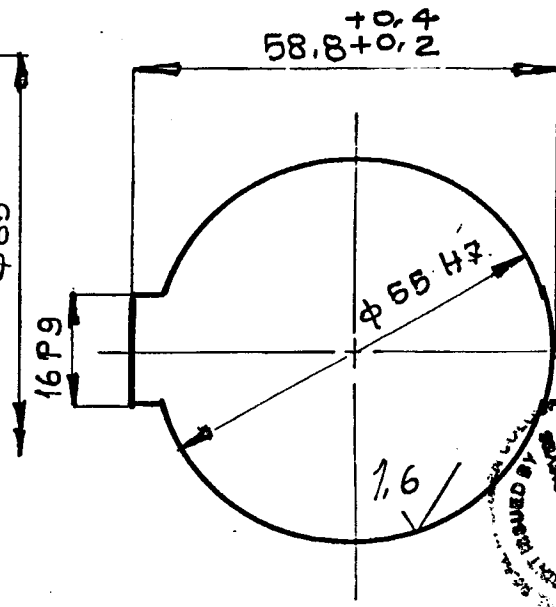
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BHARAT HEAVY ELECTRICALS LTD.,
 TIRUCHIRAPALLI-14

32/ / 1.6/ / 0.8/ /

INDEX NO. 39 - 607



φ148 R11	-0,250
	-0,000
φ55 H7	+0,030
	+0,000
16 P9	-0,018
	-0,061



CASE HARDENED TO HRC 62 ± 2
 CASE DEPTH 0.8mm

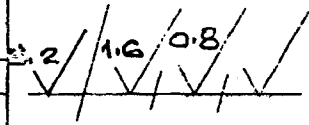
NO. OF TEETH	35
MODULE	4
PRESSURE ANGLE	20°
CORRECTION FACTOR	-
WIDTH ACROSS 5 TEETH	55,0988 ^{-0,158} / _{-0,210}
QUALITY & TOL. ZONE	9C DIN 3967
MATING GEAR NO. OF TEETH	35
MATING GEAR DRG. NO	4-M-046-4009
CENTRE DISTANCE	140

NO. OF PIECES		DESCRIPTION		SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET Wt (kg)	GROSS Wt (kg)	DRAWING NO.	ITEM NO.
					13 N/30,80					D-M-046-0763	26
					IS: 4432						
REMARKS										TOTAL NET Wt (kg)	
SCALE: DRAWN										EC: 06 CC	
CHECKED										ALTERATIONS	
APPROVED										DATE	
STDS. OFFICER										SIGNATURE	
DATE										INDEX	
MACHINE RADIAL DRILLING										TYPE: DR 10 & 3RT10 INV. NO.	
TITLE: SPUR GEAR										DRAWING NO. 17	
35T/φ148 [SHAFT VI]										4-M-046-20229	
										NO. OF SHEETS	
										SHEET NO.	

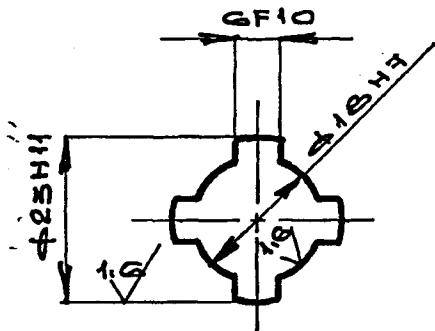
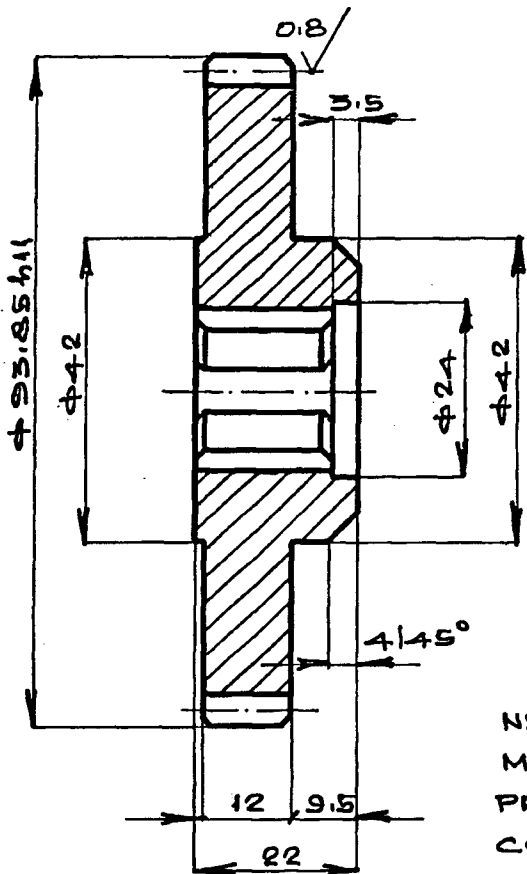
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$\pm 23H11$	+0.130 +0.000	G F 10	+0.010 +0.058
$\pm 18H7$	+0.018 +0.000	$\pm 33.85H11$	-0.000 -0.220



39-607 A



NO. OF TEETH.	45
MODULE.	2
PRESSURE ANGLE.	20°
CORRECTION FACTOR.	0.00
QUALITY & TOL. ZONE.	9C DIN-3967
WIDTH ACROSS 6 TEETH.	33.7358 ^{-0.141} -0.188
MATING GEAR NO. OF TEETH.	28
GEAR DRG. NO.	A-M-04b-24891
CENTRE DISTANCE.	75.

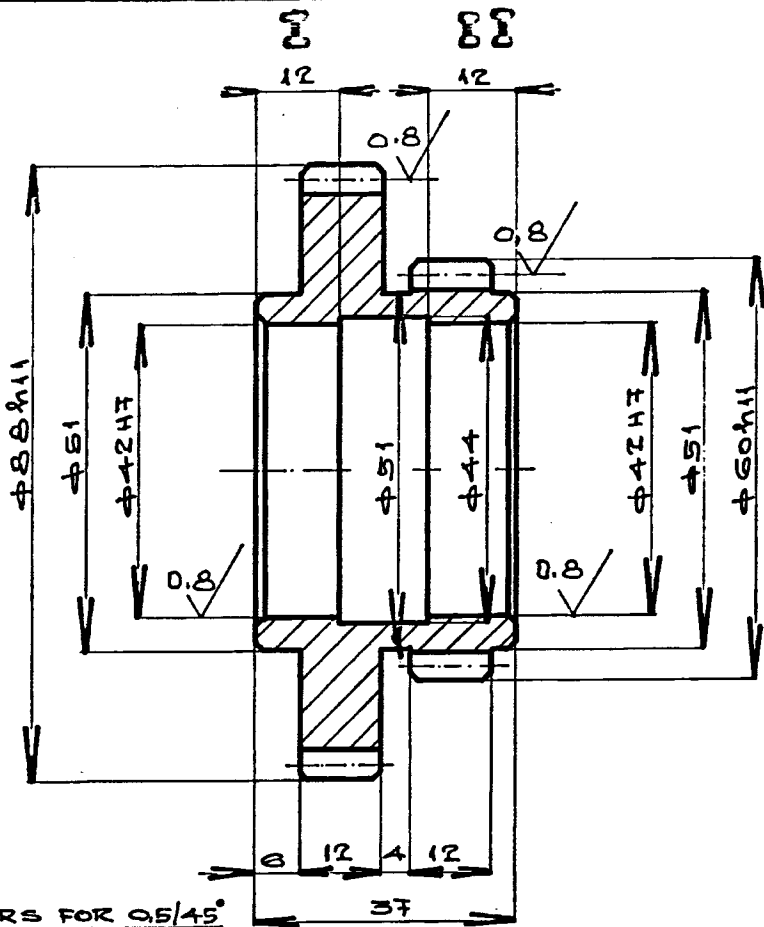


CHAMFER CORNERS FOR 1/45°
HARDENED TO HRC 48±2.

		Q 55 Mn 35 IS:5517		1-M-04b-2160		13
No. of P's.	DESCRIPTION	MATERIAL	STD/BPS	Net wt. (kg)	Gross wt. (kg)	DRAWING No.
REFERENCE:			ALTERATIONS		DATE	SIGN.
SCALE 1:1	DRAWN	<i>e. Gay</i>				
	CHECKED	<i>et. Sankar</i>				
	APPROVED					
	DATE	21.05.1991.				
	MACHINE: RADIAL DRILLING		TYPE: DRT-10.		Total wt. (kg.)	
	TITLE SPUR GEAR 45T/φ 33.85 (FEED ASSY. SHAFT-V)		DRAWING No. A-M-04b-24400 ¹⁷		REV.	
No. of Sheets:			Sheet No.			

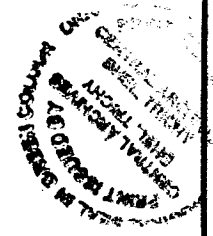
39-607 A

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		+0.000		-0.270	
	$\phi 60 h11$	-0.000			
		-0.190			



CHAMFER CORNERS FOR 0.8/45°
 HARDENED TO HRC 48 ± 2.

	I	II
NO. OF TEETH.	42	28
MODULE.	2	2
PRESSURE ANGLE.	20°	20°
CORRECTION FACTOR	0.00	0.00
WIDTH ACROSS TEETH.	St. 27.75 = 0.141 = 0.188	4t. 21.45 = 0.141 = 0.188
QUALITY & TOL. ZONE.	9C DIN. 3967	9C DIN. 3967
MATING NO. OF TEETH.	40	45
GEAR DRG. NO.:		A.M. 04b. 24400
CENTRE DISTANCE.	82.	73.



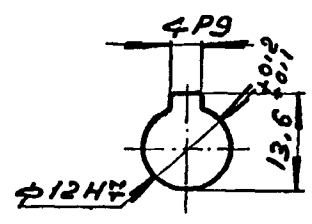
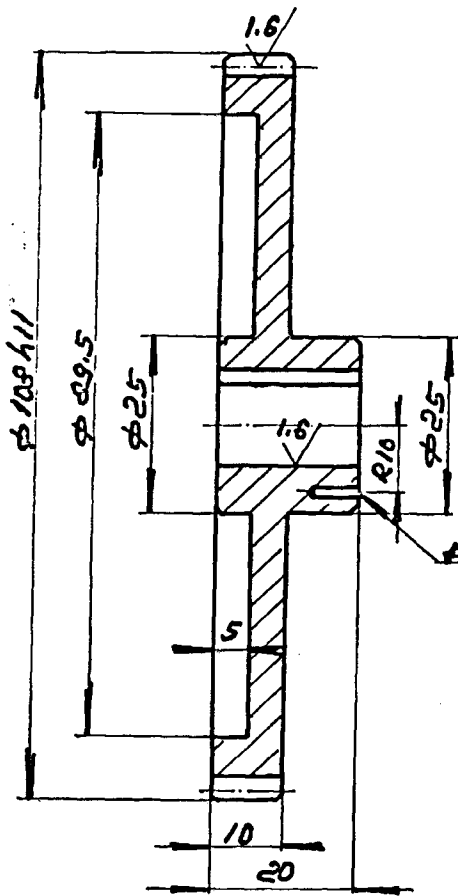
C 55 MN 35		IS: 5517							
No. of pcs.	DESCRIPTION	MATERIAL	STD/BPS	Net wt. (kg)	Gross wt. (kg)	DRAWING No.		Item No.	
REFERENCE:			ALTERATIONS	EC. NO: 17	CC. NO: 08	DATE	SIGN.	Index	
SCALE	DRAWN								
4:1	CHECKED								
	APPROVED								
	DATE	11.12.1992							
MACHINE: RADIAL DRILLING			TYPE: DRT-10		Total wt. (kg.)				
			TITLE: DOUBLE GEAR $\phi 88/42T. \& \phi 60/28T.$ (HEAD STOCK ASSY.)		DRAWING No. 17 A.M. 04b. 24891		REV.		
			No. of Sheets :		Sheet No.				

Caution
THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF EMRAT HEAVY ELECTRONICS LTD., TRUCK: PAPALI - 630 014.

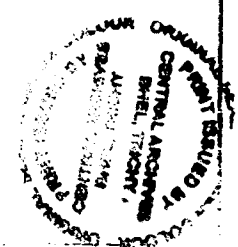
$\phi 108 H11$	$-0,000$	$\phi 12 H7$	$+0,012$
	$-0,020$		$+0,000$
		$4 P5$	$-0,012$
			$-0,042$

3.2 / 1.6 /

39-607 A



NO. OF TEETH	70
MODULE	1.5
PR. ANGLE	20°
QUAL. & TOL. ZONE	9c. DIN. 3267
CORRECTION FACTOR	-
WIDTH A/C 7 TEETH	39.110 ^{-0.141} _{-0.153}
MATING GEAR NO. OF TEETH	-
MATING GEAR DRG. No.	-
CENTRE DISTANCE	-



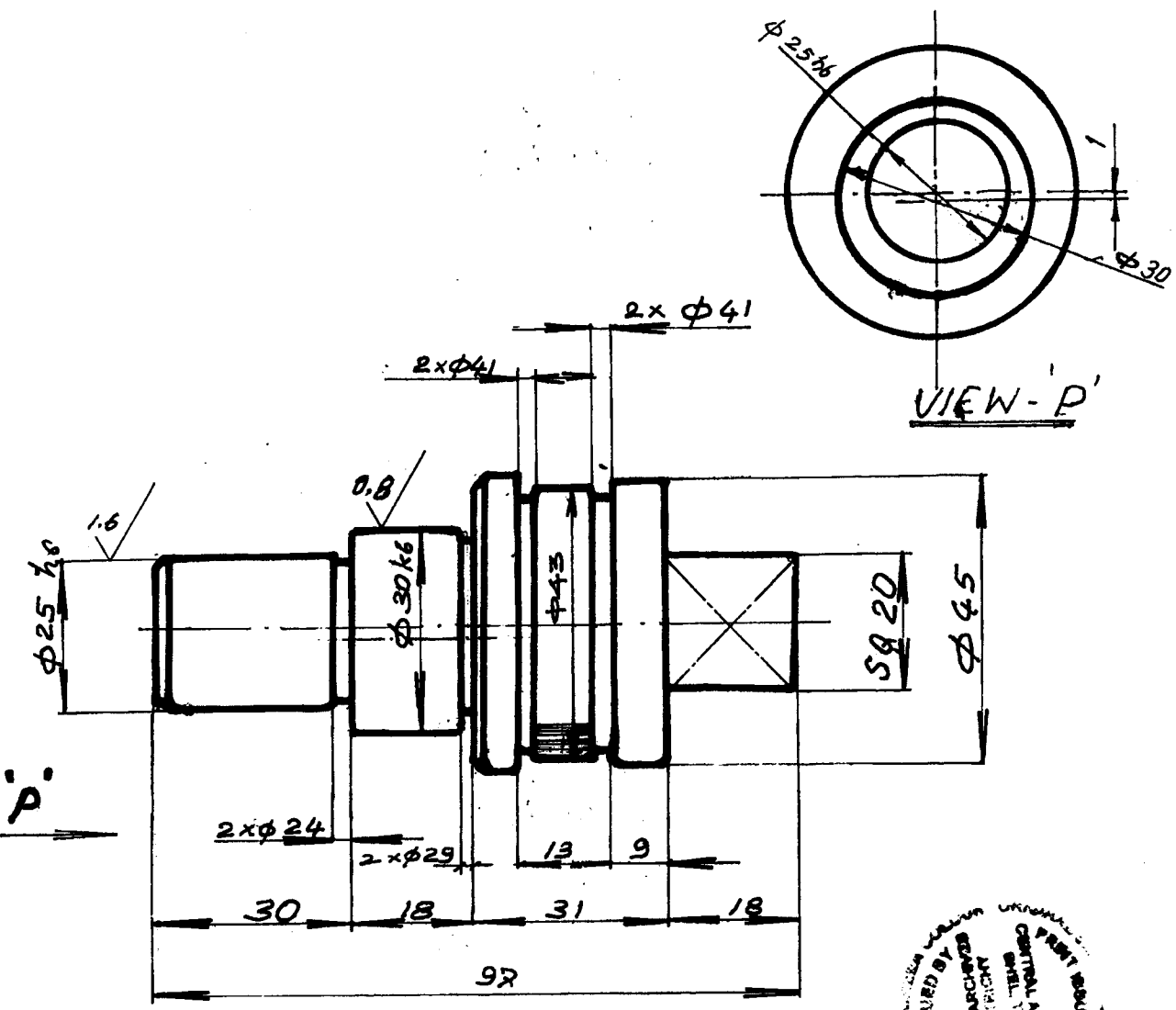
		CL IV	15.1875				
No. of	DESCRIPTION	MATERIAL	STD./EPS	DATE	ISSUES	DRAWING No.	1/17
REFERENCE:				ALTERATIONS		DATE	SIGN.
SCALE 1:1	DRAWN	<i>[Signature]</i>					
	CHECKED	<i>[Signature]</i>					
	APPROVED	<i>[Signature]</i>					
	DATE	10-05-81					
MACHINE: RADIAL DRILLING		TYPE: DRT 10		Total wt. (kg.)			
TITLE SPUR GEAR $\phi 108/707$		DRAWING No. 4-M-046-24415		REV.			
No. of Sheets :		Sheet No.					

39-607 A

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$\phi 25 k6$	- 0,000
	- 0,013
$\phi 30 k6$	+ 0,015
	+ 0,002

32/1.6/0.8/✓



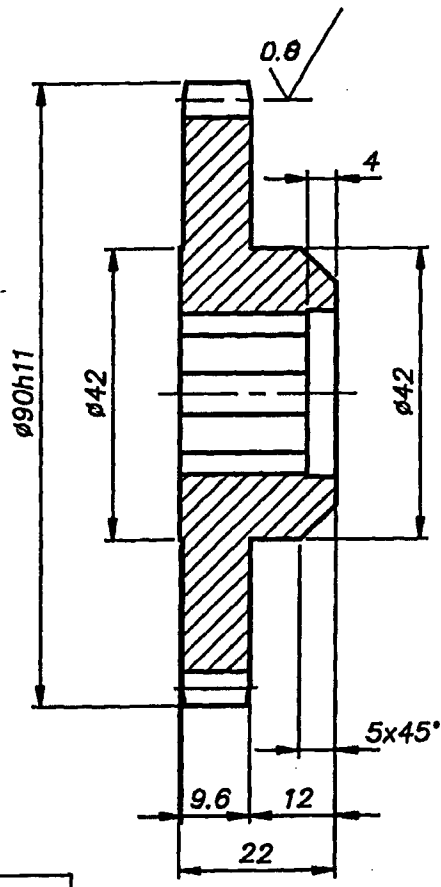
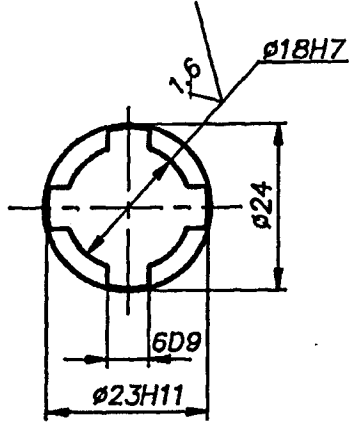
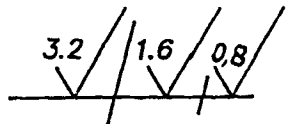
		45CB						
		1S:7283			0.65			
No. of pcs.	DESCRIPTION	MATERIAL	STD/BPS	Net wt. (kg)	Gross wt. (kg)	DRAWING No.		Item No.
REFERENCE:				ALTERATIONS		DATE	SIGN.	Index
				E. C 17 / C. C 91		31-3-93	SA SA	(2)
				φ 30 k6 WAS φ 30				
SCALE	DRAWN	[Signature]						
	CHECKED	[Signature]						
	APPROVED	[Signature]						
	DATE	13-11-91						
MACHINE: RADIAL DRILLING			TYPE: DRT. 10			Total wt. (kg.)		
TITLE			DRAWING No.			REV.		
ECCENTRIC PIN			4-M-D _h -24524 ¹⁷					
(SPINDLE HEAD ASSY)			No. of Sheets:			Sheet No.		

12 160

Caution

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ø90h11	-0.000	ø18H7	+0.018
	-0.220		+0.000
ø23H11	+0.130	6D9	+0.060
	+0.000		+0.030



NO OF TEETH	43
MODULE / DP	2
PRESSURE ANGLE	20°
CORRECTION FACTOR	-
WIDTH ACROSS 6 TEETH	33.6778 ^{-0.141} _{-0.185}
QLTY.&TOL.ZONE	9c DIN 3967
MATING GEAR NO.OF TEETH	-
MATING GEAR DRG.NO.	-
CEN.DISTANCE	-

HARDENED TO HRC 48

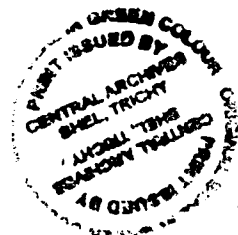
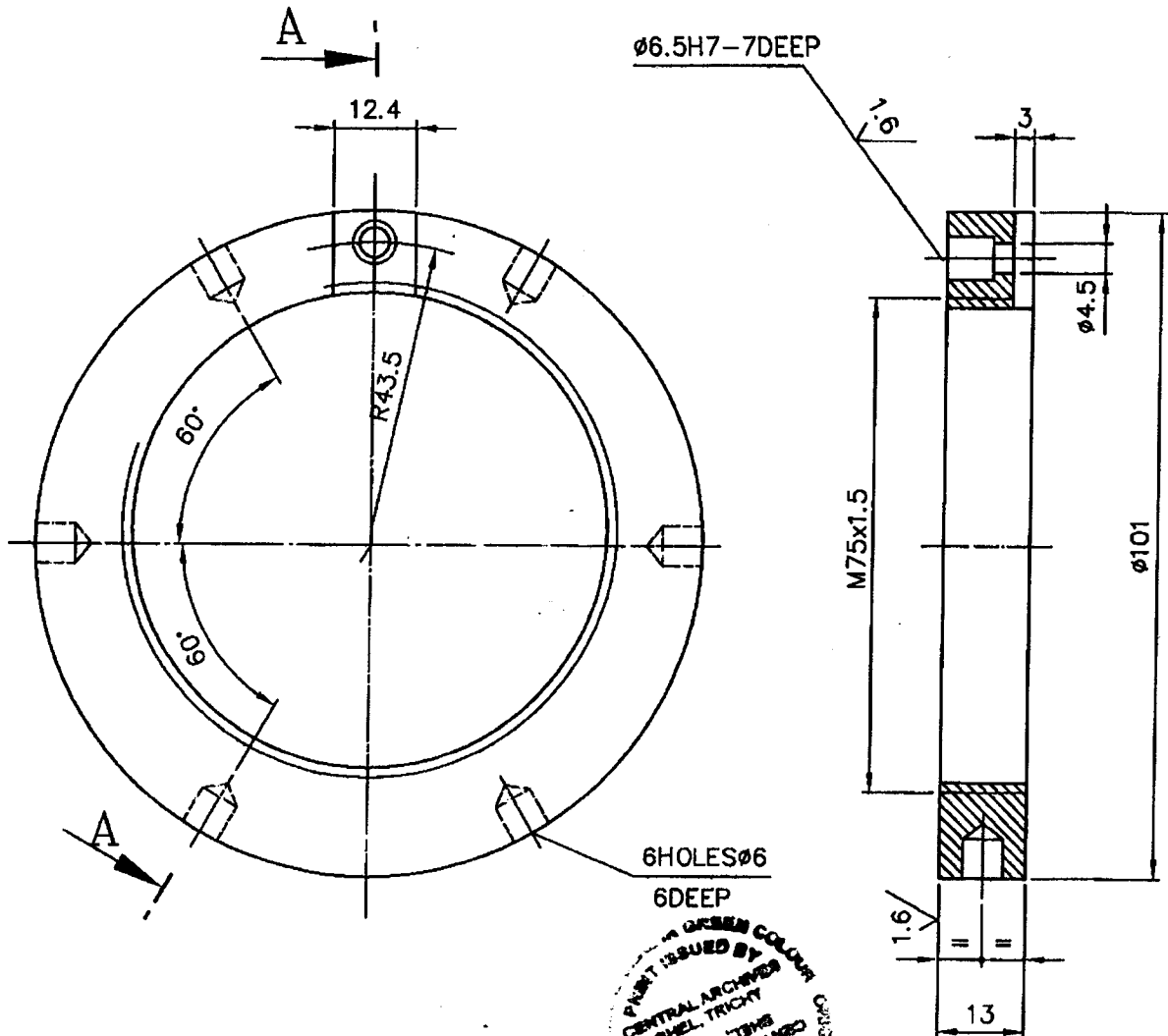


		C.55 Mn 75	IS:5517	0.50			
No. of pcs.	DESCRIPTION	MATERIAL	STD/BPS	Net wt. (kgs)	Gross wt. (kgs)	DRAWING No:	Item No.
REFERENCE:			ALTERATIONS	E.C: 17 / C.C: 08	DATE	SIGN.	Index
SCALE 1:1	DRAWN	CE Ray					
	CHECKED	A. Harsh					
	APPROVED	D. J. S. Mitt					
	DATE	02/11/92					
MACHINE: RADIAL DRILLING			TYPE: DRT-10		Total wt.(kgs)		
TITLE SPUR GEAR (ø90/43T)			DRAWING No: 17 4-M-04B-24857		REV		
No. of sheets			Sheet No.				

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ALL DIMENSIONS ARE IN MM

ø6.5H7	+0.015	3.2/1.6/✓
	+0.000	



SECTION-AA

CHAMFER ALL SHARP CORNERS TO 1/45°

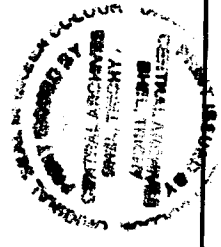
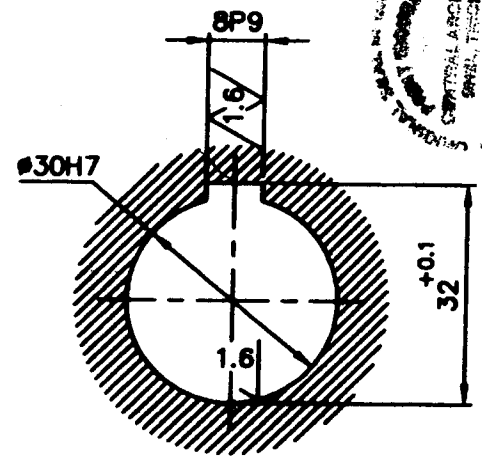
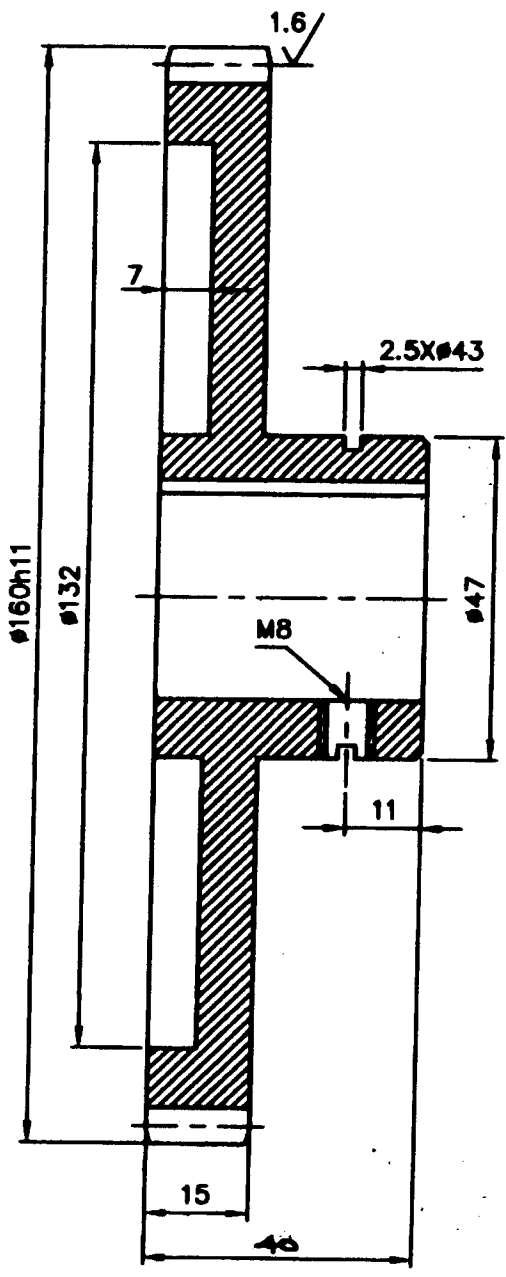
No. of Pieces	ø101x13t		45C8	IS: 7283	0.36		
	DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:				COMPONENT CODE: 24		EQUIPMENT CODE: 17	
SCALE				ALTERATIONS:	DCN REF	DATE	SIGN.
1:1	DRAWN	P.A.ROSS / GRC					
	CHECKED						
	APPROVED						
	DATE	9-08-02					
	MACHINE: RADIAL DRILLING			TYPE: DRT 10, DR8, VR 10			
	TITLE:			DRAWING No:		REV.	
	LOCK NUT M75x1.5 (CLUTCH ASSY.)			17 4-M-04B-26937			
			No. of Sheets:		Sheet No:		

190 14

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ALL DIMENSIONS ARE IN MM

8P9	-0.015	ø30H7	+0.021	3.2 // 1.6 // ✓
	-0.051		+0.000	
ø160h11			-0.000	
			-0.250	



NOTE: -
ALL CORNERS CHAMFERED 1/45°

NO. OF TEETH	62
MODULE	2.5
PRESSURE ANGLE	20°
WIDTH ACROSS 8 TEETH	57.52 -0.158 -0.240
CORRECTION FACTOR	NIL
QTY. & TOL. ZONE	9c DIN 3967
MATING GEAR NO. OF TEETH	26
MATING GEAR DRAWING NO.	4-M-04B-27031
CENTRE DISTANCE	110

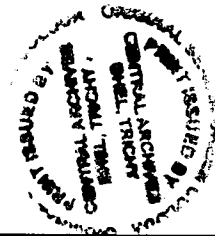
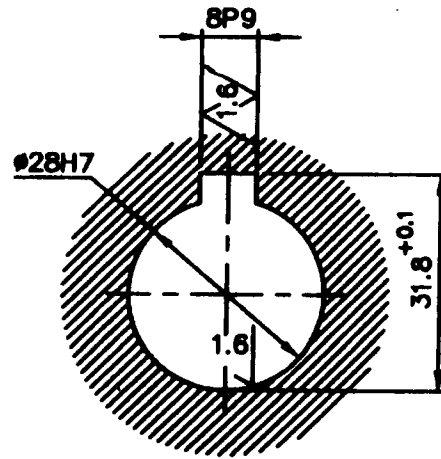
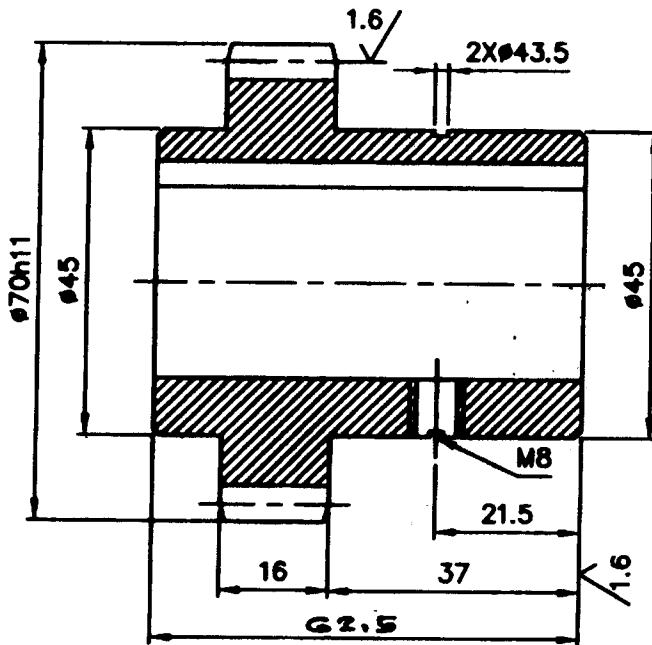
Ø160X39L	45CB	IS: 7283	2.19		
DESCRIPTION	MATERIAL	STANDARD	NET.WT. IN KGS.	DRAWING No.	ITEM No.
REFERENCE: 525/647		COMPONENT CODE: 08	EQUIPMENT CODE: 17		
SCALE	DRAWN	CHECKED	APPROVED	DATE	
1:1	R. Ramamurthy	R. Ramamurthy		03.02.03	
MACHINE: RADIAL DRILLING M/C			TYPE: DRT10 & DRT10 (NEW)		
TITLE: SPUR GEAR OD 160X62T (SADDLE DRIVE ASSY.)			DRAWING No: 4-M-04B-27030		REV.
			No. of Sheets		Sheet No.

CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHALL NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF BHARAT HEAVY ELECTRICALS LIMITED, TRICHY-600 044.

ALL DIMENSIONS ARE IN MM

8P9	-0.015	ø30H7	+0.021
	-0.051		+0.000
ø70h11	-0.000	ø70h11	-0.190

3.2 // 1.6 // ✓



NOTE:-
 ALL CORNERS CHAMFERED 1/45°
 HARDEN TO HRC 40±2

NO.OF TEETH	26
MODULE	2.5
PRESSURE ANGLE	20°
WIDTH ACROSS 4 TEETH	26.74 -0.070 -0.117
CORRECTION FACTOR	NIL
QLTY.&TOL.ZONE	9e DIN 3967
MATING GEAR NO.OF TEETH	62
MATING GEAR DRAWING NO:	4-M-04B-27030
CENTRE DISTANCE	110

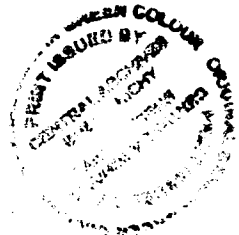
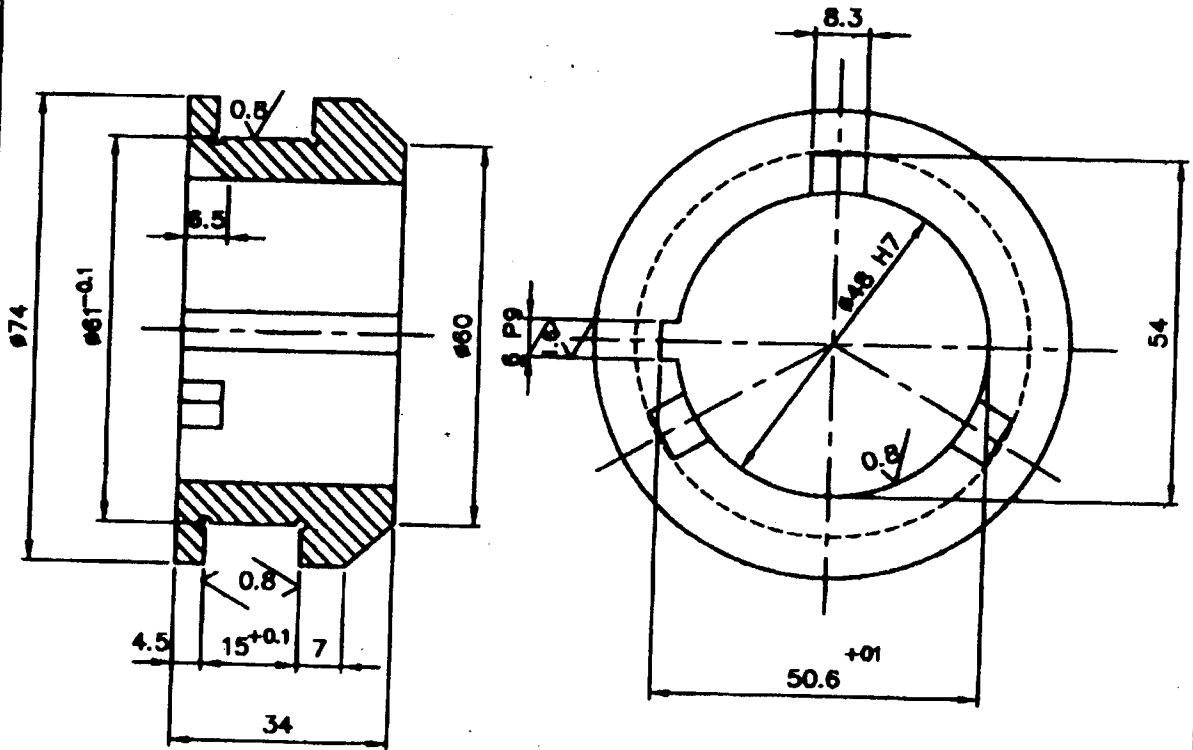
ø70x63L	55CB	IS:5517	0.750		
DESCRIPTION	MATERIAL	STANDARD	NET.VT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE: 525/6456		COMPONENT CODE: 08	EQUIPMENT CODE: 17		
SCALE: 1:1	DRAWN: <i>R. Ramamurthy</i>	CHECKED: <i>R. Ramamurthy</i>	APPROVED: <i>[Signature]</i>	DATE: 03.02.03	
MACHINE: RADIAL DRILLING M/C			TYPE: DRT10 & DRT10 (NEW)		
TITLE: SPUR GEAR OD 70x26T (SADDLE DRIVE ASSY.)			DRAWING No: 17		REV.
			4-M-04B-27031		
			Sheet No		Sheet No

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CAUTION:

ALL DIMENSIONS ARE IN MM

ø48 H7	+0.025	3.2/1.6/0.8/
	+0.000	
6 P9	-0.012	
	-0.042	



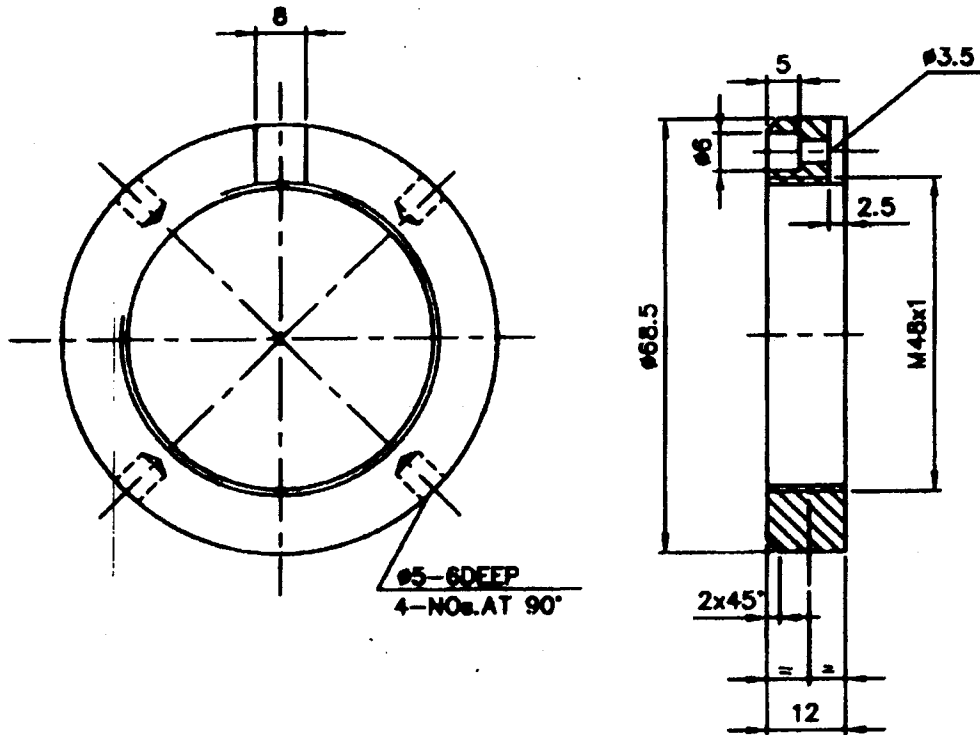
CHAMFER ALL SHARP CORNERS TO 1/45°

Ø74x34 L	45 CB	IS: 7283	0.54		
DESCRIPTION	MATERIAL	STANDARD	NET.VT.IN KGS.	DRAWING No.	IRON
REFERENCE:		COMPONENT CODE: 00	EQUIPMENT CODE: 06&17		
SCALE	DRAWN	P.A. ROSS	ALTERATIONS	DCN REF	DATE
1:1	CHECKED				
	APPROVED				
	DATE	17-07-03			
	MACHINE: RADIAL DRILLING		TYPE: DR 10/DRT 10		
TITLE: RING (BRAKE CLUTCH ASSY)			DRAWING No: 06/17		REV.
			4-M-04B-27153		
			Drawn By:		Part No:

220 17

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 BENTLEY HEAVY ELECTRICALS LIMITED
 BENTLEY HEAVY ELECTRICALS LIMITED

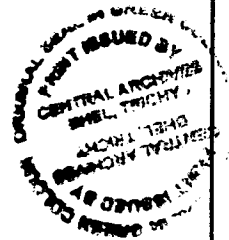
ALL DIMENSIONS ARE IN MM



NOTE: -

MATING SCREW REF. DRG. No. 3-M-04B-12308

CHAMFER ALL SHARP CORNERS TO 1/45°



X		Ø70x12t	45 C8	IS: 7283	0.17		
DESCRIPTION		MATERIAL	STANDARD	NET. WT. IN KGS.	DRAWING No.		TYPE
REFERENCE:			COMPONENT CODE: 00	EQUIPMENT CODE: 08/17			
SCALE		DRAWN	ALTERNATIONS:	DCN REF	DATE	SIGN	DRGN
1:1		P.A. ROSS <i>[Signature]</i>					
		CHECKED <i>[Signature]</i>					
		APPROVED <i>[Signature]</i>					
		DATE: 17-07-03					
MACHINE: RADIAL DRILLING				TYPE: DR 10/DRT 10			
		TITLE: NUT M48x1 (BRAKE CLUTCH ASSY.)		DRAWING No: 06/17 4-M-04B-27154		REV.	

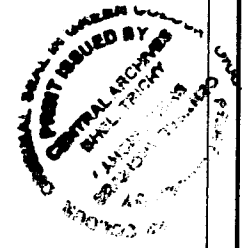
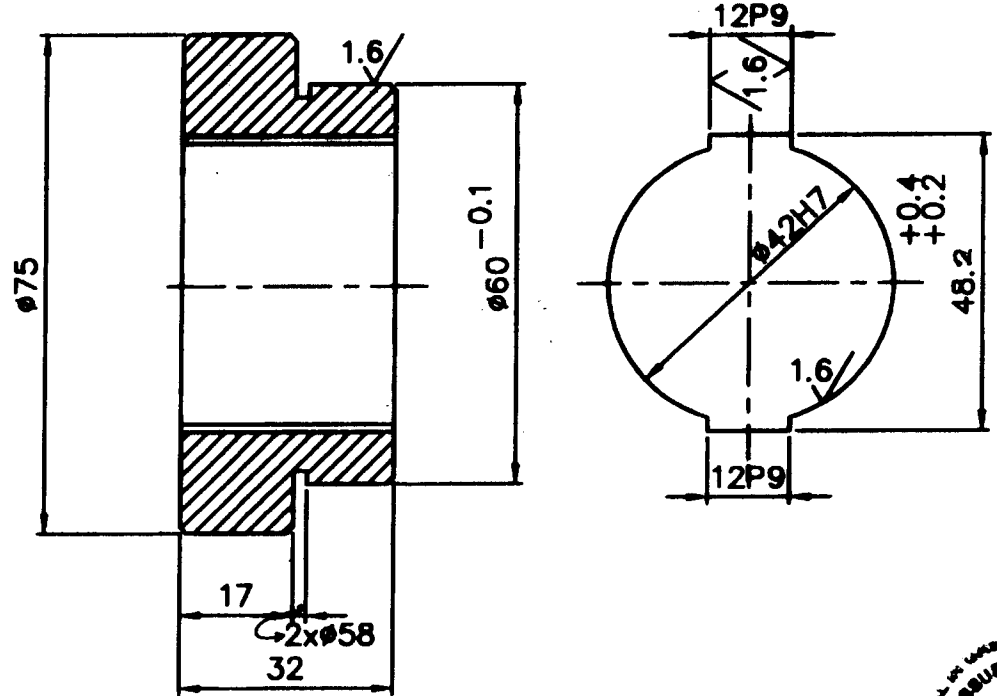
1P 230

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CAUTION:

ALL DIMENSIONS ARE IN MM

12P9	-0.018	3.2/1.6/
	-0.061	
Ø42H7	+0.025	
	+0.000	



ALL SHARP CORNER 1x45°

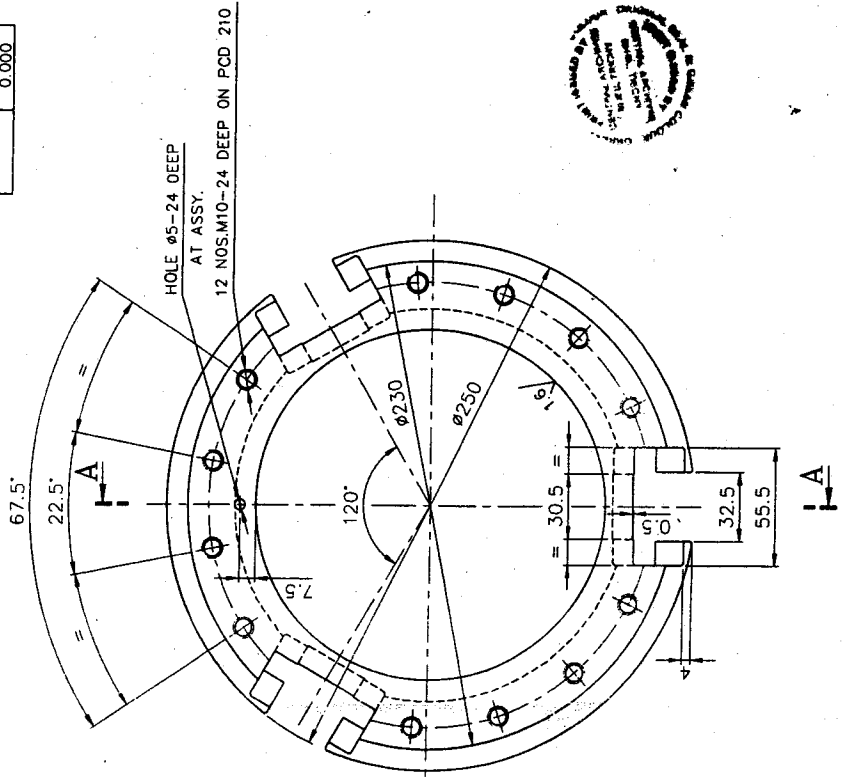
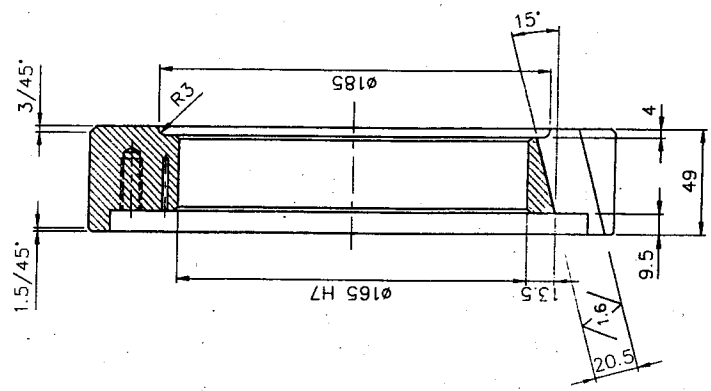
<input checked="" type="checkbox"/>	OD75x32t	45c8	IS: 7283	0.22		
	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:	525/6426-42		COMPONENT CODE: 00	EQUIPMENT CODE: 17		
SCALE	DRAWN	M.K.V. <i>M.K.V.</i>	ALTERATIONS:	DCN REF	DATE	SIGN
	CHECKED	<i>[Signature]</i>				
	APPROVED	<i>[Signature]</i>				
	DATE	8-8-03				
MACHINE: RADIAL DRILLING (PORTABLE)			TYPE: DRT10 (NEW)			
TITLE: SPACER (ID42xØD75x32t)			DRAWING No: 17			
MACHINE: (BED LONG TRAVEL GEAR BOX ASSY)			4-M-04B-27167			
			Sheet No: Sheet No:			

14 250

320
21

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TRICHYRAIPALLI - 620 014.

ALL DIMENSIONS ARE IN MM



HOLE 5-24 DEEP AT ASSY.
12 NOS. M10-24 DEEP ON PCD 210

SECTION-AA

NOTE: -
SHARP CORNERS TO BE REMOVED
HARDENED TO HRC. 35 ±2
SHARP CORNERS TO BE REMOVED AT 1/45°

QTY	DESCRIPTION	MATERIAL	IS: 5517	NET WT. IN KGS.	9.37	DRAWING NO.	ITER No.
1	Ø250x49 L	55C8					
	REFERENCE:						
	SCALE						
	DRN.						
	CHKD.						
	APPD.						
	DATE						
	MACHINE: CENTER LATHE						
	TITLE:						
	SLIDING PIECE Ø250x49 L						
	(HYDRAULIC CHUCK)						
	DRAWING No.						
	3M08A04151160						
	Sheet No.						

Ø165 H7 +0.040
0.000

3.2/1.6/1

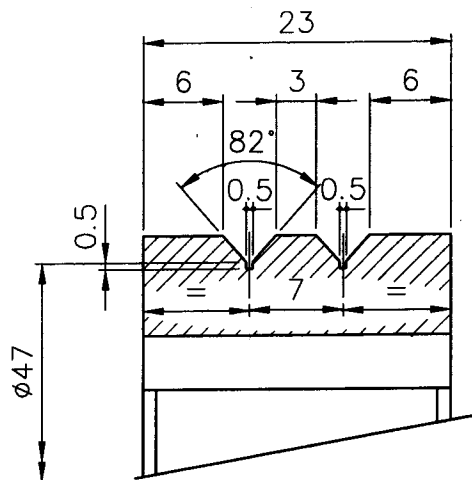
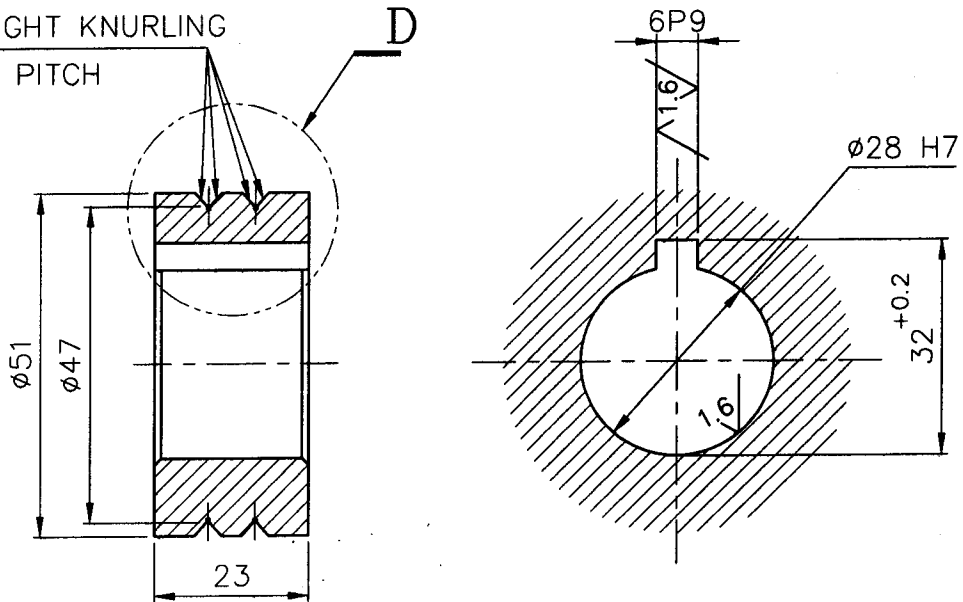
CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF BHARAT HEAVY ELECTRICALS LIMITED TRICHIRAPPALLI - 620 014.

ALL DIMENSIONS ARE IN MM

ø28 H7	+0.021	6 P9	-0.012
	0.000		-0.042

3.2//1.6/

STRAIGHT KNURLING
1mm PITCH



DETAIL-D



X		ø51x23 L	T105Cr5Mn2	IS: 3748	0.25		
No. of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
		REFERENCE:		ALTERATIONS:	DCN REF	DATE	SIGN.
SCALE	DRN.	S.Selvamanickam					
1:1	CHE.D.	R.Ramamoorthy					
2:1	APPD.	K.Ramanan					
	DATE	04.07.13					
MACHINE: PIPE TO PIPE AND PIPE FITTING & WELDING				TYPE: FINE ARC			
TITLE:		V-ROLLER ID28xOD51x23 L		DRAWING No:		REV.	
		(FEED ROLLER ASSY.)		4M10A6329717			
				Sheet No:		No. of Sheets:	

CAPITAL PURCHASE
COMMERCIAL TERMS AND CONDITIONS

1.0 QUOTATIONS

The Bidders shall submit the offer in **TWO INNER ENVELOPES** as indicated below which shall be sealed in one outer envelope.

Envelope I This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid & annexure III. This envelope should be clearly marked '**Part I - Technical and commercial bid**',

Indicating Enquiry No., Due Date and Address & Reference of the Bidder.

Envelope II This sealed envelope should contain **price as per Annexure-IV format**. This envelope should be clearly marked '**Part II - Price bid**', indicating **Enquiry No., Due Date and Address & Reference of the Bidder**.

Both the envelopes (Part I & II) shall be put in one cover (**Envelope III**), duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder

The above offer should reach this office on or before the due date by 14.00 hours (IST). Late offers will not be considered.

Tender should not be addressed to any individual's name but only by designation to

SENIOR MANAGER /PURCHASE/ CP & SP/ MM / MFG
BHARAT HEAVY ELECTRICALS LIMITED
HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI - 620 014
TAMIL NADU

Tenders should be free from **CORRECTION AND ERASURES**, Corrections if any, must be attested. All Amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in **ENGLISH** and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in **ENGLISH** or otherwise, the offers will not be considered.

2.0 OPENING OF TENDERS

The Part I - Technical & commercial bid alone would be opened on the Tender opening date.

The Part II - Price bid of technically suitable Bidders alone would be opened. The Technically Suitable Bidders would be informed about the tender opening date through e-mail.

Clarifications if any required by BHEL for Technical evaluation **would be** sought from Bidders before opening of Part II - price bid

For any queries clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail < arjerome@bheltry.co.in > & < chells@bheltry.co.in>

MM, CP & SP

Annexure For Techno Commercial Bid
Check List - to be filled and submitted along with Technical Bid

BHEL Commercial Terms and Conditions for Indigenous Supplies	Vendor's Confirmation / Comments
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	
Prices shall be quoted item wise only as per the model format enclosed	
Prices shall be quoted on "FIRM PRICE" basis only The prices should be only on F.O.R / Despatching station basis with Packing & Forwarding charges if any. Applicable % of ED & Sales Tax, Freight & Insurance, Installation & Commissioning Charges should be clearly Indicated	
Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent / Purchase order shall be clearly mentioned in the offer	
Liquidated damages @ 0.5% per week subject to a maximum of 10% of the order value shall be applicable for delay in deliveries For Details Refer Annexure- v	
Following Risk Purchase clause shall be applicable The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available, the best and the nearest available substitute therefore The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases	
Payment term for supply portion: Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials For details Refer Annexure- v	
Erection / commissioning: (if applicable only) Erection / commissioning charges if any has been mentioned in the offer or else confirmation that Erection / commissioning shall be done at free of cost is available in the offer,	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning	
Final inspection and acceptance of equipment will be after installation at BHEL, Trichy	
The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Offers should be submitted only in sealed cover super-scribing clearly the Enquiry reference and due date.	
% of Excise Duty with cess	
% of TAX (CST/VAT)-(INGST with FORM-17 or CST with C-FORM)	
Packing & Forwarding Charges (if any in % only)	
Percentage of Freight& transit insurance charges, if any Freight charges from Dispatching station to BHEL, Tiruchirappalli • Supplier should quote for F.O.R-BHEL Trichy Stores.	
As per Commercial terms and conditions, acceptance for participation in Reverse auction (RA).Yes/No to be indicated	
Name of the person for participating reverse auction	
Land Line Number	
Fax Number	
Mobile Number	
E-mail ID	

NOTE:-

- It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- Your offer should be indicating applicable if any P&F Charges, % of ED, Sales Tax -CST or VAT, Service Tax), Freight, Insurance and Installation and Commissioning Charges etc., as per our Price Format
- Your specific acceptance to our Payment terms, LD & Risk Purchase Clause are essential for consideration of your offer. Other wise your offer is liable for rejection.
- No row shall be left blank. Please indicate NA, In case the item is "not applicable"

Payment Term (Indigenous)	
If materials are receivable at Stores/Trichy without PBG	Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials.
If materials are receivable at Stores/Trichy with PBG	Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials and against 10% PBG valid for the warranty period.
Any deviation in the above payment term will attract loading as mentioned below. "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.	

Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of Goods to Site/Stores with Consignee copy attached. In this case Loading will be 3% on the offered value.
Offers of indigenous Suppliers with payment terms as LC/Advance Payment are liable for rejection.

Liquidated Damages / Penalty -
Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.
For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value.
Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).

Guarantee / Warranty Period – (if applicable)
Normally No deviation permitted and the deviated offers are liable for rejection.

Ranking-
BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.

Performance Bank Guarantee – (if applicable)
Normally No deviation permitted and the deviated offers are liable for rejection.

NOTE:-

1. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working day.
2. BHEL reserves the right to go for a reverse auction (RA) instead of opening the submitted sealed bid which will be decided after technical evaluation. Information and general terms and conditions covering RA are given in commercial terms and conditions.
3. Corrigendum if any, with respect to this tender will be hosted only in the website <http://www.bhel.com> or <http://tenders.gov.in>. You are requested to visit the website regularly for updates.

Special Provisions for Micro and Small Enterprises (MSE)

1. 20% of the tendered quantity is earmarked for MSE suppliers in this tender.
2. Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs.
3. In case MSE vendor participating in the tender quotes within the price band of L1+15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.
4. MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II certificate having deemed validity (Two years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with CA certificate (Format enclosed Annexure - VII) applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Offer/s received without these documents will lead to consideration of their offer at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier.

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
(hereinafter referred to as 'company') having its registered office at
is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as on
date..... as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises: Investment in plant and machinery** (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises: Investment in equipment** (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:
Rs.....Lacs

The above investment of Rs.....Lacs is within permissible limit of
Rs.....Lacs forMicro / Small (Strike off which is not applicable)
Category under MSMED Act 2006.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant