



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	Enquiry Date	Due Date for Quotation
2661400193 - 55	22.03.2014	19.04.2014
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	7508F1400100 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO. 2M-08F-14-04638-01 VENDOR QUALIFYING CRITERIA ONLY THOSE VENDORS WHO SATISFY THE FOLLOWING CONDITIONS WILL GET QUALIFIED TO PARTICIPATE IN THE TENDER: 1.VENDOR SHOULD HAVE MINIMUM 3 YEAR EXPERIENCE IN THIS FIELD. 2.PREVIOUS PO DETAILS FOR SUPPLYING SIMILAR KIND OF ITEMS SHOULD BE SUBMITTED ALONG WITH OFFER. OTHERWISE OFFER WILL BE REJECTED. 3.BHEL RESERVES THE RIGHT TO VISIT THE VENDOR'S WORKS FOR VERIFYING THE MANUFACTURING FACILITIES AND ANY OTHER CREDENTIAL FURNISHED BY THE VENDOR IN CASE THE INFORMATION FURNISHED WITH THE OFFERS FOUND TO BE FALSE /INCORRECT, THE OFFER SHALL BE REJECTED. COMMON NOTE FOR ITEM 10 TO 130: (1) All the items shall be manufactured as per standard JIS B 1192, Class C1 accuracy (or) ISO 3408, grade 01 accuracy. Accuracy levels other than mentioned liable for rejection. (2)After placement of purchase order, the Supplier should send Ball screw drawings for BHEL approval within 4 weeks.After getting drawing approval from BHEL , the supplier should start the manufacture of Ball screw.Drawing approval will be given by BHEL within 1 week.These periods (4 + 1 = 5 weeks) should be taken into account while quoting delivery period by the supplier. (3) Supplier shall submit the Inspection Report along with the supply of items.	NO	1.000	1.00	20.06.14
20	7508F1400700 BALL SCREW AND NUT ASSEMBLY AS PER DRG NO: 3M-08F-14-12047-01	NO	1.000	1.00	20.06.14

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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2661400193 / 22.03.2014

30	7508D1601200 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO. 3M-08D-16-13907-01	NO	1.000	1.00	20.06.14
40	7501B1401000 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO. 3M-01B-14-14014	NO	1.000	1.00	20.06.14
50	7508D1601300 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO. 3M-08D-16-14561	NO	2.000	2.00	20.06.14
60	7508F1600200 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO 3M-08F-16-14983	NO	1.000	1.00	20.06.14
70	7501B2003300 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO.: 3M-01B-20-14065	NO	1.000	1.00	20.06.14
80	7501B2000100 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO. 3M-01B-20-12459	NO	1.000	1.00	20.06.14
90	7508F0800500 BALL SCREW AND NUT ASSEMBLY AS PER DRG. NO. 3M-08F-08-12481	NO	1.000	1.00	20.06.14
100	7501B2600100 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO. 3M-01B-26-14960-01	NO	4.000	4.00	20.06.14
110	7514A0301100 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO. 3M-14A-03-14776.	NO	2.000	2.00	20.06.14
120	7514A0104000 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO. 3M-14A-01-15102	NO	2.000	2.00	20.06.14
130	7508F1202600 BALL SCREW ROD AND NUT ASSEMBLY AS PER DRG. NO. 3M-08F-12-14032	NO	1.000	1.00	20.06.14

General Note:

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

ENCLOSURES:

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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2661400193 / 22.03.2014

ANNEXURE II,III,IV,V & 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.
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,

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>

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	
<p>Following Risk Purchase clause shall be applicable</p> <p>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</p>	
<p>Payment term for supply portion:</p> <p>Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials</p> <p>For details Refer Annexure- v</p>	
<p>Erection / commissioning: (if applicable only)</p> <p>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,</p>	
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)	
<p>Percentage of Freight& transit insurance charges, if any Freight charges from Dispatching station to BHEL, Tiruchirappalli</p> <ul style="list-style-type: none"> 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)

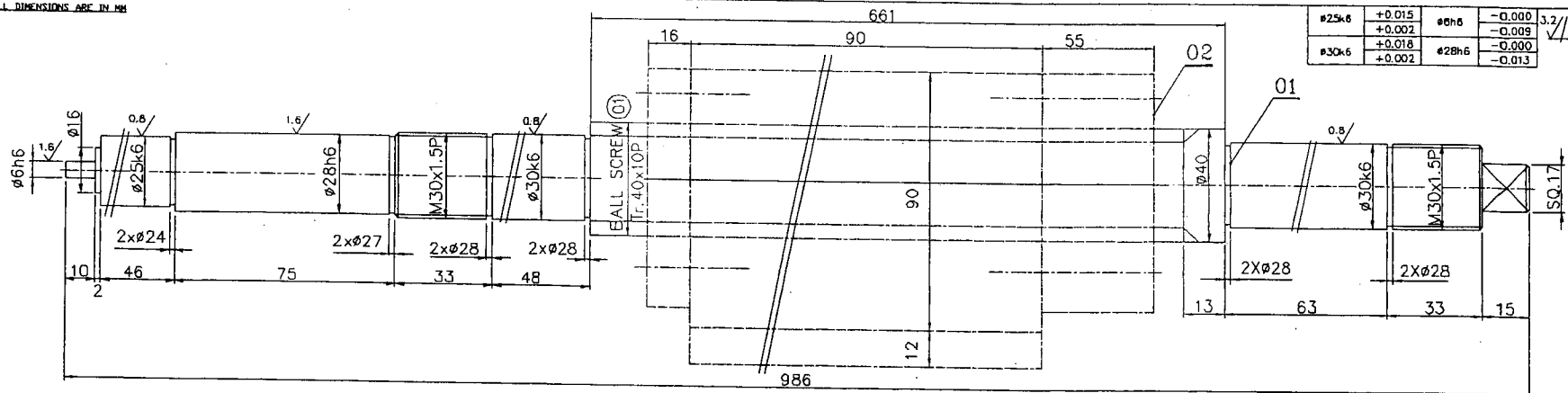
Name -

Membership number -

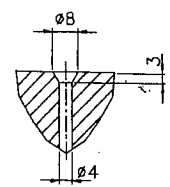
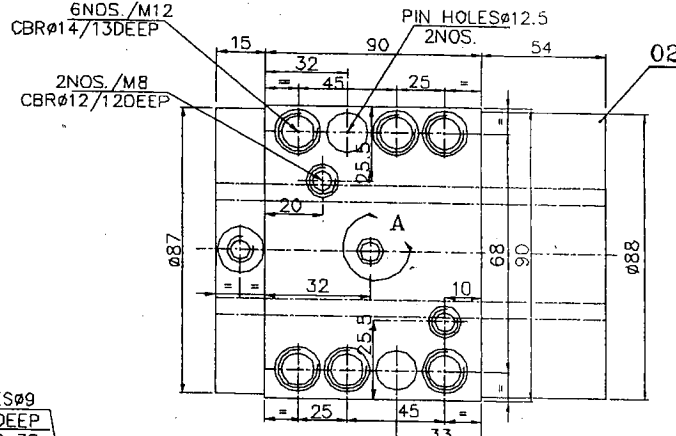
Seal of Chartered Accountant

CAUTION: THE DRAWING IS THE PROPERTY OF THE COMPANY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE COMPANY. ALL RIGHTS ARE RESERVED.

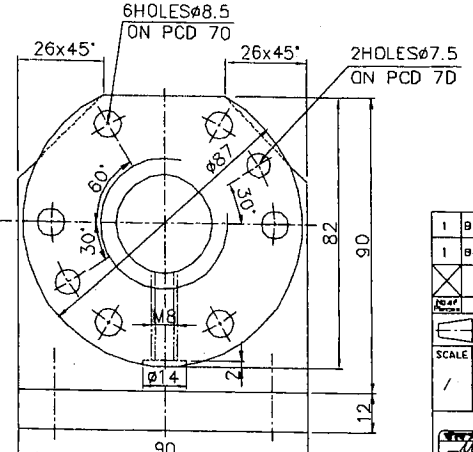
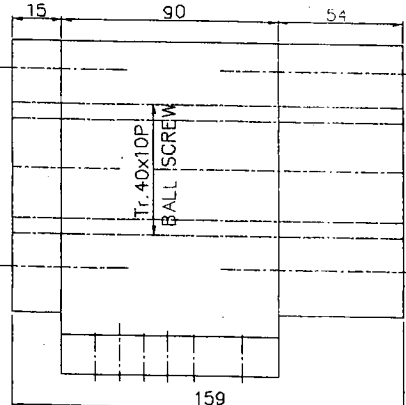
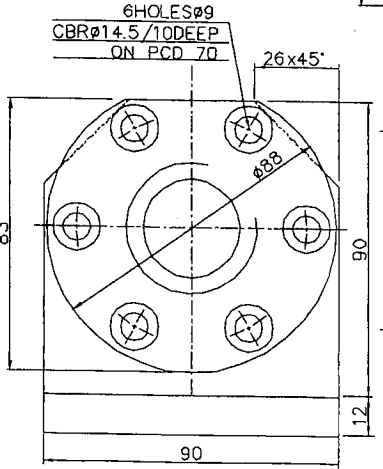
ALL DIMENSIONS ARE IN MM



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#30k6	+0.018	#28h6	-0.000	
	+0.002		-0.013	



DETAIL-A



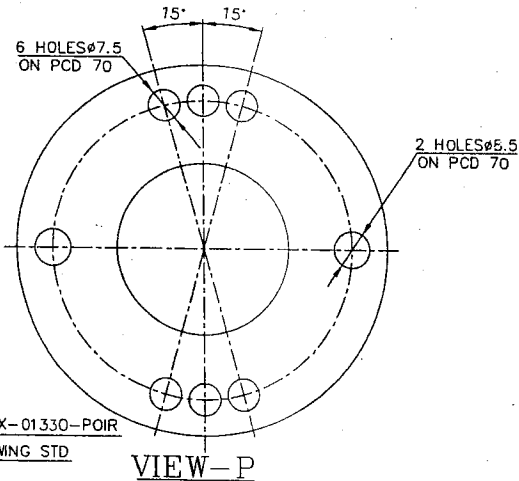
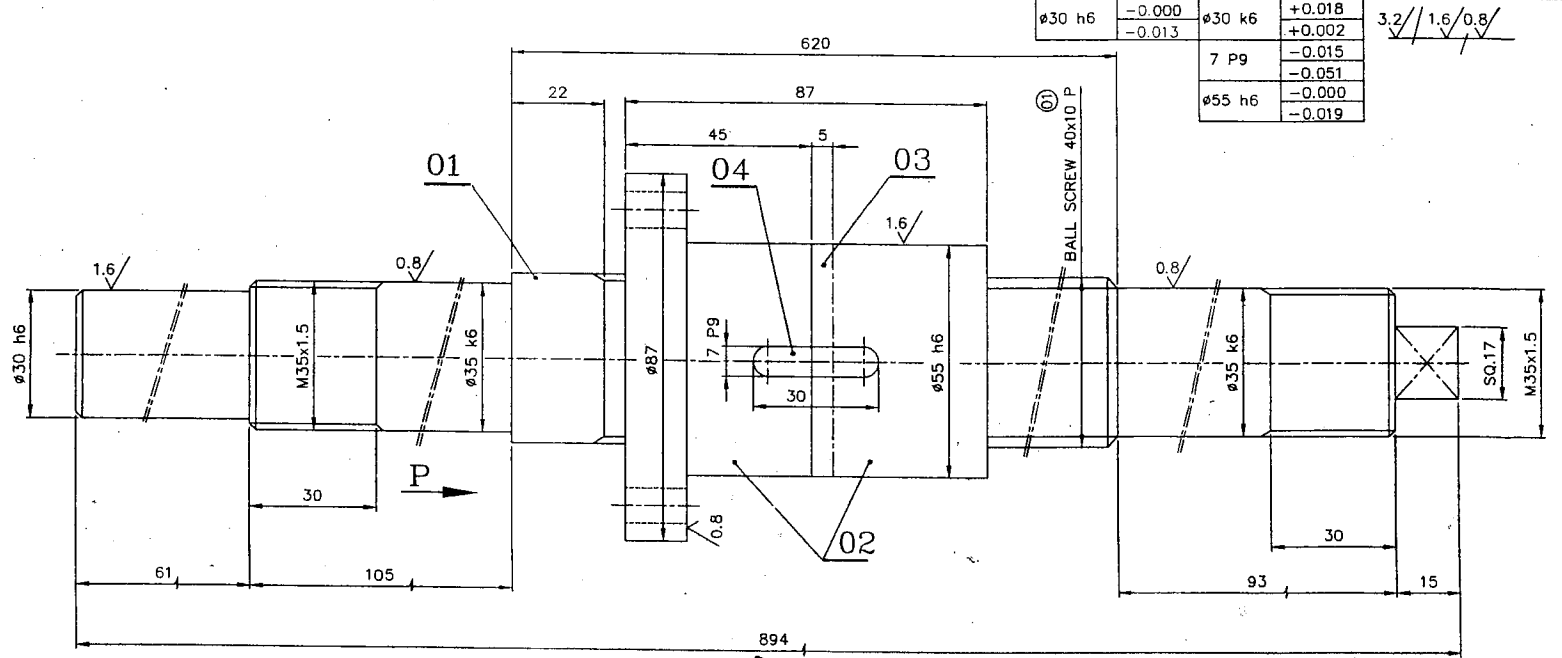
BALL SCREW DESIGNATION:
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NOMINAL DIA LEAD - AS PER DRAWING STD
 ACCURACY GRADE: 01



FOR TENDERING PURPOSE ONLY

1	BALL SCREW NUT Tr.40x10Px150L	IS: 14872			02
1	BALL SCREW ROD Tr.40x10Px987L	IS: 14872			01
DESCRIPTION		MATERIAL	STANDARD	NET WT. IN KGS.	DRAWING No.
REFERENCE		ALTERATIONS:		DCN REF	DATE
SCALE		BALL SCREW & NUT		DATE	SIGN.
DRAWN		Tr.40x10P WAS Tr.40x5P		25/08/07	CSJ
CHECKED		DATE			
APPROVED		DATE			
MACHINING		TYPE:			
CNC LATHE		SBONC 35			
DRAWING NO		DRAWING NO			
BALL SCREW & NUT		2M08F140463801			
(X-AXIS)		Sheet No:			
		No. of Sheets:			

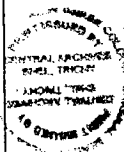
CAUTION: THIS DRAWING IS OUR SOLE PROPERTY AND SHOULD NOT BE USED IN ANY FORM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF BHARAT HEAVY ELECTRICALS LIMITED, TRICHIRAPPALLI - 689 014.



BALL SCREW DESIGNATION: -
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NORMAL DIA. LEAD-AS PER DRAWING STD
 ACCURACY GRADE: 01

FOR TENDERING PURPOSE ONLY

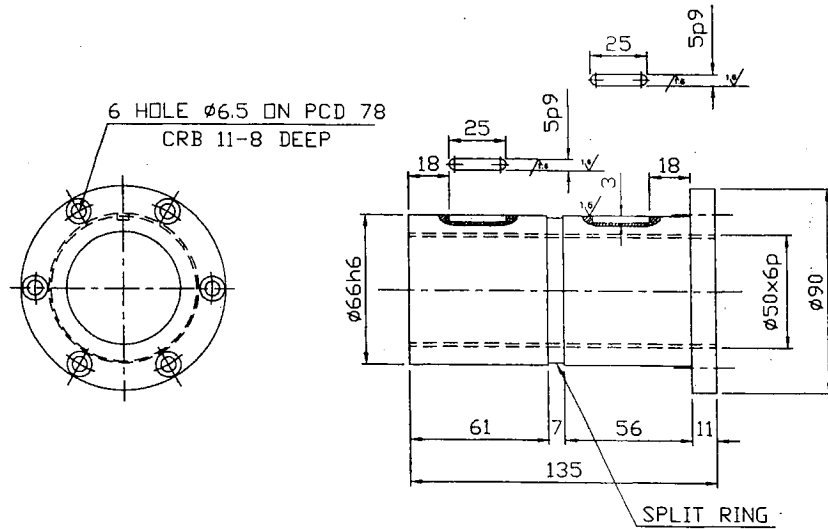
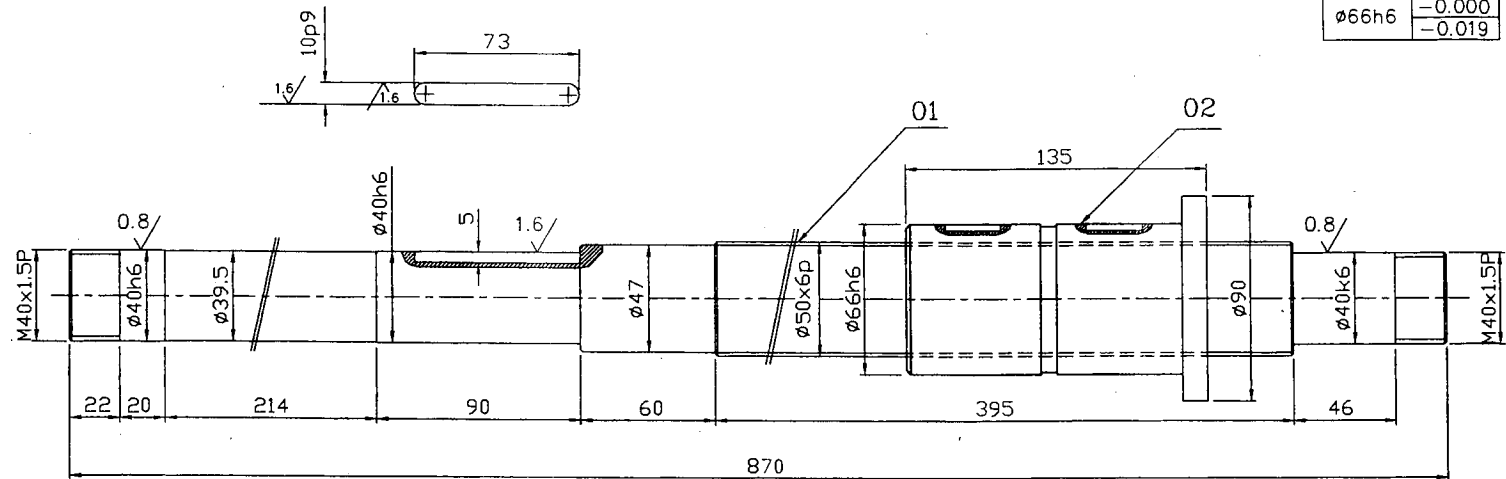
1	KEY 7x4.5tx30 L								04																																																									
1	SPACER(ø55x5t)	45 CB	IS: 7283						03																																																									
1	BALL SCREW NUT (ø40x10 P-87 L)	45 CB	IS: 7283						02																																																									
1	BALL SCREW ROD (ø40x10 P-849 L)	45 CB	IS: 7283						01																																																									
<table border="1"> <thead> <tr> <th>No. of Pieces</th> <th>DESCRIPTION</th> <th>MATERIAL</th> <th>STANDARD</th> <th>NET.WT.IN KGS.</th> <th>DRAWING No.</th> <th>ITEM No.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>REFERENCE: BALL SCREW</td> <td></td> <td>ALTERATIONS: 40x10P WAS 40x5 P</td> <td></td> <td>DCN REF</td> <td>DATE</td> <td>SIGN.</td> <td>INDEX</td> <td></td> </tr> <tr> <td>SCALE</td> <td>DRAWN/TCO P.A.ROSS</td> <td></td> <td></td> <td></td> <td></td> <td>101009</td> <td>CSJ.</td> <td></td> <td>(01)</td> </tr> <tr> <td>1:1</td> <td>CHECKED R.RAMAMOORTHY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>APPROVED C.S.JAYASHEELAN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>DATE 24-04-01/10-09</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.	1	REFERENCE: BALL SCREW		ALTERATIONS: 40x10P WAS 40x5 P		DCN REF	DATE	SIGN.	INDEX		SCALE	DRAWN/TCO P.A.ROSS					101009	CSJ.		(01)	1:1	CHECKED R.RAMAMOORTHY										APPROVED C.S.JAYASHEELAN										DATE 24-04-01/10-09								
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	DATE 24-04-01/10-09																																																																	
MACHINE: CNC LATHE					TYPE: SB CNC 35																																																													
TITLE: BALL SCREW ø40x10Px894 L					DRAWING No: 3M08F141204701																																																													
					REV. No. of Sheets																																																													



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ALL DIMENSIONS ARE IN MM

ø40k6	+0.018	ø40h6	-0.000	1.6/0.8/
	+0.002		-0.016	
		ø66h6	-0.000	
			-0.019	



ITEM No: -02

BALL SERREW DESIGNATION:-

BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NOMAL DIA LEAD-AS PER DRAWING STD.
 ACCURACY GRADE:01

FOR TENDERING PURPOSE ONLY.

NOTE: -CHAMFER ALL SHARP CORNERS TO 1/45°



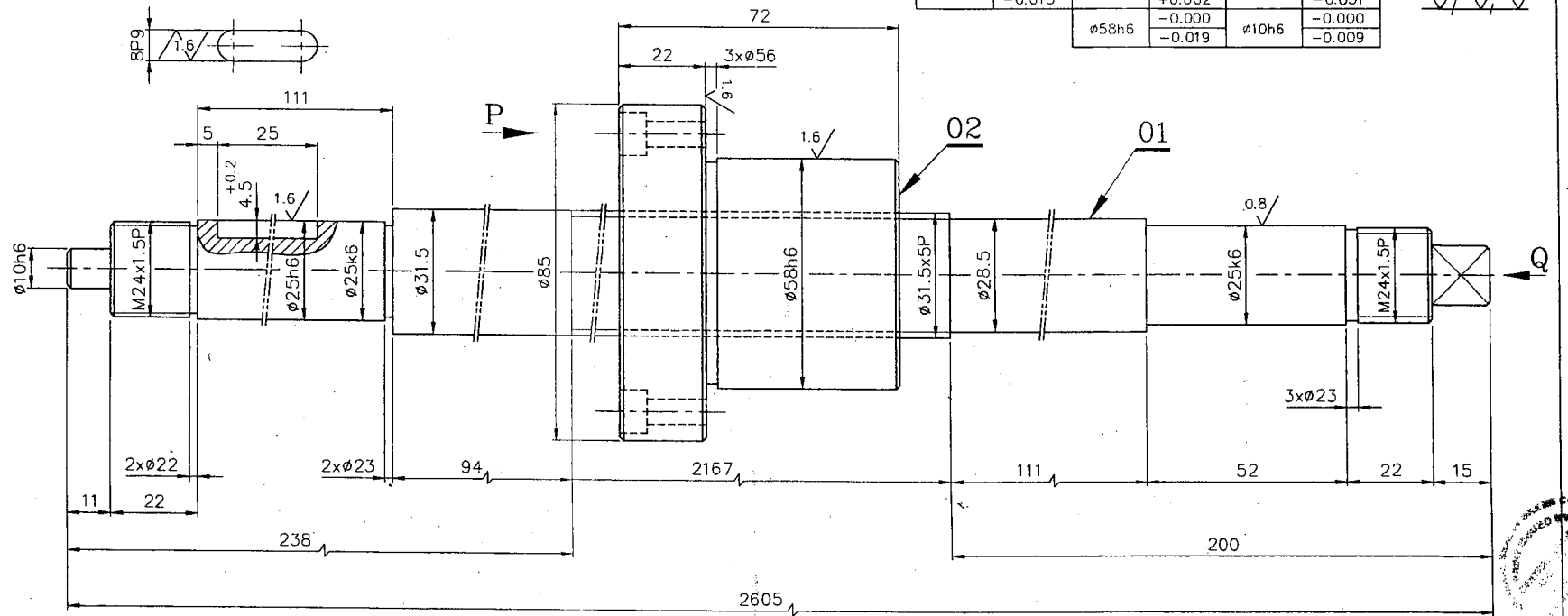
1	BALL SCREW NUT ø50x6Px135L		IS:14872				02
1	BALL SCREW ROD ø50x6Px870L		IS:14872				01
No. of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE		ALTERATIONS		DCN REF	DATE	SIGN.	INDEX
SCALE		DRAWN/TCD (TTB)		MOUNTING PL&MATL.			
1:2		CHECKED	R.RAMAMOORTHY	SPECN.ADDED			
		APPROVED	C.S.JAYASHEELAN				
		DATE	16.11.09				
MACHINE: EDGE PLANNING				TYPE: BNF 130			
TITLE: BALL SCREW ROD ø50x6P (FACE PLATE ASSY)				DRAWING No.		REV.	
				3M01B1414014			
				Sheet No.		No. of Sheets.	

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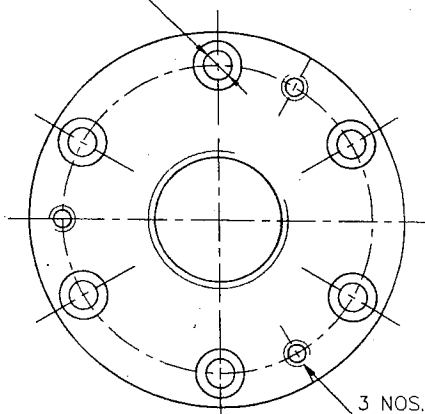
ALL DIMENSIONS ARE IN MM

ø25h6	-0.000 -0.013	ø25k6	+0.015 +0.002	8P9	-0.015 -0.051
		ø58h6	-0.000 -0.019	ø10h6	-0.000 -0.009

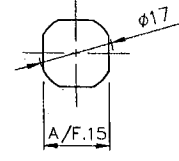
3.2 / 1.6 / 0.8 /



6 HOLES ø6.5 CBR.ø11-7DEEP
ON PCD70



VIEW-P EQUAL SPACE



VIEW-Q

FOR TENDERING PURPOSE ONLY

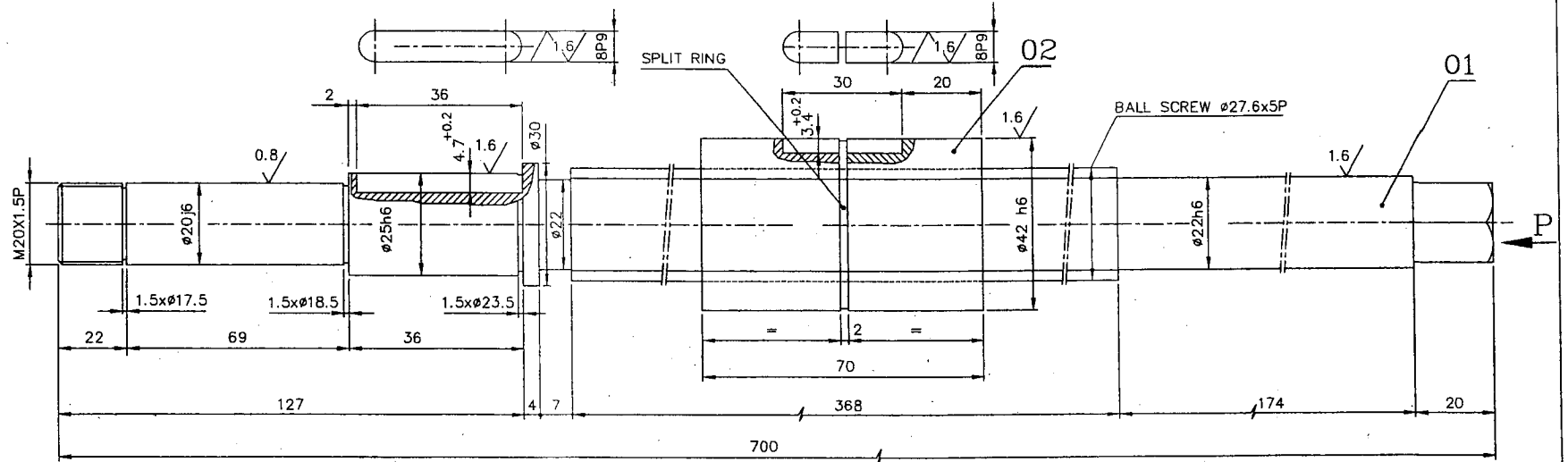
BALL SCREW DESIGNATION:-
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NORMAL DIA. LEAD-AS PER DRAWING STD
 ACCURACY GRADE:1
 CHAMFER CORNERS FOR 1.5/45°

1	BALL SCREW NUTø85x72L		IS:14872						02
1	BALL SCREW RODø31.5X2605L		IS:14872						01
No. of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.		
X		REFERENCE:		ALTERATIONS:	DCN REF	DATE	SIGN.	INDEX	
SCALE	DRAWN	S.Selvamanickam							
1:1	CHECKED	R.RAMAMOORTHY							
	APPROVED	C.S.JAYASHEELAN							
	DATE	22.10.10'							
MACHINE: TURRET LATHE				TYPE: ECONO CNC					
TITLE: BALL SCREW ASSY. ø31.5x5Px2605L				DRAWING No:		3M08D1614561		REV.	
(LONGITUDINAL)				Sheet No		No. of Sheets			

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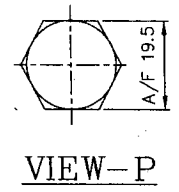
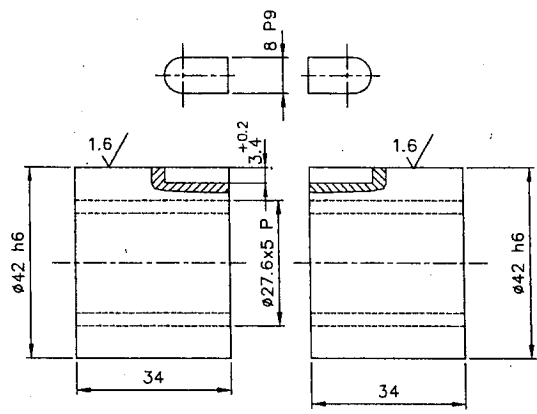
ALL DIMENSIONS ARE IN MM

8P9	-0.015	ø22h6	-0.000	3.2 // 1.6 // 0.8 //
	-0.051	ø25h6	-0.013	
ø42 h6	-0.000	ø20j6	+0.009	
	-0.016		-0.004	



BALL SCREW DESIGNATION: -
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NOMINAL DIA LEAD - AS PER DRAWING STD
 ACCURACY GRADE: 01

FOR TENDERING PURPOSE ONLY

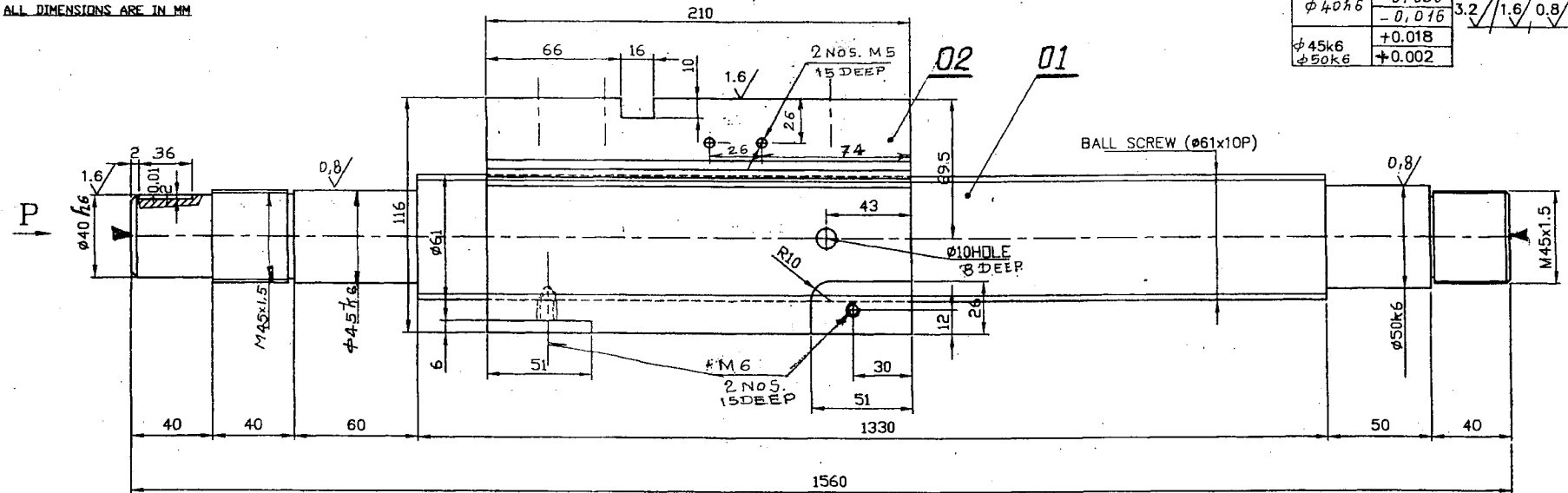


ITEM No.02

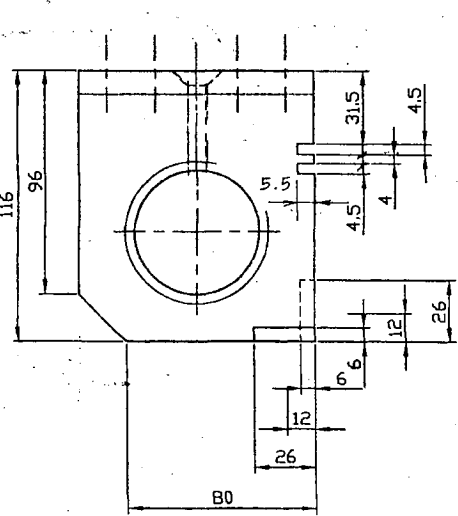
02	BALL SCREW NUT ø27.6x5P-34L		IS:14872				02
01	BALL SCREW ROD ø27.6x5Px700L		IS:14872				01
No of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.	
	REFERENCE: LOC.NO.4807 2935		ALTERATIONS:	DCN REF	DATE	SIGN.	INDEX
SCALE	DRAWN PA.ROSS						
	CHECKED R.RAMAMOORTHY						
1:1	APPROVED C.S.JAYASHEELAN						
	DATE 05-02-10						
MACHINE: HORIZONTAL BORING				TYPE: SACEM-MSMG-125			
TITLE: BALL SCREW ASSY. ø27.6x5Px7DOL (FACE PLATE ASSY.)				DRAWING No:		REV.	
				3M01B2014065			
				Sheet No:		No of Sheets:	

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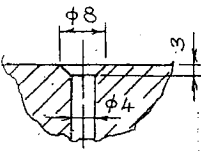
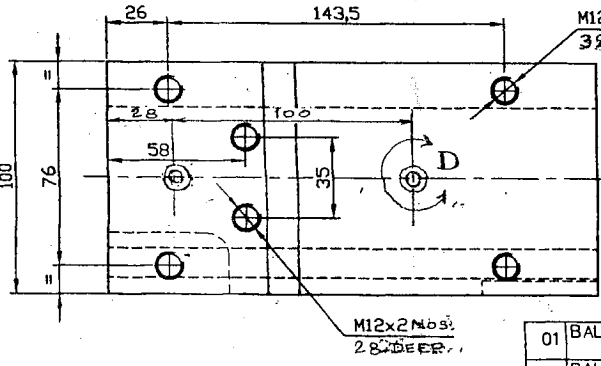
ALL DIMENSIONS ARE IN MM



$\phi 40h6$	-0.000	3.2//1.6//0.8/
	-0.016	
$\phi 45k6$	+0.018	
$\phi 50k6$	+0.002	



VIEW-P



DETAIL-D

M12x4 NOS: BALL SCREW DESIGNATION
 3/8 DEEP BALL SCREW ISO-3408-XXX-XXX-01330-P01R
 NOMINAL DIA + LEAD-AS PER DRAWING STD.
 ACCURACY GRADE : 01

FOR TENDERING PURPOSE ONLY

SCANNED

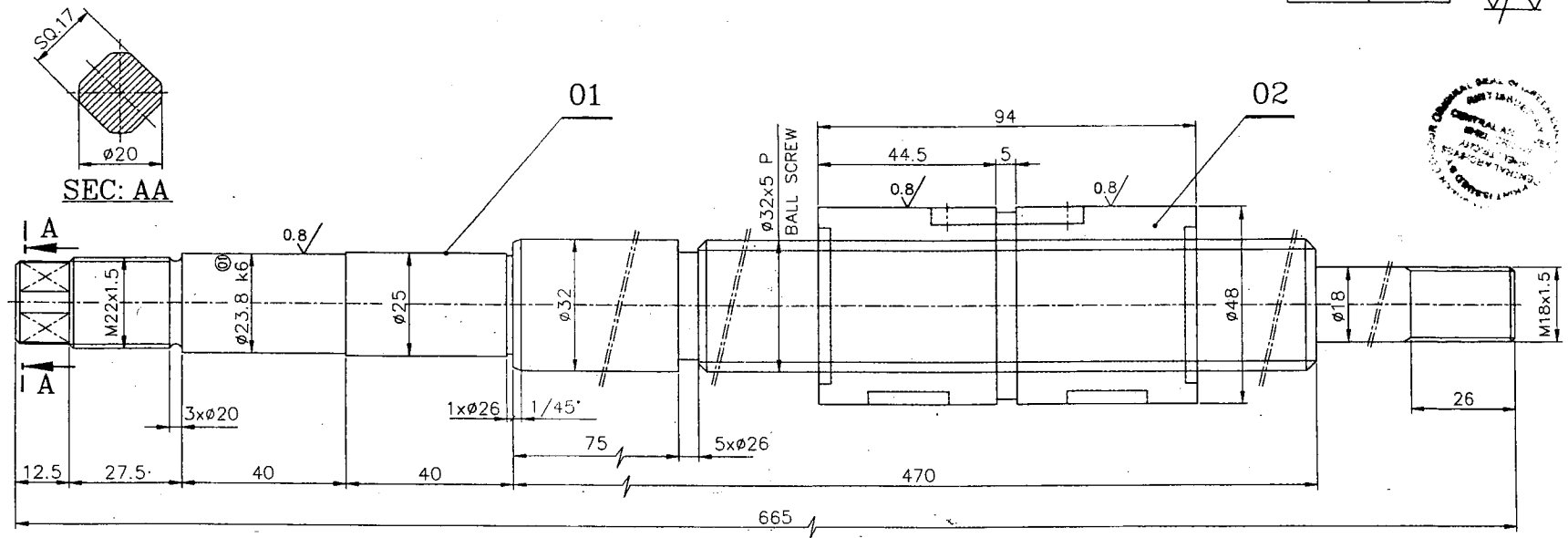
01	BALL SCREW NUT (Ø61x10P-210)		JS:14872			02
01	BALL SCREW ROD (Ø61x10P-1560)		JS:14872			01
NO OF Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
	REFERENCE		ALTERATIONS	DCN REF	DATE	SIGN. INDEX
SCALE	DRAWN	BY M.K.V				
1:2	CHECKED	R. Parmanath				
	APPROVED	Upam				
	DATE	26-07-04				
	MACHINE	NC LATHE		TYPE	VDF	
	TITLE	BALL SCREW		DRAWING No.		C.D. REV.
		[X-AXIS] (Ø61x10P-1560)		3M08F0812481		
				Sheet No.		No. of Sheets



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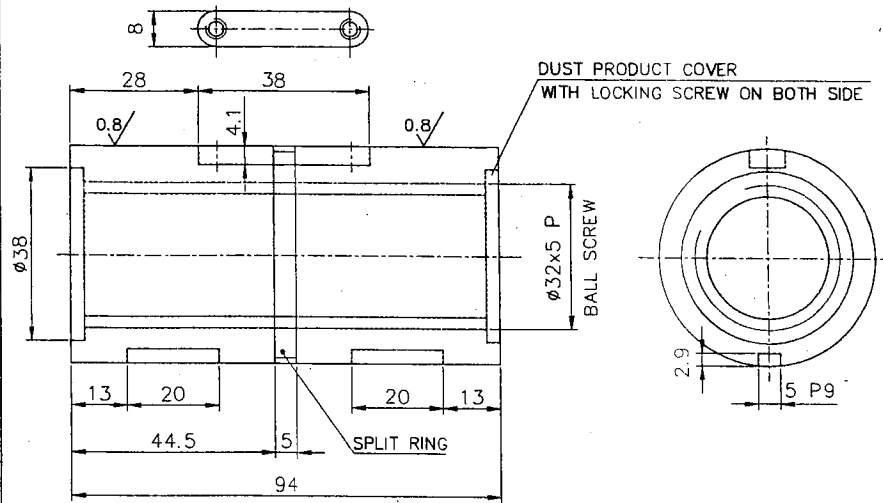
ALL DIMENSIONS ARE IN MM

ø23.8 k6	+0.015	1.6 / 0.8 /
	+0.002	



FOR TENDERING PURPOSE ONLY

BALL SECREW DESIGNATION: -
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NORMAL DIA.LEAD-AS PER DRAWING STD
 ACCURACY GRADE:01
 ALL CORNERS TO BE CHAMFERED TO 1/45'



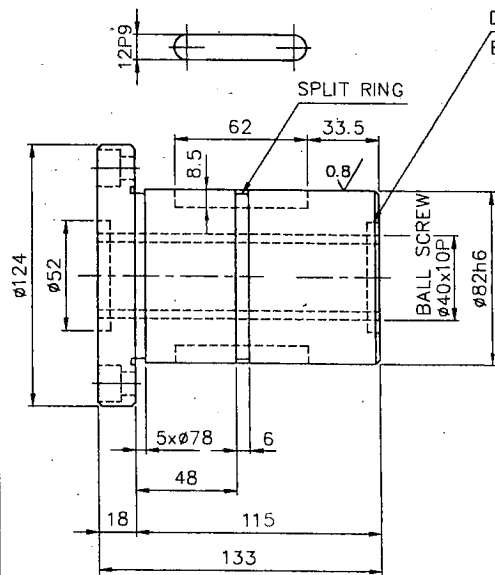
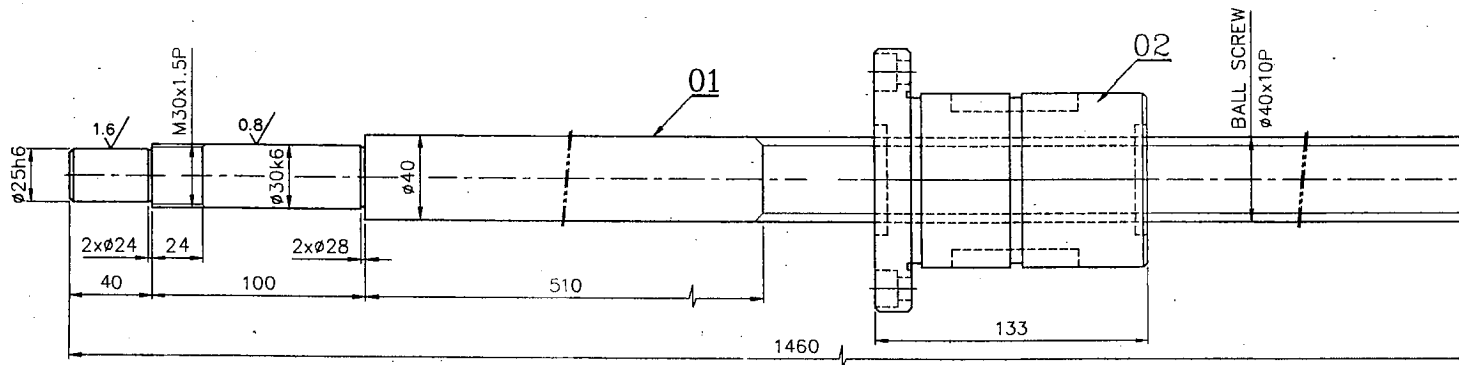
1	BALL SCREW NUT ø32x5 Px94L	IS:14872		02		
1	BALL SCREW ROD ø32x5 Px665L	IS:14872		01		
No of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
	REFERENCE	ALTERATIONS	DCN REF	DATE	SIGN.	INDEX
SCALE	DRN. P.ALBET ROSS	DIA 23.8 k6 WAS DIA 24		26.04.13	K,R	(01)
1:1	CHD. R.RAMAMOORTHY					
	APP. C.S.JAYASHEELAN					
	DATE 11-08-12					
MACHINE: HORIZONTAL BORING & DRILLING			TYPE: UTX 160/HB 633			
TITLE: BALL SCREW ROD ø32x5 Px665 L (U-AXIS)			DRAWING No:		REV.	
			3M01B261496001			
			Sheet No:		No of Sheets:	

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ALL DIMENSIONS ARE IN MM

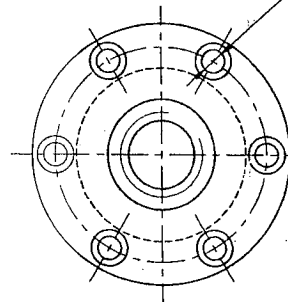
ø25h6	-0.000 -0.013	ø30k6	+0.015 +0.002	12P9	-0.018 -0.061
				ø82h6	-0.000 -0.022

1.6 / 0.8



DUST PRODUCT COVER
BOTH SIDES WITH LOCKING SCREW

6 HOLES ø11 CBR 7.5-11 DEEP
ON PCD 102



BALL SCREW DESIGNATION: -

BALL SCREW ISO-3408-XXX-XXX-01330-POIR

NOMINAL DIA LEAD - AS PER DRAWING STD

ACCURACY GRADE: 01

ALL CORNERS TO BE CHAMFERED 1/45'

FOR TENDERING PURPOSE ONLY

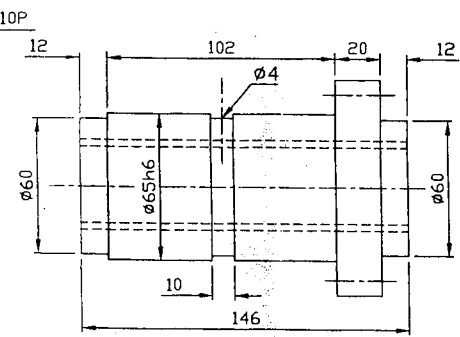
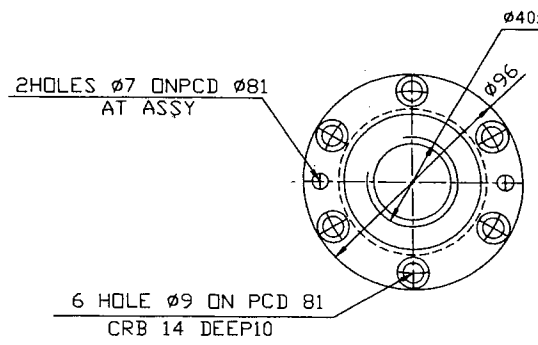
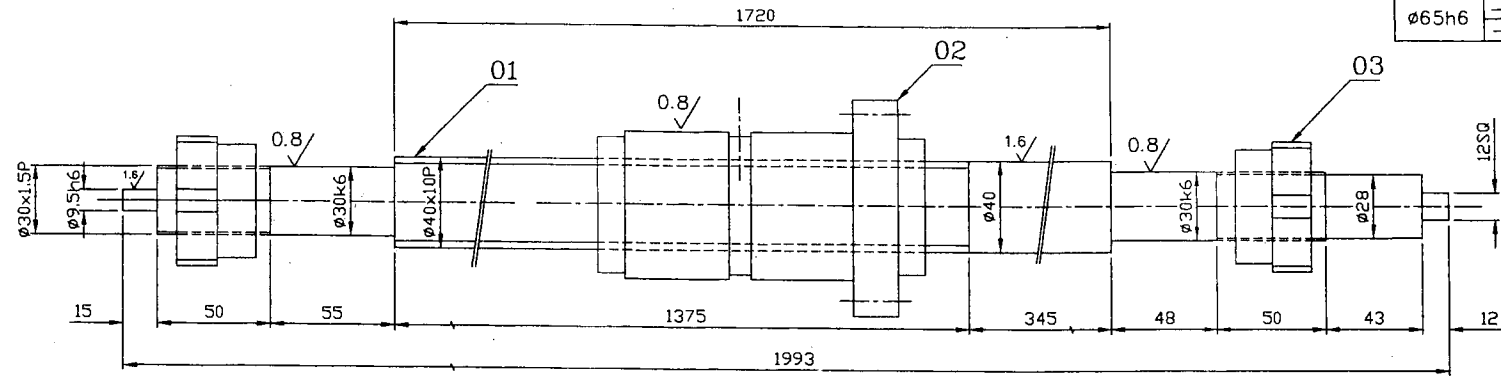
1	BALL SCREW NUT #40x10Px133L	IS:14872				02	
1	BALL SCREW ROD #40x10Px1460L	IS:14872				01	
No of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE		ALTERATIONS		DCN REF	DATE	SIGN.	INDEX
SCALE	DRAWN	S.Selvamanicam					
	CHECKED	R.RAMAMOORTHY					
1:2	APPROVED	C.S.JAYASHEELAN					
	DATE	03.11.11'					
MACHINE:		VERTICAL MACHINING CENTER	TYPE:		PAL-VA-50		
TITLE:		BALL SCREW ROD ASSY.		DRAWING No.			
		ø40x10Px1460L		3M14A0314776			
		(Y-AXIS)		Sheet No.		No of Sheets	



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ALL DIMENSIONS ARE IN MM

ø30k6	+0.015	ø9.5h6	-0.000	1.6/0.8/
	+0.002		-0.009	
ø65h6	-0.000	ø28	-0.019	
	-0.019			

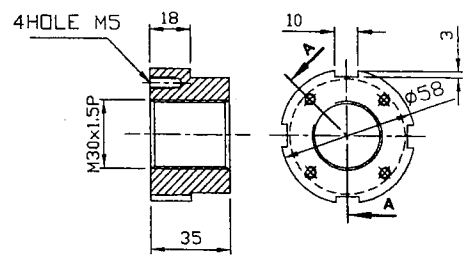


BALL SERREW DESIGNATION:-
 BALL SCREW ISO-3408-XXX-XXX-01330-POIR
 NOMAL DIA LEAD-AS PER DRAWING STD.
 ACCURACY GRADE:01

FOR TENDERING PURPOSE ONLY.

NOTE:-CHAMFER ALL SHARP CORNERS TO 1/45°

ITEM No: -02



SECTION AA

ITEM No: -03

1	LOCK NUT ø30x1.5Px35L		IS:14872			03																																										
1	BALL SCREW NUT ø40x10Px146L		IS:14872			02																																										
1	BALL SCREW ROD ø40x10Px1993L		IS:14872			01																																										
<table border="1"> <tr> <th>No. of Pieces</th> <th>DESCRIPTION</th> <th>MATERIAL</th> <th>STANDARD</th> <th>NET.WT.IN KGS</th> <th>DRAWING No.</th> <th>ITEM No.</th> </tr> <tr> <td colspan="3">REFERENCE:</td> <td>ALTERATIONS:</td> <td>DCN REF</td> <td>DATE</td> <td>SIGN.</td> </tr> <tr> <td colspan="3">SCALE: DRAWN/TCD (TTB)</td> <td colspan="4">MOUNTING PL&MATL.</td> </tr> <tr> <td colspan="3">1:2</td> <td>CHECKED R.RAMAMOORTHY</td> <td colspan="3">SPECN.ADDED</td> </tr> <tr> <td colspan="3">APPROVED C.S.JAYASHEELAN</td> <td colspan="4"></td> </tr> <tr> <td colspan="3">DATE 05.12.09</td> <td colspan="4"></td> </tr> </table>							No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS	DRAWING No.	ITEM No.	REFERENCE:			ALTERATIONS:	DCN REF	DATE	SIGN.	SCALE: DRAWN/TCD (TTB)			MOUNTING PL&MATL.				1:2			CHECKED R.RAMAMOORTHY	SPECN.ADDED			APPROVED C.S.JAYASHEELAN							DATE 05.12.09						
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS	DRAWING No.	ITEM No.																																										
REFERENCE:			ALTERATIONS:	DCN REF	DATE	SIGN.																																										
SCALE: DRAWN/TCD (TTB)			MOUNTING PL&MATL.																																													
1:2			CHECKED R.RAMAMOORTHY	SPECN.ADDED																																												
APPROVED C.S.JAYASHEELAN																																																
DATE 05.12.09																																																
MACHINE: CNC SLANT BED LATHE			TYPE: HMT-STC 25																																													
TITLE: BALL SCREW ROD ø40x10P (Z AXIS)			DRAWING No: 3M08F12114032		REV.																																											
			Sheet No:		No. of Sheets:																																											

