



BHARAT HEAVY ELECTRICALS LIMITED

**Heavy Power Equipment Plant, Ramachandrapuram,
Hyderabad - 502 032. INDIA.**

Phones :

Fax Nos :

E-mail :

Date : _____

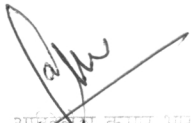
Due Date : _____

Supplier Qtn. No.: _____

Date : _____

**TENDER DOCUMENTS TO BE FILLED BY THE SUPPLIER FOR SUPPLY OF
STEADY REST, 15T FOR CNC CENTRE LATHE (1.5M TACCHI)**

Sl. No.	Description for BHEL Requirement Spec No.S-EMT-244/00, dt.08.05.2014	Offered	Deviations	Remarks
1	PURPOSE			
	Open-Type Steady rest, narrow type, with forced lubrication to support Generator rotor shaft at one end while the other end of shaft is held in chuck jaws in CNC Centre lathe. It will be mounted on the existing bases of steady rest of 1.5M x 12M CNC Centre Lathe. I) Schematic diagram of steady Rest on Lathe and Quills arrangement as per Drawing No: 4-EMT-1819,Dt:03.12.2014 is attached.			
2.0	TECHNICAL PARAMETERS			
2.1	Maximum weight carrying capacity : 15 Ton (one end of shaft is held in jaws and other end is supported on steady rest without tail stock support)			
2.2	Minimum diameter of shaft: 150 mm			
2.3	Maximum diameter of shaft: 700 mm			


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प्रोडक्शन प्रोड्यूसर / Production
Production Manager / EM Production
बीएचईएल/BHEL, HYD-32

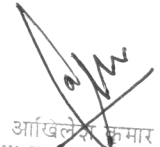
Sl. No.	Description for BHEL Requirement Spec No.S-EMT-244/00, dt.08.05.2014	Offered	Deviations	Remarks
2.4	Each steady rest with forced lubrication shall be equipped with three quills: one vertical to support the load of the rotor itself and the other two quills are mounted at the side with an inclination of about 120° to contain the rotor. The three quills shall be provided with bronze pads/detachable white metal (babbit) inserts having an internal lubrication supplied by an independent lubrication system. The transverse of the quills shall be manually operated. The configuration of these steady rests shall allow the saddle to slide in front of it without any difficulties.			
2.5	Quill Dia: 140 mm			
2.6	Total Width of Steady Rest: 170 mm			
2.7	Adjustment of plunger: Manual and with positive locking			
2.80	Steady rest body: Grey Cast iron, Grade: 25			
2.90	Steady rest to be sufficiently rigid to ensure the following during machining near the support. Vendor to confirm. a) Cylindricity of turning : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support. b) True roundness of turning : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support c) Ovality / Concentricity : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support			

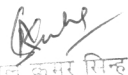
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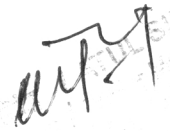
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Sl. No.	Description for BHEL Requirement Spec No.S-EMT-244/00, dt.08.05.2014	Offered	Deviations	Remarks
2.10	Steady rest to be painted with apple green paints (RAL 6011) Polyonethane paint			
3.0	Spares: 3 sets of detachable white metal babbit insert (Grade:60) supports on plungers (each set 3 Nos)			
4.0	DOCUMENTATION:-			
	Three sets of drawings to be supplied.			
5.0	Erection, commissioning & proveout is the responsibility of the supplier and to prove the capacity of the steady rest with physical loading of the job on the machine with steady support and without tail stock support. Vendor shall be responsible for any deviation /rejection in proveout component due to malfunctioning of steady rests.			
6.0	VENDOR PREQUALIFICATION:			
	The vendor should have supplied earlier min 15 T capacity with 3 pad design casting for similar application. Vendor shall enclose PO copies along with offer document.			
7.0	PRE-INSPECTION:			
	BHEL shall pre-inspect the Steady Rest at supplier works before dispatch.			
8.0	GUARANTEE:-			
	18 months from the date of acceptance of the equipment.			
9.0	Two part bid system shall be followed.			
10.0	Tool kit for Maintenance			
	Two sets of tool kit for maintenance & operation of steady rest to be quoted.			
10.1				
10.2	List of tools to be indicated in the quotation.			


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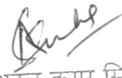
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**TENDER DOCUMENTS TO BE FILLED BY THE SUPPLIER FOR SUPPLY OF
STEADY REST, 25T FOR CNC CENTRE LATHE (1.5M TACCHI)**

Sl. No.	Description for BHEL Requirement Spec No.S-EMT-243/00, dt.08.05.2014	Offered	Deviations	Remarks
1	PURPOSE			
	Open-Type Steady rest, narrow type, with forced lubrication to support Generator rotor shaft at one end while the other end of shaft is held in chuck jaws in CNC Centre lathe. It will be mounted on the existing bases of steady rest of 1.5M x 12M CNC Centre Lathe. I) Schematic diagram of steady Rest on Lathe and Quills arrangement as per Drawing No: 4-EMT-1819,Dt:03.12.2014 is attached.			
2.0	TECHNICAL PARAMETERS			
2.1	Maximum weight carrying capacity : 25 Ton (one end of shaft is held in jaws and other end is supported on steady rest without tail stock support)			
2.2	Minimum diameter of shaft: 150 mm			
2.3	Maximum diameter of shaft: 700 mm			


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2.4	Each steady rest with forced lubrication shall be equipped with three quills: one vertical to support the load of the rotor itself and the other two quills are mounted at the side with an inclination of about 120° to contain the rotor. The three quills shall be provided with bronze pads/detachable white metal (babbitt) inserts having an internal lubrication supplied by an independent lubrication system. The transverse of the quills shall be manually operated. The configuration of these steady rests shall allow the saddle to slide in front of it without any difficulties.			
2.5	Quill Dia: 180 mm			
2.6	Total Width of Steady Rest: 220 mm			
2.7	Adjustment of plunger: Manual and with positive locking			
2.80	Steady rest body: Grey Cast iron, Grade: 25			
2.90	Steady rest to be sufficiently rigid to ensure the following during machining near the support. Vendor to confirm. a) Cylindricity of turning : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support. b) True roundness of turning : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support c) Ovality / Concentricity : 10 microns over length of 500mm with Turbine end / Exciter end of rotor held in chuck and with one steady rest support on tail stock side and without tail stock support			
2.10	Steady rest to be painted with apple green paints (RAL 6011) Polyonethane paint			

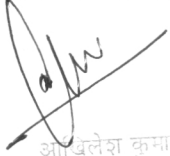
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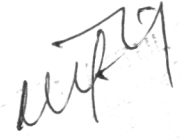
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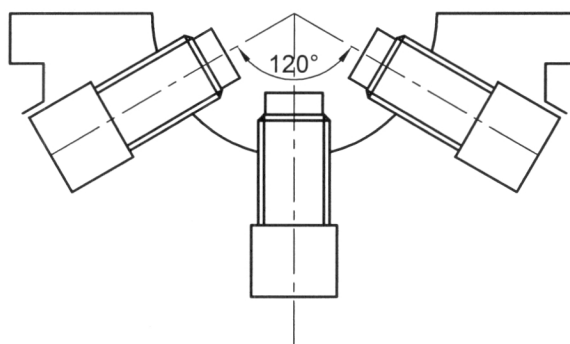
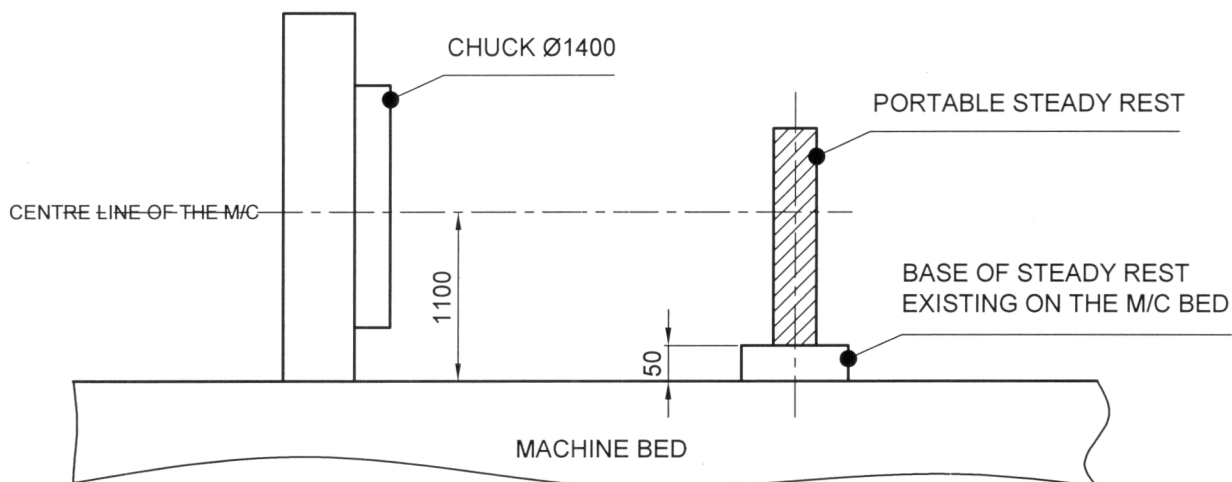
3.0	Spares: 3 sets of detachable white metal babbit insert (Grade:60) supports on plungers (each set 3 Nos)			
4.0	DOCUMENTATION:-			
	Three sets of drawings to be supplied.			
5.0	Erection, commissioning & proveout is the responsibility of the supplier and to prove the capacity of the steady rest with physical loading of the job on the machine with steady support and without tail stock support. Vendor shall be responsible for any deviation /rejection in proveout component due to malfunctioning of steady rests.			
6.0	VENDOR PREQUALIFICATION:			
	The vendor should have supplied earlier min 25 T capacity with 3 pad design casting for similar application. Vendor shall enclose PO copies along with offer document.			
7.0	PRE-INSPECTION:			
	BHEL shall pre-inspect the Steady Rest at supplier works before dispatch.			
8.0	GUARANTEE:-			
	18 months from the date of acceptance of the equipment.			
9.0	Two part bid system shall be followed.			
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REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHE./APPD.			CHE./APPD.			CHE./APPD.



QUILL ARRANGEMENT DRAWING

INVENTORY NO	REF.DRG.NO	FILE NAME
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REF. TO HY0230261 FOR
UNSPECIFIED TOLERANCES.

TITLE **STEADY REST**
CNC CENTRE LATHE

DRAWING NO.
4-EMT-1819

NAME:
DATE: 03.12.2014