



CENTRAL FOUNDRY FORGE PLANT
BHARAT HEAVY ELECTRICALS LIMITED

SPECIFICATION FOR DENSITY INDEX MEASURING UNIT
SPECIFICATION NO. FT/SP/75 REV 02

Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
Vendor must confirm/specify details as demanded against each clause of this specification. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance. In case of response is "NO" against any clause the justification of that may be provided separately mentioning the clause number with its detail however non acceptance generally will be considered as noncompliance and hence offer may be rejected.			
1.0	OBJECTIVE:		
1.1	The equipment shall be used for sampling and measurement of gas content in aluminium melts by density comparison method.	Vendor to confirm	
2.0	PRE-QUALIFICATION CRITERIA:		
2.1	Vendor should have supplied equipment as specified in Clause 1.1. Proof of supply of at least 3 numbers of equipment in last 5 years (year ending tender opening date) to be submitted along with offer.	To be submitted: Purchase orders copies of supplies, preferably with performance certificate	
3.0	SCOPE OF SUPPLY: Scope of supply includes design, manufacturing, supply and commissioning of the DI Measurement unit at CFFP/BHEL Haridwar. The technical and general requirements of the DI Measurement unit are given below.		
3.1	The equipment should comprise of Vacuum Sampling Machine (VSM) for preparation of aluminium sample under vacuum, facility for pouring and solidification of sample under atmospheric pressure, and a Density Analyser (DA) for checking the density index of the sample. The VSM can be a separate unit or integrated with DI measuring unit.	Vendor to take note and confirm	

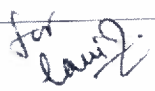
Prepared by			Checked & Approved by
			
Ramashish kumar Engineer (FT)	Abhinav Ashish Dy. Manager (M&S)	Dhurva kumar Gupta Dy. Manager (LF)	Tushar Dave SDGM (FT & PS)



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3.2	Vacuum achieved in VSM should be ≤ 80 mbar	Vendor to take note and confirm	
3.3	DA unit should give reading of Density Index on a display panel.	Vendor to take note and confirm	
3.4	Accuracy of DI measuring unit: at least 0.01g	Vendor to take note and confirm	
3.5	Timer (Range: 0 – 600 seconds) for sample preparation in vacuum sampling machine should be provided.	Vendor to take note and confirm	
4.0	<u>GENERAL REQUIREMENTS:</u>		
4.1	On placement of order and before start of manufacturing, Vendor to submit detailed drawing showing dimensions & Material of Construction etc. Vendor to get approval from CFFP/BHEL for drawings before manufacturing of equipment.	Vendor to take note and confirm	
4.2	Machine should be pre-calibrated and certificate for the same must be provided by vendor indicating the validity period. Calibration procedure of the same must also be provided by vendor.	Vendor to take note and confirm	
4.3	Equipment shall be installed at CFFP by vendor and test/trials shall be taken in presence of vendor on three (3) heats to demonstrate the capabilities of the VSM and DA.	Vendor to take note and confirm	
4.4	Equipment must work satisfactorily under normal conditions of a foundry where the environment is generally laden with dust and	Vendor to take note and confirm	

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4.5	Vendor must give guarantee for troublefree operation of the equipment for 12 months from date of commissioning. Any breakdown during this period must be attended by vendor within 3 days of placement of call.	Vendor to take note and confirm	
5.0	<u>PACKING</u>		
5.1	The equipment should be supplied in suitable packing to avoid any damage during handling, transit and storage.	Vendor to take note and confirm	
6.0	<u>DETAILS TO BE SUBMITTED ALONG WITH OFFER :</u> Following details to be submitted along with offer.		
6.1	GA drawing showing overall dimension, material and layout of equipment.	Vendor to take note and submit	
6.2	Working principle of the equipment, power and space requirement, and other details related to the functioning of the machine	Vendor to take note and submit	
6.3	List of spares, if any, required for trouble-free operations for 2 years to be submitted.	Vendor to take note and submit	
7.0	<u>DOCUMENTS TO BE SUPPLIED ALONGWITH EQUIPMENT :</u> Five sets of following documents shall be supplied alongwith equipment:		
7.1	Operation and maintenance manual.	Vendor to take note and confirm	

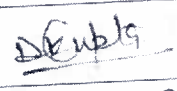
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7.2	Assembly drawings	Vendor to take note and confirm	
7.3	Details of all bought out items with their specification, addresses of Vendors.	Vendor to take note and confirm	
7.4	Original manufacturer's Test Certificate and guarantee certificate for the equipment as a whole and test certificate of individual bought out components.	Vendor to take note and confirm	
8.0	<u>INSPECTION</u>		
8.1	BHEL reserves the right to inspect equipment at site before dispatch. The supplier shall be given prior intimation in such case. However inspection at BHEL shall be final. The supplier shall offer BHEL representative all reasonable test facilities without charge to satisfy the latter that the equipment is being furnished in accordance with this specification.	Vendor to take note and confirm	
8.2	The equipment shall be tested at CFFP, BHEL and will be binding on supplier. If the equipment received at CFFP is not found in accordance with the requirements, it shall be rejected.	Vendor to take note and confirm	

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