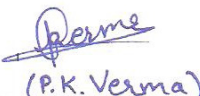


	<b>उत्पाद मानक</b> <b>PRODUCT STANDARD - HYDROGENERATOR</b> <b>ELECTROMAGNETIC FLOW METER</b>	<b>HG 10 047</b> <b>Rev. 03</b> प्रष्ठ 3 का 1				
गोपनीय एवं अधिकार सुरक्षित इस प्रपत्र पर दी गई जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की सम्पत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से कम्पनी के हितों को नुकसान पहुंचाने के लिए कदापि उपयोग नहीं किया जावे	<b>SPECIFICATION FOR FLOW METER</b>  <b>(A) SCOPE OF SUPPLY</b>  Scope of supply shall be as per Annexure-A  <b>B) TECHNICAL SPECIFICATIONS</b>  1. Flow meters shall be the latest “state-of-art” microprocessor based electromagnetic type, having flanged connections with integral sensor, transmitter, processor & indicator suitable for measurement of water flow. Water contains silt and sand particles. Meters shall be lined with Polyurethane (PU) liners.  2. Flowmeter should have Multi line backlit LCD display with facility to show flow rate indication with Engg. Unit (LPM) and flow totalizer. The display shall be programmed to show readings in LPM prior to dispatch.  3. The programming of the meter should be possible through touch control operation without opening the meter cover.  4. Flowmeter shall be suitable for operation with 85 to 260 VAC, 45 to 65 Hz, Single phase AC supply.  5. Base accuracy of the combined system i.e. sensor, Transmitter & Indicator must be $\pm 0.5\%$ or better, of flow at any value in the range, supplier to submit flow meter sizing print out for given minimum, Normal and Maximum flow data and also to submit typical (actual) calibration curve for offered model along with the offer.  6. The supplier must have their own facility for wet calibration in India with master calibration meter accuracy of $\pm 0.05\%$ or better which should be certified by NPL or TUV approved & ISO certified National Laboratory of TUV Germany approved or ISO certified International Laboratory. The copy of certification should be enclosed with the offer. In case of the supplier does not have their own wet calibration facility as above, all the meters must be calibrated at FCRI, Palakkad.						
	संशोधन : Rev 03 dt. 11.06.13 Base accuracy in cl. 5 revised from $\pm 0.2\%$ to $\pm 0.5\%$   (P.K. Verma)	हाइड्रोजनरेटर इंजीनियरिंग विभाग भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="769 1816 1024 1999">           तयारकर्ता             SD/-            A.DIXIT         </td> <td data-bbox="1024 1816 1263 1999">           अनुमोदनकर्ता             SD/-            J.K.BHATI         </td> <td data-bbox="1263 1816 1474 1999">           जारी करने            की दिनांक             16/06/04         </td> </tr> </table>			तयारकर्ता  SD/- A.DIXIT	अनुमोदनकर्ता  SD/- J.K.BHATI	जारी करने की दिनांक  16/06/04
तयारकर्ता  SD/- A.DIXIT	अनुमोदनकर्ता  SD/- J.K.BHATI	जारी करने की दिनांक  16/06/04					

		<b>उत्पाद मानक</b> <b>PRODUCT STANDARD - HYDROGENERATOR</b> <b>ELECTROMAGNETIC FLOW METER</b>	<b>HG 10 047</b> <b>Rev. 03</b> प्रष्ठ 3 का 2
गोपनीय एवं अधिकार सुरक्षित इस प्रपत्र पर दी गई जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की संपत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से कम्पनी के हितों को नुकसान पहुँचाने के लिए कदापि उपयोग नहीं किया जावे	<ol style="list-style-type: none"> <li>7. The supplier shall calibrate the meter at minimum three-points 10%, 50% and 100% of the maximum flow for each size of meter and has to submit the calibration report for approval to BHEL Bhopal prior to dispatch.</li> <li>8. The meter shall have flanged connections to IS-6392 table 17 or equivalent, else supplier has to supply 2 Nos. of matching flanges with each flow meter.</li> <li>9. Earthing connectors shall be provided by suppliers.</li> <li>10. The offered instrument shall be suitable for operation at atmospheric condition of 100% humidity and 0 to 50 deg. C Ambient temperature. The housing shall be cast aluminium IP67 (NEMA 4X) class.</li> <li>11. The meter shall give 4 to 20 mA DC current output (HART) for SCADA and shall also have two nos. of relay outputs which shall be programmable for any given flow value., with contact rating of 0.2A, 250 VDC, 50 Watts, resistive. Relays shall be integral part of the flow meters and shall be built in to the meters only. Relays external to flowmeters are NOT acceptable. Relay output by any other method or mode is NOT acceptable.</li> <li>12. The meter shall be suitable for universal mounting i.e. Horizontal or vertical, flow left to right, right to left, top to bottom and bottom to top. Supplier to specify the straight lengths of pipes required on upstream and downstream of flowmeter for reference. The display unit of the meter shall be rotatable in steps of 45 deg. C so as to see from any angle after installation to suit site conditions.</li> <li>13. It shall be possible to select the range of flow measurement on the flow meters at site as per requirement. Supplier shall furnish the detailed procedure of range selection along with the offer. Supplier shall also indicate the minimum and maximum selectable range in LPM and corresponding flow velocity along with the offer.</li> <li>14. The flow meters shall be suitable for a working water pressure of 10 Kg/cm<sup>2</sup> and a test pressure of 15 Kg/cm<sup>2</sup> for 30 minutes duration. Flow meters shall pass this test successfully.</li> <li>15. Suppliers to indicate the normal working life of the flow meters.</li> <li>16. Suppliers to confirm support for spares &amp; after sales &amp; services for flow meters for 10 years after commissioning even after these models become obsolete or discontinued by the suppliers.</li> </ol>		

		<p style="text-align: center;"><b>उत्पाद मानक</b></p> <p style="text-align: center;"><b>PRODUCT STANDARD - HYDROGENERATOR</b></p> <p style="text-align: center;"><b>ELECTROMAGNETIC FLOW METER</b></p>	<p style="text-align: right;"><b>HG 10 047</b> <b>Rev. 03</b></p> <p style="text-align: right;">प्रष्ठ 3 का 3</p>									
गोपनीय एवं अधिकार सुरक्षित इस प्रपत्र पर दी गई जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की सम्पत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से कम्पनी के हितों को नुकसान पहुँचाने के लिए कदापि उपयोग नहीं किया जावे	<p><b>( C ) INSPECTION</b></p> <p>The instrument will be inspected by BHEL/Customer/Third party inspector prior to dispatch at suppliers works. Suppliers shall give sufficient notice for inspection before dispatch.</p> <p>Flow meters shall be dispatched only after approval of Test Results/Reports by BHEL.</p> <p><b>( D ) GUARANTEE</b></p> <p>Flow meters shall be guaranteed for ____ months from date of commissioning OR ____ months from date of dispatch whichever is earlier.</p> <p><b>( E ) DOCUMENTS</b></p> <p>Following documents to be supplied. “Two sets of technical documents leaflets/drgs shall be in ORIGINAL only. Zerox/ PHOTOCOPY / BLUEPRINT /SCANNED copies will not be considered as authentic.”</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 5%;">(i)</td> <td style="width: 45%;">Technical offer</td> <td style="width: 50%;">: 2 sets</td> </tr> <tr> <td>(ii)</td> <td>With quotation</td> <td>: 2 sets descriptive leaflets, dimensional details, wiring diagram, weight, mounting, earthing arrangement etc.</td> </tr> <tr> <td>(iii)</td> <td>For dispatch clearance</td> <td>: 10 sets of test/calibration certificates : 10 sets of guarantee certificates : 15 sets detailed O &amp; M Manuals in originals in Hard &amp; Soft copies on 4 Nos. CDs compatible with latest PCs.</td> </tr> </table> <p><b>NOTE:</b> All TC/GC/O&amp;M Manuals/leaflets etc. and shall be in bound volumes and in presentable form. Paper used shall be of JK/Executive Bond of 90 GSM.</p> <p><b>( F ) PACKING &amp; DESPATCH</b></p> <p>Meters shall be suitably packed in water proof export worthy boxes with adequate cushioning material for rail / road transport to avoid damage during transit and for long term storage of 5 years.</p> <p>(G) Any deviation shall be clearly brought out in the offer.</p> <p>(H) IT IS MANDATORY FOR SUPPLIERS TO COMPLETE THE CHECK LIST – ANNEXURE-CL AND ENCLOSE WITH THE OFFER. WITHOUT COMPLETED CHECK LIST, OFFERS WILL BE REJECTED.</p>			(i)	Technical offer	: 2 sets	(ii)	With quotation	: 2 sets descriptive leaflets, dimensional details, wiring diagram, weight, mounting, earthing arrangement etc.	(iii)	For dispatch clearance	: 10 sets of test/calibration certificates : 10 sets of guarantee certificates : 15 sets detailed O & M Manuals in originals in Hard & Soft copies on 4 Nos. CDs compatible with latest PCs.
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**उत्पाद मानक**  
**PRODUCT STANDARD - HYDROGENERATOR**

**ANNEXURE-A**  
**HG 10 047**

प्रष्ठ 1 का 1

गोपनीय एवं अधिकार सुरक्षित इस प्रपत्र पर दी गई जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की सम्पत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से कम्पनी के हितों को नुकसान पहुंचाने के लिए कदापि उपयोग नहीं किया जावे

**PROJECT :-**

**PI NO :-**

The scope of supply shall be as per the Table given below:

Item No.	Size N/B (mm)	Normal Flow (LPM)	Range (LPM)	Quantity (Nos.) Main	Quantity (Nos.) SPARES
01	40				
02	50				
03	65				
04	80				
05	100				
06	125				
07	150				
08	200				
09	250				
10	300				
11	25				
12	32				

संशोधन :

हाइड्रोजनरेटर इंजीन्यरिंग विभाग  
भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल

तयारकर्ता

अनुमोदनकर्ता

जारी करने की  
दिनांक