


TECHNICAL SPECIFICATION FOR  
TURBINE FLOWMETER

Ref. : HY/T/SPEC/FLWMTR

Rev. : 01

Page 1 of 3

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> <b>HEAVY POWER EQUIPMENT PLANT</b> <b>RAMACHANDRAPURAM,</b> <b>HYDERABAD - 500032</b>	Enquiry No. :	
		Due Date :	
		Supplier Qtn. No.:	
		Date :	

TENDER DOCUMENTS TO BE FILLED BY THE SUPPLIER FOR SUPPLY OF

4" (100 mm Bore) size TURBINE FLOWMETER

BHEL Ref: HY/T/6011/PS/001/2015

DATE: 25-03-2015

The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.

ADDRESS OF THE SUPPLIER :

TELEPHONE NOS.:

FAX NOS.:

E-MAIL ADDRESS :

Sl. No.	Description	BHEL Specification	To be Specified / Confirmed by Vendor	Offered	Deviations	Remarks
1	Title	Precision make Flowmeter provided with Pickup for sensing, Flowmeter mounted Preamplifier with LCD display for Flow rate/ Totaliser local indication, and Remote Flow rate/ Totaliser indicator.	Conform			
2	Introduction	These are required for measurement of flow of liquids like Lubeoil, HSD and Water during testing of Gas Turbines	Conform			
3	Type	Inline full bore meter of high accuracy turbine type	Conform			
4	Medium of measurement	Water, Fuel oil, Lube oil	Conform			
5	Operating Pressure	6 bar max	Conform			
6	Operating Temperature	20 deg C to 100 deg C	Conform			
7	Specific gravity	0.8 to 1	Conform			
8	pipe line Size / Flow Range	4 " (100 mm bore) / _____	specify & conform			

(3)

TECHNICAL SPECIFICATION FOR  
TURBINE FLOWMETER

Ref. : HY/T/SPEC/FLWMTR

Rev. : 01

Page 2 of 3

Sl. No.	Description	BHEL Specification	To be Specified / Confirmed by Vendor	Offered	Deviations	Remarks
9	Pressure drop across flowmeter	0.1 bar for maximum flow	Conform			
10	Linearity	±0.5 %	Conform			
11	Repeatability	±0.1%	Conform			
12	End connections	For flowmeter - ANSI flanges 150 lb RF with gaskets.	Conform			
13	Marking /Punching on Flowmeter	Flow direction IN & OUT , Flowmeter serial number and Calibration Factor(K Factor)	Conform			
14	Pre-Amplifier:					
14.1	Requirement	Pre-Amplifier shall have local digital LCD display for Flow rate / Totaliser count display and shall provide input to the remote Flow rate / Totaliser indicator	Conform			
14.2	Type	Precision read Pre-Amplifier with 4 digit digital LCD display for Flow rate / Totaliser count indication	Conform			
14.3	Mounting	Flowmeter Mounted type. Pickup and Pre amplifier unit assembly shall be mounted on Flowmeter only. Nipples and adapters required to mount pickup and pre-amplifier shall be supplied for each flowmeter	Conform			
14.4	Input Power supply	DC / AC Loop powered from Remote Flow rate / Totaliser indicator	Conform			
14.5	Signal Input	Pulses from pick up coil	specify & conform			
14.6	Signal output	TTL / 4-20mA / 1-5V or other equivalent signals to Remote Flow Rate / Totaliser Indicator	specify & conform			
14.7	Engineering units	Pre-amplifier shall display flow in Litres per minute (lpm)	Conform			
14.8	Enclosure	Enclosure suitable to for hazardous locations	Conform			
15	Remote Flow Rate / Totaliser Indicator:					
15.1	Requirement	Remote Flow Rate / Totaliser Indicator shall display Flow rate / Totaliser count and shall provide input to the Data Acquisition System	Conform			
15.2	Type	Precision read Flow Rate and Totaliser Indicator	Conform			
15.3	Mounting	Microprocessor based panel mounted	Conform			



Sl. No.	Description	BHEL Specification	To be Specified / Confirmed by Vendor	Offered	Deviations	Remarks
15.4	Input Power supply	220Volts AC $\pm$ 10 %, 50Hz 1 phase	Conform			
15.5	Display	Bright LED/LCD display with 4 1/2 or higher resolution for Rate of flow / Totaliser configurable to any engineering units	Conform			
15.6	Signal Input	Output signal from Pre-amplifier	specify & conform			
15.7	Signal Output	TTL / 4-20mA / 1-5V DC other equivalent signals output to Data Acquisition system	specify & conform			
15.8	Power Output	DC / AC Loop Power Supply to Pre-amplifier	specify & conform			
15.9	Engineering units	Remote Flow rate indicator shall display flow in lpm	Conform			
16	Test Certificates	All relevant certificates shall be furnished including calibration certificates for each flowmeter.	Conform			
17	O & M manuals	2 sets of O & M manuals shall be supplied for each flowmeter	Conform			
18	Additional requirements	Additional intermediate signal / power conversion boxes are not allowed between preamplifier, Flow Indicator and Data Acquisition.	Conform			
Please refer the following flowmeter signal flow diagram with approximate distances for test plant actual requirement						

Signal Flow Diagram

