

SPECIFICATION FOR PRESSURE CALIBRATION TEST BENCH

1/3

Code No.: ZWG050502018

Indent No.: C6360/20150841/T

S.N.	PARAMETERS	SPECIFICATION	ACCEPTED	REMARKS
A. Pneumatic Pressure Range			YES/NO	
1	Standard Pressure Range	A. Range -1 Bar to 1 Bar and 1 to 25 Bar (Min. Two Ranges) B. Provision for future Pressure Range extension with modular scheme.		Vendor to comply & Provide details Vendor to comply & Provide details
2	Uncertainty/Accuracy	±0.02 % FS or Better		Vendor To comply
3	Over Range Protection	10% above Full Scale Pressure or Better		Vendor To comply
4	Operating Modes	Calibration of Pressure Gauge, Vacuum Gauge, Compound gauge, Pressure Transmitter		Vendor To comply
5	Media	Dry Air/Nitrogen		Vendor to specify
6	Pressure Supply	1. N2 cylinder for positive gauge pressure/Other suitable system for Pneumatic Pressure generation & should be complete in all respect.		Vendor to comply & Provide details
		2. Fine adjustment facility for pressure of 0.01 Bar or better should be in the supplied pneumatic pressure generation system.		Vendor To comply
		3. Rotary vane vacuum Pump for vacuum generation for the measuring range supplied of make Oerlicon-Leybold / Edwards / G & M Tech Inc / Lawrence & Mayo / Pfeiffer / Agilent / Vacnik.		Vendor to comply & Provide details
7	Precision	0.01% of Full Scale or Better		Vendor To comply
8	Measurement Stability	0.10% of Reading or Better		Vendor To comply
9	Control Stability	0.10% of Reading or Better		Vendor To comply
10	Control Action	Automatic/Semi Automatic & Manual		Vendor To comply
B. Hydraulic Pressure Range				
1	Standard Pressure Range	A. Range- 0-600 Bar or More		Vendor to comply & Provide details
		B. Provision for future Pressure Range extension with modular scheme.		Vendor to comply & Provide details
2	Uncertainty/Accuracy	±0.02 % FS or Better		Vendor To comply
3	Over Range Protection	10% above Full Scale Pressure or Better		Vendor To comply
4	Operating Modes	Calibration of Pressure Gauge, Vacuum Gauge, Compound gauge, Pressure Transmitter		Vendor To comply
5	Media	Oil		Vendor To comply
6	Pressure Supply	1. Hydarulic comparision tester (Screw Pump) for the pressure generation of Range- 700bar		Vendor to comply & Provide details
		2. Fine adjustment facility for pressure of 0.05 Bar or better should be in the supplied pressure generation system.		Vendor To comply
		3. Supplied system should be robust & complete in all respect. Also atleast 10 nos of O-rings/washers used in system of each type should be supplied with the system.		Vendor To comply
7	Precision	0.02% Full Scale or Better		Vendor To comply
8	Measurement Stability	0.10% of Reading or Better		Vendor To comply
9	Control Stability	0.10% of Reading or Better		Vendor To comply
10	Control Action	Automatic/Semi Automatic & Manual		Vendor To comply

Sub. By Choddy

C. Display			
1	Readout Type	4.5 digit or Better	Vendor to comply & Provide details
2	Pressure Unit	Psi, Bar, mBar, Pa, Kg/cm ² , mmHg, inHg, mmH ₂ O etc (User Selectable)	Vendor To comply
3	Language	English	Vendor To comply
D. Electrical			
1	Communication	RS-232/Ethernet or Both	Vendor To comply
2	24VDC loop Supply	24VDC, 1 A power supply should be provided with bench	Vendor To comply
3	4-20mA/0-10VDC measure	Bench should have ability to read 4-20mA/0-10V Dc from the transmitters.	Vendor To comply
4	Switch Test Facility	The system should have switch test facility.	Vendor To comply
5	Software	Software Required for calibration in automatic/semi automatic mode along with Report Generation & should be installed in PC supplied.	Vendor to comply & Provide details
6	PC Required	PC of make HP/DELL with Original latest Windows Professional OS with original MS office suite, Minimum i5 Processor, Minimum 4GB RAM, Minimum 500GB HD with TFT monitor of minimum 17" Screen- 1 No.	Vendor to comply & Provide details
7	Power Supply	100-250 V AC± 5% Tolerance,50-60 Hz	Vendor To comply
F. Physical			
1	Test Bench Details	1. Work Table:- Frames to be made of Mild steel with suitable laminated Bench Top Surface for Easy operation.	Vendor to comply & Provide details
		2. Bench-top unit:- Built-in with modules & suitable cutout to equip / mount various instruments provided.	Vendor to comply & Provide details
		3. Under Bench Caninet:-Storage space with 3 Nos. of lockable drawer on Test Bench for keeping necessary tools.	Vendor to comply & Provide details
		4. Whole assembly should be powder coated preferably with siemens grey colour.	Vendor to comply & Provide details
1.1	Facility 1	Single Phase Mains Power Supply controller • Residual current circuit breaker; Rated current: 20A of Make ABB/L&T/Siemens/Schneider • AC Distribution sub system including ELCB & MCB of Make ABB/L&T/Siemens/Schneider • Emergency OFF system. • ON-OFF indication Lamp	Vendor To comply
1.2	Facility 2	Power Socket:-230V AC/15A - 2 Nos & 230V AC / 5A-2 Nos. of Havell/Anchor/Reputed make	Vendor to comply & Provide details
1.3	Facility 3	24VDC Power Supply with Current & Voltage Indication.	Vendor to comply
1.4	Facility 4	Vacuum calibration Panel with suitable regulator fitted in Bench	Vendor to comply & Provide details
2	Connection	Following suitable Female adapters required for process connection for calibration & complete in all respect:- 1. 1/8" BSP 2. 1/8" NPT 3. 1/4" BSP 4. 1/4" NPT 5. 3/8" BSP 6. 3/8" NPT 7. 1/2" BSP 8. 1/2" NPT	Vendor to Supply minimum one No. of each type
3	Filter	Filter element is required in each Pressure Port	Vendor To comply

Sah. P. V. V. V.

G.	Calibration	Accredited calibration Certificate for calibrators installed in test bench traceable to National/International Standard.		Vendor to comply & Provide details
H.	Accessories	1. Communication cable as required		Vendor To comply
		2. Contamination prevention system for preventing oil to flow from DUC to pneumatic calibrator-1 No.		Vendor To comply
		3. Any other accessories required in calibration.		Vendor To comply
I.	Erection & Commissioning	Vendor to perform erection & commissioning of the supplied Test Bench at BHEL Haridwar Works.		Vendor To comply
J.	Training	Vendor has to provide minimum 3 days training in operation of system.		Vendor To comply
K.	Warranty	Minimum 1 Year from Date of Commissioning		Vendor To comply
L.	Pre Dispatch Inspection		BHEL shall inspect the product before dispatch at supplier's work	Vendor To comply
	Inspection	1	Vendor to prove all features of test bench physically.	Vendor To comply
		2	Vendor to perform calibration of atleast four nos of gauges & transmitters covering entire pneumatic & hydraulic pressure ranges.	Vendor To comply
		3	Automatic/Semi automatic & manual mode of calibration & customised Report Generation.	Vendor To comply

Shailish
14/05/2015

Shailish Kumar Sharma
Sr. Engineer (WEX-Instt.)

Sarbani Roy Choudhury
Sarbani Roy Choudhury
DGM (WEX-Instt.)

Sub.: Pre-Qualifying Requirement of Vendors for supply of Pressure Calibration
Test Bench of Code No. ZWG050502018 Indent No. C6360/20150841/T

SN	Pre Qualifying Criteria	Document Required
1	Vendor should be OEM or Authorised dealer or subsidiary of OEM for the test bench & calibrators installed in test bench	In case vendor is authorised dealer, ink signed copy of authorisation from OEM to be submitted along with offer
2	Vendor must have supplied similar type of item to other customer in last five years from 1 May 2015 & should be in current manufacturing range.	A. Atleast one PO copy of the supplied items in last five years from 1 May 2015 & performance certificate from the customer.
		B. Vendor to submit Customer list of last 5 years from 1 May 2015 for the similar type of supplied items
3	Offered model should be in current manufacturing Range	Latest original technical broucher or scanned copy of original broucher showing their manufacturing range with specification.

Sarvani Roy Choudhury
 Sarvani Roy Choudhury
 14/05/15
 DGM (WEX-INSTT.)

Shailish
 14/05/2015
 Shailish Kumar Sharma
 Sr. Engineer (WEX-INSTT.)