

Technical Comparison of Tender No. NC-000276-12-R&D-NIS-5.03-0100-19-20 for

16CF Pirani & Cold Cathode Gauge

Company Name			ASHWINI ENTERPRISES	VT Vacuum Technologies (P) Ltd.	Pfeiffer Vacuum (India) Private Limited
S/N	Item Code	Specification	Comply?	Comply?	Comply?
1	Pirani Gauges	Mounting Flange size: 16 CF Wide measurement range of 1.3×10^{-4} to 1333 mbar Built-in controller with bright LED digital display Display units in Torr/mTorr or bar/mbar 1 analog output and 1 setpoint relay	Yes	No (Flange is 16KF which usually comes with O ring and it is not preferable for a vacuum system.)	Yes
		Accuracy (N ₂): 1.3×10^{-4} to 1.3×10^{-3} mbar; 0.1×10^{-3} mbar resolution 1.3×10^{-3} to 530 mbar; $\pm 10\%$ of reading 530 to 1,333 mbar; $\pm 2.5\%$ of reading.	Yes	Yes	Yes
		Repeatability: (typical) $\pm 2\%$ of reading	Yes	Yes	Yes
		Display: 3-digit LED (from 1.33 bar to 10.0×10^{-3} mbar), 2-digit LED from $(9.9 \text{ to } 1.0) \times (10^{-3} \text{ mbar})$, 1-digit LED from $(0.9 \text{ to } 0.1) \times (10^{-3} \text{ mbar})$	Yes	Yes	Yes
		Operating temperature: 0 to +40 °C	Yes	Yes	Yes
		Humidity: 0 to 95% relative humidity, non-condensing	Yes	Not mentioned	Yes
		Input power: 12 to 28 V dc	Yes	Yes (9 to 30 V)	Yes

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		Analog output: log-linear 1 to 8 Vdc	Yes	Yes	Yes
		Connector: 9 pins; D-sub male	Yes	Yes	Yes
		Mounting orientation: Measurement should not have affected by any mounting orientation	No (The long axis of the gauge should be horizontal as it is calibrated in this position for accurate measurement)	Yes	Yes
		Bakeout temperature: 70 to 150 °C.	Yes	Yes (85°C)	Yes
		Gases compatibility: O ₂ , N ₂ , Ar;	No (High deviation between true pressure and the pressure reading of the gauge near atmospheric pressure range for different kind of gases. Correction factor for each gases and special precaution needs to be taken to prevent hazard for people and products)	Yes	Yes
2	Cold cathode gauge	Mounting flange: 35 CF. Wide measurement range of 1.0 x 10 ⁻⁹ to 1 x 10 ⁻² mbar Built-in controller	Yes	No (Not mentioned about the built in controller with display)	Yes
		Accuracy - N ₂ (typical): ± 30% of reading	Yes	Yes	Yes
		repeatability - (typical): ± 5% of reading Ultra-low magnetic stray field	Yes	Yes	Yes
		Bakeout temperature: 150 °C	Yes (With electronics removed)	Yes (250°C Magnets removed)	Yes
		Input power: 14 to 30 V DC	Yes	Yes	Yes

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	Response time 100 msec to 1sec			
	Mounting orientation: any	Yes	Yes	Yes
	Gases compatibility: O2, N2, Ar Log-linear analog output	No (Use different correction factor for different gases)	Not mentioned	Yes
	With 1 years free comprehensive warranty on both the items	Yes	Yes	Yes

After reviewing the technical specifications supplied by the above three vendors, it is concluded that the bid given by ASHWINI ENTERPRISES and VT Vacuum Technologies (P) Ltd. does not meet the tendered specifications. In this scenario bids by ASHWINI ENTERPRISES and VT Vacuum Technologies (P) Ltd. are rejected. However the bid by Pfeiffer Vacuum (India) Private Ltd. is technically qualified. The financial bid may be open for this vendor.

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01/10/2019.

Dr. Subhankar Bedanta

Indenting Officer, Associate Professor, SPS, NISER

SPS Purchase committee recommendations:

1. *Asu*
03/10/19
(H. Lenka)

③ *AA*
03/10/2019

2. *Shi*
(S. PRUSTY)

4. *Pitnich Das*
02/10/19

5. *Amohapat*