

## Specifications for Vacuum gauges with controller

### Specifications:

Sl. no	Description	Specification
<b>1.0</b>	<b>Nude Ionization Gauge</b>	
1.1	Gauge type	Ionization gauge- nude type
1.2	Measuring Range for Air and N <sub>2</sub>	1.5x10 <sup>-3</sup> mbar to 1x10 <sup>-10</sup> mbar or better
1.3	Filament	Dual Filament
1.4	Filament material	Thoria / yttria coated Iridium
1.5	Sensitivity (N <sub>2</sub> )	Typically 25/Torr
1.6	Accuracy (N <sub>2</sub> )	± 20 % or better
1.7	X-Ray limit	Typically 5 x10 <sup>-11</sup> mbar
1.8	Degas	Electron Bombardment type
1.9	Flange size OD	Conflate type fitting of size 2.75 inch OD or DN40CF or NW35CF
1.10	Flange material	SS304 or equivalent
1.11	Maximum Bake out Temperature	400 °C
<b>2.0</b>	<b>Enhanced Pirani gauge</b>	
2.1	Measuring Range	1000 mbar to 1.5x10 <sup>-4</sup> mbar or better
2.2	Mounting orientation	Horizontal
2.3	Flange size	DN16-ISO-KF or NW16-KF
2.4	Flange material	SS304 or equivalent
2.5	Maximum Bake out Temperature	150 °C
<b>3.0</b>	<b>Controller unit</b>	
3.1	Type	Dual gauge type (Nude Ionization gauge and Enhanced Pirani gauge)
3.2	Compatibility	Compatible to Ionization gauge and Enhanced Pirani gauge as per sl. no. 1 & 2
3.3	Vacuum Display	2 digits plus exponent
3.4	Display Unit	mbar or Torr

3.5	Degas	Provision to provide electron bombardment degassing
3.6	Protection	Safety interlocks to provide overpressure protection is required
3.7	Analogue Output	Typically 0V to 10V logarithmic or linear output for emission and sensitivity corrected vacuum data
3.8	Digital input	To provide remote on/ off and Degas
3.9	Digital output	Minimum 4 relays configured for set-point, status etc.
3.10	Communication Interface	RS-485 or Ethernet
3.11	Mounting	19 inch rack mountable
3.12	Power supply	230 VAC, 50 Hz with Indian power chord
<b>4.0</b>	<b>Cable for ionization gauge (25 m)</b>	
4.1	Length	≥ 25 m
4.2	Compatibility	Suitable for connecting ionization gauge to Controller
<b>5.0</b>	<b>Cable for Enhanced Pirani gauge (25 m)</b>	
5.1	Length	≥ 25 m
5.2	Compatibility	Suitable for connecting pirani gauge to Controller
<b>6.0</b>	<b>Spare Filament for ionization gauge</b>	
6.1	Filaments	Spare filament for ionization gauge
<b>7.0</b>	<b>Terms and conditions</b>	
7.1	Vendor should confirm that item will be supported for warranty by OEM.	
7.2	Vendors have to submit the relevant data sheets along with the quote in support of the specifications mentioned wherever required.	
7.3	Vendors should quote for the complete package and part supply is not acceptable.	
7.4	Delivery period shall be less than 52 weeks from the date of acceptance of purchase order.	

**List of deliverables:**

<b>Sl. No.</b>	<b>Item</b>	<b>Quantity (nos.)</b>
1.	Nude Ionization gauge	8
2.	Enhanced Pirani gauge	8
3.	Controller unit	5
4.	Cable for ionization gauge (25 m)	5
5.	Cable for Enhanced Pirani gauge (25 m)	5
6.	Spare Filament for ionization gauge	8