| SPECIFICATIONS (by IIT Madras) | COMPLIANCE (YES/NO) | REMARKS |
|---|---|---|
| **TECHNICAL SPECIFICATIONS**<br>• Maximum operating temperature: 1250 °C<br>• Continuous operating temperature: 1200 °C<br>• Temperature resolution: ± 1° C<br>• Process tubular material: High quality alumina tube<br>• Tube dimensions: Min 50 mm ID, max 60mm OD x 700 mm L<br>• Flanges for gas/vacuum atm: Vacuum capacity $10^{-3}$ mbar<br>• Useful heating zone: 100-150 mm along the length<br>• Heating rate: 5 °C/min and above<br>• Thermocouple: K type or another type which can measure from room temperature to 1400 °C<br>• Skin Temperature: Not more than 20 °C above ambient temperature@ 1000 C<br>• Vacuum pump: Direct rotary vacuum pump<br>• Vacuum achievable: $1x10^{-3}$ mbar<br>• Ammonia gas mass flow controller: 0- 200 $cm^3$/min<br>• Temperature indication and control: PID Temperature Programmer with at least 5 ramp/dwell segments<br>• Insulation type: 2-layer insulation | | |

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|---|---|---|
| **GENERAL FEATURES**<br>• Good laboratory practice and Good manufacture practice compliant rust-proof casing<br>• High quality insulation<br>• High quality ceramic working tube<br>• Integrated switching and control unit with machine base<br>• Leak proof design for easy flow of highly toxic ammonia gas from inlet to outlet. | | |

**Terms and conditions**

(1) A compliance statement must be provided clearly mentioning if the proposed technical specifications are matched and any additional features that the company may offer may be clearly indicated.

(2) Warranty of at least one year must be provided.

(3) Details on annual maintenance contract upon installation may be provided.

(4) Installation, calibration and onsite training for the equipment are mandatory.

(5) Presence of technical personnel and services in Chennai is desirable.

(6) Spares and consumables should be provided.

(7) Calibration samples must be provided, if necessary.

(8) Details regarding installation in India during the past three years specifically to central funded technical institutions, government national laboratories should be provided. Certification from customers from the aforementioned institutions and laboratories will carry value.

(9) Necessary optional spares should be quoted separately.