ANNEXURE-I : TECHNICAL DATA SHEET

A – SITE CONDITION

Barometric Pressure …… 736 mmHg.

Design Ambient temperature : 45°C

Design temperature for electrical equipment : 50°C

Power supply: As per attached Annexure 3.

B – TECHNICAL PARMETERS OF FAN

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1) |  | No. of fan required | 1 x 100% MCR | | | | | |
| 2) |  | Medium handled | Flue Gas – Analysis ( % by Volume, wet) : CO2 – 10.8 ; O2 – 6.62 ; N2-72.73 ; Moisture – 9.84 . | | | | | |
|  |  |  | Flue Gas with dust concentration of 120 mg/Nm3 and SOx level- 1246 mn/Nm3 | | | | | |
|  |  |  |  | | | | | |
| 3) |  | Type | Centrifugal, Double Suction – Single Outlet**,** Simply supported, Backward bladed impeller, Motor driven. | | | | | |
|  |  |  | Fan inlet / outlet orientation shall be as per tender layout as per Annexure. | | | | | |
| 4) |  | Control of Fan | **Main Offer - RVC or MLD (**Pneumatic Actuated**).** | | | | | |
|  |  |  | **Alternate Offer - VFD as primary & RVC or MLD (**Pneumatic Actuated**) as secondary.** | | | | | |
| 5) |  | Location | Outdoor | | | | | |
| 6) |  | Max. Speed | 990 RPM (Vendor to confirm) | | | | | |
| 7) |  | Parameters (for fan) |  | | | | | |
|  |  | **Cases** |  | **100% BMCR(Present)** | **Fan Design (Present)** | **100% BMCR(Future)** | **Fan Design (Future)** |  |
|  | a. | Fan Selection Criteria |  | Fan shall be selected as per the present case indicated with the condition that by changing the impeller, motor or even casing, the fan can be upgraded for the future upgradation requirement as indicated. The load data for civil foundation design shall be provided considering the final upgraded fan load details. | | | |  |
|  | b. | Volume flow | m³/hr | 5,86,669.00 | 6,45,350.00 | 5,86,669.00 | 6,45,350.00 |  |
|  |  |  |  | Above flow figures are at (-) 25 mmwc and 148 deg C | | | |  |
|  | c. | Temperature | °C | 148.00 | 148.00 | 148.00 | 148.00 |  |
|  | d. | Static Pressure at Duct tapping point | mm WC | (-)25 | (-)25 | (-)25 | (-)25 |  |
| Static Pressure at Fan I/L | mm WC | (-)60 | (-)67 | (-)60 | (-)67 |  |
| Static Pressure at Fan O/L | mm WC | (+)206 | (+)249 | (+)238 | (+)289 |  |
|  | e | Fan Differential | mmWC | 266 | 316 | 298 | 356 |  |
|  | f | Site Barometric Pr | mmHg | 736 | 736 | 736 | 736 |  |
|  | g | Fan shaft power with MLD/RVC | kW | Vendor to Specify | Vendor to Specify | Vendor  to Specify | Vendor  to Specify |  |
|  | h | Fan shaft power with  VFD | kW | Vendor to Specify | Vendor to Specify | Vendor  to Specify | Vendor  to Specify |  |
|  | i | Guaranteed Absorbed Power with MLD/RVC  (no +ve tolerance) at motor inlet terminals. | kW | Vendor to  Specify | Vendor to Specify | Vendor to  Specify | Vendor to  Specify |  |
|  | j | Guaranteed Absorbed Power with VFD  (no +ve tolerance) at motor inlet terminals. | kW | Vendor to  Specify | Vendor to Specify | Vendor to  Specify | Vendor to  Specify |  |
|  | k | Motor input terminal power | kW | Vendor to  Specify | Vendor to Specify | Vendor to  Specify | Vendor to  Specify |  |
|  | l | Fan Efficiency | % | Vendor to  Specify | Vendor to Specify | Vendor to  Specify | Vendor to  Specify |  |
|  | m | Motor Rating - Selected | kW | Vendor  to Specify | Vendor to Specify | Vendor  to Specify | Vendor  to Specify |  |
| 8) |  | Details of Lub Oil System |  | Vendor to specify | | | |  |
|  | a. | No. of Pumps & details of Pumps |  | Vendor to specify | | | |  |
|  | b | Tank details |  | Vendor to specify | | | |  |
|  | c | Coolers’ detail |  | Vendor to specify | | | |  |
|  | d | Water temp , Deg C ,at inlet and outlet and Water flow m3/hr ,required |  | Vendor to specify | | | |  |
|  | e | Lubricant trade name and grade |  | Vendor to specify | | | |  |
| 9) |  | Instrument air quantity required, Nm3/hr at 6.0 bar g |  | Vendor to specify | | | |  |

PLEASE NOTE : THE VOLUME FLOWS & DIFFERENTIAL HEAD ARE WITHOUT ANY NEGATIVE TOLERANCE. SIMILARLY ABSORBED POWER FIGURE TO BE QUOTED ARE WITHOUT ANY POSITIVE TOLERANCE.

C - MATERIAL OF CONSTRUCTION:

|  |  |
| --- | --- |
| **Part Description** | **Booster Fan** |
| Inlet Cone | IS 2062 GR B |
| Casing | IS 2062 GR B ; If Liner to be provided bidder to indicate. |
| Impeller | IS 2062 GR B |
| Liner | Impeller shall be provided with abrasion resistant Liner of high BHN steel like SAILMA / TISCRAL; Bidder to indicate. |
| Shaft | EN-8 / BS 970 / 83-080M40 / IS 1570 40C8 ; Bidder to indicate |
| Bearing | Anti-Friction |
| Dampers | IS 2062 GR B |
| Bearing Housing | Gray Cast Iron |
|  | The vendor has to furnish the complete material specification of the components used in fans. |

D- PAINTING SPECIFICATION

Detailed procedure for painting to be specified item wise by Bidder.

E- VENDOR TO SPECIFY THE FOLLOWING ALONG WITH THE FAN DATA SHEET:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SL. NO.** | **Description** | **BMCR Present** | **Fan Design Present** | **Fan Design future** |
|  | Items indicated as “ Vendor to specify” elsewhere in this spec and datasheet shall also be indicated along with offer | | | |
| 1 | Application |  |  |  |
| 2 | Size and Type |  | | |
| 3 | Volume – m³/sec |  |  |  |
| 4 | Diff Static head – mm WC |  |  |  |
| 5 | Temperature °C |  |  |  |
| 6 | Head – Discharge curve with varying damper opening & efficiency. |  |  |  |
| 7. | Head – Discharge curve with varying RPM & efficiency. |  |  |  |
| 7 | RPM |  |  |  |
| 8 | Absorbed power kW (for MCR  and Test Block conditions for both MLD/RVC case & VFD case. |  |  |  |
| 9 | Drive motor detail |  |  |  |
| 10 | Total weight of the fan assembly  (approx) |  |  |  |
| 11 | GD2 value |  |  |  |
| 12 | Noise level at fan |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 13 | Inspection openings,  -Drain connections,  -Casing split,  -Coupling guard,  -Suction opening guard,  -Shaft seal,  -Lifting lugs,  -Provision for monitoring DE & NDE  bearing temperatures, |  |  |  |
| 14 | Type of Coupling, Bearing |  |  |  |
| 15 | Dynamic balancing of Rotor  assembly |  |  |  |
| 16 | Other salient features |  |  |  |
| 17 | Other system requirement, if any. |  |  |  |
| 18 | Surface treatment, Surface  finish, Packing |  |  |  |