DATE: 30\textsuperscript{th} August 2011

Notice Inviting Quotations

Quotations are invited for supply of fin and tube heat exchanger prototypes with following specifications for doctoral research in Turbomachinery Laboratory at IIT Delhi. Sealed quotations should reach by 15\textsuperscript{th} September 2011, 4.00 pm in Mechanical Engineering Department Office (Room No 263, Block II), IIT Delhi.

Specifications:-

- Single tube heat exchanger prototypes
- Quantity – 08

\begin{table}
\centering
\begin{tabular}{|l|c|c|l|}
\hline
S.No. & Item & Material & Quantity & Specification \\
\hline
1 & Fins with punched holes and winglets. & Al & 24 & Thickness 1 mm. See the model drawing no. 1 for details \\
\hline
2 & Central fin sandwich with groves to embed thermocouples. & Al & 1 & Thickness = 2+1 = 3 mm See the model drawing no. 1 \\
\hline
3 & Tubes & Cu & 1 & Φ = 38.1 mm, Length = 32 cm, wall thickness = 1.5 mm \\
\hline
4 & Plate clamps & Al & 2 x 2 = 4 & See model drawing No. 1 \\
\hline
5 & Rivets & Al & 24 x 4 = 96 & \\
\hline
6 & Tube sockets & M.S. & 2 & \\
\hline
\end{tabular}
\end{table}

Note – Auxiliary details, which are unique to each prototype, will be supplied during the course of fabrication.

- Separately quote all taxes and CIF IIT Delhi.
- Also submit proprietary certificate if applicable.

Prof. P M V Subbarao
SINGLE TUBE HEAT EXCHANGER PROTOTYPE

Drawing no. 1

Plate clamp for upper stack

Central Fin Sandwich

Plate clamp for lower stack

Drawing no. 2

Aluminium Fins

Copper Tube

Arrangement of fins -
- Lower stack of 11 fins
- Central sandwich
- Upper stack of 10 fins

Upper stack + central sandwich + lower stack = 299 mm

12 + (13 x 10) + 2 mm + (13 x 11) + 12 = 299 mm
12 + (130) + 2 mm + (143) + 12 = 299 mm

Net height of stack for free flow of air = 299 mm
Gross height of stack = 299 + 2 (uppermost & lower most fin) + 1 (plate clamp) = 302 mm