

Department of Aerospace Engineering
Punjab Engineering College
Chandigarh

Subject: Budgetary quote for open jet supersonic wind tunnel.

A supersonic wind tunnel is required for the purpose of air breathing system for PDE propulsion system. The specifications for the same are attached herewith. The interest parties are requested to quote for the purpose of budget estimation only. A similar open jet wind tunnel exists in the department at present and the same can be seen for the purpose of quoting.

The price in the quotation may be quoted as

Item No. 1.... For the item no 1 in the specifications below.

Item No. 2....For the rest of the items as one price.

TECHNICAL SPECIFICATIONS OF THE EQUIPMENTS

1. **Traverse System (6-Degrees of Freedom)**
X = 770 mm (-90° to +90°)
Y = 600 mm (-45° to +45°)
Z = 750 mm
XYZ table fitted with precision rolled ball screws with accuracy of 10 μ and repeatability of 5 μ. A holding for probe (6mm dia) with 360° rotation (clockwise & anti-clockwise).
2. **Settling Chamber**
Input = 2 inches
Inner Diameter = 24 inches
Length = 1m (with heavy supports)
Gauge = 20 mm (HR sheet)
Two end-flanges: One fixed to model mounting attachment (100 mm, round disc air leak proof all time), other for mounting of D-Laval Supersonic Nozzle block.
D-Laval Supersonic Nozzle with throat diameter of ¼ inch (Brass, forged)
Flow spreader (2 or 3, SS-304 sheet)
Screens (two, SS-304 plates)
Moisture Drier
3. **Pipe Lines (C-class)**
High pressure pipe lines with inner diameter of 2 inches (Settling chamber to Air vessel).
High pressure pipe lines with inner diameter of 1 inches (Air compressor to Air vessel),
High pressure bends required for connecting various pipe lines.
4. **Gate Valve**
Brass material (2 inches): one fine threaded and other surer coarse threaded.
5. **Pressure Gauge**
One (on settling chamber)
Second (in pipeline)
Integration of above mentioned equipments with air compressor (already available) and air vessel (already available) and installation of open-jet supersonic wind tunnel.

(Dr. T K Jindal)
Professor, (PI) PDE Projects