

Tender Notification to procure High Temperature and Pressure Reactor

Vessels/Autoclaves

(Last Date 6/12/2019)

We want to procure high temperature and pressure reactor vessels/autoclaves with two different maximum operating temperatures:

Kindly Send the Quotation for the following Item:

1. Procurement of high temperature and pressure reactor vessels/autoclaves:
Reactor 1 - Maximum operating temperature 750 °C - 850 °C (Please mention)
2. Procurement of high temperature and pressure reactor vessels/autoclaves
Reactor 2- Maximum operating temperature 650 - 680 °C

Please send us two-part quotation of Technical specifications and price for the same within 15 working days.

Please note that the final selection will be done by an empowered expert committee which will consider both the price and the technical evaluation including safety and quality as well as the requirement of the project.

We will prefer letter of credit (LC) as the mode of payment, however, we are open to other modes as well.

Technical Specifications:

- i. Max operating pressure 250 bar- 300 bar (Please mention)
- ii. Material of construction of autoclave: Suitable Nickel based superalloy.
 - a. For low temperature autoclave-**Reactor 2**, the alloy should be equivalent to In 617 or In 625. Please justify the alloy used and designed temperature and pressure it will withstand.
 - b. For high temperature Autoclave- **Reactor 1**: Any alloy that will be suitable upto 750-850 °C and a pressure of 250-350 bar at that temperature. We shall prefer In 740 H or Haynes 282. However, we shall be open to other alloys if justified.
 - c. In case you can supply autoclave with a different temperature and pressure combination, please quote for consideration of our technical committee who are empowered to take the final decision.
- iii. Volume of the autoclave: 100-300 ml (Specify) Preference is for higher volume. In case you have multiple size, please quote separately.
- iv. Closure: Metallic Bridgeman or Grayloc coupling or any compatible coupling (please specify and justify)
- v. K type Thermocouple should be provided to measure the temperature
- vi. Back pressure regulator/electronic pressure control with transformer (please clearly mention the dimensions and other specifications)
- vii. Inlet and outlet pipe
 - a. OD: ¼” (6.35mm)
 - b. ID: mention depending on material of construction.

- viii. Pressure gauge -2 (one will be spare)
- ix. Option for heating (which can reach upto 1100 °C) with PID controller (Thyristor controlled) to heat/maintain the temperature of the autoclave, should be given.
- x. Option for remote operation to be given separately.

Safety features:

- a) Burst disc
- b) Pressure relief valve

If you are using materials other than the above-mentioned specifications, please give justification that will meet the temperature and pressure specified above for our consideration.

Please mention clearly the Guarantee & Warranty of the system.

Please send the Quotation to the following address:

Prof. K. Chattopadhyay
ICER, IISc, Bangalore 560 012

For any further queries related to the technical specifications please contact:

- 1. Dr. Poorwa Gore
poorwagore@iisc.ac.in
- 2. Prof Kamanio Chattopadhyay
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For any further business-related queries please contact:

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