

What is claimed is:

1. A method of installing a temperature measuring device inside a reactor tube while filling the tube with catalyst, comprising:
  - 5 a) inserting a positioning system, comprising multiple inflatable bladders connected at a central location to a centering ring, into reactor tube, the reactor tube comprising a distal end and a proximal end,
  - b) attaching the temperature measurement device to a distal end mesh disk,
  - 10 c) inserting the centering ring around the temperature measurement device,
  - d) locating the positioning system at a first predetermined distance from the distal end,
  - e) inflating the multiple inflatable bladders, thereby centering the centering ring and the temperature measurement device within the SMR tube, and
  - 15 f) introducing catalyst into the SMR tube, thereby enclosing the temperature measurement device in catalyst.
2. The method of claim 1, further comprising:
  - 20 a) deflating the multiple inflatable bladders and relocating the positioning system a second predetermined distance toward the proximal end, and
  - b) repeating steps b) – f) until the SMR tube is filled as required.
3. The method of claim 1, wherein the positioning system comprises three  
25 inflatable bladders.
4. The method of claim 1, wherein the positioning system further comprises multiple open regions, and the catalyst passes through the multiple open regions to enclose the temperature measurement device.
- 30 5. The method of claim 4, wherein the positioning system comprises three inflatable bladders and three open regions.

6. The method of claim 1, wherein the temperature measurement device is a thermocouple.
7. The method of claim 1, wherein the temperature measurement device is a stand of multiple thermocouple sensors.
8. The method of claim 1, wherein the multiple inflatable bladders are inflated using pressurized nitrogen.
9. The method of claim 1, wherein the multiple inflatable bladders are inflated using pressurized air.
10. The method of claim 1, wherein the reactor catalyst tube is vibrated during or after step e).
11. The method of claim 1, wherein the first predetermined distance is less than about 5 feet.
12. The method of claim 1, wherein the first predetermined distance is about 1 foot.
13. The method of claim 1, wherein the second predetermined distance is less than about 5 feet.
14. The method of claim 1, wherein the second predetermined distance is about 1 foot.