CH6612 Process Equipment Design – II

www.msubbu.in

Heat Exchangers

Dr. M. Subramanian

Associate Professor

Department of Chemical Engineering

Sri Sivasubramaniya Nadar College of Engineering

Kalavakkam – 603 110, Kanchipuram (Dist)

Tamil Nadu, India

subramanianm@ssn.edu.in



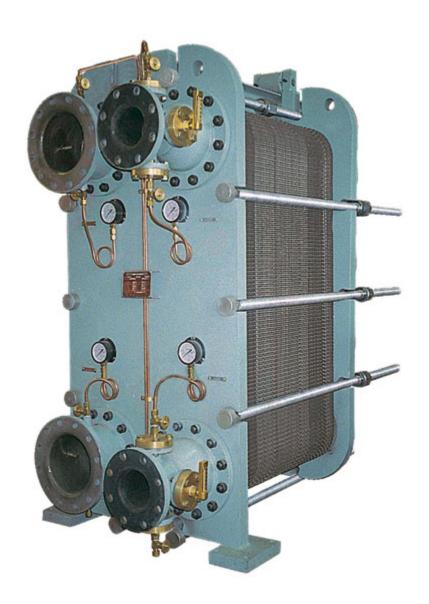
Double Pipe Exchanger

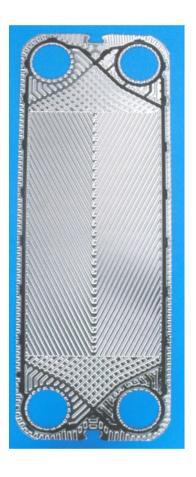


Fabrication of Double-pipe Exchanger

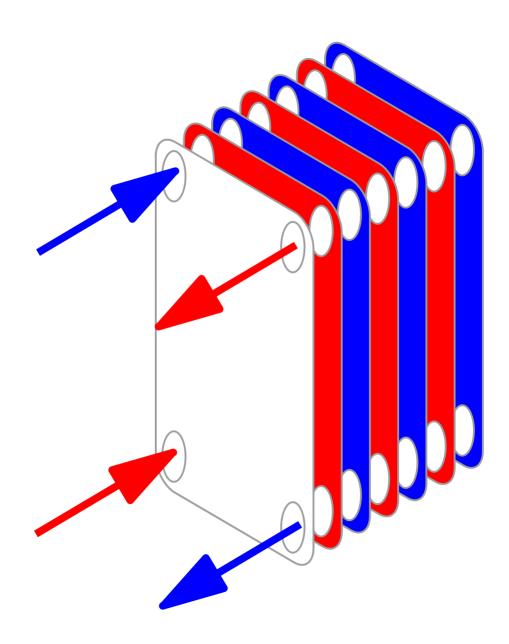


Plate Heat Exchanger







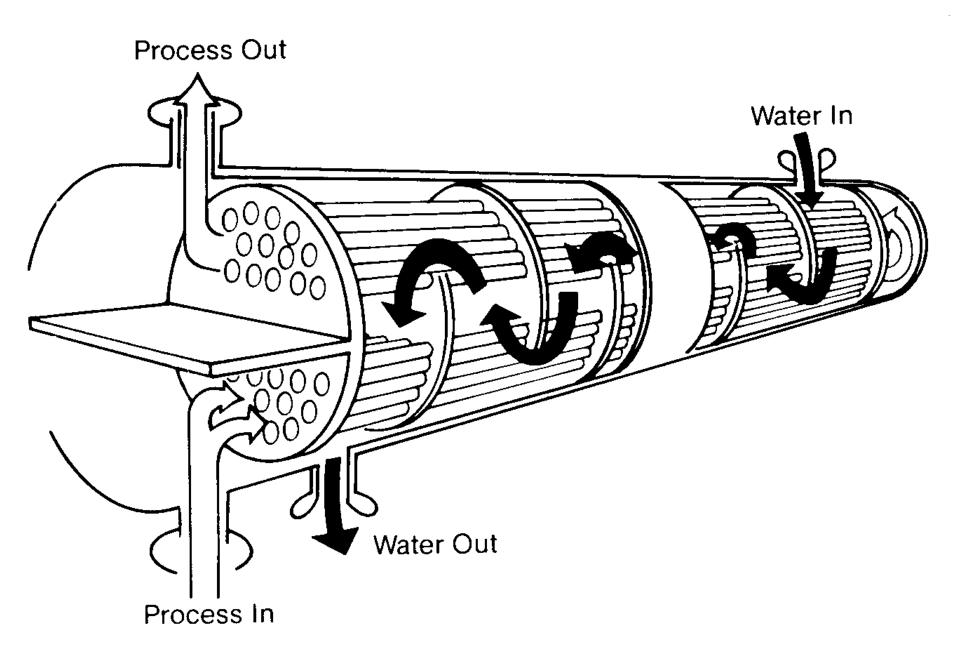




Shell and Tube Exchanger

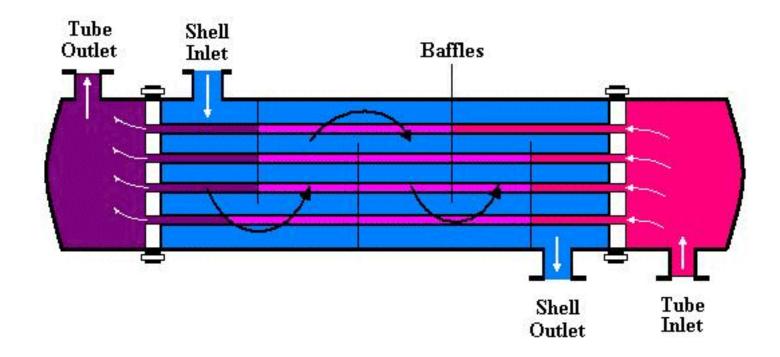






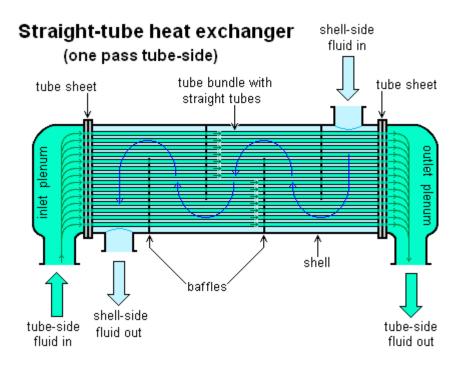


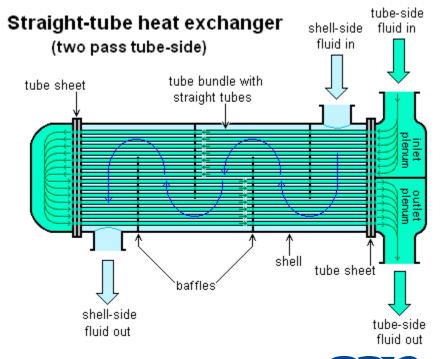
Shell and Tube Exchanger





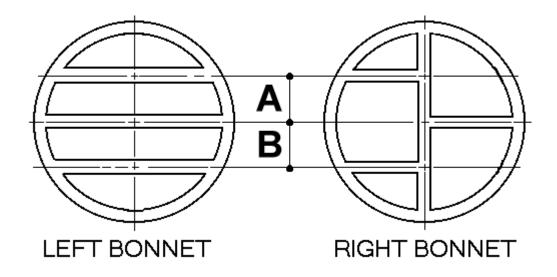
Tube side passes





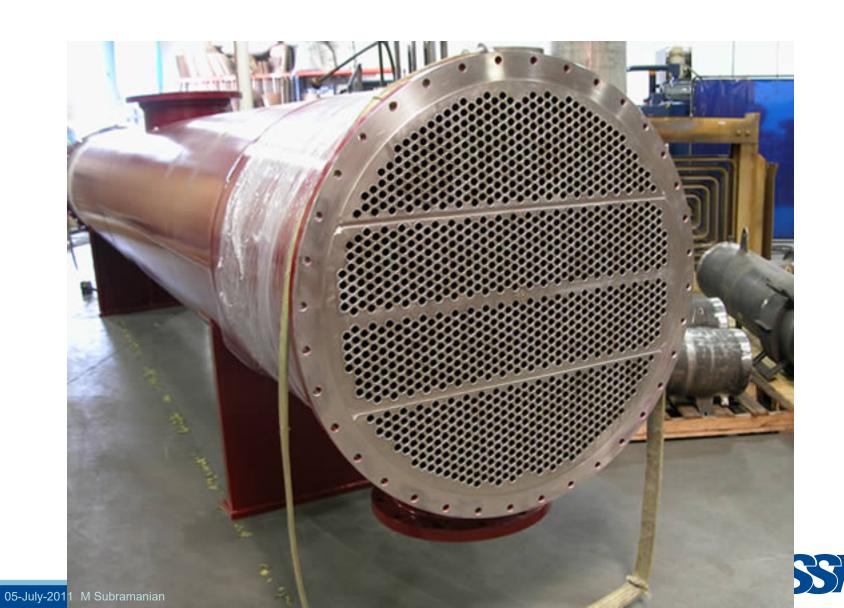


Tube side passes





4-tube passes



Tube Sheet





Tube Sheet and Baffles



Tube Bundle







U-tubes



U-tubes



Baffles and Tie Rods



Heating coils

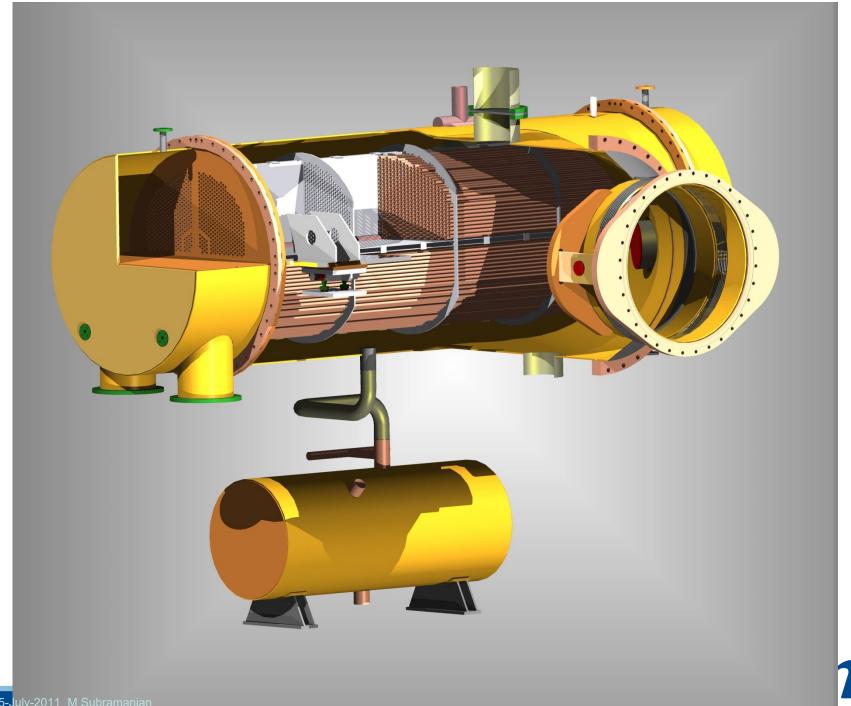
















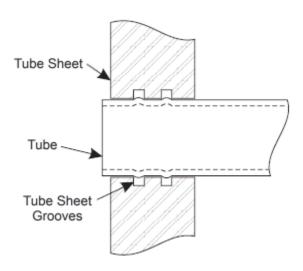




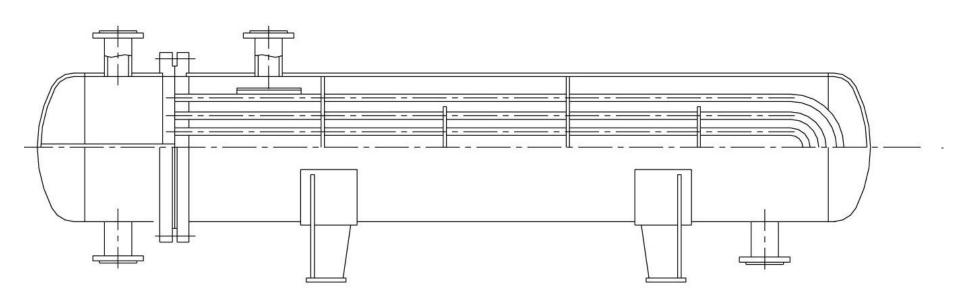








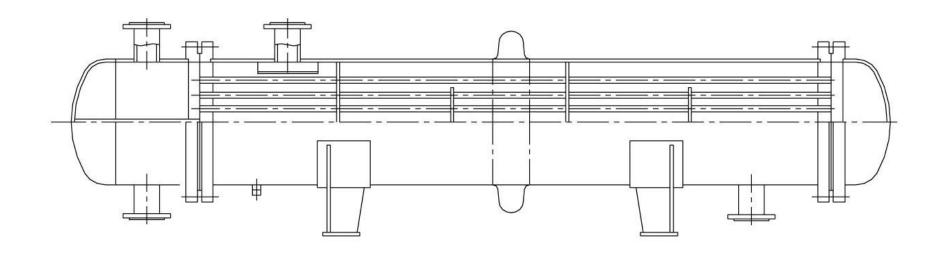




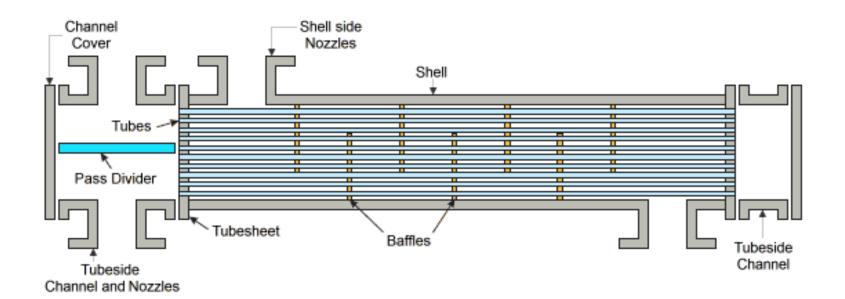




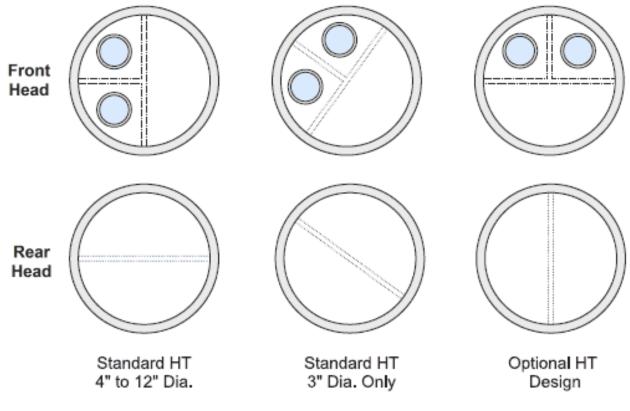






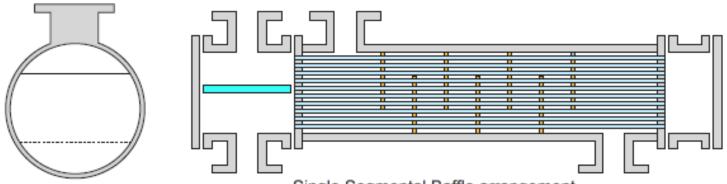




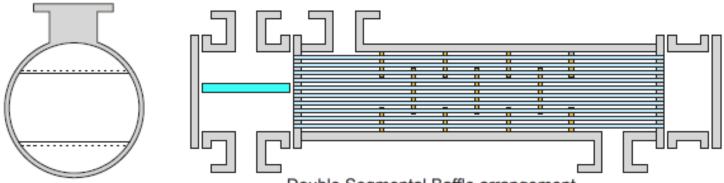


4-PASS Tubeside Designs



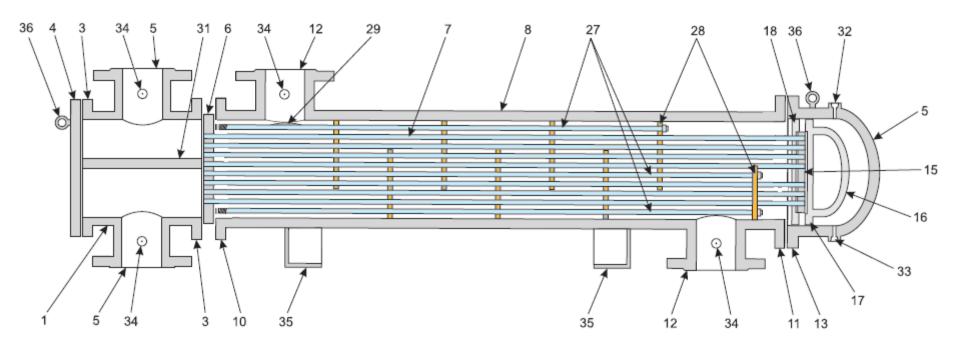


Single Segmental Baffle arrangement Note: Overlap of at least one tube is required to provide adequate support



Double Segmental Baffle arrangement Note: Overlap of at least one tube is required to provide adequate support







Heat Exchanger TEMA type AES

- 1. Stationary Head-Channel
- 2. Stationary Head-Bonnet
- 3. Stationary Head Flange Channel or Bonnet
- 4. Channel Cover
- 5. Stationary Head Nozzle
- 6. Stationary Tubesheet
- 7. Tubes
- 8. Shell
- 9. Shell Cover
- 10. Shell Flange Stationary Head End
- 11. Shell Flange Rear Head End
- 12. Shell Nozzle
- 13. Shell Cover Flange
- 14. Expansion Joint
- 15. Floating Tubesheet
- 16. Floating Head Cover
- 17. Floating Head Cover Flange
- 18. Floating Head Backing Device
- 19. Split Shear Ring
- 20. Slip-On Backing Ring

- 21. Floating Head Cover External
- 22. Floating Tubesheet Skirt
- 23. Packing Box
- 24. Packing
- 25. Packing Gland
- 26. Lantern Ring
- 27. Tierods and Spacers
- 28. Transverse Baffles or Support Plates
- 29. Impingement Plate
- 30. Longitudnal Baffle
- 31. Pass Partition
- 32. Vent Connection
- 33. Drain Connection
- 34. Instrument Connection
- 35. Support Saddle
- 36. Lifting Lug
- 37. Support Bracket
- 38. Weir
- 39. Liquid Level Connection

