

Solutions to Subproblem of
Accepting Feedwater

- Screened Hopper
- Plastic syphon
- Screened Trough
- Sedimentation Trough
- Bucket w/ dowel pins and spring loaded drain valve
- Bucket (manual feed)
- Screened bucket
- Lid
- Selective surface lidded container
- Funnel with coffee filter
- Funnel with two stage filter and lid
- Header w/ single threaded inlet to attach to existing pipeline

Solutions to Subproblem of
Converting Solar Energy to Heat

- Glazed glass
- Double glazed glass
- Coated glass
- Bubble-wrap
- Two pieces of plastic with air in b/w
- Two corrugated plates w/ selective surface
- Glass-air-collector
- Glass-greenhouse gas-collector
- Dimpled-flat-dimpled assembly
- Mirrors focusing light to center
- Selective surface

Solutions to Subproblem of
Heat Exchanger

- Filter
- Fine meshed screen (at inlet)
- Tube within a tube
- Two fluid system w/ rotary shaft actuation
- Baffled shell
- Counter flow pipes
- Compact heat exchanger
- Count flow plates
- Evacuated tube collector

Solutions to Subproblem of
Flow / Temperature Regulation

- Dimpled surface
- Single / Multiple thermostat valves
- Natural circulation
- Bimetallic strip
- Dual expanding metal plates (expands to expose hole)
- Differential Pressure control valve
- Thermostatic mixing valve (requires constant flowrate)

Solutions to Subproblem of
Minimizing Heat Loss

- Interior Insulation
- Exterior Insulation (insulating jacket)
- Thermal mass (brick)

Solutions to Subproblem of
Releasing Trapped Air

- Air lock mechanism
- Sightglass w/ manually operated poppet valve
- Floating air valve
- Deaerator

Solutions to Subproblem of
Sediment Control

- Filter
- Fine meshed screen (at inlet)
- Sedimentation trough (w/ header on side to allow sediment to settle on bottom)
- Gelatin-like material w/ sticky surface