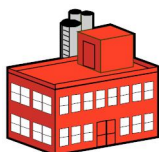


### Typical Hospital Decision Makers

Maintenance manager  
Energy manager (LEED)  
HVAC BEMS (Automation-Meters)  
Projects Manager  
CSR manager  
Water treatment

Johnson Controls-Honeywell  
Siemens

Consultants - New build



### Applications

Clean-filtered-clean steam generator  
Steriliser issues-wet packs-steam quality-vacuum design-pressure pulse  
Steam quality-PRV's-separators  
HTM 2010-HTM2031-dryness-superheat-conductivity-steam quality  
3A (food) culinary steam-filter 1 or 5 micron  
Cooling chillers (meters and efficiency)  
DHW -storage vs instantaneous -legionella < 110 Deg F-energy savings-space-control-inspection issues-case study (St Joes)  
Boilerhouse opportunities-BDHRU-updating boiler controls- level andTDS-metering and back pressure header-efficiency-DA's -upgrading toRO  
Humidification-OR's - Dri-steam atmospheric clean steam (1 psig) humid-new clean steam generator  
Building heating- shell and tube - packaged  
Flushing of PK's (chemical solution)  
heat recovery-contaminatedsterilisers-condensate coolers- carbonic acid (>160 F)issues - vented losses - flash condensers  
condensate pumps  
condensate return % (tds feed water ppm /condensate tds ppm)  
steam/gas/condensate meters (50% rebate from Gas companies)  
Cage washers in CSR

### Typical Questions for Controllers

Pneumatic-air supply  
Control action direct-reverse  
Control type  
Proportional  
Integral(Reset)  
Derivative  
Communications required  
Voltage  
Control input (RTD-Analogue  
4-20 m/a)  
Remote inputs from DCS BEMS

### Typical questions for control valves

Flow rates(winter-summer)  
Pressure drop P1/P2  
Pneumatic/electric -air pressure or voltage  
Connections  
Noise level  
Material  
Fail action-open-close-last position  
Control signal  
Solenoid required  
AFR required  
Equal % for steam  
Linear trim for water  
Balanced trim  
Positioner type 3-15 psig 4-20 m/a 0-10 vdc  
Certification seat leak test or material test reports

### Typical questions for meters

Flow rates min/norm/max  
Meter type  
Temp compensation  
Pressure compensation (superheat)  
Pipe straight runs-flow straightener  
Remote-local display  
Communication -DCS-BEMS-PLC  
Wafer or flanged (Gas must be flanged)  
Low pressure gas must be VA meter  
Classification for process industry  
Certification materials  
Certification for calibration  
Horizontal or vertical line  
Direction of flow