



Calculator instructions and guidance notes Steam V's Gibbons – Fresh air with heat recovery

The Gibbons calculators use accurate ideal gas equations to provide a realistic calculation to demonstrate the energy savings that can be achieved by installing our humidification system. The calculations required to model the operation of the air system are complex and make use of iterative mathematics.

Enter data from your BMS system to determine the possible energy savings. It should be noted that changing from steam to an adiabatic humidifier with this type of air system will put more load on the heating system and the heating capacity should be checked to ensure it is sufficient for the new system. It would be normal for significant energy savings to result from changing to the gibbons system.

Outside air data

We have made use of MET office data for Kew in London to give an accurate representation of the outside air conditions that would be encountered by the air system. For locations where the meteorological conditions are significantly different from those at Kew, caution should be exercised with the results of the energy saving calculations.

Efficiencies

The calculator assumes that the efficiency of the heating system is 100%. The coefficient of performance for the cooling system is taken into account.

Energy Prices

The energy prices are set by the user and can be put in at today's values. It is widely reported that energy prices are set to increase for the foreseeable future. The monetary value of the savings will increase with energy prices so it is possible to see how big the savings will be in the future by adjusting the energy prices accordingly.

It is entirely normal for the Gibbons humidification system to pay for its self in one to two years. The results from the energy savings calculators are very much in line with our years of experience.

Please feel free to contact Steve Rix (07966 423165) or steve.rix@gibbonsgroup.co.uk if you should have any questions or queries.

Circular references

If a circular reference warning is displayed it is because the iteration function in Excel is not enabled. To cure the problem, enable iteration and set the maximum iterations to 1000 and the minimum change to 0.0001. We recommend that the workbook calculation is set to Automatic.

Go to File, Excel options and formulas to make these adjustments.



