Robertson

A custom-made or contract-wide Single Responsibility service

At Robertson we custom engineer gravity ventilation systems for specific projects. We do this because in more than 80 years we have learned that no two buildings are identical, no two internal processes exactly the same, and no external environments alike.

The many formulae now used to calculate air change requirements are therefore still, in the wider context, only a starting point, to which we add our experience in the selection of appropriate, and appropriately matched inlet and outlet systems, the choice of protective coating systems, plus the fabrication and/or installation of finished systems.

To build a simple and successful solution using gravity ventilation you need more than an educated guess or a copy of your neighbour's roof-top system. You need a supplier with real know-how. If one of our systems is not suitable for your application, we will develop and test one which will do the job.

New Projects

Robertson routinely designs, integrates and installs gravity ventilation systems required for green field sites - a service which often includes the supply and installation of complete building envelopes for large-scale developments such as power stations, incinerators, smelters, light and heavy engineering structures.

Retrofits

More recently we have been asked to undertake a growing number of retrofits - often replacing powered ventilation systems that have failed to perform to expectation in industrial environments.

A Complete Ability

Because we have a complete range of Robertson designed inlet and outlet systems to call upon, plus the engineering ability to fabricate and integrate systems, Robertson gravity ventilation systems have achieved a reputation for outstanding in-place performance worldwide, making Robertson and RVI the undisputed leaders in this highly specialised field.

Design Capabilities

At Robertson we have a dedicated team of internationally experienced design professionals capable of solving any ventilation problems you may have. The use of state-of-the-art engineering techniques, coupled with over 80 years experience, ensures we provide the most cost effective and technically superior solutions for your projects.

The capabilities we offer include:

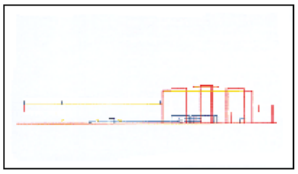
- Mathematical and CFD modelling for system design
- Finite element analysis for structural analysis
- CAD/CAM design and manufacturing
- Acoustic engineering
- Prototype development and modelling

Computational Fluid Dynamic Modelling (CFD)

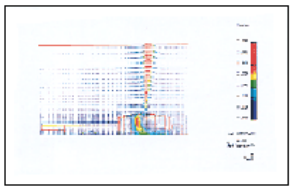
To improve the accuracy, and therefore the cost effectiveness of Robertson engineered systems, we offer the use of Computational Fluid Dynamic modelling for complex analysis of air flow velocity vectors, pressure distribution, temperature contours, fume concentrations and so on.

The diagrams shown here are from a successfully completed model. They illustrate the high level of information which can be obtained and incorporated in the design process to ensure accurately engineered solutions prior to fabrication and installation.

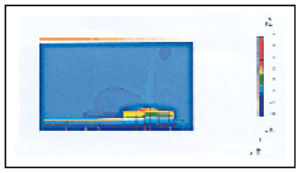
This process adds to Robertson's ability to accurately predict the in-place performance of ventilation systems engineered for specific large-scale projects.



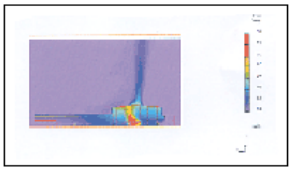
1. Model of aluminium cast house. Elevation (x-z) view.



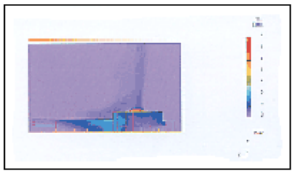
2. Velocity vectors (m/s) in cast house at y = 99.5m (global view



3. Pressure contours (Pa) in cast house at y = 99.5m (global view)



4. Temperature contours (deg C) in cast house at y = 99.5m (global view)



5. CO concentration contours (kg/kg) in cast house at y = 99.5m (global view)