Calibrating Model Airway Size and Resistance with Survey Asbuilt Data

F. Michelin[1], C. Stewart[2] and M. Griffith[3] (initials and surnames only)

1.

Senior Software Application Engineer, Howden Simsmart, 4101, florian.michelin@howden.com

2.

Director of Operations, Howden Simsmart, 4101, craig.stewart@howden.com

3.

Senior Software Application Engineer, Howden Simsmart, 4101, martin.griffith@howden.com

Note: If appropriate, authors may list their AusIMM membership status (eg: MAusIMM, GAusIMM, FAusIMM(CP), etc). Affiliations for other organisations will not be included.

ABSTRACT

Correct airway size is one of the key factors to ensuring the correct resistance and accuracy for ventilation models. Use of traditional estimation methods such as design size or time consuming underground spot measurements can produce poor results, particularly if there are frequent size variations in tunnels. A method and algorithm is presented to automatically convert three dimensional survey information to correct airway size and location. The method is demonstrated in VentSim Design and the effect on model accuracy is examined.