



# EDM Ltd.

## Case Study

# Electro-pneumatic control solution for flight evacuation training equipment

Manchester company EDM Ltd., have established themselves as a global supplier of training products which enhance safety and efficiency within training sectors. Their diverse market is predominantly split into two specific areas providing simulated training equipment for commercial aviation and simulators for military and commercial customers. All EDM solutions enhance training and emphasize the importance of safety and regulatory requirements particularly in the ever changing world of aviation

COMPANY  
PROFILE

### Customer Application

**Air China contacted EDM for the supply of two reusable escape slide simulation systems, for use on Boeing 737 and Airbus A330 Cabin Emergency Evacuation Trainers (CEET). EDM quickly realised they needed technical help and advice for the interfacing of their electronic control with the pneumatic systems involved in the application. As the UK's biggest independent supplier of pneumatic products and process systems, Thorite was the natural choice to provide the expertise required to move the project forward and EDM contacted us with a request to become their preferred supplier for the design, supply and commissioning of pneumatic systems.**

### Solution: Compressed air system and control interface

The requirement was for a fast-acting, low pressure (10bar) escape slide inflation system, which for the Boeing

737, comprised of a 1,000 litre vertical air receiver, pipework, actuated ball valves and a Thorite-designed and built 2-switch control panel. The Airbus A330 deploys a much larger slide, requiring a 4,000 litre horizontal air receiver, pipework, actuated ball valves and a 4-switch control panel. The compressed air supply and storage was used in conjunction with a bespoke aspirators this dramatically increased the cfm supply by bringing in surrounding atmospheric air and feed the chutes to 1.9 psi in a very rapid 7 seconds. Very accurate electric pressure sensors monitor the pressure and ensure the pressure in the slide is maintained at a constant.

A second system is then employed to evacuate the chutes ready for the next simulation

Thorite also designed and built an additional 4-switch panel for the A330, to activate a fire extinguisher simulation system. The fire extinguisher control system feeds a standard size extinguisher with pressure boosted to 15 bar of compressed air. The pressure and volume of the extinguisher accurately simulates the use of a standard unit in duration



to a discharged state. The design allows the extinguisher to be easily recharged for each simulation.

To round the project off, Thorite carried out all system testing on site and supplied a "written scheme" in line with the UK Pressure Systems Safety Regulations 2000.

*Speaking of Thorite's contribution to the success of the escape slide simulators Howard Gregory, EDM's Project Manager said: "EDM is renowned for applying its world-class engineering and manufacturing expertise to our global customer projects and we seek to collaborate with like-minded companies. Thorite responded to the challenge by realising innovative solutions on two different escape slide systems. Their customer focus and attention to detail was excellent and most importantly, their input enabled EDM to satisfy our end customer."*

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