

## Breathing Apparatus Fitness Cum Stamina Building Simulation Facility



In partnership with Hexcel Solution whose primary business is in the production of fire simulations, COSEM aims to offer a wealth of experience in designing and building a wide variety of 'near-realism', challenging and practical training environment without compromising stringent safety control standards.

In this aspect, COSEM has developed a state-of-the-art Breathing Apparatus (BA) Fitness cum Stamina Building Simulation Facility for Singapore's Civil Defence Academy. Breathing Apparatus is critical, almost sacrosanct aspect of every fire fighter's personal protective equipment which enables them to operate in hazardous smoke-logged environment. Hence it is paramount that the fire fighters are confident and proficient in breathing through the BA set while executing physically strenuous and demanding activities.

The entire BA Fitness Cum Stamina Building Simulation Facility is primarily designed with this mind. It is a self-driven heavy duty mechanized system of fitness cum stamina building stations that has been specifically designed to make the fire fighters go through what he/she might face during a typical rescue operation; such as running (during critical moment that demands swift exiting from hazard zone), climbing, pulling/ clearing obstacles etc...



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The series of fitness cum stamina building stations includes:

- Ladder Test;
- Impact Machine Test;
- Bicycle Ergometer Test; &
- Running Belt Ergometer Test.

The sophisticated facility utilizes the RFID technology for its instantaneous monitoring and recording process. Prior to starting the BA fitness cum stamina building test, each firefighter, in firefighting gear and donning a BA set, is given a wrist band embedded with an RFID chip. At the commencement of each test station, he simply needs to tap his wrist band at a mini-rectangular scanning device at the specific test station and immediately, his particulars test performance are automatically recorded at a central monitoring system. At the end of all the series of test stations, the cumulative result of each firefighter can be instantaneously printed for self-retention and/or official documentation.



The facility also comes with a comprehensive in-built safety features such as:

- emergency stop button located at each test station &
- CCTV cameras which allow the instructor/safety officer stationed at an adjoining monitoring room a live panoramic view of all firefighters across the test stations as well as close-up view of individual firefighter at specific station.