CONTROL TECHNIQUES

DUTCH SKYDIVERS FLYING HIGH

ROOSENDAAL INDOOR SKYDIVE CENTRE | FANS & PUMPS

DRIVE OBSESSED

2.4MW OF FAN POWER WITH SPEEDS UP TO 250KPH

Roosendaal Indoor Skydive Centre in Holland relies on a system of twelve 200 kW fans at the base of the tower to provide precise air control for skydivers of all experience levels.

The Challenge

The indoor skydive centre was set up as somewhere for both professional skydivers and the general public to practice.

The large fans that provide the air for the two flight chambers within the 23.5- metre tower needed a soft-start, simple speed control and maximum energy efficiency to keep costs down. In addition, the system had to bring fresh air into the tower to keep ambient temperatures within acceptable limits.

The Benefit

"The cost-effective operation of the centre depends on the Control Techniques drives," explained Technical Manager and Skydive Instructor Erwin Van Den Braak.

"We need to keep power demand below set levels to prevent incurring peak charges. This means a gentle start-up of the motors. We are careful to optimise bookings together in blocks and if not possible we simply turn down the speed of the motors to about 10 Hz instead of turning them off and then having to start up the motors again which costs a lot and is not effective. Working in groups means that we need instant fan speed adjustment for each individual, depending on size and weight."

Overview

- **Precise air control**
- **Maximum energy efficiency**
- **Cost effective**

The Solution

The founders, a group of professional skydivers, worked with Control Techniques to develop a solution comprised of a ring of 12 200kW fans driven by Unidrive SP drives at the base of the tower.

The fans blow air horizontally into the centre of each flight chamber, where it is deflected vertically at a speed of up to 250 kph by an aeronautically-shaped cone.

At the top of the tower, air collectors return the air to the motor feeds and the back-pressure reduces power consumption. The temperature of the tower is monitored and when the heat generated by the motors pushes the it beyond a comfortable level, four 110 kW Unidrive SP drives at the top of the tower control air ventilation fans, which reduce the temperature.

All drives are fitted with plug-in SM-applications modules & communicate with the touch-screen controller via Control Techniques' high-speed network CTNet for simple and instant speed control by the operator.