Orthos PIL-M02
Anti-Backtrack Lanes

Concept

The unit provides a controlled-access secure path of travel config-ured to allow high-volume single-direction pedestrian movement, and to sense, deter, and provide local and remote notification for attempts to enter lanes from the restricted direction. It is often employed at airports for the sake of controlled crossing of all passengers from airside (sterile area) to landside (non-sterile area). The modular system consists of a combination of several fast-moving half- and full-height door sets. The required security level may be achieved by different unit lengths and sensor combinations. The sophisticated sensor systems ensure a high object security with simultaneous regard to pedestrian safety.

Finish

Light alloy profiles Stainless steel for all visible parts.

Construction

Modular system (different lengths, widths, and door combi-nations)
Sensor-controlled lanes for passage in one direction only, consisting of:

• 1 to 3 full-height doors (double swing doors), safety glass ANSI Z97.1 6 mm; hampering of weapon or tool transfer and of passages into the security area; monitored swing range for safe passage; signaling by LED display, voice module (optional), low-energy drive concept.
• up to 2 half-height swing doors (fast-moving low-energy barri-ers creating an additional obstacle in case of a security breach attempt); opening and closing sensor system incorpo-rated in the lanes swing range monitoring by light cur-tain at foot level; PETG barrier elements.
• transparent glass sidewalls; 10mm glass ANSI Z97.1 in unit

height, fixed in floor rail (bottom) and cable duct (top); boundary plates at foot level protecting against bumping baggage, strollers etc.; end-to-end integration of light curtains.
- modular sensor system (pedestrian safety, detection of attempted security breaches, detection of objects left within the lane) available in different performance levels;
- thrown objects 100x100x100mm/ 10m/s (optional)

Possible lane combinations
- multiple units (parallel corridors for increased passenger flow).
- angled units (meeting architectural requirements)
- different lengths and widths (meeting architectural and security requirements).

Dimensions
Standard (2 full-height doors, 1 half-height door)
Passage width: 920mm Passage height: 2,100mm Total height: ca. 2,500mm

Total length
Other possible dimensions: Passage width: 650, 920, 1,100, or 1,400mm Total length: 3,091 – 9,129mm depending on door configuration

Capacity/Pedestrian flow
60 people per minute are possible when walking 1 m/s (3.6 km/h) in a distance of 1m from each other.
Higher capacities are technically feasible, especially for wider lanes.

Functions
Basic process: pedestrian approaches door → door opens → door remains open if further passengers approach the system. All the while, system monitors wrong-way movements. In case of a breach attempt, the system alarms and tries to close doors while respecting pedestrian safety.

The sensor system may be adjusted with specific regard either to personal safety or to object security.

Power failure
All full-height doors are closed by buffer power. Airside doors are closed and locked. All landside doors remain unlocked. All half-height doors are freely movable. Pedestrians may leave the lane towards landside; thus security is never compromised.

Return of power
Complete unit is initialized automatically. Set operation mode is resumed.

Pedestrian safety
Areas of door movement are monitored by sensors, thus preventing people from being pinched or knocked down. Limited rotational energy due to low energy drives.

Object security
See chapter "Sensor System". Project-specific security levels may be achieved by different sensor levels, lane dimensions, and door combinations.

Sensor systems
- radar sensors as standard for wrong way detection
- optional high performance stereo sensors for wrong way detection, increased detection reliability and decreased false alarm rates
- direction sensing for objects thrown into the lane (optional)
- presence detection/left objects 50x50x50mm

Electric system
Power supply
100 – 240 VAC, 50 – 60 Hz, power supply rated at 600 VA
Power consumption
Standard unit: 162W during idle
Variants with 2 full-height doors and 1 half-height door: 210W during idle

Controls integrated in side walls.

Operating modes
Normal flow, blocked, cleaning, inter-lock maintenance.

Alarm
Full alarm in case of further breach attempt. Thrown objects (optional). Left objects.

Parameter settings
Runtime monitoring of sensors and drives, acoustic alarm duration, alarm reset (time-driven,manually, automatic), initialization time.

Installation
On finished floor level

Options
Operating panel, optionally with key switch. Remote operation via dry contacts.
Pre-alarm (suppressed first alarm). Stereo sensor.

LED lighting (4W power rating per LED).
Voice module.
Mesh ceiling to prevent objects from being thrown over the top and into the lane.

Advantages
- detection of thrown objects (optional)
- minimal energy consumption (drive units and LED lighting)
- high degree of modularity
- no top access needed: controls integrated in side wall
- sensors independent of ambient light conditions
- open ceiling (easy integration into sprinkler and smoke detection systems)