

E-Serie 2-S-250-N-AC

Teddington air curtain system with CONVERGO® pressure chamber nozzle system

Housing type S: Horizontal visible wall or ceiling installation, air intake at the front.

Suitable for a discharge height of up to 3.4 m and a passage width of up to 2.5 m.

Ready-to-install compact unit, the long edges are formed with 45° phases and aluminium design profiles which, in combination with CNC-manufactured steel sheets, ensure a distinctive and high-quality device appearance. The housing, including all cut and joint edges, is completely powder-coated and designed without screw and rivet connections in the visible area. The outside of the unit is double-walled and sealed with a welded end cover made of powder-coated sheet steel.

The revision flap is closed with chrome-plated decorative catches.

Simple and easy-to-install device suspension on the top of the housing.

Air is drawn in via a slotted air intake grille with a 56 % free cross-section and a maximum web width of 2 mm. This ensures a low intake speed and therefore a low noise level.

For optimum efficiency and to protect the internal components, a G2 filter cassette with an aluminium frame is inserted into the unit at a distance of 45 mm from the air intake grille. Filter maintenance is carried out via an aluminium filter profile that can be opened without tools. Access to the area, which is to be serviced exclusively by specialised installers, remains closed during filter maintenance.

Manufactured in accordance with the Teddington quality management system DIN EN ISO 9001:2015. Each device is individually tested and a test report is created.

The outlet opening is designed as a rotatable nozzle construction, Convergo® - patent no. DE 10 2011 000 066.6.

The Teddington Convergo® pressure chamber nozzle system consists of large nozzle cheeks which are arranged on a rotatably mounted disc in such a way that the air flow is clearly constricted towards the air outlet. This narrowing ensures even air distribution and a high air discharge speed according to the Venturi principle. An aerofoil-shaped profile is positioned inside the discharge opening, which provides additional guidance and acceleration of the air flow. The significantly higher blow-out speed compared to a conventional lamella air curtain results in an approx. 30% higher shielding performance with a lower required air volume (referred to as effective flow rate). At the same time, the required heat output can be significantly reduced due to the lower air volume. The nominal flow rate stated in the technical specifications is the comparative value for the air volume compared to a conventional lamella air curtain. The entire Teddington Convergo® nozzle design is arranged in the unit in such a way that an adjustment angle of the air jet of at least 60° can be realised and can therefore be individually adapted to the entrance situation. A fillet on the outer nozzle profile deflects unwanted outside air. A 'soft' edge on the inner nozzle profile causes a desired room air induction into the air curtain.

The Cu/Al heat exchanger for LTHW integrated in the unit is fitted with steel connections that are secured against twisting in the unit.

The unit is equipped with special, high-pressure, ErP 2015-compliant, double-sided centrifugal fans that are mounted vibration-free and driven directly by 230V/1Ph/50Hz AC motors. The motor is protected by integrated thermal contacts.

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Type: E-Series 2-S-250-N-AC

technical data in accordance to ISO 27327:

nominal air volume: 6,300 m³/h

actual air volume: 4,550 m³/h

air discharge speed.: 15.6 m/s

sound pressure level in standard operating level: 55.1 dB(A) in a distance of 3 m to the side / 1/2 sphere

electrical connection of the fans: 230 V / 5.10 A / 1.11 kW

Dimension (LxHxD): 2,500 mm x 305mm x 625 mm

weight: 120 kg

INSTALLATION TYPE: ADW

The air intake is above the door and the outlet nozzle is on the room side. An air roll is formed which direction of rotation is outwards, against the incoming cold air.

COLOUR E-SERIES: RAL 9007

Housing powder coated in RAL 9007 ("Grey aluminium"),
air discharge nozzle/functional profile anodized in aluminium-nature.

NOISE REDUCED LINING: WITH

Sound-insulating lining of the air discharge and fan chamber as well as the inspection cover, with flame-retardant, open-cell, hydrolysis-resistant polyurethane foam 20 mm thick.

HEATING E-2-250: HEATING N

With regenerable filter G2

Nominal pressure PN 16, max. 130°C

Heating medium: 60/40 °C

Heating power: 20,0 kW

air intake temp.: 20 °C / air discharge temp.: 32 °C

flow rate: 0,86 m³/h

water resistance: 1,25 kPa

pipe connections: 3/4"(inner)

HEATING CONNECTION E-SERIES: TOP RIGHT

ELECTRICAL CONNECTION E-SERIES: TOP LEFT

VALVE (INSTALLED): 2-WAY DN20 WITH ELECTROMOTIVE ACTUATOR

Installed 2-way control valve with an electric actuator to regulate a constant air discharge temperature. In addition, a discharge temperature sensor is installed at the fans, which continuously measures the air discharge temperature and closes or opens the valve as required.

Technical data of the valve:

kvs value:

angle valve 7.5 m³/h,

straight valve 5.5 m³/h;

max. differential pressure: 350 mbar

Technical data of the valve head:

Operating voltage:

230 V AC ±10%; 50/60 Hz

Power consumption:

2.5 VA at AC

Control: 3-point control

Protection class: IP 40 according to EN 60529

Protection class: 230 V: II according to EN 60730

Media temperature: max. 100 °C

Ambient temperature: 0 to 50 °C (non-condensing)

Connection cable: 3 x 0.34 mm², length 1.5 m

CONTROLLER E-SERIES: TCX (controller & pcb)

The Teddington TCX control unit consists of a touch control panel with a graphical user interface in a plastic housing with a built-in room temperature sensor and at least one master PCB, which is installed in the air curtain unit. The TCX control unit is characterized by simple, self-explanatory menu navigation and programming. The menu language is multilingual. The start screen shows the main functions and allows quick access to the most important parameters.

8 digital and 4 analogue inputs enable the processing of different signals for automated control and energy-efficient regulation of the air curtain system.

BMS coupling is possible via the contacts for enabling, the operating and fault message and the external speed specification via 0-10 V or 4-20 mA.

The range of functions includes (depending on device equipment and optional accessories)

- 5-stage or infinitely variable air volume control
- Integrated weekly timer
- Key lock and access control
- Discharge temperature control via 3-point controller 230 V
- Automatic summer/winter function
- Room temperature control
- Room heating mode with night reduction
- Frost protection function
- Automatic modes for control via external signal transmitters
- Automated power control
- Function monitoring of external signal transmitters and internal modules
- Control of up to 64 individual devices with individual access, in groups or in master-slave configuration

- Configurable external global, group and individual release
- Save and restore settings on micro SD card

The connection between the control panel and individual devices is realized via an RS485 bus using a 4-wire shielded bus cable. No special plugs or special tools are required.

The control panel is supplied with power via the bus system.

The connections for on-site connections are color-coded.

(Cable recommendation e.g: J-Y(ST)Y 2x2x0.8 mm², shielded, twisted control cable).

Control panel dimensions: 130 x 90 x 20 mm

TCX EXTENSION E-SERIES: ETHERNET

External Ethernet pcb, which is used as an interface for integrating the air curtain system into the building management system via Modbus TCP or BACnet IP.

When using BACnet IP, the device ID of the air curtain to be controlled must be sent to Teddington for factory presetting before delivery.

FROST PROTECTION 3M (INSTALLED): FTM

Protecting water heat exchanger from frost damage. Mounted and wired.

Type: AT-E-7-N small, 1-stage

Trigger temperature: 7°C – preset

ROOM SENSOR (INSTALLED): ERF

PT 1000 sensor installed in the intake area, which measures the room temperature.

Sensor: PT 1000

Accuracy: Class B

Measuring range: -40 to +180° C

WS Sensor: Stainless steel

Protection class: IP 65