
*ERX control cabinet*

# ERX Control system

## Optimize Indoor Environments with Masterveil's Advanced ERX Control Systems for Air Curtains

An efficient control system is crucial to ensure that an air curtain operates optimally and delivers the desired results. The control system manages and monitors various parameters to adapt the performance of the air curtain according to specific needs and conditions in different environments. It is important to note that a poor control system and an air curtain not tailored to the site's conditions can, instead of saving energy and creating a better climate, do just the opposite.

When discussing control systems for air curtains, Masterveil's ERX control system plays a central role. This advanced system allows for fine-tuning of the air curtain's functions to ensure maximum efficiency and comfort.

Particular attention should be paid to outdoor temperature conditions when the air curtain is installed at a door or entrance facing the outdoor environment. It is crucial that the control system takes these factors into account to ensure that the air curtain operates optimally under all conditions. By adjusting the airflow velocity based on outdoor conditions, the control system can ensure a consistent and comfortable indoor environment while minimizing energy consumption.

For an air curtain to function effectively, it is important that it is equipped with the right control system. Masterveil's ERX control system offers a range of advanced features that enable customization of the air curtain's performance according to specific requirements and conditions.

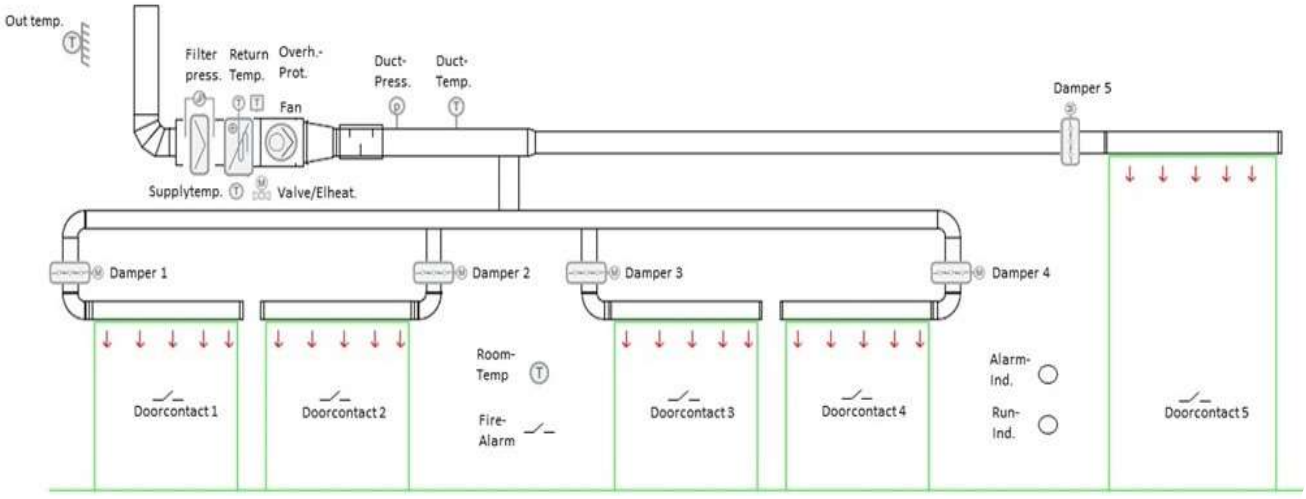
*ERX control display*

**Pressure control**: The ERX control system can adjust the air pressure to maintain the desired pressure in the air curtain, which is crucial for ensuring effective separation between indoor and outdoor environments.

**Filter guard**: The ERX control system can monitor the condition of the air filter and alert when it needs cleaning or replacement, ensuring that the air curtain continues to operate effectively and maintains air quality.

**Adaptation for both electric- and water-heated air curtains, as well as air curtains without heating:** The ERX control system is versatile and can be used with different types of air curtains, whether they use electric or water-based heating or are without heating.

**Ability to control up to 6 air curtains from a single unit**: The ERX control system can handle multiple air curtains from a single unit, reducing installation and operating costs while providing unified control and monitoring of the system.




*Example of a setup for multiple air curtains controlled by ERX control system.*

## Sensors and actuators

*Temperature sensor room (GT1)*

*Door contact (GL1-6)*

*Temperature sensor outside (GT2)*

*H20 Valve (SV1)*

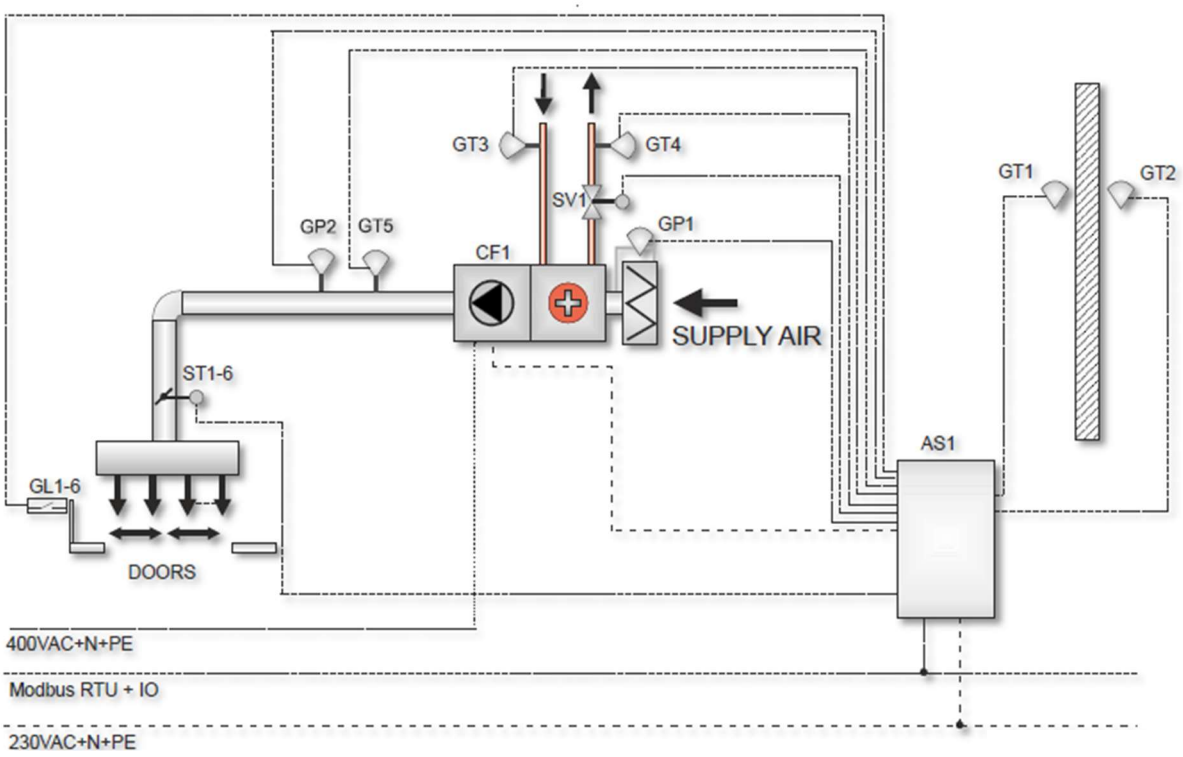
*Duct temperature sensor (GT5),*
*H2O supply temperature sensor (GT3),*
*H2O return temperature sensor (GT4)*

*Valve actuator (SV1)*

*Duct pressure sensor (GP2),*
*Filter pressure sensor (GP1)*

*Air damper motor (ST1-6)*

## Placement sensor and actuators




*Operation card example*

***AS1*** *Control cabinet.*
***CF1*** *Fan unit.*
***GT2*** *Temperature sensor outside.*
***GT5*** *Duct temperature sensor.*
***GP1*** *Filter pressure sensor.*
***SV1*** *H20 valve and actuator*
***GT3*** *H2O supply temperature sensor.*
***GL1-6*** *Door contact.*
***GP2*** *Duct pressure sensor.*
***GT1*** *Temperature sensor room.*
***GT4*** *H2O return temperature sensor.*
***ST1-6*** *Air damper motor.*

**ERX Control System key features:**

- Stepless adjustment allows continuous adaptation of both high and low speeds.
- Automatic activation of high speed when the door opens.
- Climate control with an outdoor temperature sensor.
- Indoor temperature sensors for maintenance heating when the door is closed.
- Pressure sensors ensure the correct airflow velocity.
- Motorized dampers control airflow to open ports.
- Individual day and night temperature settings.
- Delay times for both high and low speeds.
- Option for measuring and controlling water temperatures when using a modulating valve.
- Adjustable setpoint for duct temperature.
- Filter monitor reminds when it's time to change the filter.

The ERX Control System is available in the following configurations.

| Program | Name | Temp sensor room *(GT1)* | Temp sensor outside *(GT2)* | Duct temp sensor *(GT5)* | H20 Su temp sensor *(GT3)* | H2O Rt temp sensor *(GT4)* | Duct pressure sensor *(GP2)* | Filter pressure sensor *(GP1)* | Door contact *(GL1-6)* | H20 valves and actuator *(SV1)* | Air damper motor *(ST1-6)* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **P201** | **ERX-NH-FM**<br>*For controlling air curtains without a heating package* | | 1 | | | | | | 1 | | |
| **P202** | **ERX-NH-FP**<br>*For controlling a central unit without a heating package and up to 6 air curtains.* | | 1 | | | | 1 | | 2-6 | | 2-6 |
| **P203** | **ERX-WM-FM**<br>*For controlling water-heated air curtains.* | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 | |
| **P204** | **ERX-WM-FP & Filter guard**<br>*For controlling a central unit with water-heated air curtains and up to 6 air curtains, including filter monitoring.* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2-6 | 1 | 2-6 |
| **P210** | **ERX-EM-FM**<br>*For controlling electrically heated air curtains.* | 1 | 1 | 1 | | | 1 | | 1 | | |

| Program | Name | Temp sensor room *(GT1)* | Temp sensor outside *(GT2)* | Duct temp sensor *(GT5)* | H20 Su temp sensor *(GT3)* | H2O Rt temp sensor *(GT4)* | Duct pressure sensor *(GP2)* | Filter pressure sensor *(GP1)* | Door contact *(GL1-6)* | H20 valves and actuator *(SV1)* | Air damper motor *(ST1-6)* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **P211** | **ERX-EM-FP**<br>*For controlling a central unit with electrically heated air curtains and up to 6 air curtains.* | 1 | 1 | 1 | | | 1 | | 2-6 | | 2-6 |
| **P212** | **ERX-WM-FM & Filter guard**<br>*For controlling water-heated air curtains with filter monitoring.* | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | |
| **P213** | **ERX-WM-FM2**<br>*For controlling water-heated air curtains with filter monitoring.* | 1 | 1 | 1 | 1 | 2 | | | 1 | 1 | |
| **P220** | **ERX-EM-FM Freezer**<br>*For controlling air curtains at freezer rooms* | | | 1 | | | 1 | | 1 | | |

*All versions of ERX support connectivity to the building's control system via ModBus.*