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Energy recovery
of laboratory exhaust air

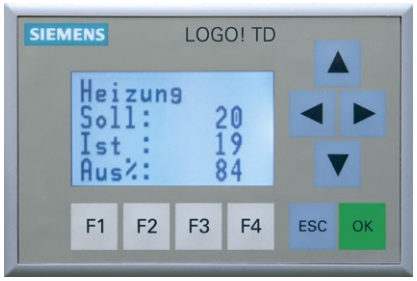
MKW

Compact heat recovery with integrated air intake system

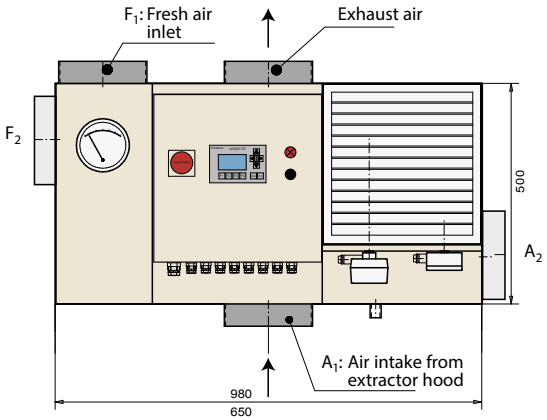
- **Exhaust / fresh air heat exchanger for school and laboratory**
- **Capacity of 200 - 700 m³/h**
- **Air-reheating electrically or with hot water**

Variable fresh air-reheating

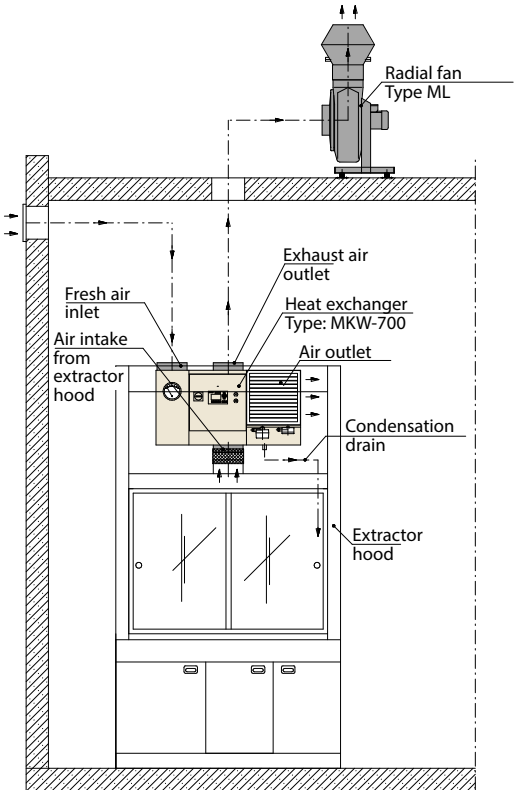
MKW-700



Clearly visible Siemens LOGO control



Measurements and connections; position fresh air inlet connectors and exhaust air can be individually manufactured.



Functional principle of MKW in connection with an ML radial fan

Task:
By implementing the current heat insulation regulations for buildings, the rooms become all the more airtight, preventing the natural flow of air into the rooms. Low pressure forms within a short time. Escape routes are blocked by doors hard to open. The exhaust air control of the digesters switches to fault.

Solution:
Compact heat exchangers with an **integrated air intake system** for school and laboratory areas, with a requirement of 1-3 fume cupboards and / or permanently extracted hazardous material cabinets.

Description:
The compact heat exchanger, type MKW, is a chemically stable cross-flow heat exchanger which uses the polluted warm exhaust air from the fume cupboards and hazardous material cabinets, in order to heat the incoming outside air.
The high-value air intake system integrated in the compact housing with the heat exchanger, incl. control cabinet, replaces the extracted air with 100% heated fresh air. With the obtained **effectiveness of more than 60%**, a small built-in reheater is sufficient to equalize the temperature difference.

The system consists of the following components:
- Cross-flow heat exchanger from PE
- speed-regulated air intake fan.
- Intake air filter
- variable speed, electric reheater **(VZ System)** or a thermostatically regulated hot water heating coil **(PWW System)**
- Temperature control
- Filter control by means of differential pressure monitoring, with signal contact
- Safety temperature limiter and guards
- Condensation drain
- Control cabinet with Siemens LOGO control

Operation:
The heat exchanger with integrated intake air system is wired for plug in and ready to use. After mechanically connecting the air intake and exhaust lines and plugging into a 230 V socket, the a-contact of the compact unit is controlled by the exhaust air fan on site. This normally takes place via the a-contact of the extraction control. When the extraction control is switched on, the heat exchanger with integrated air intake system starts automatically.

Techn. data	MKW-700 VZ	MKW-700 PWW
Dimensions (W x D x H):	970 x 650 x 600 mm	970 x 650 x 600 mm
Exhaust Connector-Ø:	200 mm	200 mm
Fresh air connector-Ø:	200 mm	200 mm
Efficiency:	> 60 %	> 60 %
Sound pressure level:	< 52 dB(A)	< 52 dB(A)
Heat output:	elect. 2 kW, variable	Hot water 2 kW
Power supply:	230 V / 16 A	230 V / 16 A
Air volume:	200 m³/h – 700 m³/h	200 m³/h – 700 m³/h
Pressure loss:	130 Pa/460 m³/h, 270 Pa/680 m³/h	
Weight:	67 kg	68 kg

For further informationen, please contact us:

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- Regelmäßige Betreuung
- Fachbetrieb gemäß § 19 I Wasserhaushaltsgesetz