



FKS-CLM

Compact Air-Conditioning Unit



The perfect solution for anyone who

- is installing or planning to install electrical measurement and control equipment or analysing systems in cabinets or small containers.
- wishes to regulate interior temperatures safely and reliably.
- is interested in an effective heat reduction or heating.



FKS-CLM Ex Compact Air-Conditioning Unit

Features

- Compact design
- ATEX/CSA certified
- Ambient temperature range of -35 °C to +55 °C
- Easy installation
- Also suitable for Ex p cabinets
- Type examination certification
- High cooling capacity

Description

The FKS-CLM type Ex Compact Air-Conditioning Unit is characterized by its space-saving dimensions. In spite of being compact it offers an effective cooling capacity of 2 and 4 kW respectively.

The device can be mounted easily on a flat side panel and it is also suitable for setting up outdoors in temperatures ranging from -35 °C to +55 °C. It may of course also be retrofitted into plants that are already in operation and in Ex p cabinets.

With a heating, the compact air-conditioning unit can be used to bring cabinets and small containers to an exact temperature.

The heating power is produced from the electrically dissipated heat and mechanical working energy, e. g. the friction energy from the compression heat and the compressor's friction energy. The heating power of one hot gas bypass modified refrigerating unit corresponds to about half of the refrigerating capacity.

Process analyzing systems that are installed in cabinets or containers outdoors often produce fluctuating measurements, which are mainly due to the differences in daytime and nighttime temperatures. Such errors can be prevented by controlling the system temperature with the Ex compact air-conditioning unit.

A further use is in converter switch cabinets or small generator houses that are set up, for example, on oil rigs in hazardous areas. Here too the Ex compact air-conditioning unit provides an economical solution.

Construction

The external enclosure of the Ex compact air-conditioning unit is made of fibreglass-reinforced polyester. This makes it robust, antistatic and resistant to corrosion and mineral oil.

The evaporator and the condenser are each in separate pressure-isolated compartments. The electric control unit is fitted in an Ex d enclosure. Alternatively, the control can also be supplied in a protection box for installation in non-hazardous environments.

Explosion protection

Ex protection type

- ⊕ II 2G Ex px mb e IIC T3
- ⊕ II 2G EEx d/e [ia] IIC T4
- ⊕ p d e ib IIC T3
- Class I, Division 2, Groups A, B, C, D
- AEx p d e ib IIC T3
- Class I, Zone 1, Gas Group IIC
- Class I, Division 2, Groups A, B, C, D

Certification

TÜV 06 ATEX 2958

Ambient temperature (with cooling operation)

-20 °C to +55 °C

Ambient temperature (without cooling operation)

-35 °C to +55 °C

Technical data

Type designation

FKS 2 - CLM /-/-; FKS 4 - CLM /-/-

Protection class

IP 56

Nominal voltage

AC 400 V/50 Hz; AC 440 V/60 Hz
AC 400 V/50 Hz; AC 460 V/60 Hz*

Inrush current

8 A/16 A*

Rated current

4.5 A/8.2 A*

Back-up fuse

10 A/16 A*

Effective cooling capacity

Q₀ = approx. 2000 W (35 °C/35 °C)
Q₀ = approx. 4000 W (35 °C/35 °C)*

Heating power

800 W/1500 W*

Refrigerant

R134a filling quantity approx. 1200 g
R134a filling quantity approx. 2400 g*

Noise level

75 dB (A)

Condensate draining

automatic (maintenance-free)

Enclosure material

electrically conductive
fibreglass-reinforced polyester

Weight + EEx-d control

119 kg + 13 kg
163 kg + 13 kg*

Dimensions (height x width x depth)

1646 mm x 466 mm x 380 mm
1845 mm x 600 mm x 451 mm*

Vaporiser air flow rate

1100 m³/h; 1300 m³/h*

Condenser air flow rate

1100 m³/h; 2100 m³/h*

Condenser side

at least 500 mm clearance from the wall
(air exit)

* Data for 4 kW variant