



FKS-CLM

Compact Air-Conditioning Unit



FKS-CLM Ex Compact Air-Conditioning Unit

Features

- Compact design
- ATEX/CSA certified
- Ambient temperature -40 °C to +55 °C
- Easy installation and set-up
- 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 -40 °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. These 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 available on a mounting plate for use in non-hazardous areas, for example, for use in Ex p cabinets. Optionally, we assume the installation of control unit in an Ex d housing.

We comply with the individual customer wishes, as in the supply voltage or in the design of protective hoods.

Explosion protection

Ex protection type

II 2G IIC T3 Gb
AEx p d e ib IIC T3 or T4
Class I, Zone 1, Gas Group IIC
Class I, Division 2, Group B, C, D
Ex p d e ib IIC T3 or T4
(for Class I, Zone 1, Gas Group IIC)
Class I, Division 2, Group A, B, C, D

Certification

TÜV 06 ATEX 2958

Ambient temperature (with cooling operation)

-20 °C to +55 °C

Ambient temperature (without cooling operation)

-40 °C to +55 °C

Technical data

Type designation

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

Protection class

IP 55

Nominal voltage

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

Rated current

4.5 A/7.8 A*

Back-up fuse

10 A/16 A*

Effective cooling capacity

Q_0 = approx. 2000 W (35 °C/35 °C)
 Q_0 = approx. 4000 W (35 °C/35 °C)*

Heating power

750 W/1500 W*

Refrigerant

R134a filling quantity approx. 1310 g
R134a filling quantity approx. 2890 g*

Noise level

75 dB (A)

Condensate draining

automatic (maintenance-free)

Weight + EEx d control

119 kg + 15 kg (GUB 3)/43 kg (GUB 4)
163 kg + 15 kg (GUB 3)/43 kg (GUB 4)*

Dimensions (height x width x depth)

1646 mm x 466 mm x 350 mm (IP 55)
1646 mm x 466 mm x 425 mm (IP 65)
1845 mm x 600 mm x 435 mm (IP 55)*
1845 mm x 600 mm x 510 mm (IP 55)*

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