



IT Cooling Solutions

Free-Air-3 Telecom Line

STULZ

Free-Air – The proven energy-saving solution for telecommunications infrastructure

With its Telecom Line, STULZ offers a range of professional air-conditioning solutions for the telecommunications infrastructure and for switch cabinets. All units are designed for operation 24/7, 365 days a year, and promise maximum reliability and availability. Service is assured through a worldwide network of specialist partners and branches.

Even today, comfort air-conditioning units are still used for cooling in many shelters. This means that the possibilities of free cooling are not exploited, and unnecessarily large amounts of energy are used for air conditioning. Now, with our **Free-Air** free cooling unit, these telecommunication networks can be equipped with an energy-efficient system. The existing comfort air-conditioning units are monitored and controlled by the STULZ C102/C103 microprocessor. Whenever the ambient temperature allows, free cooling mode is activated and the comfort air-conditioning units are switched off.

The C102/C103 guarantees maximum versatility:

- Thanks to on-board relays, it can be wired to all types of comfort air conditioner
- As every setpoint and alarm can be configured, a wide range of working logics is available
- It offers two optional keypads: one for the installer/service technician, one for the user

The use of free cooling offers potential energy savings of up to 84%. In this way, the investment cost for this solution – which is universally suitable for retrofitting – is frequently paid off within just a year.

Free-Air 3 units are available in two versions for maximum versatility. The FCL is fitted to the outside of the container, so that the interior space can be utilised to the full. The FCL-IN is fitted internally if maximum protection against vandalism and harsh climate is an important requirement.

Accessories such as the grille and plenum can be fitted to the air intake opening, to act as a fresh air pre-filter and further barrier against snow and rain. For the exhaust air, a second cut-out with exhaust air flap is required next to the fresh air supply cut-out in the container, above which the FCL is mounted.

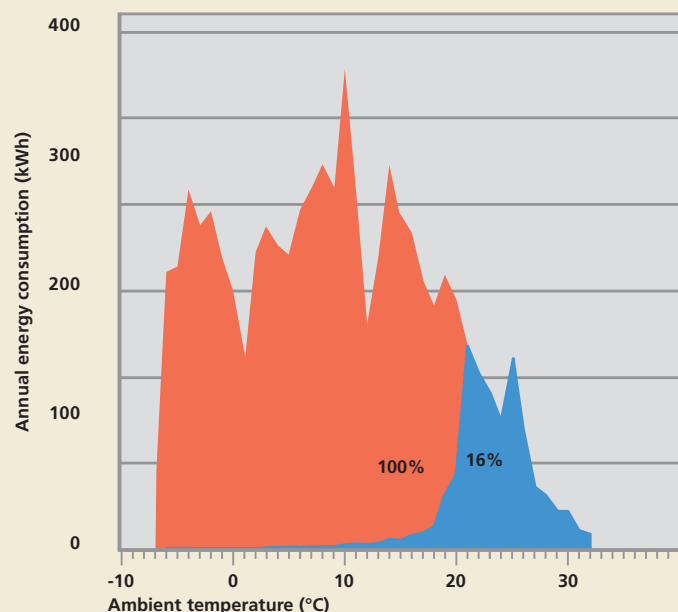
Information on backup operation

During normal operation, Free-Air provides energy-saving cooling with a reduced airflow. If a comfort unit shuts down because of a fault, Free-Air takes over and continues to provide cooling in backup mode with the maximum airflow.



FCL without frontpanel

- Energy consumption of a system with free cooling
 - Energy consumption of a comfort A/C unit without free cooling
- The example shows a 3.5 kW unit, with the temperature profile of the city of Frankfurt.

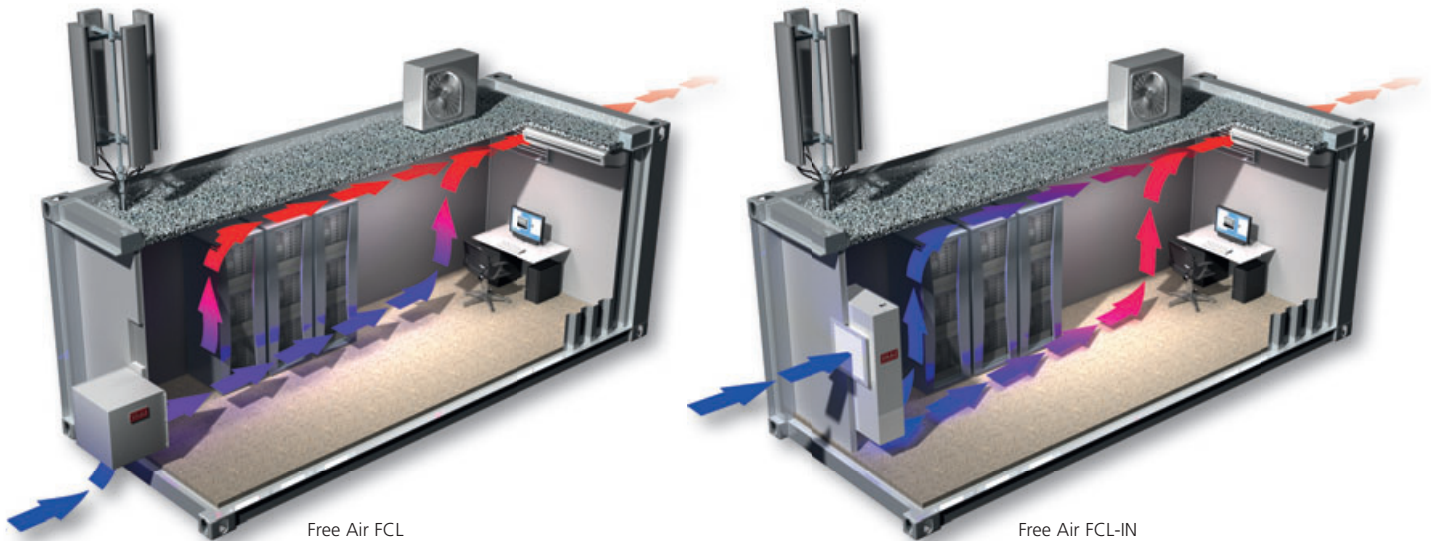


Technical features

- Ready for operation on the very first day – easy mechanical and electrical installation
- Management of up to two comfort A/C units
- Ambient temperature value can be varied for Free Cooling mode
- EC fan with stepless control from 10 to 100 %
- G4 air filters
FCL-IN is provided with a pocket filter for a wide filtering surface (2 m²). This reduces pressure losses and frequency of maintenance.
- Insulated, powder-coated housing of galvanised sheet steel
- Full service accessibility from the front
- 48 VDC power supply allows use as an emergency backup system
- Measurement of DC power input and optional forwarding via BMS
- Monitoring of DC voltage with fan stop if the voltage drops below a minimum level
- On AC mains power failure, the FCL fan speed can be automatically reduced to extend the battery runtime
- The filter alarm can be triggered by differential pressure or via a manually adjustable fan operating time
- Semi-automatic start-up test for checking the FCL components

Options

- Aluminium or stainless steel housing
- Humidity switch
- Connection to building services management systems (BMS)
- Weather-proofed excess pressure louver
- Paper and leaf guard for fitting to the air intake
- Counterframe for secure mounting on thin walls (FCL only)
- Supply air grille with adjustable fins (FCL only)
- Plenum/grille for fresh air intake opening with metal pre-filter (FCL-IN only)



Free-Air		FCL/FCL-IN 35	FCL/FCL-IN 60
Cooling capacity ¹⁾	kW	3.5	6.0
Airflow	m ³ /h	1,050	1,724
Power input	kW	0.036	0.116
EER cooling ¹⁾		97.2	51.7
Noise level, outside ²⁾	dB(A)	44	46
Backup operation ¹⁾ Airflow	m ³ /h	2,300	3,400
Power consumption	kW	0.236	0.420
No. of fans/Type		1/EC-Ventilator	1/EC-Ventilator
Height	mm	612/1,271	612/1,271
Width	mm	720/640	720/640
Depth	mm	604/290	604/290
Weight	kg	35	35
Electrical power supply	V DC	48	48

¹⁾ Inside temperature 30 °C/rel. humidity 40%/ambient temperature 20 °C
²⁾ Noise level at 1 m distance, free-field conditions
Technical data subject to change without notice.

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IT Cooling Solutions

Close to you all over the world.

... With specialist, competent partners in our subsidiaries and exclusive sales and service partners around the world. Our five production sites are in Europe, North America and Asia.