AC + DC Powered Air Conditioners

For railway applications
according to new EU fire spec EN 45545-2 HL1+HL2+HL3

DC AIRCO

For railway applications

About DC Airco

DC Airco, is a company based in the Netherlands. We have specialised in energy efficient air conditioning since 1997 after many years of research and development.
Our products are installed worldwide in many successful applications and benefit from continued research and development. Our determination to provide high quality, low cost solutions has resulted in many repeat orders from satisfied clients.

Our products are presently provided to 5 markets including:

Rail vehicles – passenger train, locomotive, metro ,tram.

Military vehicles and unmanned solar powered border patrol stations

Underground mining for use in refuge shelters

Remote solar and diesel powered ground based telecommunications stations (GSM)

Special vehicles

Energy efficient Air Conditioners

DC Airco units have the following key advantages:

- Two thirds lower energy consumption than alternative technology
- No excessive power demand during start up
- Easy installation due to compact/ modular design rooftop/ceiling/ under mount units
- High quality combined with a acceptable cost level
- Scalable for low duty and high duty requirements
- Available in AC or DC voltages 230/400 VAC and 24/74/110 VDC and hydraulic
- Cooling power ranges from 2,5 kW to 15 kW(multiple units can be used to reach the desired cooling duty)
- PLC control with remote monitoring option
- Low maintenance
- Low cost of ownership(life cycle cost)

Environmentally-friendly Air Conditioning units

DC Airco units are low energy consumption high cooling output units. This provides the following advantages:

- Low carbon footprint
- Low energy use compared to CO2 or Air Cycle alternatives
- Low operational cost
- No or minimal refrigerant loss due to high pressure testing with Hydrogen
- Uses modern refrigerant gas that have minimal environmental impact

Low life cycle costs

All units are designed to have minimal maintenance and long intervals between air filter changes to minimize the life cycle cost.

For monobloc units there is no refrigerant loss and units are normally not recharged within the lifespan.

For split units leakage is at a extremely low rate as we use the highest quality interconnection hoses. Practical experience on major fleet installations is showing that recharging is not required for a extended period beyond 6 years. All units are equipped with a low gas level indication that warns driver and or maintenance crew for low gas level before the unit will stop cooling.

Air conditioning control system and malfunction warning.

The air conditioners are be equipped with system healthy indicators and a display that indicates fault description. We can also provide a connection on to train GSM/Wifi to enable automatic download of data.

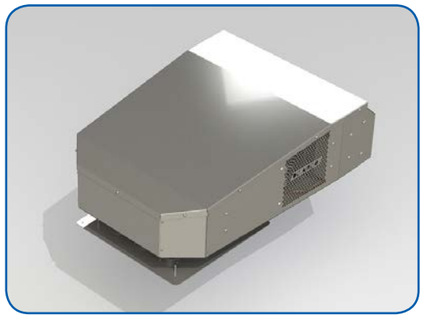
The Air conditioners are designed according to the following EU standards:

- EN 14813-1-2006 air conditioning for driving cabs
- 14750-1+2 air conditioning for suburban passenger trains
- EN 2004/108/EC; EN 50121-3-2:2006; EN 55011:2007/A2; EN 61000-4-2/6 EMC
- EN 61373 vibration and shock resistance for rolling stock
- EN 45545-2 HL3; NF F16-101-F2; BS 6853; DIN 5510/2 fire resistance
- EN 2006/42/EC machine safety regulations

“Off the shelf” units for driver cab and passenger cooling:

We at DC Airco have a standard program of driver cab air conditioners in under mount or roof mount versions as well as standard units for passenger cooling roof mount or under mount.

Universal mono bloc rooftop



Universal mono bloc rooftop

3, 4, 7,15 kW cooling duty rooftop units 24, 74, 110 VDC or 230, 400 VAC or Hydraulic powered with optional heating. Factory charged with refrigerant and thoroughly tested.

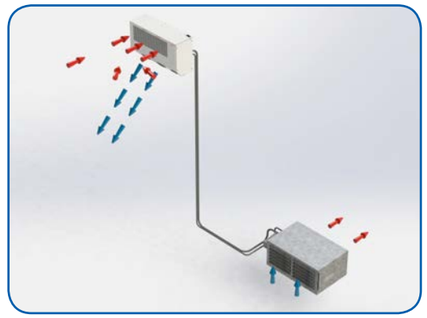
GE locomotives STR Thailand

Grindrod South Africa

Sheffield Trams - Siemens Duwagg

Eurotunnel - MAK locomotive

Universal Split units



Universal Split units

2,5 , 3,8 and 7 kW cooling duty units 24, 74, 110 VDC or 230, 400 VAC or Hydraulic powered. All with optional heating.
Ceiling or wall mount evaporator and under mount condenser/compressor unit connected with self sealing quick connectors. Fully factory charged with refrigerant and thoroughly tested.

London Midland 323

Tata Steel the Netherlands

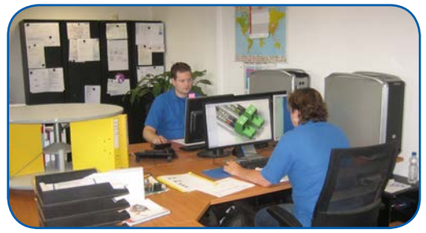
Govia class 313

Work train Linsinger Austria

Custom made

Custom made driver cab and passenger cooling for (legacy) trains metro and locomotives.

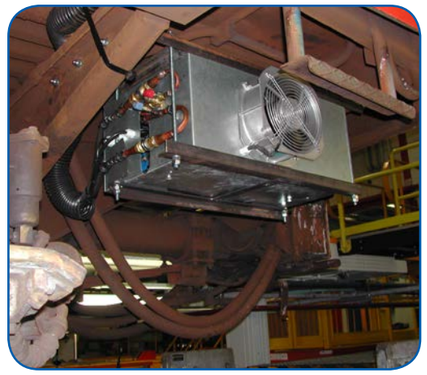
Our engineering/development department is constantly designing custom made models of air conditioners for Railway. Mining ,Defence and Telecom applications and can package systems to meet demanding space constraints.



All new developed units are performance tested in a climate chamber were temperature and humidity can be adjusted according to the requirements of the client.

For these units we endeavour to use our standard components ensuring high quality and low costs.

Some examples of bespoken units are below:



Metro Amsterdam

UK class 165/166

Some examples of designs

Lithuanian Rail

EMD JT 42 loco

Eurotunnel France

Passenger saloon air conditioning

Mining locomotives Africa

About DC Airco

The DC Airco products are the first DC Air Conditioners into the market place in 1997.
The units are designed and assembled in The Netherlands using the highest quality standards. All products undergo extensive research and development and rigorous testing to insure the highest quality. Over 20.000 units have been supplied all over the world from Greenland to Cape town from Sydney to Seattle for Telecom, Underground Mining, Defence, Road and Railway applications.

Some of the DC Airco clients:

EMD locomotives, Eurotunnel, First Group UK,
Angel Trains, Porterbrook UK, CAF, Ericsson Sweden,
Emerson, Airbus defence and security,
BAE Hagglund Sweden, Marshall Land Systems UK,
Lockheed Martin USA

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