



DC Airco Cab Air Conditioning and Air Cooling Rolls Out to UK Train Operators

Transys Projects have now installed the DC Airco Cab Air Conditioning Package into a large number of UK multiple unit cabs. The equipment has been exceptionally well received by leasing companies, the train operators and the drivers.

The DC Airco equipment is based on highly successful product lines that were originally developed for use in the truck and bus industry and also for the cooling of sensitive electronic equipment used for instance to cool ERTMS ground base stations.



Picture Credit "Chilled Phill"

The equipment and indeed the systems integration design required to mount this into the available space within each train cab is provided by Transys Projects in the UK.

New orders have been received for Southern Class 313 and now for Arriva Class 158 with many more in negotiation for 2011 and 2012.

The DC Airco Cab Air Conditioning solution:-

1. Is exceptionally powerful in terms of cooling and can be readily adjusted by the driver.
2. Has a low power demand which makes the equipment ideal where the spare capacity of the auxiliary power is marginal
3. Has a soft start in terms of energy demand on start up

4. Avoids the need and cost of increasing auxiliary power for in stance by changing, introducing or up-rating alternators or inverters
5. The systems integration design utilises available space whilst being quick and easy to install
6. Is extremely compact (and therefore available for space challenged vehicles)
7. Is highly robust and reliable
8. Has a very low maintenance requirement
9. Has exceptionally low leakage rates and is therefore environmentally friendly
10. Adds little to the carbon footprint of the train
11. Answers the question of driver discomfort leading to reduced attentiveness
12. Is simple to operate
13. Has been compared through trial installation with other systems and has been consistently selected
14. The installed result is ergonomically optimised and aesthetically pleasing
15. The product is backed up by a 24 month RTB warranty followed by readily available low cost spares and a 5 day repair service in the unexpected event of a more significant repair being required.

The Transys Projects / DC Airco Partnership



Transys Projects (TPL) have an agreement with DC Airco of Heerhugowaard, Netherlands which has yielded a successful partnership and the installation of hundreds of cab air conditioning units in the UK with more expected to fit in 2011 - 2013. DC Airco have supplied

air conditioning units for a large range of applications, including road and rail transport and are now developing highly compact saloon air conditioning equipment that will be particularly valuable for the refurbishment market.

Transys Projects remains the only RISAS (Rail Industry Supplier Approval Scheme) certificated organisation for the exceptionally broad range of rail vehicle modifications defined by the RISAS category S04 which is appropriate to this scope of supply.



TPL recently completed the installation of DC Airco cab air conditioning equipment into the First Capital Connect Class 317 fleet and are presently installing the Southern Class 313 fleet. In addition, TPL have produced the installation designs and have installed DC Airco cab air conditioning systems into Class 158 (non ERTMS version), 150, 153 and 143 fleets operated by First Great Western. TPL have created designs and performed trials of the DC Airco equipment and that of alternative suppliers on Class 317, 153 and 156 units resulting in the selection of the DC Airco equipment. TPL has just announced an order for cab cooling equipment for the Arriva Class 158 ERTMS enabled units which will be delivered in two batches in 2010 and 2011.

TPL have entered into a formal partnership agreement with DC Airco to act as installation designers, gateway to UK markets, suppliers of mechanical and electrical interfacing equipment and installers (where



we see fit) for ongoing projects requiring both cab and saloon air conditioning equipment. TPL act as the main contractors for the supply and installation of DC Airco equipment for all new opportunities to install this equipment in the UK.

The DC Airco equipment will be on show at Innotrans between 21 – 24 September 2010 Berlin in Hall 3.1 at Stand 115

Note for Editors

Transys Projects Ltd are Rail Engineering Consultants and Turnkey Solutions providers, they have been active on most of the UK's prestigious rail projects including Pendolino, Coradia, Turbostar, and Eurostar. The company is particularly active in turnkey solutions where its consultancy and installation skills are joined to provide a complete enhancement and modification service.

www.transysprojects.ltd.uk

DC Airco are specialists in the provision of rugged air conditioning equipment for a variety of uses worldwide from rail vehicles to ERTMS ground station cooling. DC Airco equipment has been selected by many UK TOC's as the "equipment of choice", including Arriva, FGW, NXEA, and FCC. <http://www.dcairco.com/>

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Pictures may only be used in direct and coupled editorial related to this press release.

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Technical Detail

The DC Airco equipment can be provided in 110V and 24V variants where 110V suits EMU's and 24V suits DMU's and Locomotives.

This system provides a split system that utilises refrigerant operating on the vapour compression/expansion process.

The typical system major components are

a) Condenser/Compressor Unit

This unit consists of a galvanised steel enclosure containing the compressor and electric motor drive assembly, condenser matrix and condenser fan with motor. Electrical terminals are provided within the enclosure and refrigerant hose self-sealing connections are provided on the outside of the enclosure.

The condenser/compressor unit is mounted on suitable brackets and frame members on the underframe.

b) Evaporator Unit

This unit consists of a galvanised steel enclosure containing an evaporator matrix, evaporator fan and motor and drain tray. This unit is mounted in the cab vestibule ceiling above the emergency ladder. Air is delivered to the cab ceiling vents by a number of flexible hoses.

Refrigerant hose self-sealing couplings are mounted on the inside of the enclosure and the hoses are routed down to the condenser/compressor unit and drain, through a duct in the non drivers cab back partition.

TPL undertake the design and structural calculations for the installation and mounting of both of these units.

c) Cab Ceiling Vents

Cooled air is delivered from the cab ceiling by 4 adjustable round nozzles – 3 within the driver's area and 1 in the non driving area ceiling. These are adjustable for air flow direction and flow rate. The position of the nozzles have been positioned to optimise distribution within the cab area.

Return air is ducted to the evaporator from a grille mounted in the driving area to promote air circulation within the cab.

d) Refrigerant hoses and drain

Two refrigerant hoses – delivery and return – are required between the condenser/compressor and evaporator units. The hoses are fitted with self-seal couplings and all units and hoses are pre-charged at the factory.

The TPL installation ensures that the underframe fire barrier will remain intact where the hoses pass through the floor.

A drain hose is fitted to the evaporator unit drain tray to route the condensate to the track bed. This route follows the refrigerant hose route.

e) Other equipment and system connections

The DC Airco system electronic control box and converters for the equipment fans are mounted in the cab vestibule or ceiling space with access from the vestibule side.

TPL have provided provide a suitably rated mcb and cabling from the vehicle supply to the DC Airco equipment.

f) System Controls

A thermostat sensor is positioned in the return air duct, to automatically control the air temperature in the cab. The temperature is not adjustable by the driver as the thermostat control is mounted behind the non driver's side ceiling.

The driver's controls include a three position switch giving Off, Low and High control of the air conditioning system. The 'Low' and 'High' positions change the evaporator fan speeds and therefore air flow to the cab area.