



a product range
of environmental
engineering excellence



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PRODUCT INDEX

**All items below are available on CD Rom or
on our website www.dalair.co.uk**

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CLOSED PENTAPOST, HOLLOW SECTION STEEL FRAME UNITS

Construction general:

Units are purpose designed to meet duties and pressures as stated on technical schedules. Units are supplied as single section or modular form with the number, size and weight of units stated on technical schedules.

Each unit/section is supplied factory assembled on a structural steel base giving rigidity during lifting and assembly. Generally base frames are attached running longitudinally, however on larger units frames are fitted longitudinally and transversely. Base frames are provided with lifting points. Sections are protected for delivery with heavy duty polythene wrapping.



Range - HSF

Reasons for use:

- Low to medium pressure applications.
- HVAC Class 'A or B' air leakage test standards.
- Substantial strength advantages.
- Internal or external mounting.
- Air Volumes $0.51\text{m}^3/\text{s}$ to $102.44\text{m}^3/\text{s}$.

Range - HSFL

Reasons for use:

- Suitable for high pressure, low leakage applications.
- HVAC Class 'C or D' air leakage test standards.
- Substantial strength advantages.
- Internal or external mounting.
- Air Volumes $0.51\text{m}^3/\text{s}$ to $26\text{m}^3/\text{s}$.



Range - HSF50 Welded Corner

Reasons for use:

- Suitable for high pressure, high air volume. low leakage applications.
- HVAC Class 'C' or 'D' air leakage test standards.
- Substantial strength advantages.
- Internal or external mounting.
- Air Volumes $0.51\text{m}^3/\text{s}$ to $102.44\text{m}^3/\text{s}$.



CLOSED PENTAPOST, HOLLOW SECTION ALUMINIUM FRAME UNITS

Construction general:

Units are purpose designed to meet duties and pressures as stated on technical schedules. Units are supplied as single section or modular form with the number, size and weight of units stated on technical schedules.

Each unit/section is supplied factory assembled on a structural steel base giving rigidity during lifting and assembly. Generally base frames are attached running longitudinally, however on larger units frames are fitted longitudinally and transversely. Base frames are provided with lifting points. Sections are protected for delivery with heavy-duty polythene wrapping.



Range - S.P.M.A. & M.A.

Central station modular construction AHUs utilising extruded aluminium section and 25mm double skinned panels. Air volumes 0.2m³/s to 3.0m³/s (31 sizes). 50mm double skin MA.

Range - BA VERTICAL UNITS

The BA range of air handling units are primarily designed for vertical in room mounting, however, because of their shallow depth they can easily be adapted for horizontal ceiling or void mounting.

Units are of pentapost framework construction with double skin insulated panels offering good thermal properties and maximum acoustic power loss through casings. Special purpose built designs are available on request.

The main body of the unit is generally supplied in two sections for ease of access.

Discharge plenums and sub bases are available as separate sections and can be supplied either loose or factory assembled to the main body. Four arrangements showing various components are listed and it must be noted that sub bases are essential for certain configurations.

Units are suitable for "split" applications with DX coils, however, chilled water coils can also be fitted. A return air grille can be fitted on the front face of the unit, but should the design application be for full fresh air or mixing, a sub base is essential. If mixing boxes are required, dampers are housed internally within the sub base with access gained to the drives/quadrants at either left or right hand side.



Range - VP VOID PACK CEILING MOUNTED MODEL

Single piece one section unit designed for ceiling voids and below floor installations, internal mounting.

0.3 to 2.0 (m³/s) with six configurations, plus mixing boxes and discharge plenum options.

Min depth unit available is 360mm deep.



ROOF TOP PACKAGES

Range - CU ROOFTOP PACKAGES

The Dalair CU range of Air Conditioning Units have been designed so that the refrigeration system is installed and pre-commissioned at our works and delivered as a Packaged Unit.

It utilises standard air cooled Condensing Unit/s which is/are supported on the same steel base as the Air Handling Unit (AHU).

Units are available as cooling only configuration or alternatively for reverse cycle heat pump operation. Alternative methods of heating are available ie. gas, electric, LPHW or steam.

A controls package can be added to the units as an optional extra, making them totally self contained.

The cooling medium is preferred as an environmentally friendly refrigerant, reverse cycle heat pumps would utilise the same medium. Units are designed generally for external roof top mounting with axial condenser fans.

Units are generally supplied as one piece packaged (AHU and Condensing Unit/s.)



Range - RTP ROOFTOP PACKAGES

The Rooftop Package range has been specifically developed and designed to provide a complete self contained aircooled refrigeration section with free cooling facility. Units are supplied completely prewired and pre-piped and can be lifted into position as a single section.

Capacities range from 0.35m³/s to 10.80m³/s with cooling capacities from 7.0kW to 215kW. Alternative designs to suit customer requirements are available including electric heating, gas fired heating, multi stage cooling and multi zone arrangements.



Range - TYPE RTC & RTHP

The Dalair Roof Top Cooling (RTC) or Roof Top Heat Pump (RTHP) range of Packaged Air Conditioning Units have been designed to be totally self contained and only require on site electrical supply and ductwork connections. (Also Gas or L.P.H.W services for optional Heating Medium).

The cooling/heating medium is preferred as an environmentally friendly refrigerant.

Units are designed generally for external roof top mounting with axial condenser fans but may be supplied for internal plantroom mounting with centrifugal condenser fans.

Units are generally supplied as one piece packaged pre-commissioned.

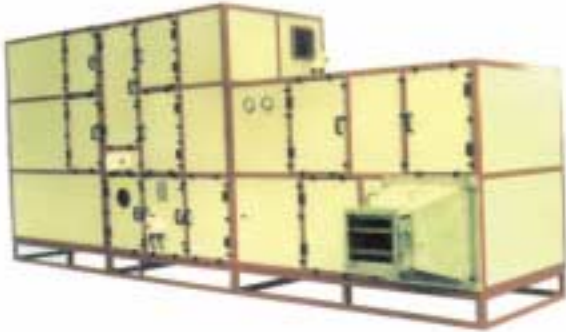
However, they are available, at an additional cost, as sectionalised in modular form for site assembly.

Units can be supplied, as an option, with steel fabricated roof kerbs for fixing to roof steelwork by others prior to delivery of the Air Conditioning Units.



DEHUMIDIFIERS

Range - SGR DESICCANT DEHUMIDIFIER SILICA GEL TECHNOLOGY

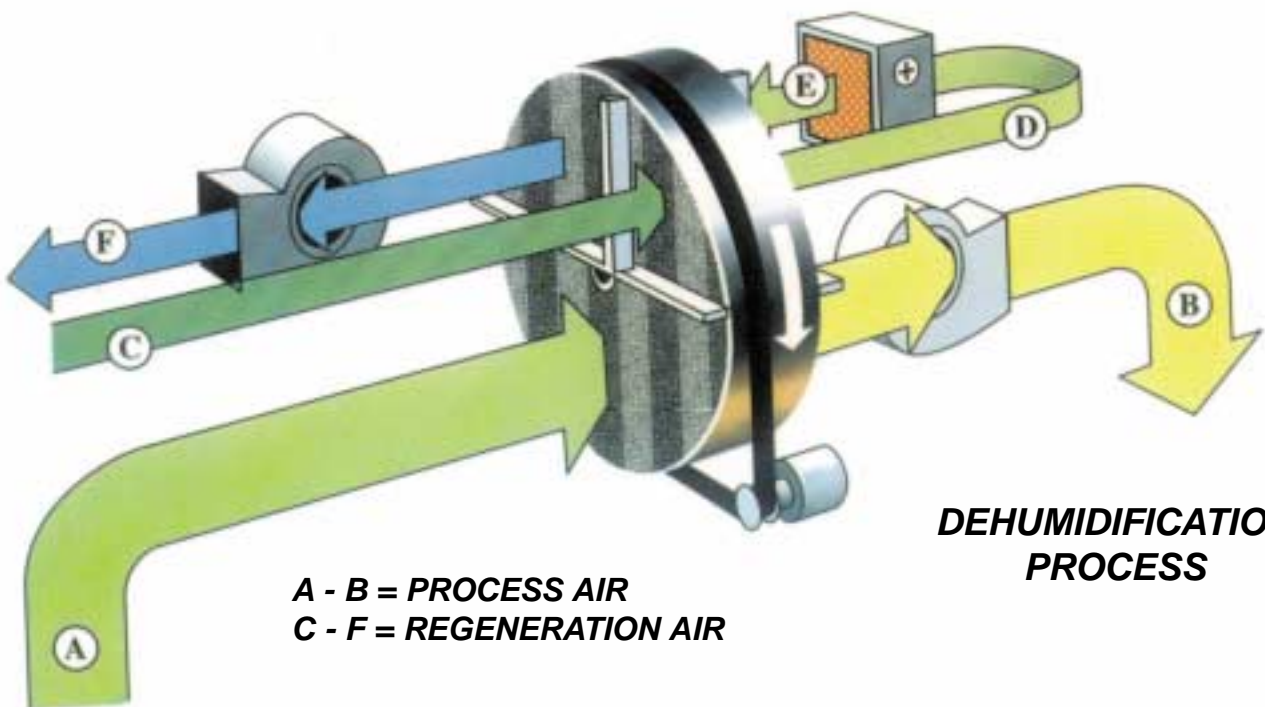
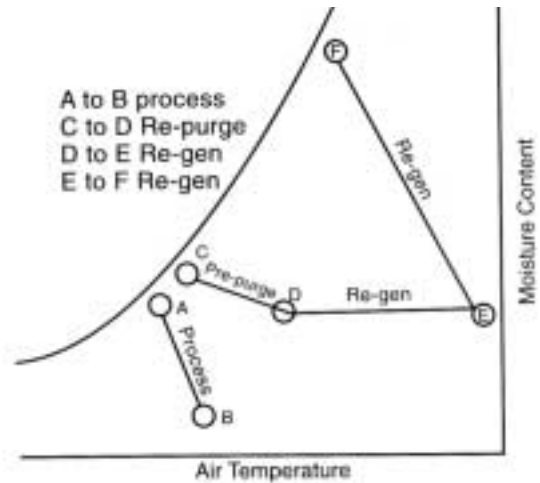


Silica gel rotor technology can be used in any environment where dry air is essential in commercial and industrial applications, particularly when the required humidity levels are below the efficient operating range of conventional refrigeration and/or chilled water systems.

The well proven air drying technology using the adsorption principle, provides greater flexibility in solving humidity problems. It offers the user independent humidity control, down to dewpoints far lower than the effective operating range of refrigeration dehumidifiers.

TYPICAL CONDITIONS

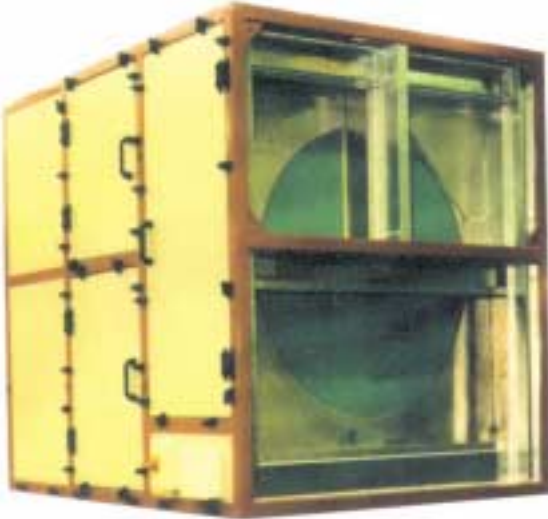
- Point A = 20°C 9g/Kg
- Point B = 40°C 3g/Kg
- Point C = 23°C 60% RH
- Point D = 62°C 8.5g/Kg
- Point E = 40°C 8.5g/Kg
- Point F = 54°C 25% RH



DEHUMIDIFICATION PROCESS

DESICCANT COOLING TECHNOLOGY

Range - DDC DESICCANT COOLING



The Dalair Desiccant Cooling D.D.C. System offers a serious alternative to the use of more conventional mechanical cooling, via compressors, within Air Handling Plant. Overall yearly cost saving will be gained over conventional cooling systems.

The system uses:-

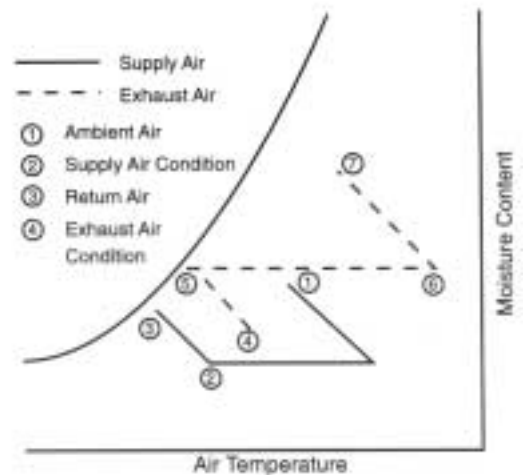
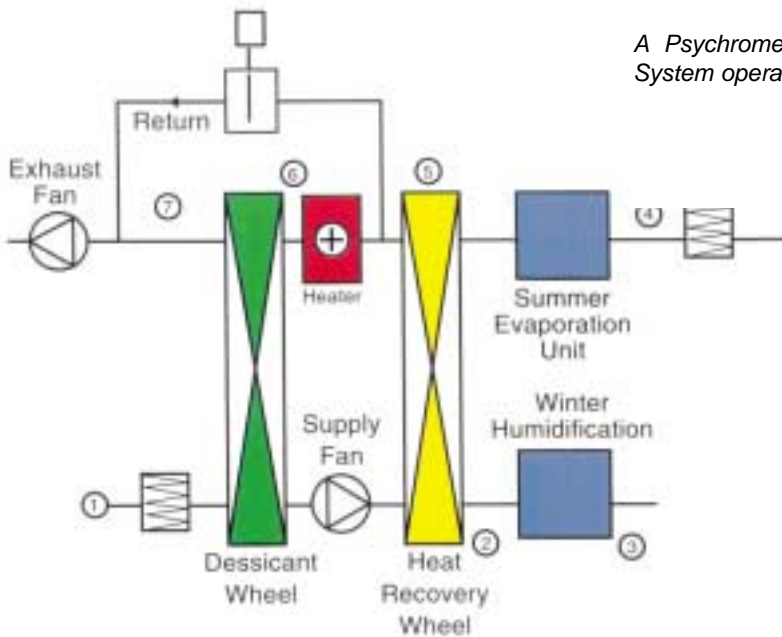
- Evaporative Cooling Technology
- Desiccant Wheel Technology
- Thermal Wheel Technology

All installed within a conventional Air Handling Unit, providing a single package source to the client.

The supply side operates on 100% fresh air and exhaust air throughout the year and provides both heating and cooling as required by the space demand.

The use of full fresh air improves the internal space environment, as the oxygen content is higher, thus helping to reduce tiredness within personnel and the effects of a "Sick Building Syndrome".

A Psychrometric Chart diagram indicates how a typical D.D.C. System operates.



TYPICAL PSYCHROMETRIC CHART PERFORMANCE PROCESS



Range - D/HR HEAT RECOVERY

Central station heat recovery units. (0.46/50m³/s 22 sizes) Internal or external mounting. Component Options: Cross flow or counter flow air/air plate heat exchanger available constructed from aluminium, aluminium epoxy coated or stainless steel, face and bypass dampers optional. Run around coil system liquid/air heat exchanger closed circuit pump system or condenser rejection. Coils available copper/aluminium copper/copper and copper/copper electro tinned. Rotary heat wheel regenerative heat exchanger available for recovery of sensible and latent heat.

Range - HOSPITAL SPECIFICATION AIR HANDLING UNITS

Slide in cooling coils manufactured from copper tube with electro plated, copper fins, epoxy paint coated coil casings and stainless steel, perforated bottom plate.

Removable stainless steel drain trays extended beyond the unit to give instant visual inspection without closing the plant down. Drain trays are designed with a 1 in 20 fall. Non-corrosive (Plastic) linings to all cooling coil and humidifier sections. Externally mounted motors, usually with run and stand by facility, to give operational safeguard. Dalair's unique flexible couplings ensure no cross contamination of airstreams where drive shaft and base frame penetrate the unit casing.

Melinex linings to in-built silencers for protection during the sterilisation process and to prevent the migration of fibres into the airstream. Isolation of cooling coil and humidifier sections whilst sterilisation is carried out.



Range - SWIMMING POOL AIR HANDLING UNITS

Slide in coils manufactured from copper tube with copper electroplated fins or poly coated.

Fans epoxy paint coated, complete with drain plug fitted in the casing. Damper frames and blades epoxy paint coated. Motors to be ARGUS 55 standard. Melinex linings to in-built silencers to prevent in-fill becoming saturated and migrating into the system.

Panels finished both internally and externally with plastisol coated steel. Unit framework and slides epoxy paint coated both internally and externally.



Range - "SC" SINGLE CABINET & "TEC" TWINFAN TOILET RANGES.



Available for internal and external mounting are direct driven and belt driven.

0.02m³/s to 1m³/s direct driven. 0.3m³/s to 2.m³/s direct driven. Purpose built units on request.

D.I.D - F/C Direct Driven 240 volt vibration free D.D. Range. BD range forward or backward curved D.I.D.W. fans with rubber in shear anti-vibration mountings and flexible isolation connections.

Construction: Heavy duty reinforced aluminium alloy, fan motors internally wired to airflow sensors and termination at an isolator on unit casing.

We can supply eight different controllers for varying specifications, refer to catalogue for further details.



Range - "DIG" & "DDG" GAS FIRED RANGE

Central station single packaged or modular construction, indirect or direct gas fired suitable for internal or external mounting complete with controls package if required.

Air volumes 0.1m³/s to 50.0m³/s (22 sizes) Purpose built to requirements.

LEAKAGE AND VOLUMETRIC TESTED AIR HANDLING EQUIPMENT

Dalair's flexible design approach continually assist the company to manufacture air handling and packaged refrigeration equipment withstanding the stringent requirements of today's high specifications.

Based at our Wednesbury Head Office our Research and Development department are continually carrying out in house leakage/pressure tests and can offer full test certificates detailing test procedures both positive and negative. All test equipment is regularly calibrated enabling programme of volumetric and acoustic testing of the wide range of products from modular range of Variable Air Volume units to range of Rooftop Packages.

All volumetric tests are carried out in house in accordance with the specific requirements of BS 6583 Part 1 - Volumetric testing for rating of fan sections in air handling units. Induct acoustic tests are also carried out in accordance with the specific requirements of BS 848 Part 2 - Method of noise testing.

Range -AIR COOLED CONDENSING UNITS RANGES CUS, CUHS, CFCUS AND HCU

The CUS range of 2l air cooled condensing units fitted with axial fans, covers the range 2.8kW to 160kW in cooling mode.

The CUHS range of 12 air cooled condensing units and heat pumps fitted with axial fans, covers the range 2.8kW to 35kW in both heating and cooling modes.

The CFCUS range of 4 air cooled condensing units fitted with centrifugal fans, covers the range 15kW to 32kW in cooling mode.

The HCU range of 3 horizontal air cooled condensing unit, fitted with axial fans, covers the range 54kW to 80kW.

All units are custom designed to maximise performance whilst minimising footprint, profile and noise.

The units are ideal for use in combination with the full range of Dalair equipment in retail outlets, hotels, restaurants and offices and also with Industrial process cooling systems or fan coil units.

All units are despatched following extensive leak and function testing and carry a holding charge of ozone friendly nitrogen.

CUS, CUHS and HCU units are purpose designed for outdoor applications and are fully weatherproofed for adverse climatic conditions.



Range - AIR COOLED PACKAGE LIQUID CHILLER RANGE ACCS 5 - 60

This range of packaged air cooled liquid chillers covers the range 13kW to 134kW in ten model sizes and has been custom designed to maximise performance whilst minimising footprint, profile and noise.

The range is ideal for use in combination with the full range of Dalair equipment in retail outlets, hotels, restaurants and offices and also with industrial process cooling systems or fan coil units.

The package chillers are factory piped, performance and function tested and fully charged with refrigerant (R22 or R407C) before despatch in accordance with BS5750 Part 1.

These units are purpose designed for outdoor applications and are fully weatherproof for adverse climatic conditions.

Standard Features

- Small footprint.
- Low noise levels.
- Low ambient operation (-20°C).
- Evaporator ambient protection (-20°C).
- Multi-bladed fan.

Optional Features

- Factory fitted mains isolator.
- Head Pressure Control.
- Tape heater and thermostat.
- Suction and discharge gauges.
- **ACCS 5 - 10:-** Electronic control thermostat.
- **ACCS 15 - 60:-** Microprocessor & pressure monitoring.





Range KEEP KOOL AIR COOLED LIQUID CHILLERS KKHS 3-9 duty range: 8 KW to 27 KW

The Dalair KKHS 3-9 range of packaged air cooled liquid chillers comprises 4 models covering duties from 8 kW to 27kW in cooling and 5kW to 33W in heating and has been designed for operation on a water based system. The range is ideal for use in combination with Dalair's range of Air handling Equipment. Dalair package chillers are factory piped, performance function tested and fully charged with refrigerant before despatch in accordance with BS EN ISO 9001.



Range KEEP KOOL SYSTEM AIR COOLED CHILLER KKHS30D

This range of packaged air cooled chillers offers between 35-140kW in cooling mode and 30 - 160kW in heating mode. Available in 7 model sizes, custom designed for operation as water based system.

The Keep Kool range is ideal for use in combination with the full range of Dalair chilled water based systems for retail outlets, hotels, offices, restaurants leisure centres etc and can also be applied for process chilling and other industrial or commercial applications.

Dalair Keep Kool units are factory piped, wired, performance and function tested and fully charged with refrigerant prior to despatch.

The units are fully weatherproofed and are suitable for outdoor application and adverse climate conditions.

Environmental Policy

The Dalair range of air handling units and air conditioning products are supplied to leading companies and organisations world-wide.

Dalair staff, in both manufacturing and field service, are trained in the recovery and safe handling of refrigerants. The company also subscribes to training courses to ensure that staff are fully compliant with the latest regulations governing refrigerant safety.

Research and development programmes are targeted at ensuring maximum energy efficiency and the use of free cooling cycles where possible. The Dalair factory is equipped to handle volumetric and leakage testing of products prior to despatch. The development of fully packaged products has reduced the frequency of on site refrigerant handling by installers and contractors.

Dalair also has a responsible attitude towards waste disposal, ensuring that the maximum amount of materials are recycled, including wood, paper, metals, plastics and packaging. The company is actively seeking agreement with its suppliers on the use of reusable packaging whenever possible.

All company vehicles run on lead free petrol or diesel according to size and function, whilst electric vehicles are used for material handling on site.



delivering
solutions

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