

Cooling Overview

Complete Process & Industrial Cooling Solutions



Our Company

Denco Fluid Systems is at the forefront of cooling technology, providing design, manufacture, service and support for water, oil and specialist fluid based cooling and chiller systems; our clients operate across multiple industries including steel mills, oil refineries and specialist manufacturers to aerospace and defence. Our systems can be found on furnaces, machine tools, bearings, heat recovery systems and beyond. The combination of a proven product range with bespoke design and installation provides a flexible and cost effective cooling solution for light and heavy industries.

At Denco Fluid Systems our wide range of products and services include the manufacture of industrial and commercial cooling systems. We provide custom designed water cooling solutions for a wide range of applications from our UK factory in Hereford.

Our wide range of bespoke products include:

- + Hydronic Modules
- + Dry Air & Adiabatic Coolers
- + Air & Water Cooled Chillers
- + Air Conditioning
- + Installation Services
- + Heat Recovery & Free Cooling
- + Bespoke Design Solutions
- + Control Systems with BMS Integration
- + Glycol Antifreeze
- + Service, Maintenance & Support.

DENCO FLUID SYSTEMS

TEL: +44 (0) 1432 365000

EMAIL: INFO@DENCOFLUIDSYSTEMS.COM

WWW.DENCOFLUIDSYSTEMS.COM

Ramsden Court, Ramsden Road
Rotherwas Industrial Estate
Hereford, Herefordshire
HR2 6LR

Air & Water Cooled Chillers



Packaged refrigerated water chillers provide cooling all year round. Our extensive options and technical experience ensures performance even in extreme conditions with the most efficient and cost effective solution.

Denco Fluid Systems have the ability to supply a vast range of chillers from 2kW to 3MW. These chillers can be integrated into process designs and systems with a wide variety of customisation including compressor types, attenuation packages, efficiencies as well as integral equipment specifications.

Our chiller range includes the supply of screw, scroll and Turbocor® compressors providing optimum efficiency for the specific application.

Additionally, our chillers can be offered with a variety of refrigerants with options for low GWP alternatives as well as boasting a high efficiency and Freecooling range. Denco Fluid Systems can generate energy consumption and payback reports detailing cost savings for both.

Features:

- + Water & Air Cooled Chillers
- + Low and high ambient packages
- + Full customisation
 - Compressor types
 - Sound packages
 - Mechanical & electrical equipment
 - Refrigerant
- + Optimum freecooling packages
- + High and low water temperature configurations.

Benefits:

- + High Efficiency - Low run cost
- + Turnkey package chillers
- + High efficiency ranges (SEER & EER)
- + Low GWP refrigerant alternatives.

Dry Air & Adiabatic Coolers



Dry Air and Adiabatic Coolers are perfect for low capital, low run cost and high efficiency heat rejection. Denco Fluid Systems will offer air blast coolers where possible as an alternative to chillers as they are cheaper to buy, run and maintain whilst achieving the same heat rejection.

Our air blast coolers are available in multiple configurations to suit most footprints including flat bed, half 'V' and full 'V' configurations. Denco Fluid Systems can offer a range of units including EC fans for low noise and high efficiency, galvanised, Stainless Steel or powder coated frames and casework, a range of tube and fin materials for varied mediums, include corrosion resistant coatings and low noise level configurations.

Additionally, our coolers can be supplied with adiabatic options, allowing for a lower temperature process water at high ambient conditions. UV kits for sterilisation are included with adiabatic coolers. Other features are available such as reversible fans for cleaning client specified electrical wiring.

Features:

- + Range of configurations
- + Fixed speed, VSD or EC fans
- + Attenuation packages
- + Variety of coil, fin & frame materials
- + Adiabatic options.

Benefits:

- + Low run costs
- + Low noise options
- + Perfect for +35°C water.



For further information about Dry Air & Adiabatic Coolers please contact:
+44 (0)1432 365000 or email: info@dencofluidsystems.com

Hydronic Modules (Pumpsets)



Denco Fluid Systems offer hydronic modules to suit a wide variety of applications, from simple pump skids to full thermal control systems.

Our systems use a standardised modular design, with the ability to produce a totally bespoke system with limited lead time and minimal costs. We are capable of designing and manufacturing simplex, duplex and triplex systems with job specific specifications for instrumentation and equipment. Denco Fluid Systems offer a vast range of unit sizes from DN20 to DN600.

Our standard systems feature Stainless Steel pipework, galvanised base frame, run/standby pumps and optional integrated control systems. These units are perfect for offering efficient solutions in terms of footprint and energy consumption as well as built-in redundancy and high quality manufacturing.

Our pump skids are used for coolant recirculation, often in conjunction with our heat rejection equipment. These units are commonly used for large centralised cooling systems or for cooling of specific equipment i.e. compressors and furnaces etc. Additionally, our systems are offered with a number of pump discharge pressures, our standards being 3.5 bar and 5.5 bar.

Modules can be built to suit any requirements and may include heat exchangers, air separators, strainers, dosing pots and pressurisation units. These systems are suitable for all industries, applications, environments and regulations.

Our pump sets are designed for ease of maintenance, with pumps and strainers serviceable without the need to take the full module offline. A high level of instrumentation is included as standard including: local pressure gauges, pressure transmitters etc. Each pump skid includes isolation valves on the pump suction and discharge. We offer competitive prices for the design, supply and manufacture of skid mounted pump sets.

Benefits:

- + High efficiency
- + Single mounted unit
- + Short lead times.

Quench Systems



Denco Fluid Systems offer both quench spray / flood bath systems and quench tank systems. These are used commonly in metal process industries including wire extrusion. The systems are designed based on production flow rates, product properties and product temperatures.

Our systems are specifically designed to suit process requirements and can be developed based on reducing quench time or decreasing product temperatures quicker in order to increase productivity and efficiency of your plant. These system can operate with a number of types of heat rejection equipment based on the application and temperatures required and consist typically of pumpsets, heat exchangers and either air blast coolers or chillers. Denco Fluid Systems will design the full control panel in order to provide turnkey solutions and operate the quench system in the most effective way.

Our systems can include pre-filtration elements by means of strainers and / or filters to limit contamination within the process thus improving longevity of equipment and decreasing maintenance times and costs. Additionally, these filtration systems can be supplied with built in redundancy through the use of duplex filters / strainers and bypass lines to allow for easy online changeovers.

Each system is designed bespoke to your application and therefore can be developed to adhere to difficult footprints and harsh environments such as stainless tanks and containment of by-products such as steam.

Features:

- + Bespoke designs
- + Turnkey solutions
- + Heat rejection equipment
- + Filtration systems
- + Modular designs.

Benefits:

- + Increased production
- + High reliability
- + Temperature control
- + Versatility of variables.

Data Centre Cooling & Modularisation



Denco Fluid Systems can offer bespoke turnkey cooling systems for Data Centres. Our cooling solutions include direct expansion (DX), chilled water, free and dry air cooling, close control cold aisle containment and clean rooms. From this range we pull from a wealth of in-house knowledge to design, supply, install and commission complex data centre cooling systems.

Our experience includes the ability to supply cooling to different sized data centres and provide modular solutions, allowing for future capacity expansion, in a permanently progressing industry. Our systems incorporate the most up-to-date strategies and equipment with simplistic designs, to ensure the best solution is always offered.

We have the capability of completing projects with a variety of equipment including purpose built cooling units for complete turnkey solutions.

Denco Fluid Systems work with established partners to offer access to complete solutions including modular data centre designs. A modular data centre can be placed anywhere data capacity is required. Modular data centre systems consist of purpose engineered modules and components to offer scalable data centre capacities with multiple power and cooling options.

For further information about Data Centre Cooling & Modularisation please contact: +44 (0)1432 365000 or email: info@dencofluidsystems.com



UPS & Switch Room Cooling



Denco Fluid Systems offer packaged, self-contained, outdoor modular cooling solutions are specifically designed to cool telecommunications infrastructure, base stations, telecom cabins, equipment switch rooms and similar applications.

Where internal space is limited or unavailable, self-contained cooling solutions offer ideal operating conditions continuously 24 hours a day, 365 days a year which help reduce energy consumption by utilising the benefits of free outside air maximising free-cooling capabilities.

Denco Fluid Systems are capable of producing three methods to control room temperature - fresh air free cooling, refrigeration mode or electrical heating, ensuring optimum temperature is maintained continually throughout the year.

Features:

- + Packaged, self-contained solutions
- + Up to 100% free cooling
- + EC Fan options
- + Low operating noise levels
- + Easy to install and commission
- + Easy to service and maintain
- + Secure, tamper proof fittings
- + Highly efficient, low energy solutions
- + Siemens controls with remote interrogation
- + High efficiency scroll compressors.

Benefits:

- + Significant reduction in energy costs
- + Free cooling for up to 90% of the year (UK)
- + High efficiency operation, year round
- + Minimal maintenance required
- + Years of efficient, quiet operation - for minimal capital outlay.



For further information about UPS & Switch Room Cooling please contact: +44 (0)1432 365000 or email: info@dencofluidsystems.com

VRV/VRF



Denco Fluid Systems have the facilities to provide the supply and installation of VRV (Variable Refrigerant Volume) air conditioning systems. VRV is a multi-split type air conditioner that uses variable refrigerant flow control, conditioned by an outdoor condensing unit, to provide customers with the ability to maintain individual zone control in each room and / or floor of a building. This particular type of system is common place in industrial and commercial buildings with Denco Fluid Systems having experience of supplying a variety of industries.

These systems consist of either 2 or 3 pipe systems. A 2 pipe system is a standard design however a 3 pipe system means the VRV's are capable of heat recovery utilising liquid (1), suction (2) and discharge (3) lines for optimum efficiency. Denco Fluid Systems have developed our own custom coded estimation software that is proven to provide accurate price structures across project based on detailed inputs and analysis.

Installation Features:

- + Direct Expansion (DX) Pipework & Insulation
- + Condensate Drains & Pump Systems
 - PVC, Cooper or Stainless Steel Condensate Lines

- + Cable Tray
 - Light, Medium and Heavy Duty including Post and Pre hot dip galvanised options for corrosion protection
 - Capped ends for mechanical protection
- + Support Systems
 - Unistrut/Channel ends plastic capped
 - Big foot type support systems & H support frames for Horizontal Low and High Level Tray.

VRV Benefits:

- + Aligned with industry leading suppliers i.e. Daikin, Mitsubishi, Toshiba etc.
- + High efficiency
- + Precise temperature control
- + Simultaneous heating & cooling
- + Heat recovery options
- + Zoned comfort & control
- + Flexible & modular designs
- + Easy-use controls.

Heat Recovery Systems



Heat recovery is a valuable way to reuse otherwise “lost” energy to reduce overall running costs.

Waste heat from a process can be used to reduce a sites heating requirements, either for another process, or for general heating and hot water by the use of an additional heat exchanger on the main cooling circuit. This has the dual advantage of reducing heating costs, and those of the cooling system, as the cooling requirement is at least partially performed by the heat recovery system.

Denco Fluid Systems can design, supply and install heat recovery systems for a number of different applications such as: water cooled condensers, flue gas, air compressors and steam plants.

A Water-Cooled Condenser is a heat exchanger that removes heat from refrigerant vapour and transfers it to the water running through it.

In doing so, the vapour condenses and gives up heat to the water. Applications include wash down water pre-heating, process heating and boiler return water pre-heat.

Flue Gas Heat Recovery Systems are designed to recover energy from flue gases or process air and transfer this thermal energy to a water system which can then be exported to another point of use. In a market with ever increasing energy prices there is a focus on effective use of resources and reduction of CO₂ gas emissions. It therefore makes sense to exploit the considerable amounts of energy found in flue gas, steam or other process heat exhaust and extraction systems for heating of steam system make-up water, space heating / central heating, combustion air pre-heating and electrical generation (organic rankine cycle, steam turbine or expanders).

Approximately 90% of the electrical input to an air compressor is lost as heat. By recovering this waste heat energy from air or water-cooled compressors you can reduce energy bills significantly and thus can reduce CO₂ emissions. The thermal energy recovered can be recovered to an air or water system and be utilised in many different ways.

Installation



All Denco Fluid System projects are available with total turnkey installation options. We offer high quality pipework installations for cooling circuits (water and air-conditioning) and compressed air systems. These installations can be offered in a wide variety of materials including Stainless and Carbon Steels, Copper and ABS.

Our certified and coded welders can complete installations offering pre-fabricated pipework from our HQ or our on-the-road installation team can weld and fabricate pipework systems on site. Our air conditioning team are F-Gas certified and produce the highest level of copper direct expansion (DX) pipework installs.

As part of our turnkey solutions we can also organise siting of plant, equipment, pipework, electrical installation with equipment and system commissioning. Major installation contracts are carried out in many industries including steel works, aerospace, power stations, cement works, paper mills, automotive, etc. We can also supply engineers to oversee system installations and commissioning outside the UK, where local fitters are used.

Our installation packages can offer 3D modelled drawings of pipe routings on site prior to fabrication and assembly in order to reduce risk of time delays and confusion on site. Additionally, our installations can include pipework insulation and/or trace heating allowing for frost protection, corrosion prevention whilst operating in low ambient temperature conditions (with or without glycol).

For larger installations, our installation team are capable of completing crane lifts, operating telehandlers and other lifting equipment as well as fitting large footprint plant, mezzanine floors, staircases and other structural constructions.

Control Systems with BMS Integration



The control panel in many ways is the focal point of any system. It can turn a simple pump set into an intelligent part of a greater system.

Denco Fluid Systems produce control panels in-house and are individually adapted for each system. We have experience in producing control systems for a variety of uses and environments including hazardous area specifications such as ATEX and armoured cabling as well as high IP ratings for control panels etc.

Each system temperature and pressure sensors / transmitters provide information for process control, indication and alarm output and inverter drive technology is available for precise control and energy efficient operation. This allows for complete control of heat rejection equipment and the operation of the skid meaning that our systems react to live operations and can be used in more efficient and effective ways.

Denco Fluid Systems have experience of producing units with specified equipment manufactures and can produce units for operation with most protocols with allows for ease of maintenance on site and integration with existing BMS.

The power of a bespoke, in-house, control system is that it is tailor made to suit the process it is controlling. Modular drive and processing units combine with powerful control software to allow precise, reliable regulation of equipment.

Features:

- + Fully automated controls
- + Capable for integration with BMS
- + Tailored panels to specifications.

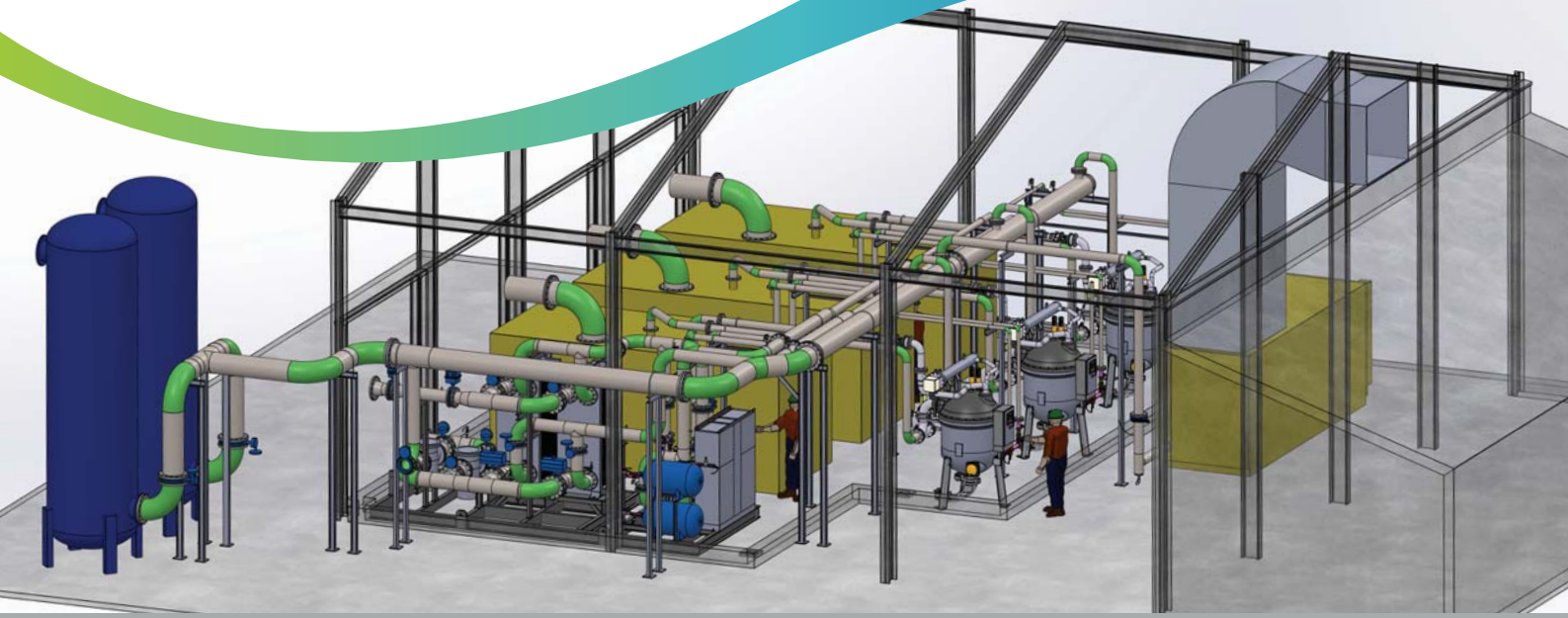
Benefits:

- + Precise controls
- + Turnkey package.



For further information about Control Systems with BMS Integration please contact: +44 (0)1432 365000 or email: info@dencofluidsystems.com

Bespoke Design Solutions



At Denco Fluid Systems we pride ourselves on our ability to deliver the complete engineered design solution.

Using the latest CAD technology our innovative design team work together to bring your specifications to life. Through the use of technical drawings and 3D modelling our designers ensure all specifications are met with precision without ever compromising the systems efficiency or the manufacturing process.

With over 75 years' experience our dedicated team can cater for any requirement and will guide you every step of the way from concept through to completion. This includes identifying heat sinks in heat recovery systems, calculating full run costs on Denco Fluid Systems equipment and completing system savings and paybacks.

Denco Fluid Systems are capable of producing the full range of drawings including: general arrangements, pipe routings, sheet metal fabrications, site layouts etc. These drawings are used for identifying key factors such as clash detection, overall footprints, centre of gravity and lifting plans as well as being able for integration into Building Information Modelling (BIM) drawings.

We have the ability to design and manufacture integrated systems utilising the most the cost effective solution and will offer options for solutions based on customer requirements and our advice. We are capable of producing systems for hazardous area, extreme environments (off-shore, extreme high and low ambient etc.) and units for other countries applicable standards.

For further information about Bespoke Design Solutions please contact: +44 (0)1432 365000 or email: info@dencofluidsystems.com



Service & Maintenance



Scheduled maintenance is essential for all plant equipment allowing for better performance and higher reliability. Denco Fluid Systems offer tailored maintenance packages to suit your equipment, ensuring cost effective operation, maximising system life expectancy and minimising unplanned downtime. Contracts are available covering 1 day visits to full plant facility management. Full records are provided on the completion of each visit by our highly skilled engineers.

All works will be carried out within our ISO 9001:2015 accreditation and to the highest standards of health and safety.

Additionally, Denco Fluid Systems can provide recommended spares for our systems and offer spares quotations on all supplied equipment for direct replacements. For all enquiries our dedicated spares team pride themselves on a fast turnaround ensuring your systems are back in operation as quickly as possible.

Features:

- + Tailored service and maintenance contracts
- + Exact spares replacements.

Benefits:

- + Extensive knowledge of equipment & system
- + Increase reliability
- + Increased warranties.



For further information about Service & Maintenance please contact: +44 (0)1432 365000 or email: info@dencofluidsystems.com

Denco Fluid Systems



Oil Recirculation Systems

Denco Fluid Systems is well established as one of the leading companies in the supply of Oil Recirculation Systems and equipment for the optimum lubrication of bearings and gear trains. Reliability has been the key to our success, achieved by utilising proven design techniques, coupled with product quality and competitive pricing.

Grease Systems

Denco Fluid Systems is one of the leading global manufacturers of automatic lubrication systems installed across many industries including Automotive, Conveyor, Petrochemical, Steel, Power Generation, Cement, Paper, Pharmaceutical, Marine and Agriculture to name but a few. Systems are custom designed to suit the individual machine/plant to ensure they deliver 'the right quantity of lubricant to the right place at the right time'. System types offered are: Dual Line, Single Line, Progressive, Direct Feed (multi-line), Spray Systems, Air-Oil System, etc.

Conveyor & Chain Lubrication Systems

Denco Fluid Systems offer the complete solution with a range of automatic oil or grease lubrication systems for conveyor chains, with or without air. Our customised systems are controlled & monitored via bespoke control units and intelligent software to ensure chains operate in the optimum level whilst providing a safe, environmentally friendly process.

PROtLM

Denco Fluid Systems has developed its PROtLM (Plant Reliability Optimised through Lubrication Management) service over many years. Application of lubricants in measured quantities at specific times is the corner stone for optimising machine performance. This can only be achieved by an effective lubrication program, delivered by a dedicated team of lubrication engineers, using an interactive electronic scheduling system.

- Hydronic Modules
- Dry Air & Adiabatic Coolers
- Bespoke Design Solutions
- Heat Recovery & Free Cooling
- Air Conditioning
- Control Systems with BMS Integration
- Installation Services
 - Siting Equipment
 - Pipework
 - Electrical Installation
 - Commissioning
- Air & Water Cooled Chillers
- Glycol Antifreeze
- Temperature Control Units
- Evaporative Cooling Towers
- Spray Troughs
- Emergency Cooling Systems
- Service, Maintenance & Support
 - Total Plant Hire
 - Chiller Hire
 - System Reviews
 - Plant Reviews
 - After Sales Report

DENCO FLUID SYSTEMS
RAMSDEN COURT
RAMSDEN ROAD
ROTHERWAS INDUSTRIAL ESTATE
HEREFORD HR2 6LR

Tel: +44 (0) 1432 365000

Email: info@dencofluidsystems.com

Web: www.dencofluidsystems.com