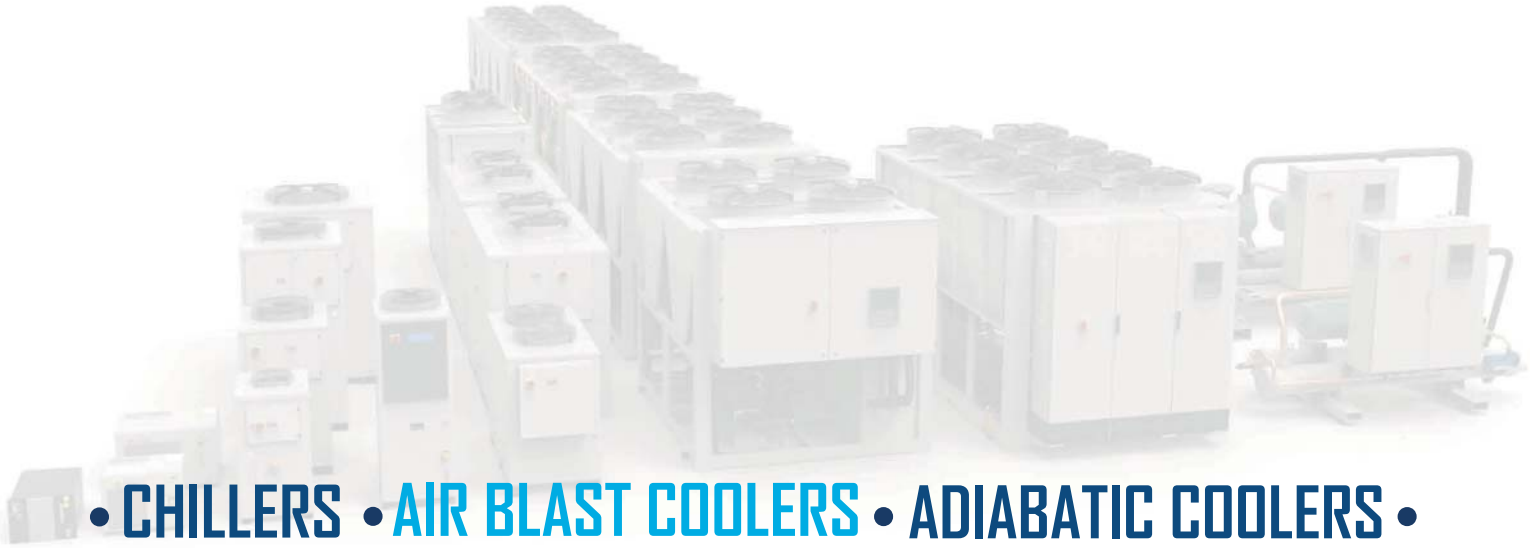
SUMMIT TPC

PROCESS COOLING DIVISION



• CHILLERS • AIR BLAST COOLERS • ADIABATIC COOLERS •

• FREE COOLING • COOLING TOWERS • PUMP SETS •

• HEAT EXCHANGERS • COMBINED HEAT/COOL UNITS •

WWW.TOTALPROCESSCOOLING.CO.UK

WHY CHOOSE SUMMIT-TPC

Total Process Cooling has been established in the water cooling industry for over 28 years and has solved many cooling problems with the supply and / or installation of a wide range of cooling equipment.
TPC have vast cooling application experience and are well placed to provide well engineered, cost effective cooling equipment and support to refrigeration, air conditioning and original equipment manufacturers for resale

Typical SUMMIT-TPC Installation List:

Rolls Royce ⊛ Toyota ⊛ Kendal Refrigeration ⊛ Corus ⊛ NHS ⊛ Go Green Fuels
BNFL ⊛ MOD ⊛ Anglian Water ⊛ KP Foods ⊛ Arla Foods ⊛ Leicester Uni
Cardiff Uni ⊛ Mitsubishi ⊛ Jaguar Land Rover ⊛ GKN ⊛ BP Chemicals ⊛ Airbus

Advantages of SUMMIT-TPC's Cooling Equipment Range:

- Longstanding proven product line
- Units built with high quality leading brand components
- Units can be personalised to meet individual requirements
- Compact fully packaged and prewired coolers
- Expert Technical Advice
- ISO 9001: 2015 Certified
- Equipment CE Marked

ADIABATIC COOLERS

SUMMIT-TPC Adiabatic Coolers are the cost effective alternative to evaporative cooling towers being capable of supplying similar water temperatures to evaporative coolers while reducing Health and Safety concerns and maintenance costs.

We provide a standard and premium range of Adiabatic Coolers.

SUMMIT-TPC Adiabatic Cooler Benefits:

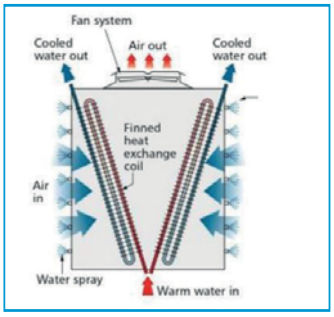
- No chemical water treatment
- No registration with local authorities
- Lower operating costs than cooling towers
- Lower water use than cooling towers
- Minimal maintenance
- Sealed Cooling System
- Operation in the UK as a dry air blast cooler for over 95% of the year
- No unsightly plumes of water vapour (Premium range)
- No contamination of the water circuit
- Multiple fans unlike a typical tower with one fan
- Energy Saving Inverter or EC Fans

V-TYPE ADIABATIC COOLER

HALF V-TYPE ADIABATIC COOLER

FLATBED ADIABATIC COOLER

ADIABATIC COOLING PRINCIPLE



On coming air temperature is reduced allowing the cooler to cool below ambient in warmer conditions

Construction Options:	
Tubes:	Copper, electro-tinned, steel or stainless steel
Fins:	Aluminium, copper, electro-tinned, aluminium coated,steel or stainless steel
Fans:	Axial type at various speeds to suit customer requirements
Casework:	Galvanised steel, external painting, aluminium or stainless steel

SUMMIT-TPC Adiabatic Coolers offer minimum footprint, low energy use and water supply temperatures similar to evaporative cooling towers by creating a cooling mist at the coil air inlet reducing the oncoming air temperature in the summer months. For the majority of the year the cooler operates as a dry air blast cooler reducing water costs to a minimum.

Energy Saving Options

The combination of an adiabatic system with either an inverter drive or EC fans, lowers the energy consumption of the unit and considerably reduces the sound pressure level.

PREMIUM ADIABATIC COOLERS

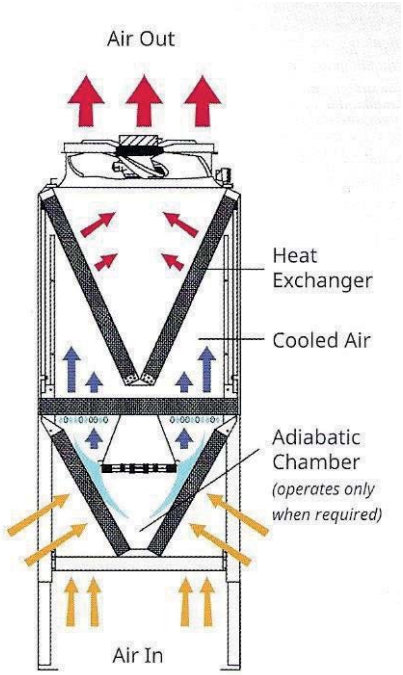
Unlike standard adiabatic coolers which operate with external aerosols via spray bar/nozzles running along the coil face, Summit-TPC Premium Adiabatic Coolers utilise an internationally patented adiabatic chamber. This keeps the process within the unit itself so that the coil blocks remain dry eliminating scaling and avoiding the risk of proliferation of bacteria such as legionella, therefore no external aerosols to give issue.

- **Save you money** - by drastically reducing energy and water consumption, minimising the need for costly chemical consumption, completely eliminating chemical discharges, offering an economical installation and eliminating the majority of maintenance compared to cooling towers and conventional adiabatic coolers.
- **Create a competitive advantage** - through better quality and more uptime, due to consistent, precise water temperature control.
- **Expand as you grow** - our modular approach allows production facilities to install economical systems that can be easily expanded.
- **Improve environmental sustainability** - by saving extensive amounts of water and requiring zero chemical discharges.

How the Ecodry Closed-Loop Dry Cooling System Works:

By taking advantage of the ambient temperature and without the utilization of compressors, the Ecodry system represents the simplest, most efficient, clean, safe and affordable equipment for any water cooling process.

Through a single set of uninsulated pipes, the water returning from the process is pumped into heat exchangers and cooled with ambient air flow. There is no process water evaporation in this closed system. As a result, it provides clean water at the right temperature to process machines year round.



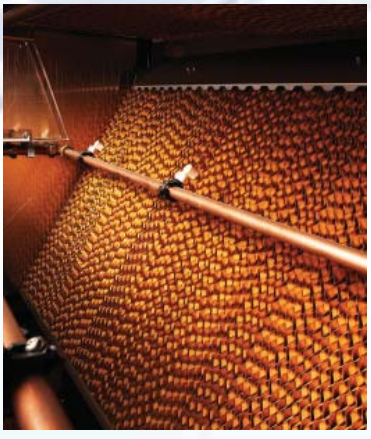
SUMMIT-TPC PREMIUM ADIABATIC COOLER BENEFITS:

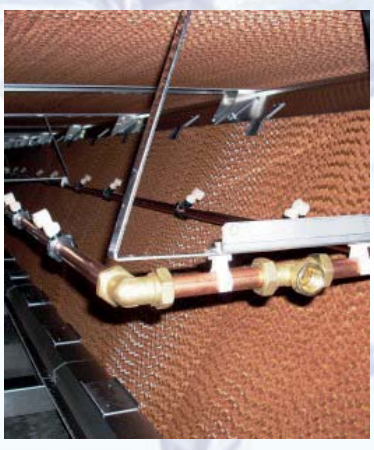
- No external spray - coils remain dry
- Elimination of heat exchanger scaling avoiding the risk of bacteria, such as legionella
- Extended life of coil blocks
- No registration with local authorities
- No chemical water treatment
- Minimal maintenance
- Dry cooler operation for the majority of the year
- Low operating costs
- EC brushless fans
- Stainless steel legs and panels for extended life
- Low water use
- Smaller footprint than conventional units

WHY CHOOSE A PREMIUM ADIABATIC COOLER?

Conventional Adiabatic Air Blast Coolers spray a mist into the air alongside the heat exchangers to reduce on coming air temperatures. This mist is pulled onto the heat exchangers by the fans. This creates scale on the heat exchanger surface both reducing cooler performance and creating a risk of the proliferation of bacteria, such as legionella.

The **Premium Adiabatic Cooler** range has been designed to remove both these risks with its internationally patented Adiabatic Chamber.





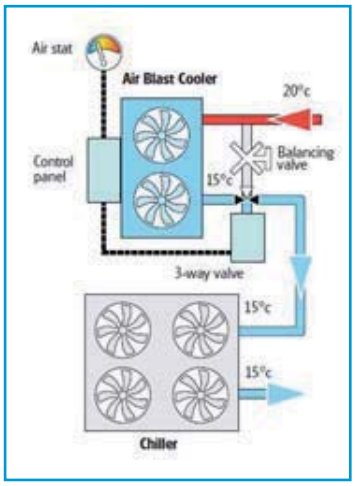
FREE COOLERS

Water chiller systems are selected to supply a constant water temperature in the summer time and to achieve this they utilize a high energy use compressor. As most of the year UK ambient temperatures are much cooler, chillers are inevitably oversized for over 70-80% of their operating time over the year.

By adding a SUMMIT-TPC Retro-Fit Free Cooler to an existing chiller system massive amounts of energy can be saved on chiller running costs. Return on investment is outstanding with payback from energy savings being achieved in as little as 6-12 months.

Why choose a SUMMIT-TPC Free Cooler?

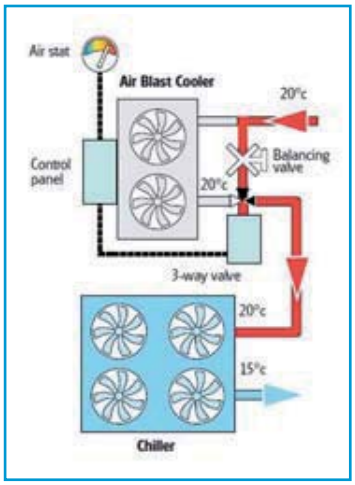
- Huge savings in energy & running costs on existing chiller systems
- System pay back in 12 months or less
- Compact plan area
- SUMMIT-TPC's Free Coolers include automatic control
- Extended life on chiller
- Simple retro-fit units
- Lower carbon footprint and improved 'green profile'
- SUMMIT-TPC equipment is designed to ISO 9001 and CE marked



Full FreeCooling
Total power consumption 10.4kW
Power saving 83%

150kw Air Blast Cooler
Cooling load 150kW
Power Consumption 10.4kW
12°C ambient air temperature

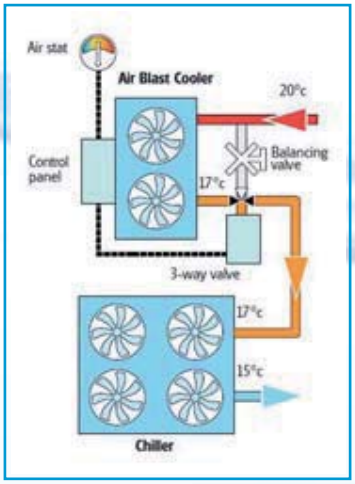
150kw Chiller
Cooling load 0kW
Power Consumption 0kW
12°C ambient air temperature



Partial FreeCooling
Total power consumption 34.4kW
Power saving 43%

150kw Air Blast Cooler
Cooling load 91kW
Power Consumption 10.4kW
15°C ambient air temperature

150kw Chiller
Cooling load 59kW
Power Consumption 24kW
15°C ambient air temperature



No FreeCooling
Total power consumption 60kW
Power saving 0%

150kw Air Blast Cooler
Cooling load 0kW
Power Consumption 0kW
18°C ambient air temperature

150kw Chiller
Cooling load 150kW
Power Consumption 60kW 18°C ambient air temperature

CHILLERS

SUMMIT-TPC Chillers (Air Cooled Industrial Process Chillers, Oil Chillers and Packaged Chillers) with capacities from 1kW upwards operating with eco-friendly refrigerants.

All SUMMIT-TPC standard chillers are factory tested prior to dispatch and incorporate all the necessary components for a quick and easy installation.

- SUMMIT-TPC chillers are built for industry rather than trade construction.
- Compact, fully packaged and pre-wired.
- Simple and rapid installation and commissioning.
- Units can be personalised to meet individual requirements
- Units are built with high quality leading brand components and are readily available.
- Generous sized internal water tank and various pump options.
- Rapid response through SUMMIT-TPC's service network.

Packaged Air Cooled Chillers

High Duty Chillers

HIGH DUTY CHILLERS

- Cooling capacity from 160 kw upwards
- High energy class rating
- Multiple compressors
- Twin refrigeration circuits
- Electronic thermostatic expansion valve
- Electronic controller with digital display
- Integral hydraulic modules
- Micro channel condenser coil
- Stainless steel, copper brazed plate evaporator
- Modulating fan speed control

FREE COOLING (FC)

SUMMIT-TPC chillers are available in a Free Cooling version reducing electrical usage further by utilising low ambient air temperatures to cool the return water whenever possible.
As units are selected against the highest ambient conditions the benefits of free cooling can be obtained for a substantial period of the year in the UK.

AIR BLAST COOLERS

- No chemical treatment
- No clean and chlorinations
- Sealed cooling system, no contamination
- No water loss through evaporation
- Low operating noise level
- Energy saving inverter or EC fans

Construction Options:	
Tubes:	Copper, electro-tinned, steel or stainless steel
Fins:	Aluminium, copper, electro-tinned, aluminium coated,steel or stainless steel
Fans:	Axial type at various speeds to suit customer requirements
Casework:	Galvanised steel, external painting, aluminium or stainless steel

Flatbed Air Blast Coolers

2200cm x 1273cm x 1085cm

V-Type Air Blast Coolers

5366cm x 2754cm x 1144cm

Vertical Air Blast Coolers

3700cm x 700cm x 2500cm

PACKAGED AIR BLAST BOX COOLERS

SUMMIT-TPC Packaged Air Blast Coolers and Box Type Air Blast Coolers for easy installation.

650cm x 650cm x 540cm

1100cm x 1100cm x 1983cm

Inside the Air Blast Box Cooler

Packaged box type dry cooler with internal pump, tank, control panel for ease of installation, requiring only mains power and pipework connection.

HEAT/COOL UNITS

Plastics and rubber machine-side chilling and temperature control units (TCUs) from SUMMIT-TPC deliver cooling water at precise temperatures to your mould.

Compared to a central chiller, which uses large amounts of energy to keep water at one set point throughout the system, machine-side compact chiller units optimize temperature control at each mould – resulting in better part quality, less scrap and cycle time improvements of up to 20%.

Optimized for the unique requirements of your plastics application and operation, these portable water chillers support higher quality along with lower water and energy use.

More consistent. More efficient. More adaptable.

- Engineering support thats laser focused on maximising mould performance
- Better part quality through independant temperature control of each mould
- Expandabiilty with a modular approach that allows you to add units easily

MICROGEL

The **Microgel** line offers a unique, space-saving approach that directly addresses the needs of plastics molders.

This compact, portable temperature control unit (TCU)/chiller combination (with a dual-zone option) maintains precise, microprocessor-controlled temperature at your molding machines.

- **Save up to 60%** of energy cost compared to central chillers – especially when you take advantage of "free cooling" opportunities when conditions permit.
- **Prevent scrap** with repeatable, precise, machine-side temperature control and optimal pressure and flow for efficient, turbulent heat transfer.
- **Reduce equipment footprint** with these multifaceted units, which take up about 1/3 the space compared to using separate portable chillers and temperature control units.

TURBOGEL

Turbogel and Thermogel water temperature control units (TCUs) offer a high flow rate, high mould cooling capacity and excellent product precision at minimum energy costs.

It's an ideal solution to help you maximize mould performance and cut cycle times.

Perfect Water Temperature Control.

- High mould cooling efficiency with turbulent flow
- High heating capacity – up to 48 kW
- High reliability with a sophisticated microprocessor system

COOLING TOWERS

- Induced draught & forced draught options
- Galvanised steel, stainless steel or GRP construction
- Centrifugal or axial fansets
- Closed towers with steel or stainless tube bundle or built on heat exchanger
- Access doors

INSTALLATION ⊛ AFTER SALES ⊛ MAINTENANCE CONTRACTS

HEAT EXCHANGERS

SUMMIT-TPC offer an efficient range of plate and shell and tube heat exchangers for liquid to liquid heat transfer.

Brazed Plate Heat Exchangers

Plates are manufactured from AISI 316 stainless steel with copper brazing.
Brazed plate heat exchangers are generally in stock for immediate delivery.

Gasketed Plate Heat Exchangers

Over 30 plate sizes from .04 to 2.5 m² to ensure the most economic design.
Connection sizes from 25 to 500mm.
Standard plate materials include AISI. 304 & 316 stainless steel & titanium.

Shell & Tube Heat Exchangers

Standard materials are cupro-nickel tubes, cast aluminium shell and cast iron end covers.

PUMP SETS

SUMMIT-TPC Pump Stations

Single and Dual Pump Stations provide a compact and cost effective solution to water circulation requirements while reducing on site installation time.

- Run or run/stand-by sets
- Multi-stage or end suction pumps
- Stainless steel or GRP tanks
- Pipework to suit application
- Fitted control equipment

Open dual pumpset

Sealed pump set installation

SUMMIT-TPC
PROCESS COOLING DIVISION

With over 28 years of experience, SUMMIT-TPC is well placed to provide customers with well engineered, cost effective and reliable cooling equipment to suit specific design and production requirements across the board.








TYPICAL SUMMIT-TPC INSTALLATIONS

Rolls Royce • Harrods • KP Foods • Cardiff Uni • Toyota • Powergen
Red Bull • Coventry Uni • Ford • Corus • Airbus • Pork Farms • BNFL
GSK • Formula 1 • Veolia • GKN • BP Chemicals • M.O.D • N.H.S

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