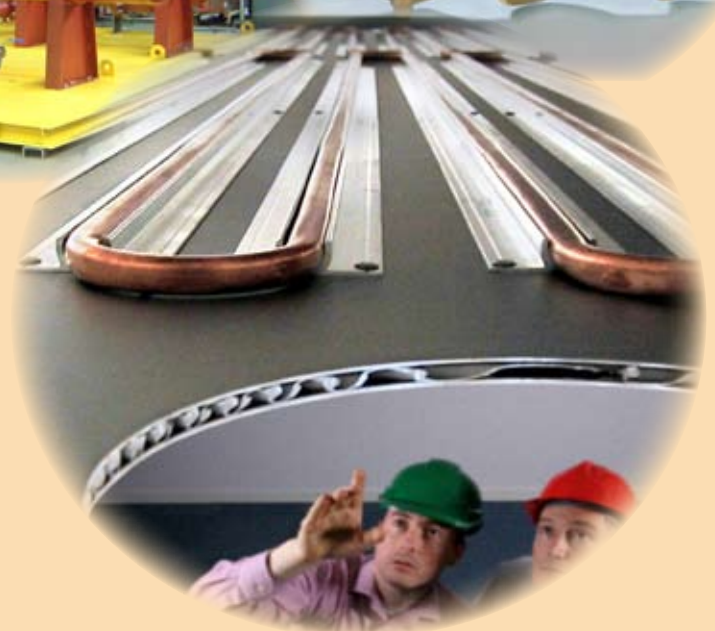
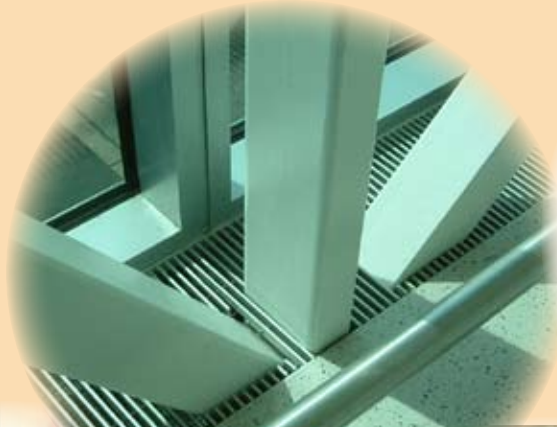


ADVANCED TECHNICAL PRODUCTS LTD

ATP



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ATP

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Introduction

Advanced Technical Products Ltd are the suppliers of an extensive range of heating, heat exchange, hot water generation, valve and pipeline products.

ATP

ATP work closely with a number of carefully selected suppliers offering superior products to the commercial and industrial markets.

ATP are located on the outskirts of Dublin in a modern business unit. From here the office can serve the needs of end users, contractors, consultants and architects. Our experienced and knowledgeable staff are also available to visit your site or offices to discuss specific projects.

Contact ATP on tel +353 (0)1 885 3792, fax your request to +353 (0)1 885 3793 or email us at info@atpireland.com.

Alternatively, visit our website, www.atpireland.com, for further information.



Applying Knowledge and Experience to Devise Customised Solutions

Trench Heating

ATP

Sill Line - Warmline Trench Heaters

Trench heating offers discrete heating of the room space whilst maximising the available floor area. Trench heaters can be located within raised or solid floors and are available in a wide range of duties, sizes, styles and finishes. The units are supplied with a roll-up aluminium grille as standard, black painted zintec sheet steel casing and copper tube, aluminium finned heat exchanger.

ATP offer the Warmline trench heaters in a range of sizes and duties up to 980W/m based on 82/71 water, 18 EAT, 0.92m/s fluid velocity. See below for detail of popular models.

| Model | Size | Output |
|---------|-------------|--------|
| Dash-01 | 205W x 125D | 630W/m |
| Dash-02 | 130W x 125D | 393W/m |
| Dash-03 | 305W x 185D | 980W/m |
| Dash-04 | 180W x 185D | 722W/m |

Warmline trench heaters can be designed to suit any room with casings supplied in any length required. ATP can also offer a survey on site to ensure the heaters fit accurately. Casings and elements are supplied in sections for on-site assembly giving flexibility in terms of pipe connections as well as taking up any discrepancies on site.

Curved units, fitting around columns and corners can all be accommodated. Pictures (left) show examples of corners and special grilles.



**National Botanic Gardens, Glasnevin,
Great Palm House fitted with
Sill Line trench heating.**

Trench Heating

ATP

MINIB Trench Heaters

The MINIB units are offered where higher outputs are required or a fan assisted unit is preferable. Stainless steel casings including heat exchangers (and fans, as required) are built in to the floor at the exposed locations. These locations are usually large glazed areas (such as glazed curtain walls, french windows and doors in showrooms, houses, flats, conservatories, swimming pools etc.) In addition to the principal of their work, which is heating, floor convectors also serve as heat screens at cold windows to increase thermal comfort in interiors.



MINIB units are supplied in a range of standard sizes, ready assembled for ease of installation. Units are complete with stainless steel casings, heat exchangers, fans (where applicable), flexible connectors and shut off valves as standard. Fan assisted units can achieve duties up to 3100W/m based on 82/71 water 18 EAT. Units are also available to offer cooling during the summer.

Tables below show duties for a sample of the fan assisted range of trench heaters including the new **50mm deep T50 unit**.

Standard Unit KT Unit

| LENGTH | MAX DUTY |
|--------|----------|
| 1000mm | 1585W |
| 1500mm | 2715W |
| 2000mm | 3847W |
| 2500mm | 4979W |

Narrow Unit KT-0 Unit

| LENGTH | MAX DUTY |
|--------|----------|
| 1000mm | 451W |
| 1500mm | 902W |
| 2000mm | 1354W |
| 2500mm | 1806W |

Shallow Unit T50 Unit

| LENGTH | MAX DUTY |
|--------|----------|
| 1000mm | 778W |
| 1500mm | 1334W |
| 2000mm | 1891W |
| 2500mm | 2447W |

MINIB convectors are fitted with 12V motors which offer low running costs, whisper quiet noise levels as well as simple and safe installation. Natural convection units are also available. Various control options can be supplied from a simple thermostat to a fully programmable thermostatic & fan speed control. Grilles are available in a range of finishes, anodised aluminium (natural, dark & light bronze) as well as wooden grilles in oak, beech or maple.



Door Curtains

ATP

Air Curtain Design - From their standard modular range through to special custom made units, Air Curtain Design can offer a solution to meet the most demanding requirements. Modern in design, robust in manufacture, they offer high performance with low noise levels, generating a high velocity air barrier protecting any size of doorway.



Units are supplied in a range of sizes from 1m to 2m. Greater lengths can be achieved by mounting multiple units. The units are suitable for mounting heights of up to 4m for the high duty models and 6m for the industrial models .

The air curtains are available as Standard or High Duty models for both on-view or recessed applications. Recessed models have a depth of only 250mm specifically designed to fit into small ceiling void spaces. Industrial or Cold Store units suit larger applications and, as with all the ranges, can be ambient, hot water fed or electrically heated.

The Architectural range offers a neat, unobtrusive, efficient installation suited to stylish designs for contemporary buildings. Units can be supplied for mounting over or vertically beside the door.

Architectural units are supplied in high quality stainless steel, either mirror or brushed finish. All other units and grilles are finished in a high quality polyester powder coat RAL9010.



| Standard Modular Range | | | | | |
|--|------|-------|----------------------|------|-------|
| Water Units (80/60 C) | | | Electric Units (3ph) | | |
| MODEL | DUTY | WIDTH | MODEL | DUTY | WIDTH |
| ACD10W | 8kW | 1100 | ACD10E | 7kW | 1100 |
| ACD15W | 12kW | 1600 | ACD15E | 12kW | 1600 |
| ACD20W | 16kW | 2200 | ACD20E | 14kW | 2200 |
| Units suit max mounting height of 2.7m | | | | | |

Air curtains are supplied with remote control panels as standard. Ambient and water heated units have a three position switch giving slow fan speed/off/fast fan speed. Electrically heated units are supplied with an extra switch to control heat output.



Gas Fired Heaters

ATP

Winterwarm introduce the XR, the next generation of unit air heaters. The modern and compact design allows the XR unit to be used not only in industrial environments, but also in locations such as shops, showrooms, sports halls and canteens etc. Due to being compact, light, and only incorporating two suspension points, the XR unit can be installed easily and quickly. The compact unit is a result of utilising narrow elements of the new heat exchanger which are manufactured from high-grade stainless steel and create a larger surface area for heat transfer. The premix-modulating burner enables lower emission values and favourable energy consumption.

Winterwarm XR Series gas-fired Unit Heater characteristics:

- Very compact
- Lightweight
- Horizontal and vertical suspension
- Optimum heat and air distribution
- Modulating premix burner and fan
- Energy saving
- Easy to install
- Modern design

The XR unit heater is available in a range of sizes as listed below.



Destratification Fans

| MODEL | MAX Output | Air Vol m ³ /h | Horizontal Throw | Vertical Throw |
|-------|------------|------------------------------|---------------------|-------------------|
| XR10 | 12.6kW | 1150 | 12m | 5m |
| XR20 | 20.8kW | 2070 | 16m | 5m |
| XR30 | 29.2kW | 2600 | 23m | 6m |
| XR40 | 40.2kW | 4370 | 26m | 7m |
| XR50 | 50.1kW | 5150 | 28m | 7m |
| XR60 | 60.5kW | 6300 | 30m | 8m |

Winterwarm offer a range of other units including gas-fired radiant tube heaters, condensing gas heaters, water fed unit heaters and destratification fans.



Gas Fired Tube Heaters



**Water Fed
Unit Heaters**

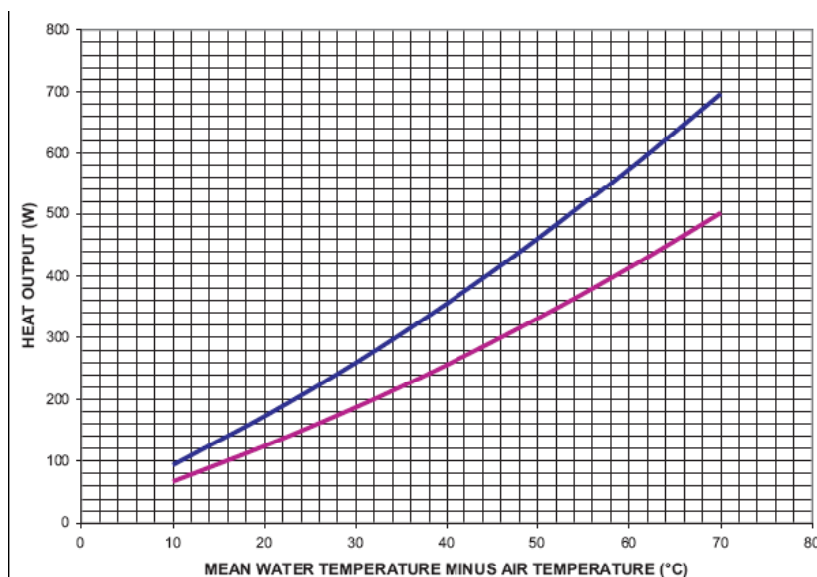
Radiant Heating Panels

ATP

SPC ceiling-mounted radiant heating systems release valuable wall and floor space and open up an entirely new range of architectural and design possibilities. They also combine energy efficiency with ease of installation. Radiant ceiling panels are unobtrusive; they provide a comfortable environment without the need for visible heating media.

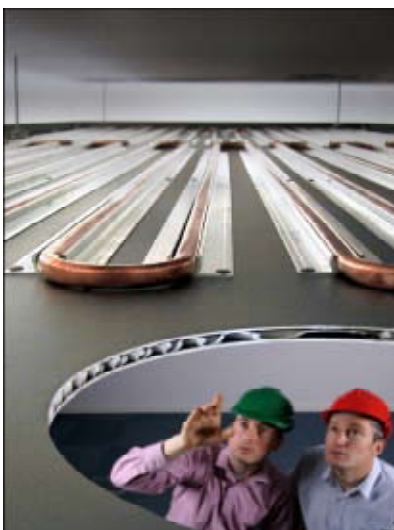


SPC radiant panels go one better; their uniquely flexible design combines architectural and technical appeal. They offer designers the chance to heat and cool a wide variety of internal spaces. You can choose panels that are sized to drop straight into a standard t-bar grid, or opt for larger stylised 'sails' that are suspended below the ceiling.



— OUTPUT PER SQUARE METRE
— OUTPUT OF 595x1195mm PANEL

Thermatile Plus
Thermal Output
DIN V 4706



The SPC Thermatile Plus is manufactured from a unique aluminium sandwich panel that is structurally rigid and is an excellent heat conductor. 12mm copper pipes are rolled into aluminium extrusions and mechanically fixed to the panel to provide permanent and efficient heat transfer. The standard pipework is a serpentine coil with opposite end connections - same end connections can be supplied as an option. A prefitted insulation board may be fixed to the top of the panel to ensure that any heat loss above the panel is minimised. Where panels are to be freely suspended, a neat plastic edging trim is applied to conceal the edge and insulation as well as minimise side convection.

Heat Exchangers

ATP

ATP offer a comprehensive range of heat exchangers to suit most applications. The exchangers are sourced from some of the most respected names in heat exchange technology. All exchangers can be designed to suit your particular requirements and are available from a range of material options.

ATP range includes:

Shell & Tube Heat Exchangers

Non Storage, Water to Water and Steam to Water, Manufactured to various codes.

Plate Heat exchangers

Steam to Water.

Water to Water.

Chilled water applications.

Gasketed and brazed units available.



Gasketed Plate Heat Exchangers

Industrial / Marine

Plates are available in AISI 304 & 316 stainless steel and titanium as standard, with gaskets in nitrile, EPDM or Viton.

Hygienic

Specifically designed for use in the food, dairy, brewing and pharmaceutical industries.

Major features include:

Sanitary plate design to achieve optimum distribution of the product over the entire plate surface.
Stainless steel frames with hygienic connections.
Clip-on glue free gaskets.



Brazed Plate Heat Exchangers

Brazed Plate Heat Exchangers can be used for liquid to liquid heat transfer, refrigeration evaporators and condensers, liquid heating using steam, and compressed air coolers.

Advantages:

Low purchase price.
High temperature & pressure rating.
Compact design.
High thermal efficiency.
Insulation jackets and mounting feet can be supplied as optional extras.

ATP can also carry out a site survey in order to match accurately to your existing heat exchanger facilitating a smooth changeover. Replacement heater batteries in integron copper tube a specialty.

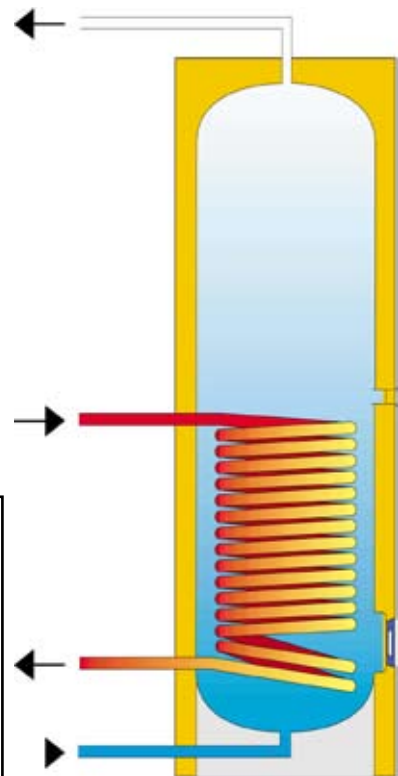
Calorifiers

ATP

Tonon produce stainless steel calorifiers for hot water production. The units satisfy your hot water requirements with the large heat exchanger surface ensuring high continual delivery even when the stored hot water is used up.



A range of sizes from 200 litres to 1450 litres is available and can be supplied with one or two heat exchange coils for hot water generation, or without for storage only. Vessels are manufactured to high standards 316L stainless steel. They are insulated with a rigid polyurethane foam and a soft mattress cover. Vessels have a flanged inspection cover as well as fittings for optional control panel and electric elements.



Tonon Model BVS-1 Stainless Steel Calorifier with single coil.

| Capacity | Duty ¹ | Production ² | Reheat time |
|----------|-------------------|-------------------------|-------------|
| 200 | 52.9kW | 1300l/hr | 10 mins |
| 350 | 67.1kW | 1650l/hr | 14 mins |
| 500 | 105.8kW | 2600l/hr | 14mins |
| 650 | 120.4kW | 2960l/hr | 15 mins |
| 800 | 133.9kW | 3290l/hr | 18 mins |
| 1000 | 181.1kW | 4450l/hr | 17 mins |
| 1250 | 187.2kW | 4600l/hr | 20 mins |
| 1450 | 212.4kW | 5220l/hr | 21 mins |

¹ based on primary water at 85°C, secondary water at 45°C
² based on continuous production of hot water at 45°C with an input of 10°C and primary water at 85°C

Brade also offer indirect cylinders which are generally low pressure copper storage vessels fitted with an integral heat exchanger. Various forms of internal heat exchanger are available, although Brade normally utilise a high performance multi-tube single pass exchanger. This format is hydraulically balanced to ensure maximum heating benefit, coupled with low primary pressure drops. Indirect cylinders are available in sizes up to 1500 litres and are suitable for use with primary hot water. Cylinders are compatible with vented and unvented hot water systems. Units are fitted with a fixed internal heat exchanger, and for maintenance purposes can be fitted with a removable bolted top. Standard construction is copper throughout, although other shell materials such as galvanised and stainless steel are available on request.

Packaged / Skid Units

ATP

Brade offer fully packaged skids complete with all necessary controls, pumps, safety devices and gauges all mounted on purpose built skids for convenient installation. Suitable for steam to water, water to water or electric.

Designed and manufactured to meet customer requirements and current legislation. Skid mounted ready to connect and run. Vessels, pipe work & skids in carbon or stainless steel. Low voltage or intrinsically safe control systems.



ATP offer a range of ADVANTAP LPHW to DHW Plate Heat Exchanger Skids



| MODEL | POWER (kW) | Primary Flow (l/s) | Secondary Flow(l/s) |
|-------|------------|--------------------|---------------------|
| AT50 | 50 | 0.19 | 0.30 |
| AT75 | 75 | 0.36 | 0.32 |
| AT100 | 100 | 0.48 | 0.44 |
| AT125 | 125 | 0.60 | 0.54 |
| AT150 | 150 | 0.72 | 0.65 |
| AT200 | 200 | 0.96 | 0.87 |
| AT300 | 300 | 1.44 | 1.30 |
| AT400 | 400 | 1.91 | 1.70 |
| AT500 | 500 | 2.39 | 2.17 |

Specification:

The unit features a gasketed PHE with stainless steel plates. The unit also features a three port control valve linked to a temperature sensor and a high limit function for safe operation. A control panel with isolation, temperature control and 7 day timer function is included. The package also includes a primary circulation pump, a secondary circulation pump with a bronze body and impeller, pressure and temperature relief valve, thermometer, drain valve. All of the above is mounted on a painted mild steel skid.

Automatic Balancing Valves

FlowCon offer a unique product that will save both time and money on most installations over a manual balanced system. The range of automatic balancing valves also come complete with a variety of control and fittings options.

Automatic Balancing Valves require NO commissioning

ATP

As a manual valve is adjusted it not only changes the coil flow, it also changes the total flow in the common pipe. The pressure differentials and flows across parallel circuits are upset and then must be re-adjusted. This is a difficult, often impossible balancing act.

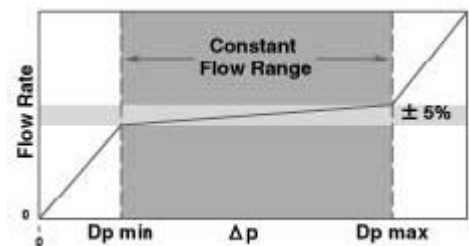


The automatic balancing valve will maintain the flow rate through, for example a fan coil unit. This will reduce the time spent on site manually balancing the system as well as

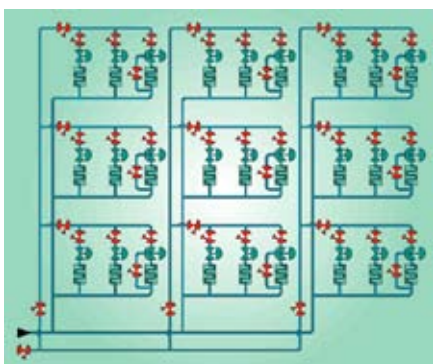
reducing the need for partner valves or additional pipework. The commissioning time will also be reduced leading to savings on both material and labour costs.

The heart of all the FlowCon valves is the adjustable cartridge which can be supplied either as a standard internally adjustable composite or externally adjustable - E-Just cartridge.

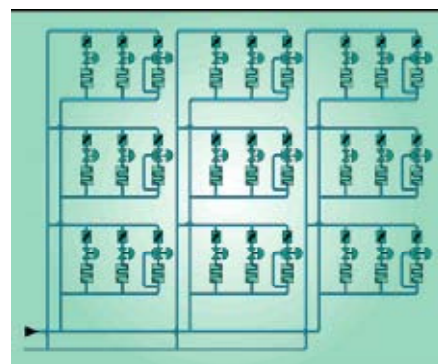
This enables the contractor or maintenance engineer to change the flow rate to the required unit during or after installation. The cartridge works by means of an adjustable orifice and diaphragm to ensure that the pressure difference within the valve is constant, regardless of the changes to the system pressure (within defined limits - see graph).



Automatic vs. Manual System Layout Comparison
In addition to terminal unit valves, the manual balanced system requires 'partner valves' located on the branches, risers & main.



Manual Balanced system - 40 valves



Automatic Balanced system - 27 valves

Expansion Bellows

ATP

Pipe Solutions are solving the problems of thermal expansion, building settlement movement, noise, vibration, de-aeration and dirt removal in pipes and plant, whilst providing an unequalled portfolio of expansion joints, flexible connectors, flexible hoses and couplings, vibration isolators and air & dirt removal equipment.



All pipes and vessels expand and contract in direct proportion to a temperature change. This can be due to the temperature of the flowing media or from surrounding ambient temperature. Wind chill and solar gain are also factors that should be considered. Expansion and contraction can be calculated mathematically using the formula:-

$$X = L \times (T_1 - T_2) \times C_{Exp}$$

Where,

X = Expansion or Contraction (m)

L = Length of pipe or vessel (m)

T₁ = Starting Temperature (°C)

T₂ = Final Temperature (°C)

C_{Exp} = Coefficient of Thermal Expansion

Coefficients of Thermal Expansion for various common materials are shown right:-

| Coefficients of Thermal Expansion for Common Pipe Materials | | | |
|---|-------------------------|----------|------------------------|
| METALS | | PLASTICS | |
| Material | Coefficient | Material | Coefficient |
| Copper | 16.4 x 10 ⁻⁶ | ABS | 100 x 10 ⁻⁶ |
| Carbon Steel | 12.2 x 10 ⁻⁶ | PVCU | 80 x 10 ⁻⁶ |
| Stainless Steel (Austenitic) | 16.3 x 10 ⁻⁶ | PVCC | 70 x 10 ⁻⁶ |
| Stainless Steel (Ferritic) | 10.9 x 10 ⁻⁶ | PE | 200 x 10 ⁻⁶ |
| Cast Iron | 11.0 x 10 ⁻⁶ | PP | 150 x 10 ⁻⁶ |

Allowances must also be taken into account for building and vessel settlement, plant vibration, water hammer and wind loading. Once all the parameters regarding pipe movement, expansion and other factors have been assessed, then a potential solution can be found. De-aeration, dirt removal & water conditioning products are installed to condition the water so that the system runs at maximum efficiency. Conditioning the water involves removing unwanted air / dirt and introducing chemicals to treat the water. Air vents are the devices that physically remove large pockets of air that gathers at high points within the system. De-aerators are the devices that are able to remove air from the circulating water, either by centrifugal action (removing small to large bubbles) or by cohesion (removing micro bubbles).

Other Products

ATP

Keraflo - Aylesbury Valves

K Type Valve - The weighted key-shaped float can be accurately set in a number of positions on the float arm, actuating the valve at a predetermined difference in water level, driving it fully open or fully closed without water hammer. This positive action avoids dribble, reduces noise and allows full flow until the selected level is reached.

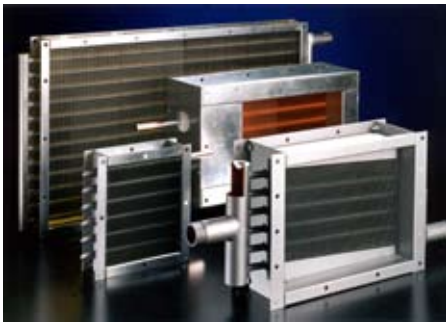


Decoval - Butterfly Valves

Suitable for a wide range of applications including process, industrial, food and HVAC. Butterfly valves offer low weight and size along with low installation and maintenance costs. Available in sizes 1 1/4" to 12" with manual or automatic operation.

Dimplex - Over-Door Heaters

AC range - These over-door heaters provide powerful and effective heating above entrances to shops, offices or any small doorway. 1.5 - 6.0kW duties available. Can be supplied as a recessed unit or with a remote controller if required.



SPC - Coil Heat Exchangers & Heat Pipes

SPC offer coil heat exchangers to suit water, steam or refrigerant fed systems. Coils can be designed to suit duct, AHU or bespoke unit applications. Blygold® corrosion resistant coating available. The patented Heat Pipe technology enables heat recovery between supply and exhaust air streams with no external energy input. The Heat pipe also offers advantages over other technologies with a small footprint and zero cross contamination.

Arboles - Laboratory Taps & Fittings

A full range of taps for gas, water and compressed air supply into laboratories is available together with a range of emergency eye wash stations and showers for laboratory or external use.



The Heat Shop



The Heat Shop is a subsidiary of ATP offering high quality radiators and towel rail products for both domestic and commercial applications.



The Italian styled designer units offer superb aesthetic appeal coupled with excellent performance.

Towel rails are available in white or chrome finish and a variety of attractive styles to suit your application.

Radiators come as both single and double banked to give outputs as required.

Visit the website at www.theheatshop.com for the range of styles available.

Phone: +353 (0) 1 866 5499 for more information or fax your requirements to +353 (0)1 8853793

Top left - The Chrome Gondola

Bottom left - The Florian Double

Bottom right - The Chrome Campiello

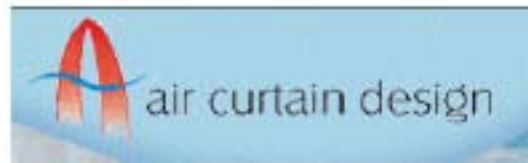


ATP

ATP are the distributors in Ireland for the following companies:



SPC



WINTER
WARM



TONONFORTY 
the perfect climate

FlowCon
international



 Dimplex

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