

A photograph of a sunset over a body of water, with the sun low on the horizon and its light reflecting on the water's surface. The sky is a gradient of orange and red.

With the future in mind

# Hot water and heating systems

With the future in mind

An introduction to ACV



*excellence in hot water*

2000





## Who we are

### The early years

The origins of ACV date back to 1922 when a group of engineers, passionate about the possibilities of building a business on new technologies in heating and ventilation, established 'Ateliers de Construction d'Appareils de Chauffage et de Ventilation' in Brussels. Seven years later, following a merger with 'Fonderies et Emalleries Sainte Marguerite' and under the leadership of Albert Buchet, ACV began on its course of continuous growth and astute investment in R&D. Steady progress was made in products that were reliable and highly respected in its home market during the middle of the twentieth century.

### Out in the world

By the 1960's and in response to the use of fuel oil for domestic heating, ACV refocused its strategy on the design and manufacture of superior quality boilers for heating, and domestic hot water tanks. By investing in innovation and adopting a no-compromise approach to product design, such as its commitment to the stainless steel Tank-in-Tank concept for hot water cylinders, ACV paved the way for expansion into the highly competitive export market in the 1970's.

Now represented in over 40 countries across three continents, ACV is well positioned to serve demanding customers in the residential and commercial sectors with high-performance hot water and heating systems.

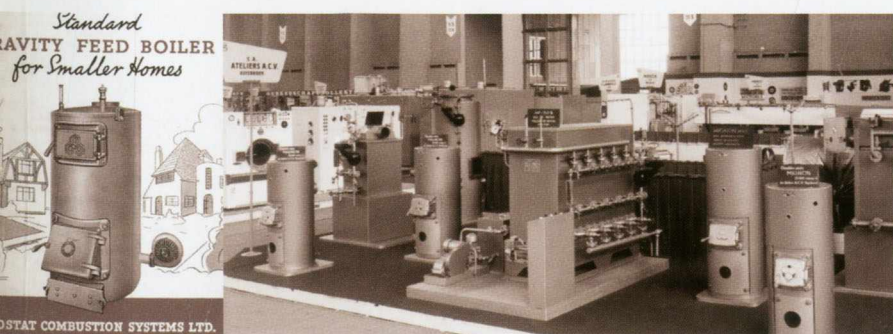
## What we do

### Excellence in hot water

Hot water is an essential element of modern life. Homes, hospitals, industry and commerce depend on an abundant and reliable supply of hot water for hygiene, washing and warmth. With this ever increasing demand comes a responsibility to produce it as efficiently as possible and with the highest respect for the environment.

ACV originally made a name for itself as a specialist in high-performance hot water systems which deliver at the highest levels of efficiency and is now applying this expertise also to heating systems. With our focus on adaptable, multi-energy tanks, we are at the forefront of solar, heat pumps and other renewable energy solutions.

ACV is a highly respected partner in the provision of hot water and heating solutions, in the design of best-for-purpose installations and in the provision of technical support and after-sales service. With their wealth of field experience our motivated staff are well placed to advise customers on all their hot water and heating requirements.



An early commitment to product innovation

# Our excellence



STAINLESS  
STEEL

The use of stainless steel awards our products a high degree of resistance to corrosion and an outstanding level of reliability and long lasting performance.



LIFETIME  
VALUES

Excellent durability, simplified servicing and spare parts all ensure a low lifetime cost of operation. Conceived as part of a flexible system, most ACV products can be adapted to renewable sources of energy.



INTEGRATED  
SOLUTIONS

Our products are designed to work together; we can propose a suite of different configurations to suit the precise expectations of demanding residential and commercial customers.



PRODUCT  
INNOVATION

A unique product range that continues to set market leading levels of performance can only be maintained by a commitment to in-house research and development.



QUALITY

High quality materials married to the skills of artisanship, modern line management and robotics together ensure consistent production quality and efficiency.



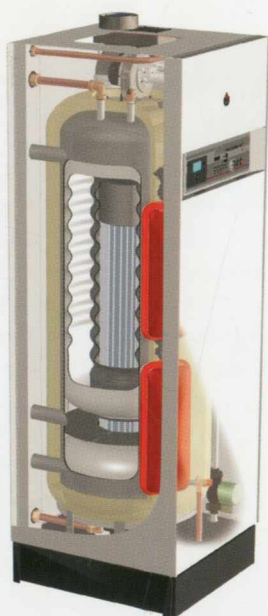
SERVICE  
ORIENTATION

Our proactive local teams are dedicated to supporting you with training, systems design, advice and service. They help you to master new technologies and approaches and advise you on system specifications.





## Product and service portfolio



HeatMaster Total Condensing



Prestige Excellence



E-tech P

### Boilers

Gas-fired boilers and their oil-based counterparts will remain the cornerstone of many hot water and heating systems for years to come. Our expertise ensures that energy is used as responsibly as possible. By designing some of the highest efficiency boilers available in the market place, and conceiving systems around them we strive to deliver the maximum amount of energy as usable heat.

The Prestige range of boilers belongs to the best-in-class with outstanding reliability and a long service life. The HeatMaster TC, or 'Total Condensing' range of boilers has a unique secondary condensing

circuit which recaptures the latent heat from combustion gases during both the hot water and heating cycles. Thus rendering the 'TC' boiler demonstrably more efficient than almost any other gas boiler during a complete annual cycle of operation.

If renewable energy, gas or oil heating are not an option, we also supply electric boilers, built with our customary attention to detail and quality.



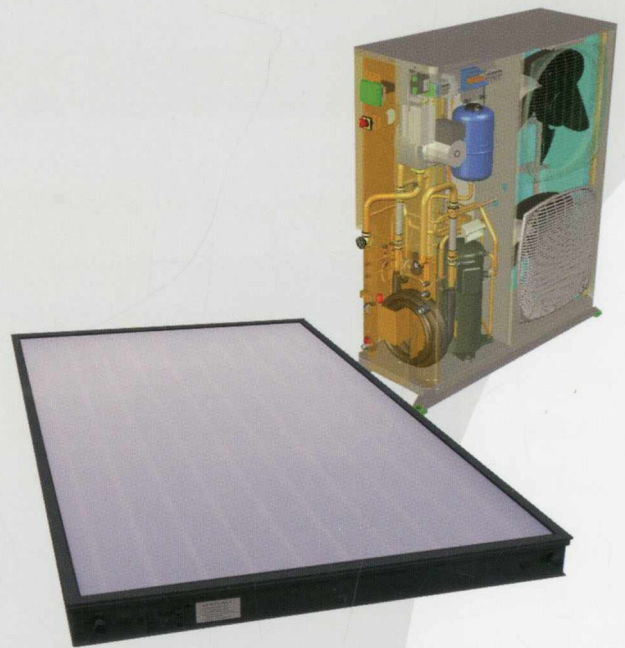


Smartline & Multy Energy tank

## Tanks

Hot water is an essential element in modern life, but so is the occasional luxury. In many large residential properties there are now as many baths and showers as inhabitants, with an increasing number of power-showers and jacuzzis. Flexibility and responsiveness to sudden huge demands for hot water is now no longer just the domain of industry and commerce; home-owners too expect a lot of hot water, very quickly.

Installing an ACV tank designed with our unique Tank-in-Tank technology is one of the best investments you could make to ensure a fast and adequate supply of hot water. The large heat exchange surface area and superior insulation mean that larger volumes of water can be stored at high temperatures, reducing operating costs, risks of bacterial build-up and the amount of space and investment required. Furthermore, the expansion and contraction of the suspended tank precipitate any calcium deposits. The result: our tanks give decades of faultless, near maintenance-free operation.



Solar panel & Heatpump

## Renewable

Nobody knows how rapidly new energy sources will be adopted. What we do know is that at the centre of any renewable heating solution is the need to store energy. ACV's solution is to install our uniquely advantageous multi-energy tank as the central unit and configure it to a range of renewable energy options, including thermal solar, heat pumps, pellet burners and photovoltaic input.

The SmartLine Multi Energy and Plus tanks are among the most efficient heat exchange tanks available, and as such are the ideal partners for renewable energy sources, extracting as much precious energy as possible into the storage vessel. With a larger primary water volume than rival designs, your system is guaranteed to operate at maximum efficiency.

Crucially, with an ACV multi-energy tank at the heart of your hot water and heating system, you can decide to switch to alternative energies at a later date, without having to change your storage tank or drastically reconfigure your installation.



# The use of stainless steel

Stainless steel is the choice material for precision components that need to be corrosion resistant. However, due to the spiralling cost of steel and the expense of labour-intensive quality control in handling and finishing, many of our competitors have ceased to use this product.

ACV, by contrast, made an early commitment to master its complexities. The resistance and shine of the metal derives from the chromium content which forms a protective 'skin' of chromium oxide on the surface of the steel. Ensuring that this 'skin' is properly handled in the production of heating components requires years of experience.

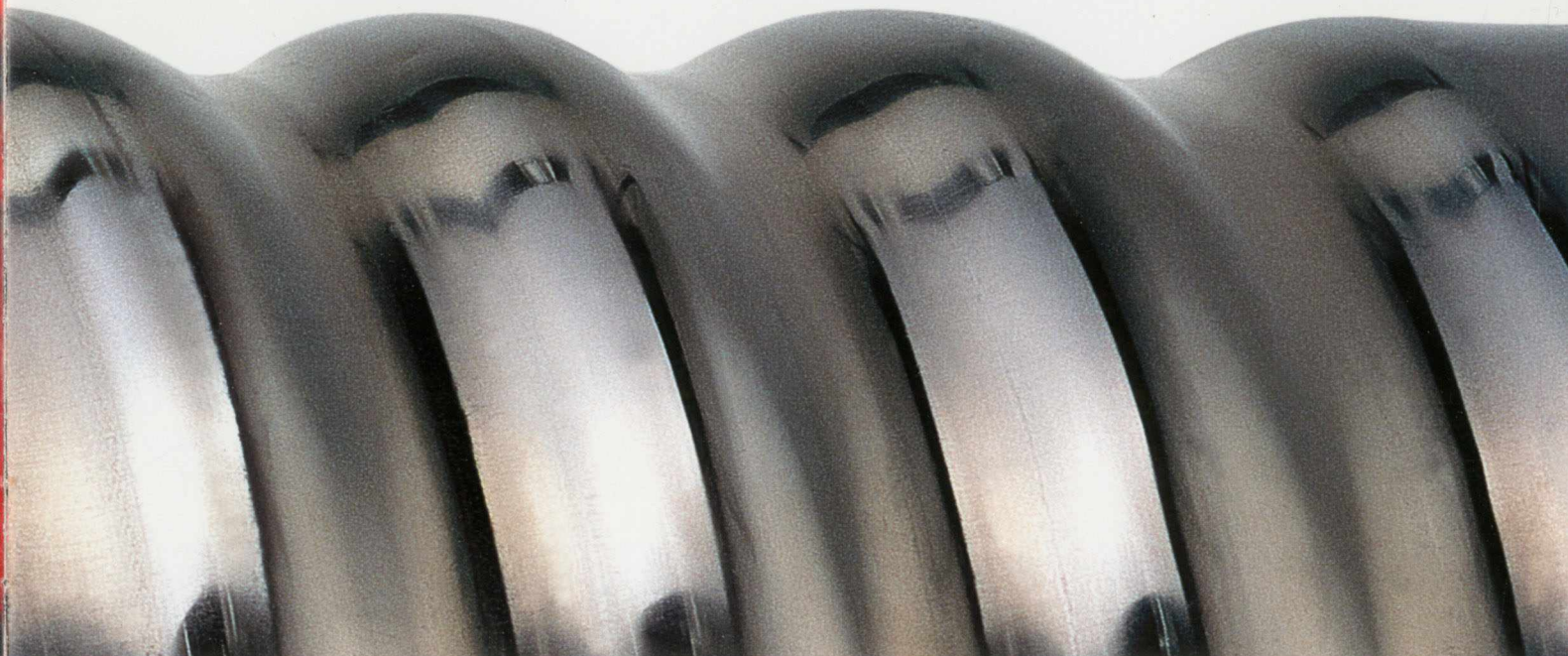
Our focus on quality and performance explains our preference for stainless steel in critical components where it offers an advantage to customers. Being able to deliver this performance is possible thanks to an unflagging commitment to genuine craftsmanship, not often found in mass produced alternatives.



## The heart of the boiler

At the core of your ACV boiler is a stainless steel heat exchanger: a solid 'heart' that can be relied on for the production of hot water and heating over many years of service. The self-cleaning design of our heat exchanger, in which flue gases flow downwards through stainless steel flue tubes, ensures that its 'arteries' remain smooth and clear, precipitating any deposits and so ensuring high efficiency and reliability. Maintenance is reduced to a simple annual check-up.



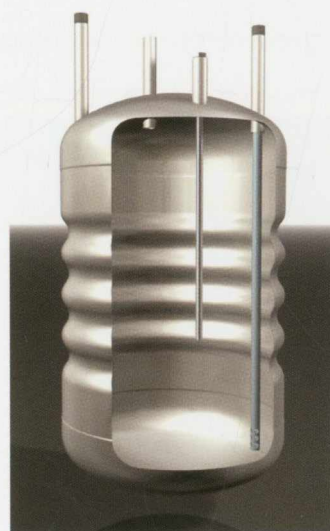


Rolled sheets of stainless steel await welding in ACV's Belgian factory

### From plate to finished product

We manufacture or control the production of all the essential stainless steel components in our products. We take delivery of choice grades of stainless steel at our factory in Belgium, checking the quality of the raw material supplied, before pressing, cutting, welding, treating, finishing and assembling the stainless steel components ourselves.

Other parts that do not contain stainless steel, or that do not require our craftsmanship are supplied by carefully selected partners, according to strict guidelines and stringent quality control.



Computer-aided design of the stainless steel corrugation

### The heart of the tank

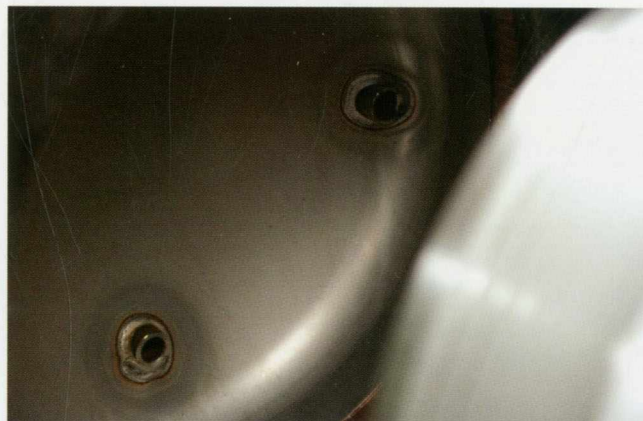
The flagship product at ACV is surely the renowned stainless steel Tank-in-Tank system, the result of decades of research and the field experience acquired from many hundreds of thousands of tank installations in homes, commercial properties and industries around the world. Suspended by pipes at the top of the outer tank, the inner tank is able to expand and contract under changes in water temperature and pressure: a property unique to our design, not possible with inferior enamelled tanks. The tank's resistance to thermal shocks allows it to store water at high temperatures: eliminating any bacterial build-up and explaining its status as a vital component in industrial and medical hot water production.



# Quality is our hallmark

Quality can still give a company the competitive edge in today's crowded market place. ACV stands out with its no-compromise approach to the quality of its materials, components and designs. We distinguish ourselves by offering products that are the best in terms of quality and long-term value, for which our customers are prepared to pay a little more.

Our focus on quality extends beyond the products we design and manufacture. It is a fundamental part of the monitoring of what we do and how we conduct our business. We want to work with the best people in the business, in the best possible way. That's why we carefully select and train staff who know and understand the heating business and are passionate about making improvements. It's also why we build long-term partnerships with forward-looking professionals in the business.

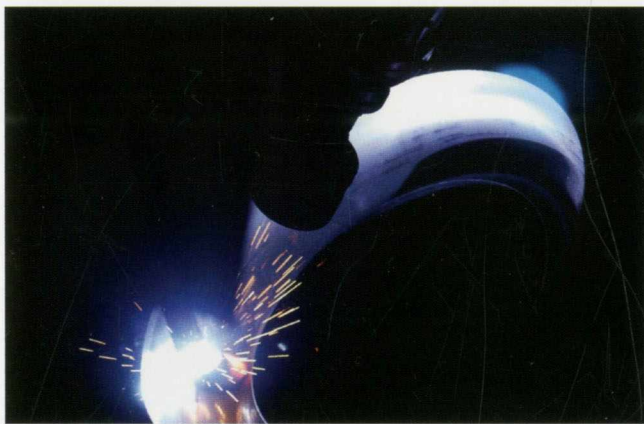
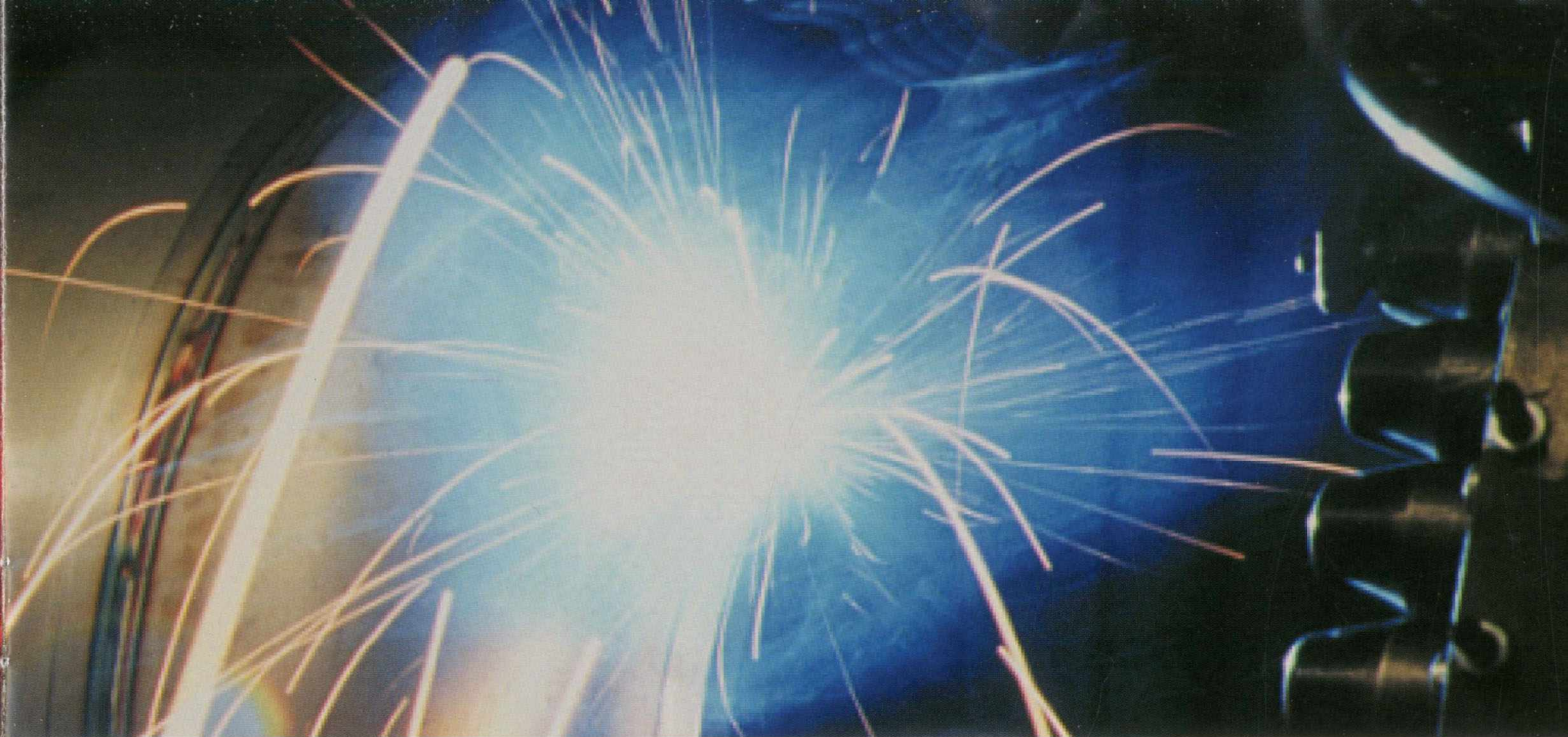


Treatment and optical control of all welded joints

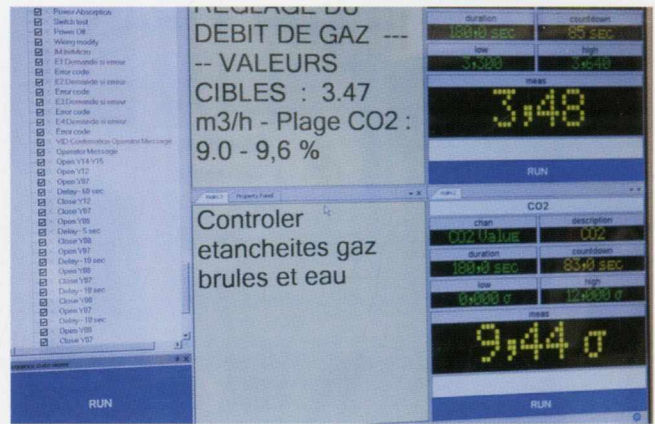
## In materials and components

While the use of stainless steel is our badge of quality, other materials are selected with equal care – from the high performance polyurethane insulation that surrounds our tanks to the copper tubing used in piping. We partner with some of the industry's leading players to design components that satisfy ACV's exacting standards. From the advanced heating controls of Honeywell to the most reliable water circulators made by companies such as Grundfos and Wilo, we incorporate only the best. Teams of engineers from ACV and our partners regularly collaborate, to make industry-recognised improvements to component design, such as the simplification of the user interface for our boilers, and the provision of on-line controls.





Precise plasma cutting by robot



Every Prestige boiler passes a series of computer controlled tests

### In control

From the testing of each individual hot water cylinder, to the extensive manual and computer controlled testing of every single Prestige boiler - we make absolutely sure that all components perform above and beyond expected regulatory standards. Finished products are randomly selected on a daily basis from each batch, completely dismantled and subjected to thorough checks on components and open welds.

### In process & organisation

Not content to stop at quality certification, we empower teams to react, correct and improve on past performance. Where a robot can do a better job, we install one – in plasma welding and precision bending for example. Where a craftsman can ply his skills, we pay for labour, training and supervision. We collect field experience from around the world in an online information exchange, thus identifying trends in product use and performance and anticipating improvements to our range.



# Staying innovative

ACV has always recognised the need for continuous innovation, for staying ahead of its competitors and responding to the changing demands of residential and commercial customers demanding greater fuel efficiency and larger volumes of hot water. With each passing decade ACV resolutely improves and adapts its products to deliver a longer service life and lower total costs of ownership. ACV is also intent on making a valuable and concrete contribution to the protection of the environment by pioneering a wide range of renewable energy solutions.

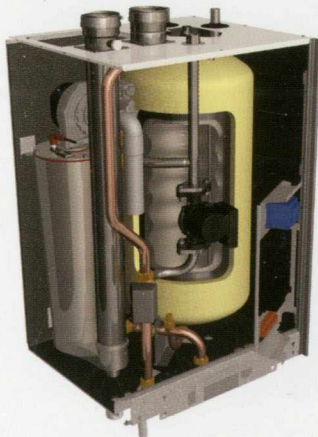


## The design process at ACV

Behind every ACV product is a well-thought out design strategy and process. Our field staff gather real-world data from their dialogue with customers on the use of hot water and heating products, and pinpoint evolving needs. Our engineers in close partnership with external design teams create prototypes which are tested on potential customers. New products are then tested in the field, and when finally launched are accompanied with support and training to professional installers and engineers. Products in our range are regularly reviewed for opportunities to incorporate improvements.



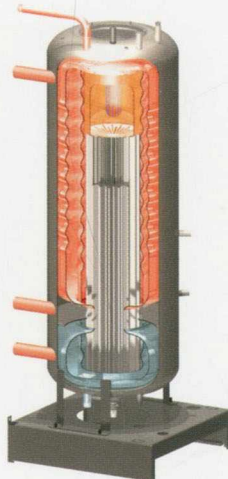




US Model Prestige Excellence

### Tank-in-Tank technology

Central to all ACV's heating systems is our unique Tank-in-Tank design, refined over the years into products that can be counted on to provide all the hot water you need. The primary outer tank contains the heating fluid which circulates around, and transfers heat to, a secondary inner tank of domestic hot water. The anti-corrosion stainless steel ensures a long service life; while the corrugated structure of the inner tank allows for expansion and contraction, and reduces lime-scale formation. The result is a low-cost, no-maintenance, hygienic and high-performance system that is deployed in our many of boilers such as the Prestige Excellence and HeatMaster and other integrated systems such as SolarMaster.



The unique functioning of the HeatMaster TC

### Total condensing

Total Condensing (TC) technology is a uniquely efficient heating technology developed by ACV's in house research. It is the most efficient way to use gas to heat water and provide warmth throughout the year.

The HeatMaster TC is the only storage combination boiler on the market that fully condenses during the hot water and heating cycles. By redirecting the latent energy normally emitted by the combustion gases to heat the water, the HeatMaster TC thermal efficiency approaches its maximum theoretical 112% target, outperforming all traditional boilers. The resulting efficiency makes it ideal for large properties and exacting commercial applications.



Heating, solar controls and energy storage all in one easy to install box

### Solar Master

The SolarMaster system is a fine example of excellence in innovation at ACV. Using the best new technologies, engineers at ACV have combined a condensing boiler, multi-energy Tank-in-Tank technology and comprehensive temperature and solar controls in one unit. The SolarMaster answers the call from environmentally aware residential customers to provide a simple to install system incorporating alternative energy sources, while providing a plentiful supply of domestic hot water, come rain or shine.



# Respecting lifetime values

Respect for lifetime values such as health, safety, reliability and the environment, has always been fundamental to ACV's way of doing business. Selling and supporting our own products and ensuring that they have a long and reliable service life is all part of this ACV vision. And while new EU directives are spurring tremendous innovation in the search for solutions, you have ACV as your flexible partner at the centre of any investment you make in renewable energy. Multi-energy tanks, the most efficient gas burning boilers on the market to provide back-up, and controls that manage your system optimally are just some of the reasons why the future looks bright when you invest in ACV products.

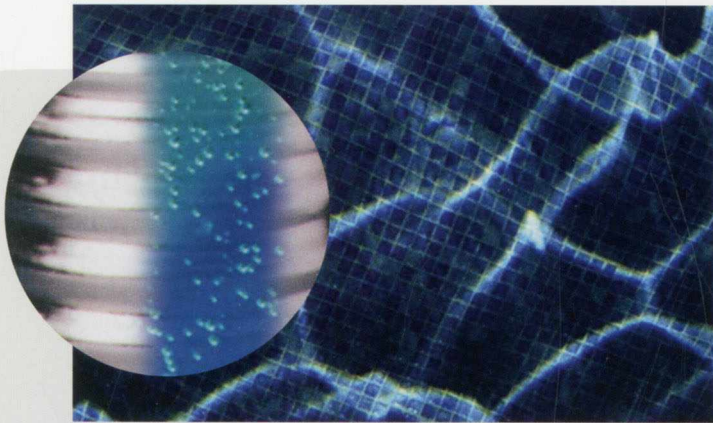


## Sustainable long-lasting products

Investment in research and development not only yields ecologically sound products but also allows us to create systems with a long service life. ACV ensures a minimum of waste and environmental impact in production and during the operational use and end of life of our products. Stainless steel is not only a good choice for durability, it is also a highly recyclable metal.

Needless to say, by choosing a highly energy efficient and space saving ACV boiler or hot water tank, you are also making a choice in favour of the environment.





ACV tanks are the preferred choice where water hygiene is paramount

### Safety in performance

ACV builds safety in, by design. Whether it is the high relative water content of our heat exchangers, which reduce the possibility of overheating to a minimum, or the fail-safe operation of our controls, we think about what could happen and plan that it never does.

Our products are relied upon where there can be no doubt about hygiene – and in particular in the medical and catering sectors, where we are a reference in hot water storage.

The use of stainless steel for our Tank-in-Tank technology and higher temperatures of operation are the best guarantee on today's market of clean, legionellae-free hot water.



# Integrated solutions

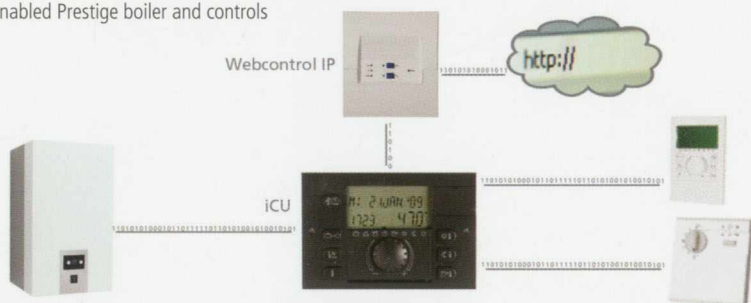
The future of heating and energy production is changing. And ACV is in the best possible position to move with the trend for greater energy efficiency and renewable energy sources. In partnership with seasoned professionals ACV provides residential and commercial customers with integrated solutions, first carrying out technical studies to identify the best possible system, with the best performance/price ratio. Whether for luxury apartments, top hotels or multi-site hospitals, ACV configures systems around its renowned multi-energy tanks and intelligent controls, deploying elements from other manufacturers where necessary. This approach guarantees a long and efficient service life and, crucially, ensures maximum adaptability to the customer's evolving needs.

Solar Master, at the heart of a domestic renewable energy installation



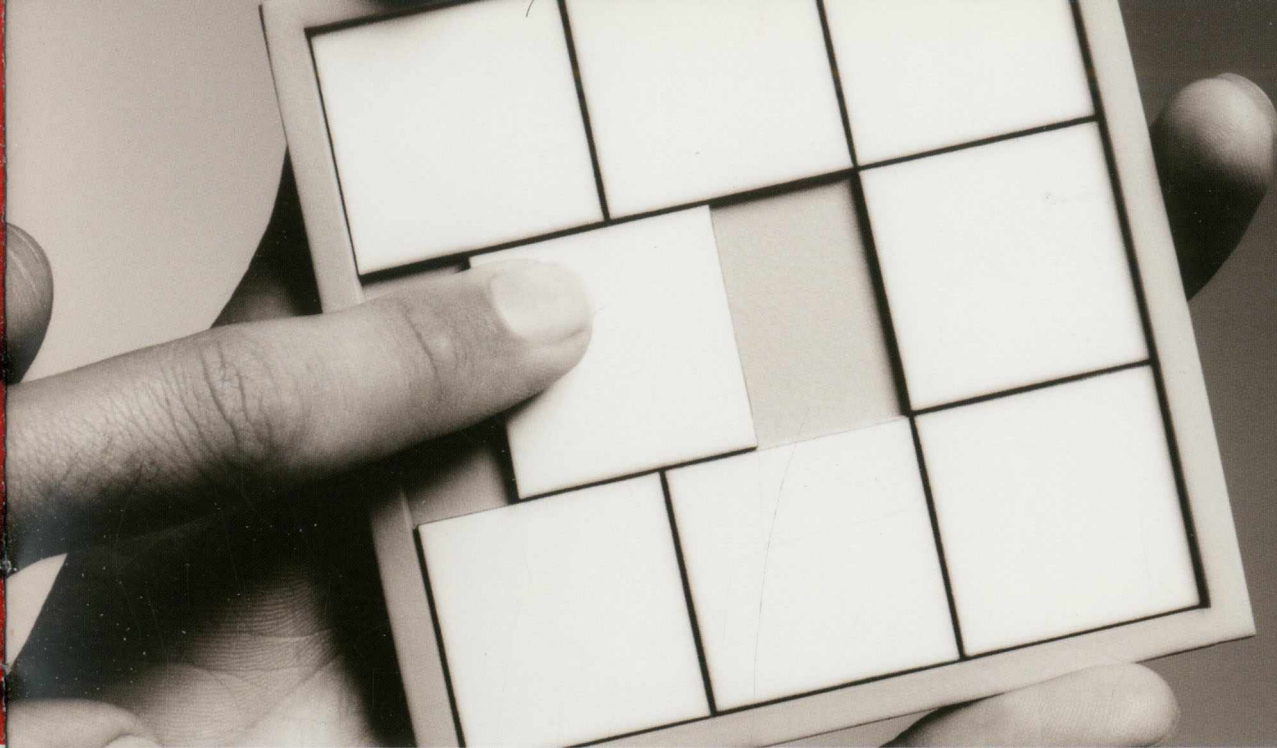
A Multi-Energy tank installation

Web enabled Prestige boiler and controls



ACV controls are conceived to work simply and perfectly with our boilers and tanks. Simply, allowing the home owner to choose their level of comfort with the minimum of fuss. Perfectly, suited for the advanced programming requirements of commercial or industrial users. Internet Ready, when required: access your hot water and heating system away from home or the office.





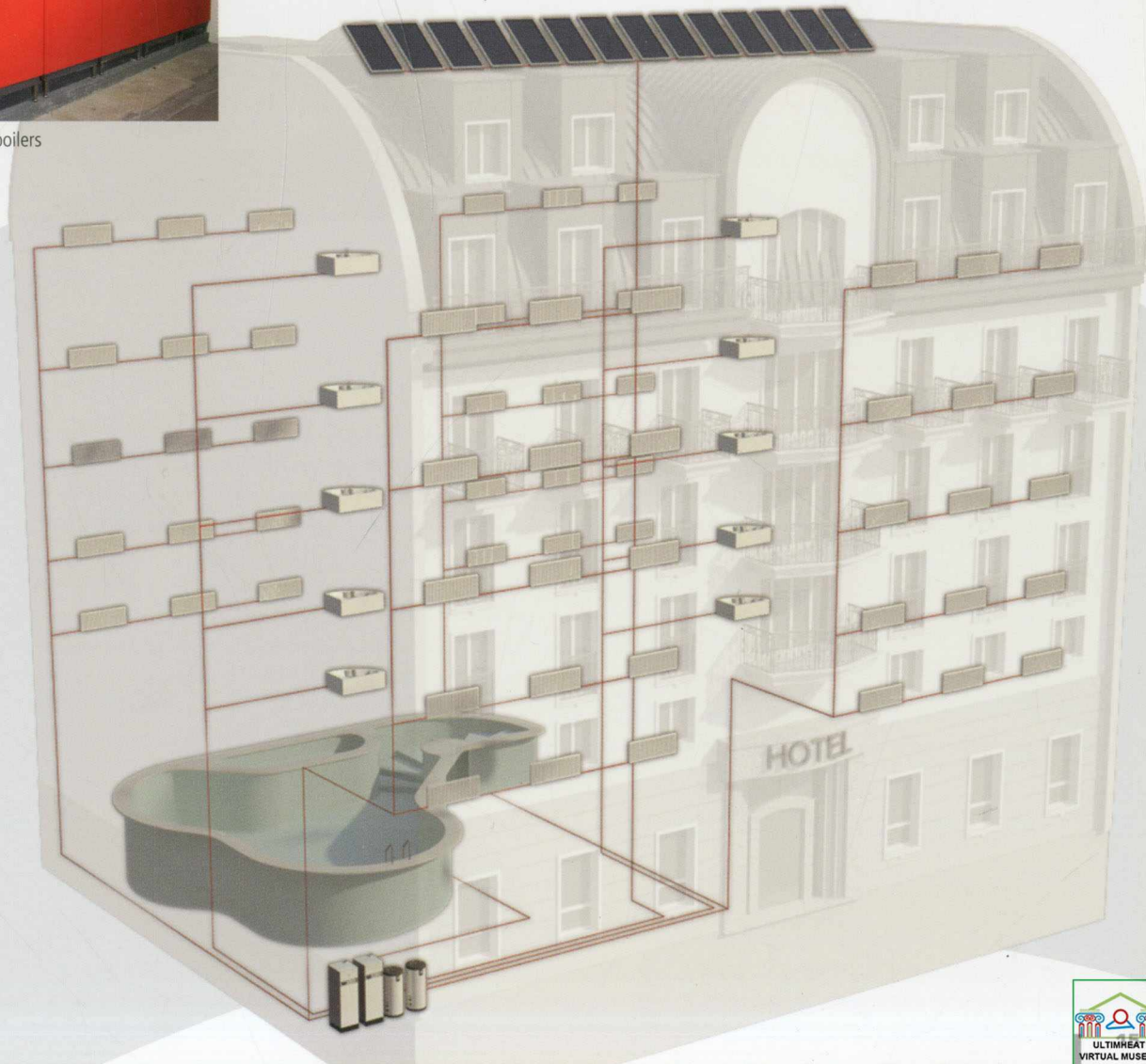
### Flexibility and reliability for larger applications

Cascades respond flexibly and rapidly to large variability in demand, and can be configured for very large hot water and heating applications.

ACV provides the hot water systems to many of the world's most prestigious hotels, and is also found in public buildings and offices where efficiency and reliability are called for.



An ACV cascade of six boilers



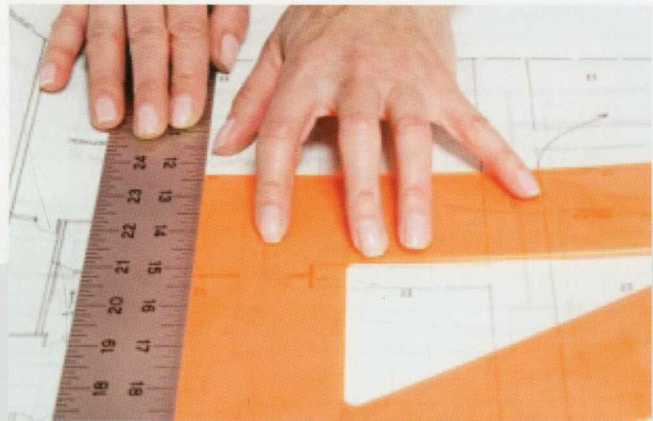


## Being service oriented



ACV is not the biggest player in the hot water and heating sector, but we believe that we are the most responsive and pride ourselves on providing outstanding service.

Our strategy of building close relationships and sharing our knowledge and expertise, be it with merchants, installers or engineers, is greatly appreciated by all our partners. From answering the phone to formulating proposals to adding value through professional training, ACV adopts a listening and responsive attitude. A strong emphasis is placed on the continued education and training of both internal and external collaborators. Our research team is driven by more than making the next generations of products: they also take time to work with customers in the field and provide answers to today's challenges.



### Our people

ACV staff all over the world are selected for their exceptional personal and professional commitment to the job. In each country where ACV operates, subsidiaries are empowered to make decisions and act in the interest of local real life concern of professionals.

Our teams are encouraged to build their network of professional contacts, with the goal of ensuring that knowledge is shared and that higher service levels can be delivered to the end customer.

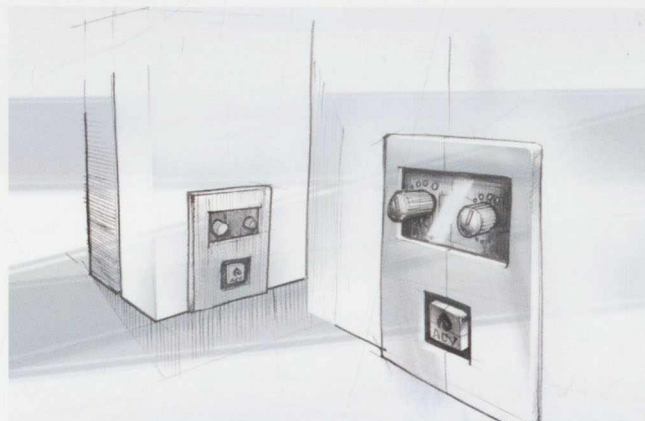




## Training

ACV offers regular training sessions, many of which allow professional accreditation, to its internal team as well as external partners, encouraging them to follow the latest developments in the hot water and heating system industry.

Where possible this training is combined with factory visits so that installers can see first hand what and how ACV manufactures, in addition to observing the efforts made to deliver quality day in and day out. Clients are also encouraged to provide valuable feedback to help ACV improve on its products and services.



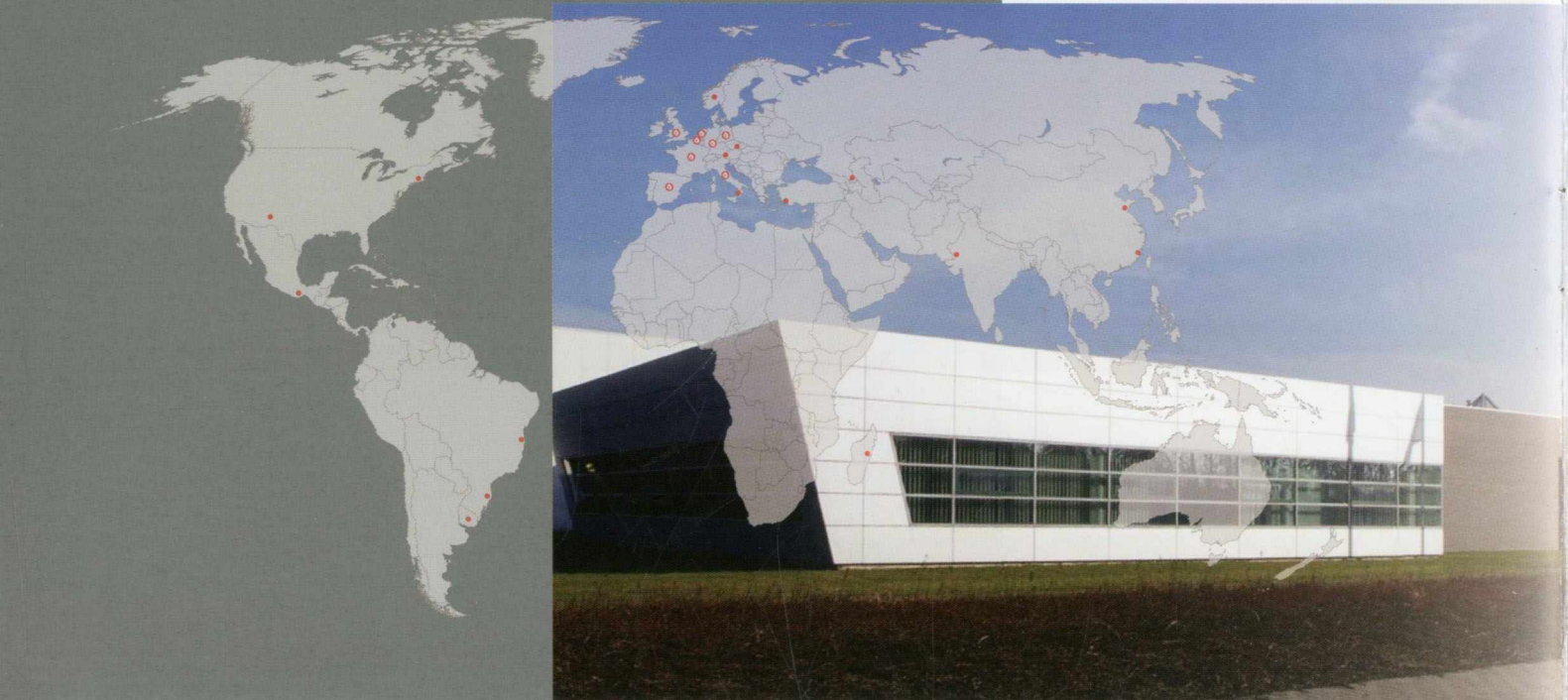
## R&D

A determined and focused commitment to R&D is one of the main reasons for ACV's pole position in the hot water and heating industry today. The constant search for better quality and improved performance is the daily task of the research and development teams.

By discovering new solutions, solving existing problems and improving production lines, ACV enhances the performance and reliability of its products year in year out.



# Worldwide sales and service network



## ACV – a global operation

From the hotels and hospitals of Chile to office buildings and spas in Asia, ACV products are used by customers in over 40 countries around the globe. Which is why our network of specialist distributors and subsidiaries are on hand to advise merchants, installers and architects on how to get the most out of their ACV heating and hot water systems. From start-up through full maintenance to after-sales support.

The network of independent partners that ACV has teamed up with in various different countries have an abundance of knowledge and expertise adapted to local needs. And because ACV values the contribution of these collaborators, training sessions on the latest technologies, regular meetings and visits are organised to ensure that the ACV values are disseminated to the four corners of the world.

At ACV we believe in the quality of our products wherever they are used in the world. What's more we act upon that belief. Every one of our tanks and boilers is subject to thorough individual testing before leaving the factory and quality control after transportation. In all of our country operations you will find that ACV is prepared to provide product guarantees well above mandatory local requirements.

## International Headquarters

ACV INTERNATIONAL nv/sa  
Kerkplein, 39  
B-1601 Ruisbroek - Belgium  
Tel.: +32 2 334 82 20  
Fax: +32 2 378 16 49  
E-mail: [international.info@acv.com](mailto:international.info@acv.com)



**BELGIUM**

ACV BELGIUM nv/sa  
Kerkplein, 39  
B-1601 Ruisbroek - Belgium  
Tel.: +32 2 334 82 40  
Fax: +32 2 334 82 59  
E-mail: [belgium.info@acv.com](mailto:belgium.info@acv.com)

**DEUTSCHLAND**

ACV WÄRMETECHNIK GMBH & CO KG  
Gewerbegebiet Gartenstrasse  
D-08132 Mülsen Ot. Jacob - Deutschland  
Tel.: +49 37601 311 30  
Fax: +49 37601 311 31  
E-mail: [deutschland.info@acv.com](mailto:deutschland.info@acv.com)

**ITALIA**

ACV ITALIA  
Via Pana 92  
I-48018 Faenza (RA) - Italia  
Tel.: +39 0546 64 61 44  
Fax: +39 0546 64 61 50  
E-mail: [italia.info@acv.com](mailto:italia.info@acv.com)

**RUSSIA**

ACV RUSSIA  
Volokolamskoye shosse 73 office 727  
125424 Moscow - Russia  
Tel.: +7 495 545 58 00  
Fax: +7 495 545 58 06  
E-mail: [import@acv.ru](mailto:import@acv.ru)

**SLOVENIA**

ACV D.O.O. SLOVENIA  
Ribnik 8 B  
SI - 1420 Trbovlje - Slovenia  
Tel.: +386 356 32 830  
Fax: +386 356 32 831  
E-mail: [slovenia.info@acv.com](mailto:slovenia.info@acv.com)

**CHILE**

ALBIN TROTTER Y ACV LTDA  
San Pablo 3800  
Quinta Normal - Santiago - Chile  
Tel.: +56 2 772 01 69  
Fax: +56 2 772 92 62/63  
E-mail: [chile.info@acv.com](mailto:chile.info@acv.com)

**ESPAÑA**

ACV ESPAÑA s.a.  
C/De La Teixidora, 76  
Pol. Ind. Les Hortes  
E-08302 Marató - ESPAÑA  
Tel.: +34 93 759 54 51  
Fax: +34 93 759 34 98  
E-mail: [spain.info@acv.com](mailto:spain.info@acv.com)

**NEDERLAND**

ACV NEDERLAND bv  
Postbus 350  
NL-2980 AJ Ridderkerk - Nederland  
Tel.: +31 180 42 10 55  
Fax: +31 180 41 58 02  
E-mail: [nederland.info@acv.com](mailto:nederland.info@acv.com)

**PORTUGAL**

BOILERNOX LDA  
Rua Outeiro Do Pomar Casal Do Cego,  
Fracção C, Pavilhão 3 - Marrazes  
2400-402 Leiria - Portugal  
Tel.: +351 244 837 239/40  
Fax: +351 244 823 758  
E-mail: [portugal.info@acv.com](mailto:portugal.info@acv.com)

**UK**

ACV UK Ltd  
St. David's Business Park  
Dalgety Bay - Fife - KY11 9PF  
Tel.: +44 1383 82 01 00  
Fax: +44 1383 82 01 80  
E-mail: [uk.info@acv.com](mailto:uk.info@acv.com)

**CZECH REPUBLIC**

ACV CR SPOL. s r.o.  
Na Krecku 365  
CR-109 04 Praha 10 - Czech Republic  
Tel.: +420 2 720 83 341  
Fax: +420 2 720 83 343  
E-mail: [info@acv.cz](mailto:info@acv.cz)

**FRANCE**

ACV FRANCE sa  
31, Rue Ampere - Zi Mi - Plaine  
F-69680 Chassieu - France  
Tel.: +33 4 72 47 07 76  
Fax: +33 4 72 47 08 72  
E-mail: [france.info@acv.com](mailto:france.info@acv.com)

**POLAND**

ACV POLSKA sp. z o.o.  
UL.WITOSA 3  
87 - 800 WITOCIAWEK - POLAND  
Tel.: +48 54 412 56 00  
Fax: +48 54 412 56 01  
E-mail: [polska.info@acv.com](mailto:polska.info@acv.com)

**SLOVAK REPUBLIC**

ACV CR SPOL. s r.o.  
Na Krecku 365  
CR-109 04 Praha 10 - Czech Republic  
Tel.: +420 2 720 83 341  
Fax: +420 2 720 83 343  
E-mail: [info@acv.cz](mailto:info@acv.cz)

**USA**

TRIANGLE TUBE PHASE III  
Freeway Center - 1 Triangle Lane  
Blackwood NJ 08012 - USA  
Tel.: +1 856 228 8881  
Fax: +1 856 228 3584  
E-mail: [sales@trianglertube.com](mailto:sales@trianglertube.com)



*excellence in hot water*



With the future in mind