



**INNOVATIVE
PIPE
SYSTEMS**
MADE OF PLASTIC

TECHNEWS

www.aquatherm.de



aquatherm
state of the pipe

aquatherm black system



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new connections
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PROJECT „ZURO“ - FUTURE PIPE PRODUCTION



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COLOURS OF INNOVATION: SUCCESSFUL REBRANDING

The desire to avoid stagnation and continuously improve our products, as well as to find new fields of application and create solutions quickly, has resulted in some of the well-known aquatherm product groups.

This often led to systems being named as they emerged and has resulted in naming conventions that no longer accurately convey the suitable applications for the pipe.

Another issue is that many of our pipes and systems have names that do not relate to each other, and in turn do not relate those products to their parent company, aquatherm.

Furthermore, other companies from different industries around the globe use similar names, creating confusion between aquatherm products and their products. The desired uniqueness of our system identification is lost. Thus, the next logical step for us is to introduce a naming system that matches and unifies our products.

On the occasion of the 2013 ISH in Frankfurt, we presented the reorientation of our corporate design. Beside an alignment of our brand strategy, this comprises the corporate presentation of our company and thus the modernization of our logo.

As mentioned above, product brands have been integrated into the internationally esteemed corporate brand aquatherm. Furthermore, we take use of the variety of product colours to additionally create strong recognition values. We are calling that:

COLOURS OF INNOVATION.

aquatherm has always been different; we are perceived in the market like this. A pioneer leaves beaten paths to create innovations, to be different – always endeavoring for complete improvements. We are continuous trend-setters, thus developing new markets and applications. We absolutely stand by the production site of Germany, as only this way we will meet our high quality demands.

Our new brand core, our brand promise, the so-called claim or guiding star, is emphasizing our position:

aquatherm – state of the pipe

We are „state of the pipe“ because we act independently and decisively, and are at the same time always reliable. This makes us the leading manufacturer of polypropylene pipes.

Preoccupation with the identity is an enlightening as well critical process where the intersection of self and external image are the result. The voluntary exercise is now to focus these images in a final core where everything

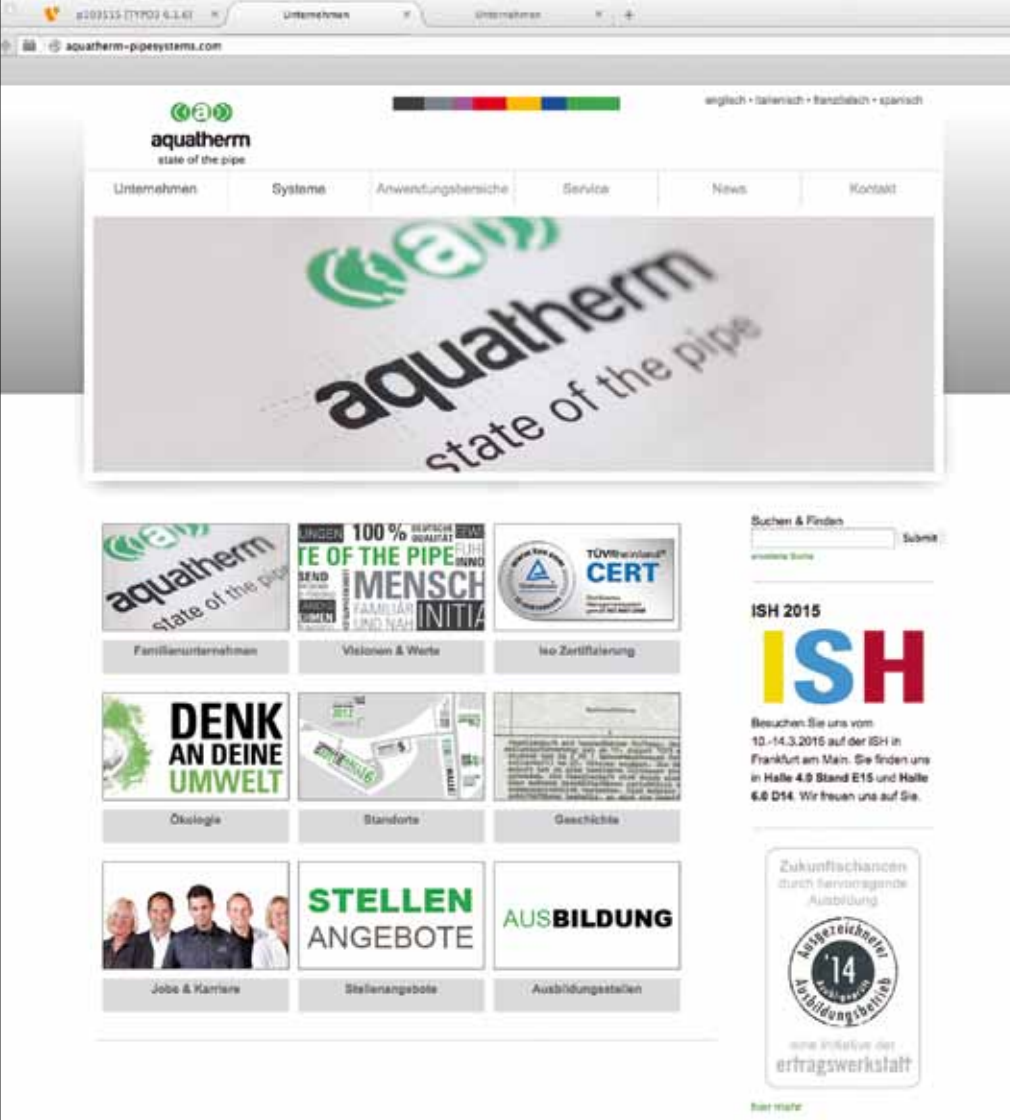
comes together. Management literature provides various terms for this core. We have come to an understanding on the term „vision“. We can orient our actions to this at any time independent of the temporal effect and it combines all the values that make aquatherm a somewhat different company.

In 2013 already the realignment was rated very positive. Fully in our mind the ISH booth aroused a lot of attention but also withstand a second scrutiny. So our customers and partners noticed the intense coloring and renaming of the systems as consistently, interesting and as a structure factor.

PRODUCT GROUPS SINCE 2013

Names of adjustment of our product groups

fujiotherm®		aquatherm green pipe
climatherm		aquatherm blue pipe
firestop		aquatherm red pipe
aquatherm lilac		aquatherm lilac pipe
climasystem		aquatherm black system
aquatherm®		aquatherm orange system
aquatherm SHH		aquatherm grey pipe



www.aquatherm.de NEW WEBSITE

Two years after the successful rebranding of aquatherm the company presents a completely updated web site with a lot of extensive add-ons and an abundance of information.

Each aquathermsystem has its own area and is presented beside a general introduction in complete detail - from application and various installation examples to special-purpose solutions, informative texts including a list with all available articles are provided.

New processing videos explain the correct installation of a system step by step. A written instruction can be taken from the technical catalogue which can be browsed online or downloaded as a pdf.

By a permanent current view of awards, fascinating projects or new products you are kept up-dated about the aquatherm-world - part of this is the webcam showing the ZuRo-construction site-, about which we inform on page 8.

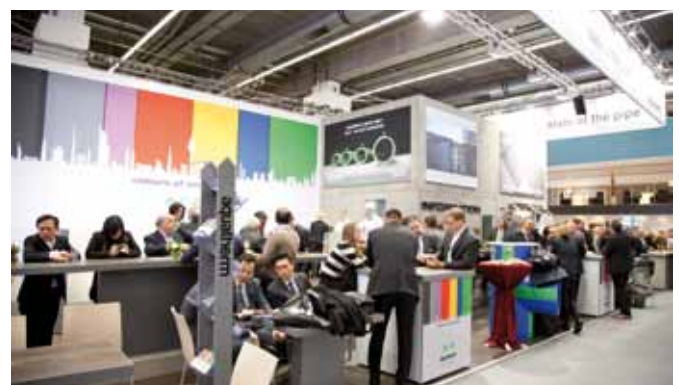
Lists about our locations, representations and contact details help to find the right contact person for your requests, of course in various languages.

OUR EXHIBITION STANDS 2015

At the ISH 2015 in Frankfurt a.M. aquatherm is the first time represented with two booths. The main stand provides an overview of the various applications and systems, while the complementary booth refers only to the issue of „heating and cooling“ and presents the systems aquatherm black system and aquatherm orange system. The installation and processing capabilities are illustrated at paradigms.

Furthermore the „colors of innovation“ are representative for the diversity of aquatherm systems. Of course, every interested visitor will find a competent contact person as well as extensive information on our stands.

With this complete package aquatherm is represented on all important fairs of heating and plumbing, as well as of the energy industry at home and abroad. On our website www.aquatherm.de dates and locations are listed.



aquatherm orange system NEW CONVERSION MANIFOLD

Due to change of supplier in August 2013, there was a change of the aquatherm orange system manifolds.

Delivery of the new manifolds is without **ball valves**. The ball valves are offered as a set, available in corner or straight design and must be ordered separately. **Control components** (including actuators), compression fittings and manifold cabinets remain unchanged and are suitable for both designs. The former heat distribution station is not compatible with the new manifold. There is the **fixed value control** for the new design.

The conversion manifolds and accessoires can be found in our product catalogue (order-no. E54152).



aquatherm green pipe INJECTION MOLDED XXL-FITTINGS

There is a gradual conversion of the XXL-fittings made of pipe segments to an injection molded design. Our product catalogue 2015 (Order-No. E54152) shows which articles are already available in new design. On our website we will inform you of further changes.

All fittings, which are converted to the injection molding production, are still available on inquiry as special fittings made of pipe segments.

Please note! Electrofusion sockets can not be processed directly with injection molded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection molded fittings.



aquatherm NEW UNIVERSAL PEELING TOOLS

Since October 2013, aquatherm offers new universal peeling tools available in the sizes $\varnothing 20$ - $\varnothing 125$ mm. By using the aquatherm universal peeling tools the end pieces of the aquatherm OT (oxygen tight), UV (UV resistant) and MS (multilayer stabi) pipes can be peeled. By the uniform removal of the outer layer of the pipe any extension of the pipe system by electrofusion socket or fitting is possible. The peeling process is done either mechanically or manually. For the mechanical processing two **attachment plates** for pipe sizes $\varnothing 20$ - $\varnothing 63$ mm and $\varnothing 75$ - $\varnothing 125$ mm are available. For the mechanically processing of the electrofusion sockets the peeler is extended by an **extension**.

The articles can be found in our product catalogue (order-no. E54152), peeling instructions are described in our aquatherm green pipe catalogue (order-no. E10101).



aquatherm green pipe & grey pipe FLOW-THROUGH BACK PLATE ELBOWS

The problem: stagnant water – the biggest sin against hygiene
If water is not flowing for a long period of time, they say, it is "stagnant". Stagnant water is similar to food with expiration date. If the water stagnates in the pipe, microbiological influences can let grow germs in the water. The Federal Environment Agency recommends no use of water that has been more than four hours in the pipe for preparation of food and drinks.

The solution: aquatherm flow-through back plate elbow
The aquatherm flow-through back plate elbow ensures that even if individual valves are not used regularly, the total water content of the series and loops is replaced periodically, because the most commonly used fitting (usually WC) excludes stagnation.



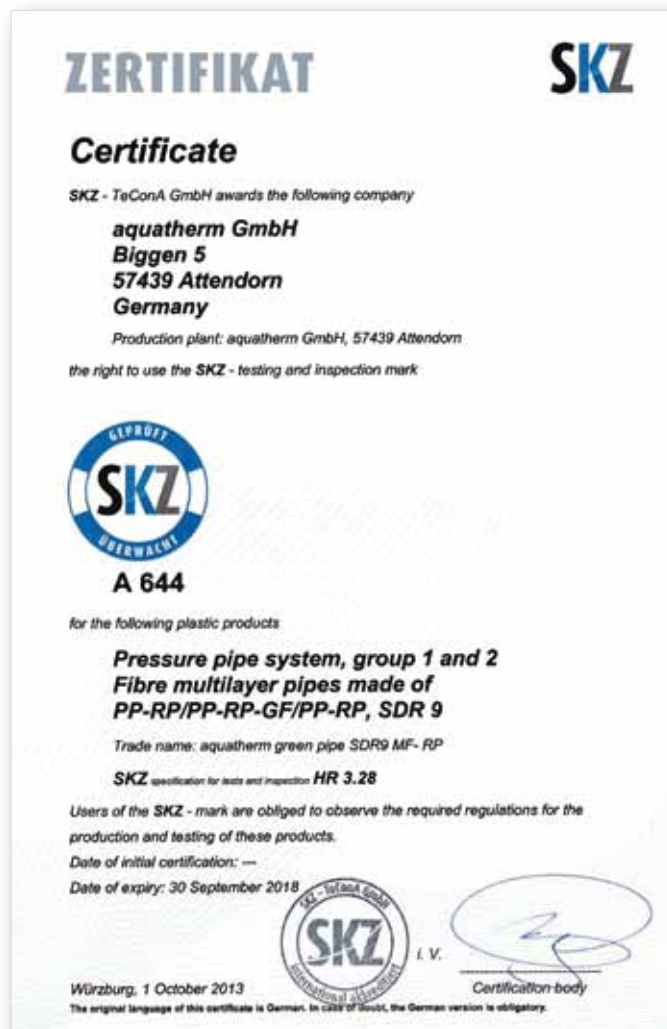


aquatherm black system NEW CONNECTIONS

In order to meet the different requirements for renovation systems aquatherm has developed the following transition adapter:

- 1) aquatherm black system with press connection 15 mm (e.g. to connect existing metal pipes)
- 2) aquatherm black system to aquatherm orange system 16 mm
- 3) aquatherm black system to aquatherm grey pipe 16 mm

The adapter 2 and 3 can be connected via the well-known sliding-sleeve technique with the aquatherm black system. All adapter are characterized by a flat body design and are therefore suitable for concealed applications (wet and dry) as well as for flat systems. This allows an easier and time saving installation.



SKZ SYMBOL FOR aquatherm green pipe SDR 9 MF RP

2012 we introduced the next evolutionary step of PP-R pipes to the professional world: aquatherm green pipe SDR9 MF **RP**. With the new developed fusiolen PP-RP material it is possible to produce fiber composite pipes with lower wall thicknesses keeping all known advantages.

At the same time the worldwide innovation was presented to the Süddeutsche Kunststoff-Zentrum (SKZ) for the purpose of product certification with subsequently permanent product supervision. At the beginning of October 2013, we received the award certificate authorizing us to use the SKZ testing and supervision mark **A644** (for the production site Attendorn) and **A632** (for the production site Radeberg). The 4th generation pipe now has the same approval in Germany as the fibre composite pipe, the aquatherm green pipe SDR 7,4 MF, presented as a global innovation in the year 1999.





aquatherm orange system RECEIVES BVF SEAL

The Federal Association of surface heating and surface cooling i.s. (BVF) awarded the aquatherm GmbH the BVF seal for its surface heating systems aquatherm orange system in May 2013. This guarantees the contractors (builders, planners/architects, fabricators) that the company from Attendorf meets the extensive test criteria. These relate to quality features as production description and approval, for compliance with technical rules and legal regulations, product liability and warranty as well as to technical advice and support. The compliance with the criteria is supervised by a seal committee.

With our surface heating systems we stand not just for a simple, quick and cost-efficient process, but also for the high quality of the heating systems and for a good service. This is underlined by the BVF seal impressively again.



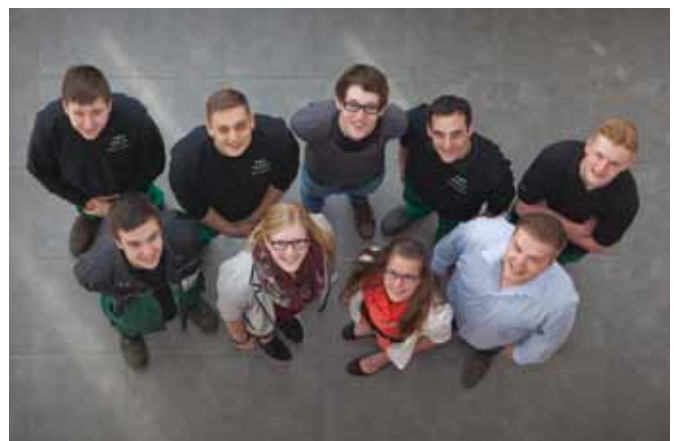
TRAINEES NAME AQUATHERM AN OUTSTANDING TRAINING COMPANY

In May 2014 aquatherm was awarded the "Outstanding training company" seal, an initiative from the *ertragswerkstatt* which highlights a company's employee training performance.

The quality seal represents the company's high degree of commitment in vocational training, the high level of satisfaction amongst the trainees and the positive evaluation of the training situation by the trainees.

It is based on the results of an anonymous survey of all trainees of the company at the start of 2014 and an evaluation of the training figures.

The *ertragswerkstatt* is managed by a team of business psychologists. The neutral and credible seal aims to offer orientation for trainees.



IHK PRESENTS “WORLD MARKET LEADER FROM SOUTH WESTPHALIA” AWARD

In March 2013 the three chambers of industry and commerce (IHK) of Hagen, Siegen and Arnsberg presented us the “World Market Leader from South Westphalia” award. The only companies which can qualify for this award are those which quantitatively or qualitatively belong to the top three in their market with regard to turnover. A further criterion was that the company should also have an international product which has been distributed at least throughout Europe.

Alongside their high degree of specialisation and successful search for their own niche on the world market, the companies identified as world market leaders represent excellent customer orientation, flexibility, a high vertical range of manufacture, internationality and employee appreciation. These success factors lead to a high concentration of world market leaders in South Westphalia and form the basis for the third strongest business region in Germany.



GERMANY'S MOST IMPORTANT INDUSTRIAL COMPANIES

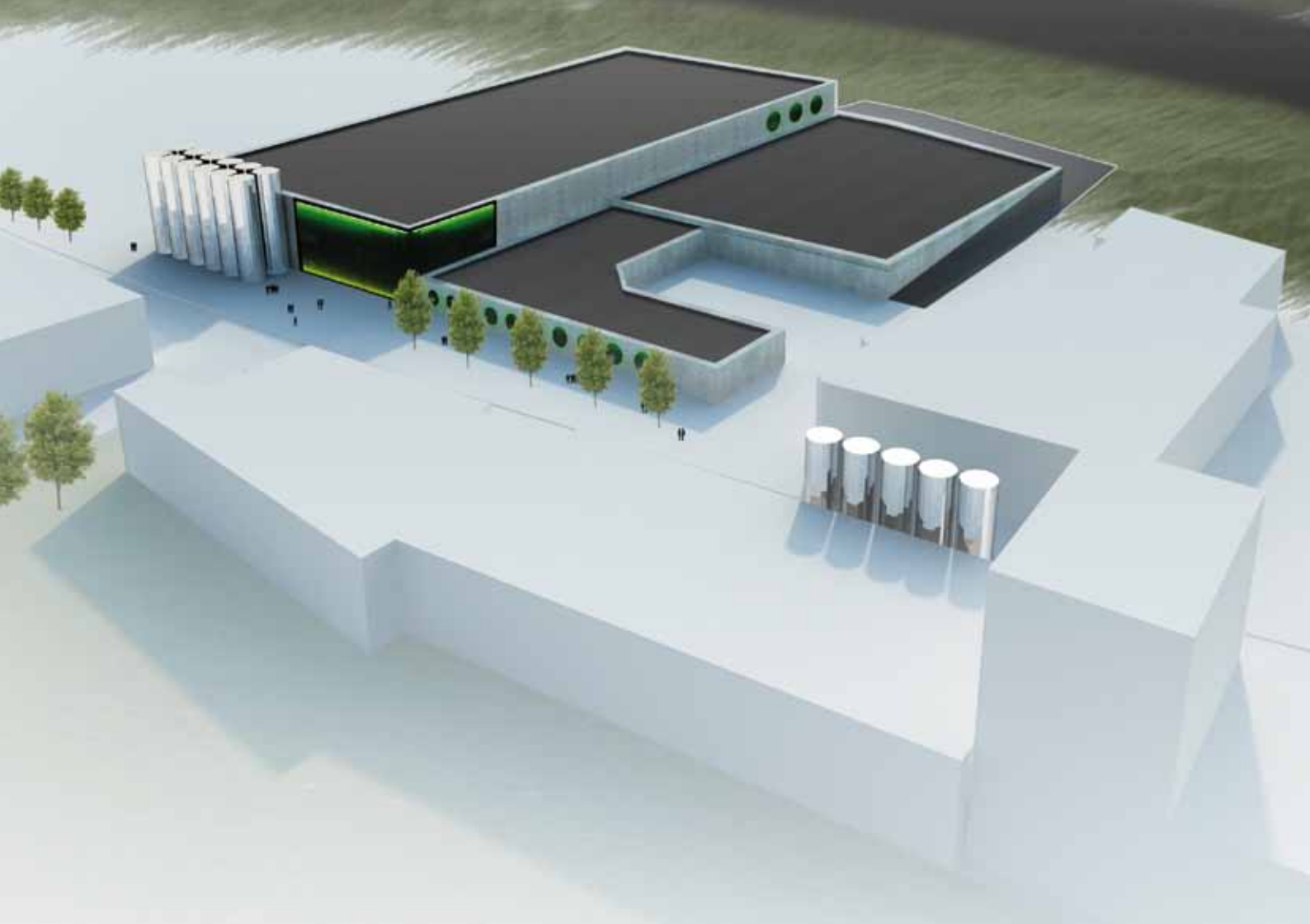
Germany continues to be an industrial nation. The production of high quality goods and machinery and systems is, after all, a domain of our country.

Prosperity and employment are largely dependent on industry. According to the most recent surveys, the manufacturing trade in Germany represents 22.7 per cent of the gross value added which is considerably higher than the EU average of approximately 15 per cent. However, more important is another figure: industry is responsible for 80 per cent of the technical innovations developed in Germany. “Studies and projects reveal that outstanding innovation management is essential for competitiveness and profitable growth. Those who focus on innovation also focus on growth,” said Dr. Martin Sonnenschein, Managing Director Central Europe at A.T. Kearney.

Germany did very well in the innovation indicator: in an international comparison the country comes in an impressive fourth position and has, with this, continuously and significantly improved in the overall evaluation during the past five years.

In its 02/2014 issue, the *Wirtschaftsblatt* – the national magazine for German small and mid-sized businesses – published a list of the nationwide most important industrial companies which manufacture and also develop innovations in the country and aquatherm was one of the companies named!

Author: Michael Kranz. Further information and the complete report on: www.wirtschaftsblatt.de



AQUATHERM PROJECT „ZURO“ (FUTURE PIPE PRODUCTION)

An important reason for aquatherm's success story is the constant development of marketable products. For almost every application aquatherm now offers the right pipe system. Innovation and growth are thus linked very closely with the system manufacturer, for an extensive product portfolio with many individual and reliable solutions requires space.

In order to reliably meet the high expectations of customers and markets even in the future, trend-setting expansion is essential. The industrial area Biggen in which the headquarters is located, has changed a lot since the first time in 1978 and over the years offered more and more place for production and distribution buildings of the pipe manufacturer. However, several years ago it became obvious that the production facilities – in spite of the generous expansions – middle-term will come to their limits again. For this reason, the shareholders and management decided early to act and to plan a complete new pipe production in the two years previously acquired premises of the sanitary wholesale Atta. The project "Future pipe production" (ZuRo) was born.

After several years of planning process involving various engineering consultants, but especially the passionate contribution of many employees a trend-setting concept arose. This conception guarantees the specifications for maximum functionality as the basis for highest efficiency in line with environment-friendly technologies and optimum working conditions for the staff. In February 2014 the official building permission followed. The final "GO" was given by the management in May of this year, and thus the start to the implementation of ZuRo. As of January 2015, the buildings located on the property will be demolished first. On the resulting near-ideal building site from spring 2015 the project ZuRo will arise on two floors with a total area of nearly 15.000 square meters.

The goal is clearly defined: a detailed thought-out manufacturing complex with a total capacity for up to 33 extrusion lines for the production of the pipe systems – highly efficient and with flagship character, realized through an investment of approximately 15 million Euros.

The entire aquatherm group of companies will profit from this project in the long run. The new modern pipe production will of course assist with expanding our own leadership in the world market; but it is also a clear commitment to the manufacturing location Attendorn. Even since its foundation, the family-enterprise places a high value on quality products, which correspond to 100 % to the label "Made in Germany". The success proves the company right and together with all the staff the managing directors Dirk, Maik and Christof Rosenberg are looking forward to keeping the company on an independent course with steps as ZuRo and to living the vision "state of the pipe" determined.

A webcam was installed, which documents the progress of the construction. As of now the webcam can be selected on the homepage of our website:

www.aquatherm.de

The photo is updated around the clock and rewritten every ten minutes.



Loading in Attendorf

XXL MANIFOLD FOR CHINA

Time is money – a worldly wisdom coming true every day especially in the building industry. The plumbing and heating installation of each construction project is always a temporal and logistical challenge - not only for the architect and planner.

The realization at site is often a problem for the site managers. Neither the external circumstances nor the temporal requirements allow them to concern detailed with the construction of a complicated manifold. In addition there are high costs for the temporary expenses and diverse problems at site, which in most cases can only be solved by higher expenses. Now, aquatherm offers an alternative to its customers:

We design and construct your complete manifolds in our company according to your specifications and dispatch them pre-finished to any place of the world. You only have to send us the respective drawings and / or sketches with specifications. We return the offer including material list and drawing.

A qualified team of experienced technicians likes to assist you.

A good example of the complex work of the manifold construction team is the XXL manifold which was shipped to China for use as a ballast pipe. The delivery incorporated a total of 250 m aquatherm blue pipe SDR 17,6 MF pipes and more than 100 fittings in the dimensions 160-630 mm.



*Preparation in distributor construction in Attendorf (above)
and further processing in China (below)*



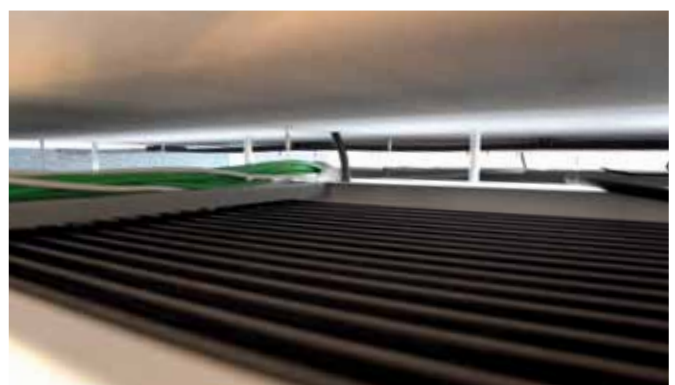


REFERENCE PROJECT: DES WAHNSINNS FETTE BEUTE, ATTENDORN, GERMANY

In the planning and construction of a new building in the form of a modern strategy factory for the Attendorn based strategy consultancy for brand communication, "Des Wahnsinns Fette Beute" (DWFB), energy efficiency and room climate played a particularly important role. Alongside cost efficiency and sustainability, the realisation of the optimum working conditions for the 37 strategy and creative employees was also an important factor. To achieve this, aquatherm and the aquatherm black system were used in the planning and consulting for the technical climate control of the 827 m² building.

To unite form and function, it was decided to install the technical infrastructure in the work areas so it is visible, under the ceiling, as is also seen in industrial manufacturing. aquatherm black system grids were used for the air conditioning control, heating and cooling and fixed into the suspended ceiling panels. In the conference and meetings rooms for workshops and customer meetings as well as the corridors and toilets, the aquatherm black system is incorporated as wall or ceiling heating in the plaster. With the building envelope as well as the selected heating and cooling system, the ideal conditions were created for installing the aquatherm black system. This began with the simple assembly of the registers which were pre-fabricated in the factory for use as wall and ceiling heating (cooling) as well as in combination with the suspended ceiling panels.

Alongside the aquatherm black system grids (160 m² in the suspended ceiling panel, 100 m² in plaster ceiling, 20 m² in wall plaster) in association with aquatherm actuators for the heating and cooling, the aquatherm blue pipe system was also used (in and out flow heating system) as well as the aquatherm green pipe system (potable water supply). This also highlights the excellent interplay between innovative technology and modern design.





REFERENCE PROJECT: MENNEKES, LENNESTADT, GERMANY

Mennekes from Kirchhundem is one of the world's leading manufacturers of plugs and connectors and charging stations for electric cars. The headquarters are continuously expanding and a recent building measure involved the building of a new office storey. Already at the start, the focus was on an energy efficient and comfortable solution for the air conditioning of the rooms which can be integrated into the building's modern and open architecture. The extra storey comprises of a steel skeleton with an all-round glass façade. Hereby a requirement was that the steel support structure should be maintained and remain visible in the offices. As there wasn't an installation level, all the piping should be laid visibly yet without looking too "technical".

With aquatherm's extensive experience in heating and cooling ceilings, a concept was developed for the air conditioning of the office storey. With a construction of suspended metal ceiling panels in which the aquatherm black system grids were incorporated, the relatively high heating and cooling loads were completely covered. In combination with the grids, the perforation and acoustic lining of the suspended metal ceiling panels created a very high degree of acoustic absorption. Furthermore, the available ceiling space could be optimally used thanks to the individual and customised manufacture of the suspended ceiling panels.

The geometry of the rooms required a very large suspended ceiling panel which could not be made as one unit. The suspended panels, therefore, had to be assembled together out of individual elements on the building site. This required the smooth cooperation between the drywall builder who fixed the panel onto the ceiling and the heating engineer who had to install the aquatherm black system grids in the cassettes just in time and, at the same time, had to install the pipe work.





REFERENCE PROJECT: SANITÄR HEINZE, ROSENHEIM, GERMANY

The new "Am Oberfeld" 63,000 m² industrial estate in Rosenheim is a location primarily for manufacturing and service industries as well as trade enterprises. One of these is Sanitär Heinze, a mid-sized family business which was established in Dresden in 1934. In 1995 Sanitär Heinze GmbH was established in Schweinfurt which enabled the expansion of the bathroom fitting installation service to also include the whole of the Lower Franconia region as well as areas of Thuringia. Today, with 22 sites, Sanitär Heinze serves the home technology markets in almost all areas of Bavaria, Saxony and Austria.

The bathroom and heating exhibition in Rosenheim was fitted with aquatherm black system grids in the new building.





REFERENCE PROJECT: KÖ-BOGEN, DÜSSELDORF, GERMANY

At the start of building in 2009 the huge Kö-Bogen [Kö refers to Düsseldorf's main shopping street, the famous Königsallee] was the biggest German city centre building project and one of the biggest in Germany with investments far exceeding 400 million euros. With its height of 26 metres on a land area of 9,000 square metres in the city centre and curved arcade, it is already regarded as a style icon – a complex urban architectural concept which reflects on the historic features of Düsseldorf's centre.

The future orientated subject of sustainability is very present both outside and within the building and was also very important in the planning of the Kö-Bogen – both for the project developer as well as the city of Düsseldorf. The aquatherm products fulfilled the very high standards with view to the environment and sustainability and the company is very proud to also be represented in this project.

The aquatherm red pipe system has been built into the ceiling on three storeys of the Kö-Bogen for which the pipes were cast in concrete. All the necessary pipes including supply pipes were pre-fabricated according to designs in aquatherm manifold construction, tested for tightness in Attendorn and a welding report compiled. The products were then supplied to Düsseldorf where they were built in.

A total of approx. 3,400 sprinkler connections and 6,500 pipe metres including the moulded components were built into 25 building sections and the building time also included the winter months. The pressure testing of the pipes, therefore, involved a water-glycol mix to prevent the piping being damaged by the frost. The number of sprinklers was so high as the project had the luxury of having these double which means that the so-called area of coverage can be kept even if there are building changes in the rooms later on e.g. if walls are moved.





REFERENCE PROJECT: SKY OFFICE, ZAGREB, CROATIA

The Sky Office building connects design, functionality and energy efficiency and sets new standards for commercial buildings. Organization of office rooms, roof garden, glass façade in full height, communicative connection, safety systems, latest heating and cooling systems and advanced energy saving systems – because of these properties this building belongs to the best architectural achievements in Zagreb.

Sky Office was designed in such a way that its technological, functional, mechanical, physical and energetic properties would ensure the profitability of the building and the long-term cost efficiency during operation. It is indisputable that the total complex respects the nature, the room and human being. The project – volume of investment: €100 million – consists of two towers with 22 floors that act as single buildings, although being connected with each other from 2nd up to 15th floor.

To provide as pleasant and microclimatic conditions as possible, it was refrained from traditional heating and cooling systems that are based on convection or air circulation. The rooms are consequently climate-conditioned by the aquatherm black system surface heating and cooling system. In the office rooms a total area of 17,000 m² aquatherm black system grids are installed in suspended ceilings and in the walls of corridors. A very pleasant climate without airflow, development of dust and noise is achieved by means of this innovatively designed system with highest comfort. The building owner is very happy about this solution which is beneficial for allergic persons, the employees are feeling comfortable!

To additionally improve the specific heating and cooling capacity, drywalls with graphite fibers with increased heat conductivity were used in the Sky Office building.





REFERENCE PROJECT: HANSE HOTEL, ATTENDORN, GERMANY

In April 2013 the Hanse Hotel opened for business guests as well as tourists. The modern building adds a new, almost spectacular aspect to Attendorn's cityscape. The hotel features 99 rooms, a restaurant, two bars and several meeting rooms. The aquatherm systems have been used in all areas. Particularly important for the architectural freedom in the building which is in the shape of an eight, was the incorporation of the aquatherm black system heating and cooling grids. The occupancy/booking rate of the hotel and restaurant of approx. 70% is evidence that hotel founder and building client Gerhard Rosenberg has tapped a real gap in the market in Attendorn with the realisation of his dream. Many smaller, usually family-run hotels and guesthouses didn't offer visitors sufficient space or were too scattered in the town's various areas. The new hotel, directly in front of the world famous Atta cave tourist attraction, offers a great alternative.



FURTHER INFORMATION

aquatherm green pipe, aquatherm blue pipe & aquatherm lilac pipe pipe systems for the application in potable water and heating and for reclaimed and recycled water	Order-No.: E10101
aquatherm blue pipe for chilled, hot fluid and various industrial applications	Order-No.: E10050
aquatherm red pipe sprinkler pipe system	Order-No.: E40000
aquatherm orange system underfloor heating systems	Order-No.: E90001
aquatherm black system heating and cooling system	Order-No.: E97060
aquatherm grey pipe potable water and radiator connection system	Order-No.: E70001
aquatherm ti district heating pipeline systems	Order-No.: E30000
aquatherm product catalogue	Order-No.: E54152
aquatherm reference catalogue	Order-No.: E57002

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Management
System
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ISO 14001:2004
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