

CON  
TROL  
THE  
FLOW

# ENGINEERING EXCELLENCE SINCE 1917

Our story began in 1917 with a groundbreaking innovation.

The patented nozzle/flapper system developed by the founder Ragnar Carlstedt changed the face of control in entire branches of industry at that time and was the spark that ignited the founding of ARCA. Since then, outstanding engineering skills and pioneering spirit have been key strengths of our family-run company. They have made ARCA what it is today – a specialist in sophisticated industrial process control.

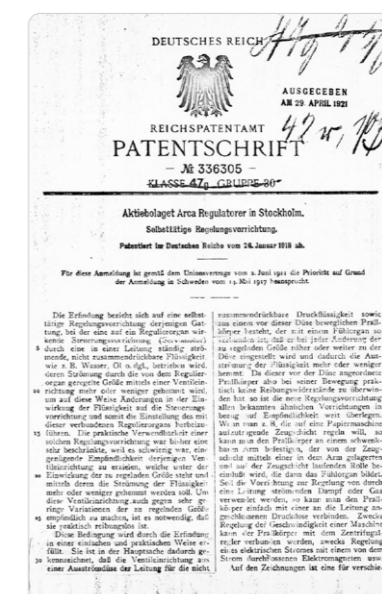


In 1917 in Sweden, Ragnar Carlstedt applied for a patent for his nozzle/flapper system for the control of industrial processes. That was followed in 1918 by the founding of ARCA Regulator AB, the name being based on syllables of the founder's name. The trade fair appearances of the control technology pioneer attest to the developer's pride in superior control technology, which very soon established itself in many processes in industrial plants in Europe.

In over 100 years we have continuously developed with this attitude and the demand for safe and reliable control solutions. Our engineering excellence spreads from Tönisvorst all over the world. Today, more than 300 employees in Germany and a further 200 in Europe and overseas stand for a comprehensive range of products and services for process control in the entire ARCA Flow Group. In addition to development, production and commissioning, it is also the comprehensive service that guarantees the safe and efficient control of your processes. We have constantly intensified the principle of absolute customer closeness, because it is the only way that tailor-made solutions can be realized. It goes without saying that digitization plays a significant role in this at a pioneer like ARCA.

On the following pages we want to give you some insights into our company that justify ARCA's control promise

## CONTROL THE FLOW



# TECHNOLOGY & SOLUTION DRIVEN

Based on optimal customization and further digital monitoring technology solutions are created that lead to a control system with high reliability and a long service life, which in turn lower the lifecycle costs to a minimum.

Our engineers have their eye on the dynamic technical developments in the individual industries. They know about new user processes and technologies – or even develop them themselves – whether in joint ventures, in cooperation with associations and institutions or in close dialogue with the customer. We are proud of this deep constructive knowledge of process control. It enables us to offer correspondingly comprehensive consulting (more about that later).

We are already developing tomorrow's technology today in our Research and Innovation Centre and working on the "next generation of flow control".

The task of transporting the historic pioneer work of an industrial process control specialist into the next millennium can be a real challenge. An owner-managed family company like ours could and can handle that easily due to our long-term planning of binding and future-oriented action. The essence of the ARCA engineers is driven by the quality of safe technology and superior design. With the innovative spirit from Tönisvorst we want to contribute to the good reputation of products engineered and produced in Germany. The modular design of our control valves and other actuating and control elements can be adapted precisely to the respective operator's situation.

HIGH TECH, HIGH PERFORMANCE,  
HIGH QUALITY

Give and take are harmonized at ARCA, from which we draw strength in the team and work on a new generation of pioneers. Since 1949 we have trained more than 330 junior employees and turned them into process experts. That's why we refer to ourselves not only as a training company, but also a learning company – and that refers to all our employees.



The fountain sculpture was created by the artist Loni Kreuder to mark the 90th birthday of the company founder Dr. Ing. Ludwig Kaspers.

The Research and Innovation Centre in Tönisvorst, with its regenerative energy supply from a geothermal system and its flowing transparent architecture, is an expression of our attitude towards the right, sustainable »flow«. The Research and Innovation Centre with its total floor area of 2,000 sq. meter houses not only our development department, but also parts of production and our training and meeting rooms. Why not visit us?



# EVERY THING UNDER CONTROL



ARCA controls power plants, steel mills, oil and gas industries, coal gasification plants, chemical plants, food industries and biotechnology processes, the paper industry and green industries such as hydrogen generation and storage as well as biomass power plants.

Those who, like us, can boast over 100 years of control expertise can tap into an enormous wealth of experience that has to be passed on. That is precisely what we do for our customers, who come from the widest variety of industries. Since 1917, the broad range of applications for our control technology has increased our knowledge of the right process control – from which each of the industries benefits in many details today. However, these many years of experience and a wide variety of international fields of application are also important from another perspective.

**WE UNDERSTAND  
PROCESSES IN ORDER  
TO CONTROL THEM**

Control solutions must work on site and guarantee a high level of reliability. The technology must comply with the standards and specifications of the respective countries as well as the climatic conditions on site. ARCA technology controls plants in permafrost regions and in deserts alike and also works reliably in extreme offshore situations. With these challenges, the design must also be fully thought out in terms of wear and exchange. Sturdy design and – if necessary – quick and uncomplicated replacement of parts are guarantees that we want to give at every location.

But this is only one part of the demands on the control technology that must be met. On the following page we will focus on the challenges in processes.

# FROM -196 TO 620 °C, -1 TO 630 BAR, DN 15 TO 1200

Extreme physical conditions and particularly challenging process tasks are part of our everyday life. We have even discovered a certain predilection for such challenges and ensure that they are solved. In addition, we are of course also happy to offer standard solutions that guarantee a long service life thanks to their great vertical range of manufacture and high quality and thus have a very good price-performance ratio.

With our deep understanding and knowledge in each of the following industries, we can offer our customers tailor-made solutions and provide them with the best possible advice. For us as consultant engineers, "best possible" always means: safe, efficient and economical.

## POWER PLANTS/ENERGY

POWERtrol steam-conditioning stations for the reduction of high pressure and high temperature steam and the ECOTROL® valves for the wide range of control tasks for feed water, condensate and steam. Other ARCA control valves also keep a tight grip on control loops around the boiler, the superheater, the steam turbines, the condensers and the feed water reservoirs.

## GREEN ENERGY

Our ECOTROL® series is established in CSP power plants (Concentrated Solar Power). In addition, control in hydro-electric power plants, especially in the bypass to the water turbines, is another field of application. Our valves master the frequently lacking electricity infrastructure with actuators that are supplied by solar panels. Of course, we are also present in hydrogen processes.

## STEEL MILLS

Our comprehensive range of control valves, digital positioners and pneumatic actuators is right at home where temperature, pressure or flow needs to be controlled. From CSP plants (Compact Strip Production), strip cooling lines and cold rolling plants to steel production, refining and pickling.

## OIL & GAS

In conjunction with our digital positioner and pneumatic actuators, we guarantee a safe and smooth process from borehole to refining. From petrol and diesel production to cosmetics and plastic production for household items.

## COAL GASIFICATION

Our control solutions also include the subsequent chemical processes, power generation from coal gas and the production of synthetic fuels. With control valves for abrasive media and oxygen as well as steam and water valves for the entire heat recovery cycle.

## OTHER INDUSTRIES

Our control valves are used from batch processes over fine chemistry to large-scale chemistry. From product control to the heating and cooling processes of chemical plants, with special emphasis on the environmental compatibility and sustainability of process control.

We also control the processes extensively in the obtaining of new paper qualities and in paper recycling. From the raw material, the crosslinking of the fibrous materials and water, to the sheet formation with temperature-controlled rollers and drying. Our energy valves are also used for the energy supply with steam.

In the highly sensitive area of biotechnology and the food industry and their secondary control loop, you can also rely on ARCA technology to control heating and cooling. A particularly challenging part is the primary area with high standards of cleanliness and purity (e.g., milk or beer).





**ECOTROL®**  
Series 8C  
DN15 – DN100  
PN16 – PN63  
-196°C to 650°C



**ARCADrive**  
Series 812  
Diaphragm area  
up to 720 cm<sup>2</sup>  
Spring force up to 16 kN  
Stroke 10 to 60 mm



**ARCAPRO®**  
Series 827  
Signal 4 – 20 mA  
Profibus PA, HART, FF  
-40°C to 80°C



**POWERtrol**  
Series 5XX  
DN15 – DN800  
PN16 – PN400  
-10°C to 650°C



**ANGLEvent**  
Series 380  
DN15 – DN800  
PN16 – PN400  
-196°C to 650°C



**ECOTROL®**  
Series 6H  
DN15 – DN600  
PN100 – PN250  
-196°C to 650°C

# OUR HARD SKILLS



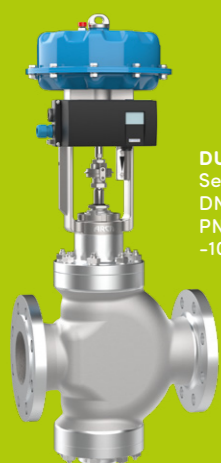
**BIOvent®**  
Series 391  
DN15 – DN150  
PN10 – PN25  
-30°C to 135°C



**ARCATROL**  
Series 824  
0.2 – 1.0 bar  
4 – 20 mA  
-40°C to 80°C



**DUALvent**  
Series 280  
PN40 – DN250  
PN63 – PN160  
-10 °C to 530 °C



**DUALvent**  
Series 250  
DN50 – DN350  
PN10 – PN40  
-10°C to 530°C



**ECOTROL®**  
Series 6N  
DN125 – DN800  
PN16 – PN63  
-196°C to 650°C



**ANGLEvent**  
Series 350  
DN15 – DN300  
PN63 – PN250  
-196°C to 650°C



**ARCADrive**  
Series 814  
Piston area up to 2,825 cm<sup>2</sup>  
Spring force up to 22 kN  
Stroke 180 to 250 mm



**HIGHPRESSvent**  
Series 130  
DN15 – DN200  
PN 400  
-196°C to 530°C



**TRIVENT**  
Series 220  
DN25 – DN300  
PN63 – PN160  
-10°C to 530°C



**TRIVENT**  
Series 200  
DN25 – DN600  
PN10 – PN40  
-10°C to 530°C



**ARCASmart**  
Series 826  
4 – 20 mA  
Digital communication  
-20°C to 80°C



**CUSTOM-  
DESIGNED-VENT**  
Series 180  
DN15 – DN1200  
PN16 – PN620  
-196°C to 650°C



**FORGEvent**  
Series 190  
DN15 – DN65  
PN100 – PN400  
-29°C to 650°C



**ANGLEvent**  
Series 340  
DN15 – DN300  
PN10 – PN40  
-196°C to 650°C

The art of engineering from Tönisvorst. "State-of-the-Art" control solutions based on modular design that control almost every process and ensure the right »flow«. From custom to standard solution.

CONTROL THE FLOW

# OUR SOFT SKILLS

## SERVICE IS THE SOUL OF THE PROCESS

Good control solutions are inconceivable today without accompanying services. Process architectures are constantly increasing in complexity, and networking and digitization are becoming more and more essential, so that consulting needs in the planning phase are becoming increasingly important in order to include all dimensions of the plant control from the outset. This results in the safest and most efficient process control possible. In ARCA's view, this necessitates an intensive exchange of information with the local technicians. Only in this way can all potentials be realized in relation to energy efficiency, reliability and ecological footprint. With its comprehensive knowledge, ARCA is of course happy to take care of the planning of process control from the very beginning.

For us as consultant engineers, the personal exchange of information is important from another point of view. Only the necessary technical depth of our engineers leads to the solutions that our company has been happy to stand for many years. Only this advice guarantees you a high level of reliability, maximum efficiency and a resource-saving use of energy and material, because although the monitoring and automatic control of the performance parameters are digital, people come into play wherever fast reaction times are necessary in case of reported abnormalities. Ideally, these people are from ARCA Service.

Incidentally, this also applies to proactive measures by our Service department for the improvement of plant performance or plant safety due to new technological developments, whether design-related or software-related, because passionate engineers and customer consultants are called for here, too.

Our soft skills include comprehensive advice on each individual process step or the entire plant control. Closeness and availability to our customers are our strengths.



# OUR SERVICE FORMULA

## ARCA care

With ARCAcare, we offer maintenance contracts that are precisely tailored to your plant. This way, planned prophylactic service dates aren't hampered by everyday operation and the failure of important valves is prevented.

## ARCA safe

ARCAsafe stocks all common spare and wearing parts for your ARCA control technology. Fast replacement is ensured thanks to our modular system and clever design.

## ARCA launch

With ARCAlaunch we assist you with the commissioning of your control valves. That applies to support during construction and also during the cold and hot commissioning.

## ARCA 24/7

With ARCA24/7 you can contact us around the clock. Via an emergency number you are immediately directed to an appropriate specialist, who will find solutions for your concern.

## ARCA workshop

We are inquisitive engineers. A culture of permanent learning is created, positively driven by curiosity and a "we can improve that" attitude. In the same way that we train our own employees further, we can acquaint your employees with the latest user-specific findings on process and control in addition to giving practice-oriented demonstrations and tips on the functional principle of ARCA control valve technology in our ARCAworkshops. This creates the right "flow" in your company, because it's controlled.



Our service formula stands for comprehensive consulting and monitoring of our control solutions in your process. At the same time, our formula underlines our striving for comprehensive customer satisfaction. For that reason, we have packed our individual services into practical modules. You can book these as extras in the planned investment in our *hard skills* – and get advice entirely without obligation about their range of services and warranty spectrum. Our service is therefore just as flexible as our control valves.

Since we cannot adapt our control technology to your needs without a consultation, each investment in one of our systems automatically includes such a basic consultation. What we also include with every control valve is a link via QR code nameplate to our ARCAonsite digital platform, where all necessary information and the current documentation for your control solution can be found. Naturally with worldwide access.

Our additional service packages also give you access to the broad application knowledge of our service team, not only concerning service and maintenance, but also for preventive measures or the modernization of applications – for example, to save energy during operation. Our many years of experience have shown that many problems are directly related to commissioning, for which we naturally have a solution. Our four service packages for the *Hard Ware* and a service package for the *Brain Ware* provide you with comprehensive support for the right "flow".

Our overall service promise to you should therefore be mentioned again here:

**CONTROL THE FLOW**



# THE ARCA FLOW GROUP

## THE HEART OF YOUR PROCESS – WORLDWIDE

In the course of the internationalization of the markets and the growing numbers of enquiries from abroad, but also due to the increasing complexity of process plants, we set out in 1985 to supply the world with outstanding control solutions. Today, we are represented locally by joint ventures and branch offices in the USA, the People's Republic of China, India and Korea, as well as numerous agencies. Control solutions "made in Tönisvorst" are thus available virtually everywhere in the world.

The ARCA Flow Group grew out of an international ARCA in recent decades. Today, the group offers its accumulated process knowledge and everything required for the efficient advancement, automation and control of your processes in five locations. ARCA Regler GmbH is the control center and head. We like to refer to the group itself as the centerpiece for the right "flow". We regard your company as an organism for which we bear special responsibility.

The right control solution goes hand in hand with a great deal of responsibility for the entire production process. The control of a control loop is comparable in its complexity to the vital function of the heart for an organism. The ARCA Flow Group gladly and comprehensively accepts this responsibility.

#### **Feluwa Pumpen GmbH**

Specialist in high-quality pumps for conveying aggressive and abrasive media as well as media containing solids.  
feluwa.com

#### **WEKA AG**

Specialist in the development and manufacture of cryogenic components, special valves and level measurement technology.  
weka-ag.ch

#### **ARTES Valve & Service GmbH**

Specialist manufacturer of customer-specific desuperheaters and control ball valves.  
artes-valve.com

#### **von Rohr Armaturen AG & von Rohr ARCA BV**

Specialist manufacturer for precise valves and actuators for the selected process industry.  
von-rohr.ch // vonrohr-arca.nl // 24hservice.nl

#### **Joint ventures & branch offices**

USA: ARCA Flow Controls, LLC  
PR China: ARCA Flow Technology (Shanghai) Co., Ltd.  
India: Forbes Marshall ARCA Ltd.  
Korea: SAMYANG ARCA Co. Ltd.



# ONE FOR ALL, ALL FOR ONE

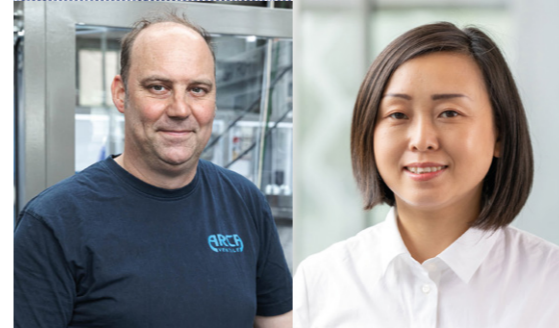
As part of an open corporate culture with an intensive exchange of knowledge, ARCA and the ARCA Flow Group regard themselves not only as engineers, but also as experts in process-supporting solutions. The dynamics of changes in the economy – Industry 4.0 and system networking, data analysis, additive manufacturing, to name but a few – have shown how important the permanent learning and further development of our organization is.

Everything is based on the realization that we are not only open and curious, but only strong together. It is therefore the team that shapes the culture and success of our company. The trust and respect of each individual for the other strengthen this culture. The sovereignty of our employees is based not least on a good and direct line to our customers and a strong consulting spirit.

Thanks to this attitude and culture, we can offer the comprehensive control solutions that our customers need today and in future to keep their plants and processes in the right “flow”.

For us, this chapter therefore ends with a fundamental insight: you can only control processes if you yourself are and remain in motion.

Always with the one goal of ARCA in mind: CONTROL THE FLOW.



These are just 10 of over 500 employees worldwide and 300 in Germany.



For reasons of better readability, we use the male form, e.g., “he”. However, this always means all genders. The shortened form of speech is neutral.



# ONE OF MANY ARCA CONTROL SOLUTIONS:



CONTROL THE FLOW  
with ECOTROL<sup>®</sup>, our all-rounder.  
A flexible and low-maintenance  
control valve that, thanks to its  
modular design, is individually  
tailored to your process and  
is used in almost all processes  
and industries.