

ARMATURY Group aspires to become a globally approved manufacturer of industrial valves. Over the years, the company has grown exceptionally fast. Nevertheless, top management is adamant they can, and will, preserve the ethos of ARMATURY Group as a company with a family atmosphere with particular emphasis on responding to and satisfying client requirements.

By Lucien Joppen



ARMATURY Group: international ambitions from a family-oriented company

Petr Groh, the CEO of ARMATURY Group since 2015, has been in the valves business for several decades, and joined the Czech valve manufacturer in 2004 at a time when ARMATURY Group had just started out on its mission to conquer the world of valves. “ARMATURY Group was established in 2000 (see box text History). At this time, the company mostly served the domestic market”, says Groh. “As this market is relatively small, management decided that future growth could only be realized by taking our products to export.” Fast forward to today and ARMATURY Group has definitely secured its place in the international industrial valve market. Roughly 80 percent of its turnover (projected in 2019, to be 68 million Euro), is generated by exports to more than 70

countries worldwide. Groh: “We have built our brand and reputation on the world stage by taking on challenging projects and delivering to our customers in various different industries. We intend to continue on this path towards achieving further growth in the 21st century.”

Big in power generation and oil & gas

It is interesting to learn about future plans and projections but what about the current market? Commercial Director Libor Kremel: “First of all, it is good to know that we have a broad portfolio of valves that can be employed in various sectors. Roughly 34 % is made up of ball valves, 21 % butterfly/check valves, 24 % gate valves, 8 % globe valves and 9 % metallurgical valves, leaving 4 % for miscellaneous valves. We can



also deliver accessories - piping and related equipment - which enables us to realize turn-key projects. I'll tell you more about this later."

As for the market sectors, ARMATURY Group is very strong in energy/power generation (fossil and nuclear) and oil and gas. In total, these market sectors account for approximately 73 % of the Group's turn over. "Traditionally we are well represented in power generation. In the last year alone, we delivered 25,096 pieces of valves to this industry. Just to mention a recent feat: we have developed quick closing (one second, ed.) butterfly valves. To meet

this condition, these valves are equipped with pneumatic or hydraulic actuators. We have supplied these valves to major companies such as Siemens and Doosan Škoda Power and GE / Alstom."

Potential of hydropower

The oil and gas market has shown stronger fluctuations over the past couple of years, says Kremel. This has also impacted this sector's share in the group's turnover. "We entered this market at a later stage but we have steadily increased our presence in this market. For example in ball valves - a major market segment in oil and gas - we have gained approval for increasingly larger sizes. Just to give an example, last year we supplied 51 pieces of ball valves sized 40" and over. So although this market is fluctuating, it's fair to say we have done well in this sector for the last couple of years." Chemical and Petrochemical, metallurgy and water (hydropower etc.) are the other sectors ARMATURY Group is active in. The company has gained valuable experience in the design of valves, used in steel production, owing to its close proximity to the steel manufacturers in the area. Currently, we supply to 24 steel mills around the world. Typically, high-temperature, low-pressure conditions require engineered product solutions. "Hydropower is still relatively small", says Kremel, "but it has definite growth potential as many governments within and outside of Europe aim to increase non-fossil power generation."

Gaining traction

Speaking about geographical markets and operating from its base in the center of Europe, ARMATURY Group has expanded and is exporting - as mentioned before - to more than 70 countries worldwide. Besides its head office in Dolni Benesov, located close to Ostrava, the company has established offices and representatives in important markets such as in Slovakia, Russia, Germany, Austria, UK, Indonesia, China, and the United Arab Emirates. In other markets, ARMATURY Group largely works with agents and distributors.

Petr Bolik is responsible for sales in Western Europe. Interestingly enough his territory also encompasses Northern Africa, India, and



the Middle East. "Apparently, there are more regions in Western Europe than I learned about in school," laughs Bolik. "Given our European origin, located in Central Europe, we have established our brand and products throughout the continent. In other regions, we are relative newcomers although we are gaining traction."

Approved by ADNOC

One of these regions is the Middle East. As mentioned before, ARMATURY Group has established an office in Dubai from where it can contact both clients and potential customers in the region. In 2018, the company underwent a strict audit and has been an approved supplier for ADNOC Group, the national oil company of Abu Dhabi.

History

The roots of ARMATURY Group lie in the North-Eastern region of the Czech Republic around the city of Ostrava. Valve production in this area started after the Second World War when the government decided to centralize the location of several industries, such as Coal, and Steel production, as well as valve manufacturing. In the late 1970s, several valve manufacturers along with other companies were assembled under the state-owned entity 'Sigma'. In the early nineties, following the Czechoslovakia's independence, many government-owned businesses were privatized, including Sigma. A number of smaller businesses were formed, three of which later decided to merge into one holding, namely 'ARMATURY Group' and were registered by its owners in 2000. Originally, this group engaged in three areas: storage, distribution and service-related activities. Later on, the company also engaged in valve manufacturing /assembly and design.

42% Classic and nuclear power industry	34% Ball valves
31% Oil & Gas	21% Butterfly and check valves
15% Chemical and petrochemical industry	24% Gate valves
9% Metallurgy	8% Globe valves
3% Water	9% Metallurgical valves
	4% Other valves

ARMATURY Group's product portfolio and the company's key end-user markets.

COVER STORY

Bolik: "This achievement is very important for us because oil and gas companies in the Middle East prefer references from other companies that are active in this region. By achieving ADNOC Group's approval we have shown that we are capable of satisfying even the most demanding quality requirements."

In Northern Africa, ARMATURY Group has built a track record in countries such as Algeria, Morocco, and Egypt. "In Algeria, we are being very successful", Bolik says. "Since 2013 we have exported over 860 valves - in particular ball valves - to Algeria for gas storage and transport. We also intend to establish a separate company to produce small size 'ARMATURY Group' branded ball valves. Many governments prefer to promote domestic production. That's why we intend to engage in this activity."

Turnkey projects

According to Bolik, ARMATURY Group has built a reputation for designing and manufacturing valves for challenging applications. A significant part of the company's business lies in engineered products.

Bolik: "Our company has a long history in the valve business and we have worked hard to deliver high-end products that are comparable if not better than similar products from our Italian or German competitors. In terms of pricing, we are not able or interested in competing with Asian manufacturers. Hence our preference for tailor-made/bespoke valves. In this market segment, we are price-competitive. In essence, the price is always important. However, the Total Cost of Ownership should be paramount."

Bolik also mentions that clients increasingly prefer turnkey projects. Projects which ARMATURY Group is able to fulfill, given



its broad product portfolio (piping, flanges etc.). "Last year, we undertook several assignments that were plug and play. In order to accommodate these projects, we hired experts in electric and electronic engineering."

Manpower the most important factor

Talking about manpower resources, ARMATURY Group states in its year-end report that this resource is of utmost importance to the company's well-being. ARMATURY Group prides itself by being one of the most important and stable employers in the Ostrava-region. It is also investing in personal development. Emphasis is placed on training programmes, courses focused on technical, communication and/or interpersonal skills and language acquisition.

Part of the Group's personnel - 35 to 40 employees - are working in the R&D department. Lukas Kusnir, (since Q1 2018) the

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Megavalve

Hydropower is the largest source of renewable electricity in the world, producing around 16 % of the world's electricity from over 1 200 GW of installed capacity (source IEA). Cumulative capacity is still expected to increase by an additional 125 GW by 2023.

One of ARMATURY Group's flagship projects has been in this sector. Already in 2011, the company developed and manufactured a massive, 35-ton DN 3500 butterfly valve for a hydropower plant in Rendalen, Norway.

Kremel: "To date, this is the largest butterfly valve we have manufactured. It has been installed into a pipeline with a length of 140 meters and a diameter of 3,8 meters in a new 100 MW hydraulic power plant. When fully open, the butterfly valve has a flow rate of 60 m³/s, which really is a very high number indeed."



R&D-director of ARMATURY Group, is heading the team of 5 designers that are responsible for innovations in design and material selection and manufacturing.

When asked about some of the achievements of his team, Kusnir mentions a new design for a gate valve. "Originally, the valve was constructed from one piece which makes the design relatively expensive. We have developed a three-piece welded design which has manufacturing benefits whilst guaranteeing the same performance."

New design, less friction

Another innovation is a ball valve with retractable seats and metal-to-metal seating surfaces. Current metal-to-metal seated ball valves are trunnion-type ball valves. Disadvantages of existing solutions, says Kusnir, include the friction between the seating surface of the ball and the sealing surfaces of the seats when turning the ball; the subsequent wear of seating arises as a result of friction and susceptibility of the narrow seating surface to damage due to the penetration of impurities.

"We have developed a new design with retractable seats. This proprietary design eliminates friction when the ball is turning. This solution brings a higher thrust of the seats with respect to the ball, a wider seating surface, lower operating torques, elimination of the risk of wear due to friction and/or fluid flow and the possibility of using smaller actuators. With this design, we have managed to design a metal-to-metal seated ball valve that is able to provide a leakage rating A according to API 6D. Mind you, many soft seated ball valves are

Export highlights

* Ball valves for gas pipelines in Africa

The company has established a track record in (North) Africa. In addition to Algeria - 860 valves shipped since 2013 - the company has also shipped valves to Congo, Ethiopia, Nigeria, Uganda, Sudan, Morocco, and Egypt.

Bolik: "Because some of the valves are to be buried they had to be fitted with extended stems for remote operation and the whole assembly had to be insulated using a special ecological coating which provides high corrosion protection as well as mechanical strength."

* Ball valves for gas pipelines in Poland

Since 2014, ARMATURY Group has been involved in deliveries for the Korytarz Północ - Południe gas pipeline, the most important investment program supported by the European Union in Poland. The company is one of the leading suppliers of Gaz-System, a natural gas transmission operator. In 2018, the company supplied 222 ball valves to this company, more than half of them were in sizes 10" - 40" class 600.

* Ball valves DN 1400

The most interesting valves are DN 1400 ball valves, for example for the company NET4GAS or Eustream. The ball valves are produced in fully welded design, with welded ends and operated using an electric actuator. Some of the valves, designed for underground applications, will be protected by a proprietary coating system, 'Protegol'.

* High-pressure gate valves

In 2018, ARMATURY Group dispatched two huge pieces of high-pressure gate valves S43 DN 600 to Indonesia. The complete 3,3 m high armature, including the mounted control, weighed a respectable 6,500 kg.

The gate valves are designed for very high service parameters and are operated by a spur gear operator and an electric actuator. The service fluid is steam with a pressure of 121 bar at a temperature of 530°C.

* The goggle valves DN 1800 for blast furnace

In 2018, ARMATURY Group produced goggle valves for the blast furnace. The gate valves DN 1800 and DN 800 meet strict conditions which are in the blast furnace in Linz, Austria. The working medium is an aggressive blast furnace gas having a temperature of 80°C and a maximum pressure of 0.25 bar. The gate valve DN 1800 is a real giant, it weighs over than 12 tons, is nearly four meters high, and including the console for removing the cover reaches a length of 9.3 meters. Such a valve is difficult not only to draw but also to manufacture and manipulate with it. The goggle valve DN 1800 is made from 3394 pieces.

able to achieve the A-rating only at the test before taken into operation. Our valve still has an A-rating after two years in operation, with metal seats."

Multi-million investment in production infrastructure

Finally, Mr. Kremel takes Valve World for a short tour in its manufacturing and storage facilities. In 2014, ARMATURY Group completed a two-year, multi-million Euro project to renovate parts of its existing infrastructure such as offices and storage areas and to rebuild its manufacturing halls.

"The significant investment was needed both to increase production capacity to anticipate future growth and also to invest in state-of-the-art equipment," Kremel says. "As you can see, you can track the production process from start to finish. At the front end, we have CNC-machines and welding machines/welding cabins. After assembly, the valves are thoroughly cleaned assembled, sandblasted if needed and finally coated/painted. We are able to track the progression of the valves via barcode. By tracking and discussing progression in production twice a week we are able to respond quickly and make sure we get our orders out in time. Ultimately, it is about customer satisfaction."



Part of the R&D-team testing prototype ball valve with retractable seats.