

Rotork in Germany strengthens worldwide manufacturing and operations



Since it was first founded in England in 1957, Rotork has flourished to become an established leader in actuation technology with a global network of manufacturing plants and sales offices. That growth has come both organically as well as through the acquisition of companies with complementary products and markets. In Germany, for example, the successful integration of the former company PC Intertechnik into the Rotork Fluid Systems Division has further enhanced Rotork's status in this key manufacturing country. Valve World travelled to Melle, in Northern Germany, to learn more from Rotork staff.

By David Sear

There's something unique about Rotork's Melle factory. On arrival this is not immediately obvious because at first glance everything is as would be expected. In one area employees are nimbly assembling small actuators at work stations, whilst further along staff with clipboards are checking some very impressive electro-hydraulic units which would fill a good-sized delivery van. This facility is a model for industrial efficiency, as everyone seems to be working harmoniously and quietly. And then the realization dawns: for a facility that manufactures valve actuators there is little factory noise at all! Valve World's host for the day, General Manager Dr Wolfgang Funk, looks around with a knowing smile. "Yes, it is a very nice working environment, don't you think? Several years ago, we decided to outsource non-core activities. That included machining which creates a lot of noise. Instead, we have established a good network of sub-suppliers for the components we need, be they simple O-rings or indeed complex metal parts. This means we can focus our energies

on what is important: listening to our customers, understanding their needs and then quickly assembling actuators to suit their exact requirements." Dr Funk makes the process sound simple, but take a look at the extensive range of hydraulic and pneumatic actuators leaving Melle every week and it is immediately obvious that this is no sinecure. However, Production Manager Mr. Wolfgang Lübbert confirms that the set-up at Melle is both fast and efficient. "Smaller actuators, such as the RC range, can often be supplied from stock. As far as the other models are concerned we can easily accommodate the normal lead times for our industry, which are around 12 to 16 weeks. Also, if appropriate we can call on assistance from other manufacturing locations within the Rotork Group." Mr Lübbert is confident that the production process can be further streamlined at Melle. "Together with other colleagues within the Rotork Fluid Systems Division I am taking part in a project that is addressing global sourcing. One of the clear goals we have is to reduce our lead times. Another is to enhance

our responsiveness to customers. You would be surprised how many times clients ask us to modify the specifications once assembly has started. It is part of our philosophy to accommodate these last-minute changes as much as is humanly possible." Although the CNC machines may have disappeared from the shop-floor, critical parts of the production process have been kept in-house. Some may be obvious – such as preparing the canisters required on the spring-return actuators – but others are less so – such as painting the finished assemblies. Says Mr Lübbert: "the springs used in certain actuators can deliver an enormous force so their installation needs to be performed by highly skilled welders for obvious reasons. That is very definitely a production stage we want to keep in-house. Also, a correctly applied paint not only looks nice, it can actually enhance the life of the actuator. Hence our investments in a new sand-blasting unit to ensure all surfaces are properly prepared prior to painting."



Control cabinets for actuators destined for the Russian territories are amongst those designed and manufactured at the Melle factory.

Global network

As part of the Rotork Group of Companies, the facility at Melle has a clear role: to engineer, assemble and sell fluid power actuators and control systems to clients in Germany, Russia and the Czech Republic.

Dr Funk explains further: "within Europe, two countries really stand out as valve manufacturing locations: Italy and Germany. Rotork Fluid Systems is very well positioned to serve these valvemakers, as we have a facility in Lucca, Italy, and since 2005 here as well in Melle, Germany. So we are right next door to many leading German valvemakers, making communication fast and efficient. Having said that, probably only about ten per cent of the actuators made here actually stay in the country. That is because the valve companies we work with typically serve clients world-wide. So our actuators can end up in a desalination plant in Sydney or on a gas pipeline in Saudi Arabia." In addition to selling to valvemakers, the Melle plant also has a solid and growing portfolio of direct sales to major end users, such as the German chemical process industry. Dr Funk notes that many end users value Rotork's comprehensive actuator range, with actuators capable of delivering torques as small as 16 Nm as well as models that go up to 500,000 Nm. Asked about sales to Russia, Dr Funk says that they are primarily made direct to the leading majors. "There is a lot of

potential in Russia, such as the burgeoning gas pipeline market. The key to doing business with Russia is to understand how the various parties interact and to be transparent at all times."

As indicated, clients can rely on Melle for all their hydraulic and pneumatic actuator needs. However, the facility does not get involved with another of Rotork's mainstream activities: electric actuators. Dr Funk clarifies this situation. "Before Melle came into the picture, Rotork had a long-established company in Germany which was already successfully selling electric actuators. Because each of the product ranges requires its own approach and essentially serves different customer bases, it was decided to keep these two entities separate. However, please do not misunderstand me – the Melle factory is not an island. We are an integral part of Rotork and benefit enormously from the company's global network. Yes, there is some friendly competition between the various manufacturing plants but we co-operate at all levels. For example, if we receive an enquiry from a local valvemaking for an actuator that is destined for China, then our offices there can communicate directly with the actual end user. The benefit is that we can make sure we fully understand where and how the actuator will be used. Similarly, we can provide support to our counterparts in say the USA if they have an order to supply actuators to Europe."



Production at Melle encompasses the full range of Rotork fluid powered actuators.

Robust yet precise

Looking at many of the products being prepared for shipment from Melle it is possible to identify two distinct 'elements' to each actuator assembly. The bottom half comprises a rugged actuator; whilst the top half features a complex control system housed in a sturdy cabinet. Says Mr Lübbert: "indeed, our products require a broad range of engineering and production skills. The actuator is often specified to deliver a very high

torque, so the parts need to be robust yet machined to tight tolerances. But in itself the actuator can do nothing without the intelligence of the control system to operate it. This requires a good understanding of electronics and instrumentation, etc, if the valve is to be moved with the required precision. We have proven skills in engineering and producing such systems, giving the client the reassurance that his flow control unit will work as expected. Our ability to

successfully marry these varied demands gives us a distinct edge." At Mr Lübbert's invitation, Valve World took a closer look inside several control cabinets on the factory floor and came up with an immediate query: what is the function of the brown electrical cables that seem to run at random inside several of the cabinets? Mr Lübbert explains with a wry smile: "good question! Well, as you know, many of our actuators are in use throughout Russia on the gas pipelines. Now, temperatures there can plummet

Nuclear qualified fluid power actuators complete Rotork's power industry product range

The Hiller range of fluid power valve actuators encompasses rotary and linear, double-acting and spring return pneumatic and hydraulic designs. The range also includes specialised linear hydro-pneumatic actuators designed to deliver very precise speed control. Applications include main steam isolation valves, where Hiller is the recognised choice for boiling water reactors in the USA. Other duties include feed water isolation valves, HVAC system dampers and balance of plant auxiliary systems. Quality assurance for these products, which conforms to 10 CFR 50 APP B, 10 CFR 21, ANSI N45.2, has been audited by both NUPIC and NIAC. Environmental and seismic qualifications comprise IEEE 323, 344 and 382. The acquisition of Hiller enables Rotork to add established nuclear qualified fluid power actuation technology to its existing comprehensive electric actuation capabilities in the nuclear power industry, completing its portfolio of power generation products.



A world of Rotork applications

The LNG complex at Quintero Bay encompasses a sea terminal and plant for regassifying and distribution by pipelines into central Chile. Rotork pneumatic, high pressure gas and gas-over-oil valve actuators are installed throughout the project, which is expected to meet 40% of the demand for gas in Chile and secure energy independence for the country.



EuroLoop will be the world's largest research and test site for the calibration, verification and type testing of industrial flow meters and for the performance of industrial experiments involving process technologies and flow. The two closed-loop calibration circuits – one for liquid and one for gas – are fully automated, utilising Rotork RC Range pneumatic actuators, IQPro electric actuators and Pakscan P3 two-wire digital control.



Underground gas storage facilities in Latvia are being developed and upgraded to secure the supply of natural gas to Baltic countries. At the Inčukalna plant over 300 Rotork IQPro electric actuators are installed to operate ball valves controlling gas receiving and injection into storage wells. Modulating versions of the IQPro actuators are also installed in the site's metering plant.



Rotork's CVA electric control valve actuator has been selected by the El Paso Exploration and Production Company in Wyoming, USA for water flooding – a method of secondary recovery in which water is injected into the reservoir formation to displace residual oil. The CVA's configurable failsafe capability, unlimited modulating ability, compact size and Bluetooth communication technology have contributed to the decision to install the actuators at five oil field well sites.



to minus sixty degrees in some places. Therefore, we have installed heat tracing to ensure the systems will continue to operate perfectly, whatever the outside temperature!" (see box 'sixty below'.)

'Made in Melle'

Looking ahead, Dr Funk predicts a bright future for Rotork in general and for the Melle factory in particular: "Sales from Melle have risen strongly in recent years,

even through the economic dip. Now our teams are reporting an increasing demand for sophisticated actuation solutions. Clients turn to us with flow control challenges and our job is to design and assemble an appropriate product. That's why we have a lot of engineers and skilled technicians working here and why we pay careful attention to each and every order, right from the enquiry stage." Another clear advantage that Melle has to

offer is the enormous product range it can deliver, from small actuators weighing just a few kilogrammes to monster systems that tip the scales at several tonnes. Dr Funk: "Today we can provide about 95% of Rotork Fluid Systems' entire product range. And, once a new, heavy-duty gantry has been installed, we will be able to manufacture the complete portfolio, putting us on track to become a centre of excellence for high pressure products. The ability to produce all possible hydraulic and pneumatic actuators right here in the industrial heartland of Europe will, I believe, be a major factor in our on-going success, as we can serve clients promptly and efficiently."

Asked if he could indicate some specific future growth areas, Dr Funk says that there are still plenty of opportunities within the refineries, chemical process industries and power sectors in Germany. He also notes that gas storage could be a particular growth market, if policymakers decide to increase strategic gas reserves within Germany from thirty to ninety days. "We have a proven track record in all these markets and we have the staff and the space to raise production. You know, the 'Made in Rotork Melle' label is held in high regard by our clients, as it stands for skilled engineering, quality products and on-time deliveries. Therefore, we are looking forward to the future with plenty of confidence."

Sixty below...

To ensure equipment is suited to the extreme winter temperatures found in parts of Russia, Gazprom requires that suppliers ensure their products pass the so-called Saratov Test. Saratov, it should be noted, is a major city where temperatures can plummet to minus 60 degrees centigrade.

Many Rotork actuators already have this accreditation and the engineers in Rotork Melle are working hard to ensure that even more products suited for high pressure gas applications are certified soon.

Comments Dr Funk: "In fact, Gazprom stipulates that complete systems should be tested. In our case, that means the valve plus the actuator plus the control unit. Therefore we work closely with a leading valvemaking and run these tests together."