



Ge F. Fischer Tells It His Way

Reflections From a Pioneer of Flow Measurement

While at Gastech 2011 in Amsterdam, Flow Research interviewed Ge F. Fischer, founder of the Instromet Group, for its interview series, "Pioneers of Instrumentation." The story of Instromet is a fascinating one that involves several flow companies, including Ruhrgas, E.On, American Meter, and Elster. Today, Instromet has been absorbed by Elster and is part of the Elster Gas North America and Gas International business units. The Elster-Instromet group is a leading supplier of ultrasonic and turbine flowmeters. In 2009, the company introduced a bi-directional turbine meter designed to significantly reduce pressure drop while providing a flow capacity matching existing ultrasonic gas meters. The company also has developed a gas metering solution that is designed to reduce measurement uncertainty by combining turbine and ultrasonic meters in a serial solution.



Ge F. Fischer, founder of the Instromet Group, has enjoyed a long and storied career in the flow measurement business, and he still may have a trick or two up his sleeve.

Measuring Gas As a Hobby

"I'm a hobbyist of gas measurement," says Ge F. Fischer. "Even my wife says the only thing that interests me is gas." Fischer spent 30 years as a key figure at Instromet and built the company into the Instromet Group, one of the largest and most influential flowmeter manufacturers in the world. Fischer is now semi-retired, but he continues his love for turbine flowmeters and his distaste for "bean counters" who hamper technology development with their incessant focus on short-term business results.

When Fischer sold Instromet 10 years ago, he started investigating a system for continuous online checking of specific turbine meters to eliminate the cumbersome need to pull a meter offline except when there is a negative indication. Today, he is still passionate about the need for easier methods of calibration and says he is about to come out with something new involving turbine meters as in-line verification of calibration values. His son, Roger Fischer, works with Elster Amco de Sudamerica in Latin America, promoting the Instromet product line.

'Rockwell-izing' the Turbine Meter

Fischer's career started as an engineer in the Royal Dutch Navy. In 1968, he began honing his range of professional skills in his first non-military position at Rockwell Manufacturing (now Rockwell International). Over the years, Rockwell gave Fischer a range of business experiences, as well as training in the U.S., including a stint at Harvard University. "Being in European Rockwell, one time you had to be an engineer or salesman, another time the bookkeeper," explains Fischer.

Rockwell started Fischer off in the Rotterdam and Brussels facilities. Fischer set up a plant for Rockwell in Essen, Belgium, that still stands today as an Elster-Instromet facility.

Rockwell was investigating gas production, sales, and marketing in The Netherlands and Europe after some gas finds a few years earlier in the North Sea near Groningen, The Netherlands. As a result of the gas finds, American Meter also developed a presence in The Netherlands.

At that time, Rockwell's facility in Belgium was designing and constructing skid-mounted measurement and control stations for the European gas industry. One of its main customers was Gasunie, a Dutch natural gas infrastructure and transportation company operating in The Netherlands and Germany. Gasunie was using turbine meters, and at some point had a need for thousands of them. Instromet, which was founded in 1965, had the capability to produce these meters, so they earned the business and started building them.

Meanwhile, the owners of Instromet had a dispute and decided to offer the company for sale in 1971. Rockwell asked Fischer to buy the company.

"As I had set up a plant for Rockwell in Belgium, they instructed me to go and have a look," says Fischer. "Then, when they bought it, they said, the distance is only 2.5 hours by car, why don't you do this as well. So they put me in charge of the Instromet operation. On April 26, 1971, they said, 'Here, Fischer, you have your little toy.' And they flew back to Pittsburgh.

"At that time, the world wasn't run by the bookkeepers yet. It was not run by the bean counters. So now I had the Belgium plant and a Dutch plant in Silvolde. I split my time between them on a weekly basis.

"We 'Rockwellized' the technology of the turbine meter, and we became, suddenly, the number one turbine meter in the world."

The available European gas turbine meters were not designed for elevated gas pressures, and therefore lacked the accuracy customers were seeking. Rockwell modernized the turbine meter by stabilizing the

measurement curve at elevated pressures.

"Rockwell's turbine meter made it possible to measure gas under elevated pressures and at a far advanced accuracy range," says Fischer. "Today everyone is making copies of those old turbine meters."

Rockwell Chooses B1 Bomber Over Turbine Meters

In the mid 1970s, Rockwell's focus shifted, which was part of the reason it ended up selling its turbine meter business to Fischer.

"Rockwell had a defense contract for the B1 bomber, so nobody in Pittsburgh was really interested in a \$5 million product when they had a \$5 billion product," Fischer explains. "They made me an offer I couldn't refuse, I became a minority shareholder in the European Instromet, and Rockwell departed."

"I started with Rockwell when everybody was driving cars. Then they were in the military and space businesses, and there weren't any more cars left in Pittsburgh. Everybody was riding in helicopters to the various manufacturing plants."

Fischer had two backers, banking shareholders who, he says, "had just bought an airplane at 40,000 feet and didn't know how to fly the plane," and an outspoken interest serving as a second guarantee from customer Gasunie.

After a year, one of the shareholders wanted out. Fischer and the other partner divided the shares. About six years later, that remaining partner suffered a seizure that left him paralyzed on one side, and he agreed to sell his majority shares to Fischer.

"The funny part was, Rockwell wanted to buy the company back again because things had changed," says Fischer. "I was handicapped because they were offering real money, and I had to meet their offer. Anyway, that was all said and done, and I became the single majority owner of the group."

Pitching Turbine Meters to the 'Bean Counters'

One of Fischer's jobs as the new sole owner of Instromet in the early to mid 1980s was to move the mentality of major gas companies from orifice plates to turbine meters to measure large volumes of gas. Ironically, it was Fischer's strategy of aiming his pitch at the bean counters that

contributed to his early success.

"Gas companies are very conservative and don't like to change anything unless you can convince them it's a good move financially," says Fischer. "They were holding on to the orifice meters. That's what they learned. I always requested to talk to the CFO," he says. "I'd ask, 'How good are your financial figures? Can we go over the details? How good is your accuracy? Are you plus or minus 0.1 or 0.5? Because, honestly, 0.5 accuracy, when you're talking about couple of million dollars [of product], is a lot of money. The turbine meter's accuracy can't be beat — you'll see for yourself.'"

Adding Ultrasonic to the Mix

Later, Instromet bought an ultrasonic flow-meter line from Stork, a company located in Dordrecht, The Netherlands.

"Stork had been developing an ultrasonic meter for many years but never had the reputation, so I bought it from them," explains Fischer. "They had done a good job technically, but the owner wasn't willing to commit sufficient effort. Marketing, developing a reputation, and seeking metrological approvals is expensive. Stork decided it wasn't in their interest to keep the ultrasonic meter."

Around that time, Instromet also obtained one of the biggest measurement contracts in Russia — \$100 million. Instromet also became a 25 percent shareholder in TransCanada Calibrations Ltd. (TCC), not with cash, but with the promise to deliver ultrasonic and turbine flowmeters to serve as calibration instruments in the laboratory. TCC, located on the TransCanada Pipeline mainline, today provides turbine and ultrasonic meter repair and refurbishing, high-pressure natural gas flow calibration, and pressure and temperature device calibration services to an international customer base.

The End of an Era

Around 1998, Fischer was approached by Ruhrgas, owner of AMCO and Elster. The company started talking about the possibility of acquiring the Instromet group.

"First, I started laughing about it," says Fischer. "I said, 'Why don't you invest 10-15 million DM and get yourself up the line?'" To this, Fischer says they respond-

ed, "We would like to, but we don't have the ideas."

Ruhrgas ended up buying Instromet in 2001 and internally transferred the essence to Elster. Then E.ON acquired Ruhrgas.

"At the time, Ruhrgas was doing about €6 billion and E.ON was doing €2 billion. Part of E.ON was Elster, which was doing €1.3-1.5 billion," says Fischer.

Fischer says E.ON was unsure of what to do with Elster and ultimately sold it to CVC Capital Partners. In 2005, CVC Capital Partners acquired Ruhrgas Industries and renamed it the Elster Group.

Turbine Meters Still Shine

"Turbine meters are still a 'new' technology," says Fischer. "Turbine meters have built-in precision and the capability to remain accurate even with flow disturbance."

"Ultrasonic meters are excellent, except you may not know what will deform the flow — you can't correct for that. You can do the straightening thing [provide a straight run] but once you do that, you're back to a turbine meter configuration."

"Ultrasonic meters become of interest specifically in larger pipelines where there is no flow perturbation. If you have any flow disturbance up front of the meter, then you really don't know what's going to hit your ultrasonic meter, and you can't completely neutralize or stop that influence."

"In order to be sure of the accuracy of an ultrasonic meter, you really have to calibrate the meter together with the upstream and downstream pipeline. Now you have pipelines you have to transport to TCC or Euroloop system, which are almost their own Bible, and cost becomes a handicap."

When turbine and ultrasonic flowmeters need to be calibrated, they are often taken out of service and shipped to a calibration facility. Shipping can be costly, especially if the meter is in a remote country or region. TCC and Euroloop are two such calibration facilities. TCC is located in Manitoba, Canada, and was founded in 1999. It has provided ultrasonic and turbine calibration services since 2001. Euroloop is a new flow calibration facility located in Rotterdam, the Netherlands. It provides calibration facilities for both oil and gas flowmeters. Euroloop was established



by the Van Swinden Laboratorium (VSL), which was formerly National Metrology Institute (NMI). It was built with the cooperation of a number of leading flowmeter companies, including KROHNE, Elster Instramet, and Endress+Hauser. Euroloop began operations in March 2010.

A Legacy Continues

"You know, when Rockwell sold out 40 years ago, they offered me a job in the States," says Fischer. "I liked the money, but they were going to send me to Anaheim, and it's a financially oriented company. If someone says – can I interest you in something else? My answer is 'Maybe.' But I know what I'm doing in gas measurement, because that's where I've devoted my time and my interest."

Today, the Elster Group is one of the world's largest electricity, gas, and water measurement and control providers. Its offerings include distribution monitoring and control, advanced smart metering, demand response, networking and soft-

ware solutions, and numerous related communications and services.

Elster has one of the most extensive installed revenue measurement bases in the world, with more than 200 million metering devices deployed over the course of the last 10 years. It sells its products and services in more than 130 countries across electricity, gas, water, and multi-utility applications for residential, commercial and industrial, and transmission and distribution applications.

Elster Group operates production facilities in Belgium, Denmark, Netherlands, France, Germany, Spain, Italy, United Kingdom, Turkey, Poland, Russia, Slovakia, China, England, Canada, Mexico, Argentina, and the United States. **FC**

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In the July issue of Flow Control magazine, Flow Research will follow up this article with a detailed analysis of the turbine flowmeter market and the technology trends in this category.

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