A discussion with Yves Gamache

The story of an inventor who is passionate about revolutionising gas analysis

The first digital trace N₂ analyser

In 1992 under the Contrôle Logique operations, the first digital trace N₂ analyser on the market was developed. It was named the K2000. The driver behind this invention was the poor performance of the existing analyser installed in the Air Separation plant I was working. The technology breakthrough was down to a novel low power, low frequency high voltage dielectric barrier discharge plasma detector and the selection of the 337.1 nm nitrogen emission line for the measurement. Despite its size and weight, 70 pounds, the performance was superior to every commercially available instruments.

The performance was of a dielectric barrier discharge plasma detector and the selection of the nitrogen emission line for the measurement. All this in early 2000. The k4000 actually became a best seller and our design concept has been a source of inspiration for some major process GC manufacturer. As the K2001 did, the K4000 became the semiconductor industry standard for the trace measurement of N₂ and Ar in O₂. This was made possible by the detector sensitivity and also a new chromatographic column for O₂/Ar separation, known as the ArgonSep. Something we are proud of.

As the technical boundaries were pushed even further by the KA team during the K4000 journey, many challenges were faced, especially with the chromatographic valve which was the main limiting factor impacting performance and long term reliability. In 2005, a new R&D program was started and we developed our own line of chromatographic valves and fittings.

AFP: Revolutionizing the GC valve market

Soon, these innovations gave birth to a new company named Analytical Flow Products (AFP) founded by myself and André Fortier. At the same time as the spin off of AFP in 2007, the K3000 and its plasma emission detector integrated in a process GC, became the semiconductor industry standard for the trace measurement of impurities in Ar and O₂. The K4000 actually became a best seller and our design concept has been a source of inspiration for some major process GC manufacturer. As the K2001 did, the K4000 became the semiconductor industry standard for the trace measurement of N₂ and Ar in O₂. This was made possible by the detector sensitivity and also a new chromatographic column for O₂/Ar separation, known as the ArgonSep. Something we are proud of.

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AFP launched

After the sale of AFP brand, a new division was born, Analytical Sensing Devices (ASDevices) and founded by the original team behind the success and revolution of KA and AFP, Yves Gamache, André Fortier and André Lamontagne.

Again, here, the innovation is on the front line. Based on our experience, market insights, a major investments in R&D and a portfolio of over 12 patents, a complete line of products is offered. Knowing the power and limitations of the plasma technology I introduced more than two decades ago, an enhanced version with new measurement modes will be offered amongst 4 other sensing technologies. Moreover, a full line of accessories comprising purifiers, a modular GC oven, snap in I/O modules and a novel industrial fitting will be offered.

In 2008, while most of the industries involved in the analytical market cut down their development budget to the economic crisis, we did the opposite in order to complete the AFP product line. Several patents were filed and AFP products became number one on the market in term of performance. AFP is now the leading brand.

Then, the story repeated. AFP was facing a rapidly growing order book and a major investment was required. State of the art CNC machine, qualified manpower and a new building was required. This with the burden of becoming again more of a business manager and number cruncher. In order to continue a long term vision of designing innovative products for chromatographers and secure AFP supply chain, we decided to sell in May 2017 all the valve business technology asset (not the company), to the people who had been manufacturing the valves for many years, APN World.

ASDevices - Disrupting gas analysis

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ASDevices launched

AFP valve patents portfolio sold to APN Global.

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