

# 30 years ago,


## World's First N<sub>2</sub>-in-Argon Digital Analyzer Was Born


In 1993, Yves Gamache created the world's first digital analyzer to detect N<sub>2</sub> in argon and helium, a completely interference-free device based on spectroscopic emissions of low-power plasma. Until then, the dominant technology for the measurement of N<sub>2</sub> in argon was based on the argon ionization detector using the ion mobility principle, developed by James Lovelock. The detector used a small radioactive source, tritium foil, that generated high-speed beta radiation slowed down by the argon flow, turning into metastable that finally ionized the nitrogen impurity. Major drawbacks included managing the source of radioactive waste, as well as dealing with strong cross-sensitivity, meaning the response to CH<sub>4</sub> and CO was the same as N<sub>2</sub>. Moisture was also an issue. The new technology created by M. Gamache eliminated these problems.



Yves Gamache  
and the K2000  
(1993 edition)

The new device was quite bulky, weighing about 60 pounds. Since nothing comparable existed at the time, the new components had to be manufactured and assembled by hand, by the manufacturer Kontol Analytik. This major innovation – called K2000 – was the result of over 1 year of research and development.

It also marked the starting point of what became a worldwide standard for air separation facilities. Still today, most of them use a system based on this patented technology. Currently, the **N<sub>2</sub>Sense**  is the best online process gas analyzer on the market, with its ultra-compact technology that performs 100 times better and offers all required connectivity options.

Along with the ASDevices team, Mr. Gamache has never stopped innovating. The company is very proud to now offer its most recent generation of online process analyzers, called the **Sense line** .

N<sub>2</sub>Sense  
2023



  
**ASDevices**