



Agilent Vacuum Awarded a Multi-Year Contract by CERN

A rewarding partnership that has stood the test of time

In September 2020, Agilent was awarded a purchase contract to supply CERN with ion pumps and controllers for the next four years, the most recent milestone in a long-lasting partnership of more than 50 years, between the two organizations.

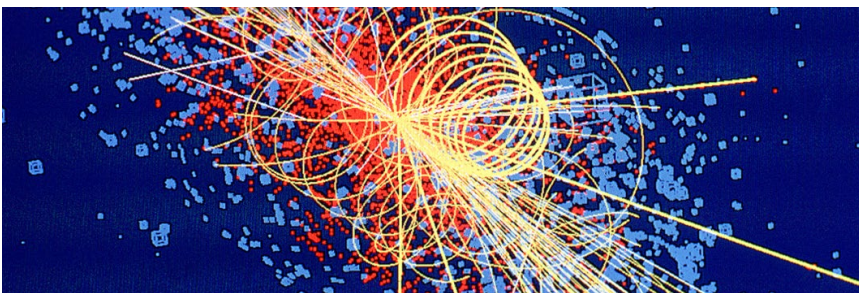
CERN, the European Organization for Nuclear Research, with more than 20 member states, is the world's leading nuclear research organization.



4UHV and IPCMini Controller, Vaclon Pumps (models from left to right 75, 150, 300, 500).

The cooperation between Agilent and CERN dates back to 1967, when Varian opened the Torino factory specifically for the manufacture of ion pumps designed to create ultra-high vacuum for the first CERN experiment.

Since then our pumps have been used by CERN for some of the most challenging particle physics experiments, including the recent identification of the Higgs Boson.



Higgs Boson visualization



Mauro Audi

Global Marketing Manager,
Academia Government & Research
Vacuum Products Division
Agilent Technologies

"Agilent is the market leader in ion pump technology and this latest achievement is additional recognition of the quality of our products and continued dedication to our customers."

"Our success is a result of constant support and long-term partnership with CERN. Over the years, we have developed many dedicated solutions in collaboration with CERN and while our technical abilities to understand the demands of high energy physics are key, so is our customer support.

Maintaining close contact, even during these difficult times, has been an added value that contributed to this contract."

Mauro Audi



Trusted Answers

Agilent Vacuum: The Ultra-High Vacuum Company

Agilent has over 60 years expertise in the manufacture of high and ultra-high vacuum pumping equipment for a range of applications including high energy physics, particle acceleration, and surface science.

The Varian invention of the sputter ion pump in 1957, and of the ConFlat Flange (CFF) ushered in the era of ultra-high vacuum. The availability of vacuum systems that could routinely achieve pressures below 10^{-11} mbar (Torr) enhanced R&D efforts in high energy physics.

All major innovations in ion pump technology have originated from Varian Vacuum (now part of Agilent), from the first Diode pump to the Triode, then to the StarCell series Vaclon Plus.

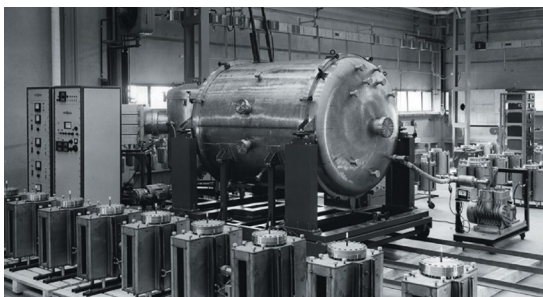
Agilent supplies UHV and XHV (extreme-high vacuum) solutions to the academic and government labs, particle accelerators and synchrotrons, and large physics projects worldwide.



Ion Pump application - Courtesy of MedAustron.

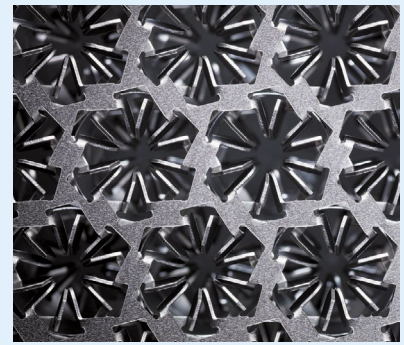
Collaboration with CERN

Since its foundation, Agilent (then Varian) has supplied CERN with high and ultra-high vacuum solutions. One of the first large installations of sputter ion pumps (300 pumps, with a pumping speed of 400 L/s) was the Hadron Collider ISR (Intersecting Storage Rings) that ran at CERN from 1971 to 1984.



1969: a batch of ion pumps for CERN in the Torino Plant.

This was the start of a long history of ion pumps in Agilent's Torino plant, which today is the hub for ion pump development and manufacturing. It was also the start of the intensive collaboration between CERN and Agilent.



Detail of a StarCell pumping element



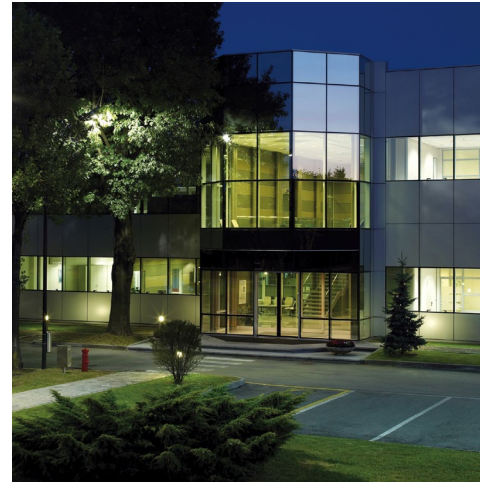
Discover more about the history of Ion Pumps, the invention that made UHV possible

<http://www.agilent.com/chem/ionpumphystry>

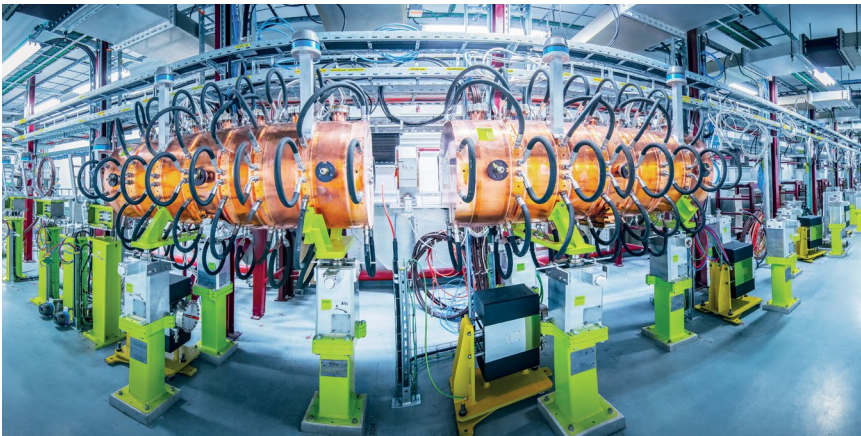
The StarCell ion pump, specifically designed to fulfill the vacuum requirement of the Large Electron-Positron Collider (LEP) project, was developed in Torino in 1983 and tested extensively by Varian and CERN engineers together on the CERN premises.

As a result, more than 1,000 StarCell ion pumps have been built for the LEP project alone. The StarCell ion pump has proven to be one of the most important ion pumps ever developed. It is the pump of choice for creating and maintaining UHV in several applications, ranging from research to industry, including particle accelerators, synchrotron light sources, medical accelerators, electron microscopes, surface analysis, and focused ion beams.

This new contract continues our work together and is a demonstration of confidence in the future of the partnership between with CERN and Agilent.



Agilent Vacuum Products Division Plant
(Leini, Torino - Italy).



Courtesy of CERN - Agilent Ion Pumps mounted on Linac 4 at CERN.

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