

# PROVAC Ltd.

VACUUM TECHNOLOGY



We provide a wealth of vacuum expertise and experience to support you with vacuum design and projects.

Order Online at [WWW.PROVAC.IE](http://WWW.PROVAC.IE)



Ulster Bank Business Achievers Award 2009 - Emerging Technology

PROVAC Ltd.

# Welcome to Provac

Provac Ltd. was established in 1997 to supply vacuum equipment to Irish industry and the third level research community. ProVac are exclusive agents for the market leader Oerlikon Leybold Vacuum GmbH, the oldest vacuum company in the world and work closely with the sales, maintenance and calibration departments in Cologne Germany to bring the highest level of service to their Irish customer base.

ProVacs core business involves sales and service of vacuum pumps and related equipment but the company is differentiated in the market by its capability to design and specify customised solutions for clients in performance-critical process industries such as pharmaceutical, medical devices, coating, semiconductor and R&D.

The company's key competitive advantage has been its ability to add value through delivering vacuum solutions to meet specific customer requirements. ProVacs customer base includes Abbot Vascular, Genzyme Ireland, Boston Scientific, Analog Devices, Intel, Carl Zeiss Vision as well as the third level research institutes and universities such as D.C.U., U.C.D. Trinity College and Tyndall National Institute, Queens University and University of Ulster.

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## Product Overview

INNOVATIVE VACUUM COMPONENTS AND SYSTEMS FOR VERSATILE APPLICATIONS:



**Sogevac B range**

Single-stage rotary vane pumps  
Pumping speed 10 to 1200m<sup>3</sup>/h  
Certified acc to ATEX RL 94/9/EG  
Most industrial processes



**Scrollvac**

Oil-free scroll pumps  
Pumping speed 5 to 60m<sup>3</sup>/h  
Suitable for all applications which  
require dry, clean vacuum such as R&D  
and medical and food industries



**Divac**

Diaphragm pumps  
Dry operation, oil free  
Three pumping speed classes  
Corrosion resistant for pharmaceutical  
and chemical laboratories



**Screwline**

Dry compressing screw pumps  
Pumping speed 250 and 630 m<sup>3</sup>/h  
Certified acc to ATEX RL 94/9/EG  
Robust for harsh applications such as bulk pharmaceutical,  
chemical and vacuum furnaces e.g. aircraft maintenance



**Ruvac**

Roots blowers  
Pumping speed range from 250 to 13000m<sup>3</sup>/h  
Certified acc to ATEX RL 94/9/EG. All processes where high  
pumping speed is required at low pressure



### Trivac B range

Dual-stage rotary vane pumps  
Pumping speed 2.5 to 65m<sup>3</sup>/h  
Certified acc to ATEX RL 94/9/EG



### Turbovac

Turbomolecular pumps  
Pumping speed up to 3200 l/sec  
Hydrocarbon-free for use across the process industry  
from R&D to semiconductor and coating  
High and ultra high vacuum.



### Coolvac

Refrigerator cryo pumps  
Pumping speed up to 60,000 l/sec  
Hydrocarbon-free  
High and ultra high vacuum



### Measuring instruments

Vacuum gauges and pressure gauges  
Measurement range from 1000 to 10<sup>-12</sup>  
mbar l/s  
Reliable monitoring of vacuum  
processes



### PhoeniXL

Helium leak detection systems  
Lowest detectable leak rate 5 x 10<sup>-12</sup> mbar l/s  
Suited for vacuum and sniffer operation  
Reliable in the detection of leaks across all R&D and  
industrial processes



### Vacuum Valves

Valves in different design types  
Manually actuated valves  
Electromagnetic/electropneumatic valves  
Gate valves  
All-metal valves for UHV systems



### Univex

Experimental coating system  
Manual or automatic process control  
Chamber sized from 300x300 to 500x500 x 800mm  
Ultimate pressure up to 10<sup>-7</sup> mbar  
Especially designed for laboratory needs and R&D prototyping





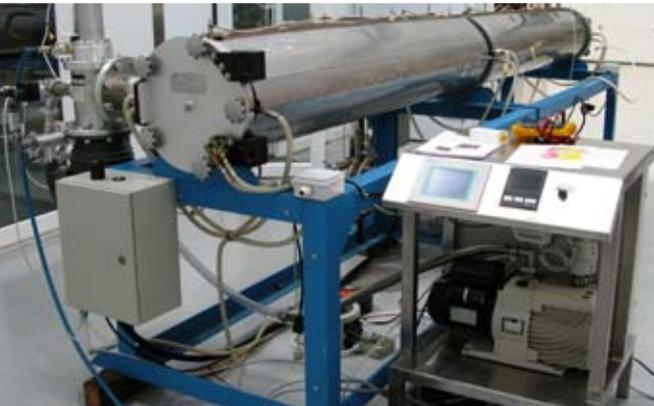
## Designing Systems

From concept to design, manufacture and installation, ProVac provide customized systems to meet customers requirements. Stainless steel vacuum and aluminium chambers finished to HV or UHV standards. Turn-key solutions incorporating vacuum chamber, pumps, gauges, valves and control systems.

Full documentation including operating manuals and IQ-OQ can be supplied.

*"I have always received a first rate service from Provac. Their expertise and advice in relation to vacuum technology has been invaluable in supporting my research activities. The customised service they provide directly addresses the often non-standard requirements of university based researchers."*

Prof. Greg Hughes, Dublin City University Head of Physics



High Vacuum Furnace - Automated & Retrofitted



High Vacuum Drying System

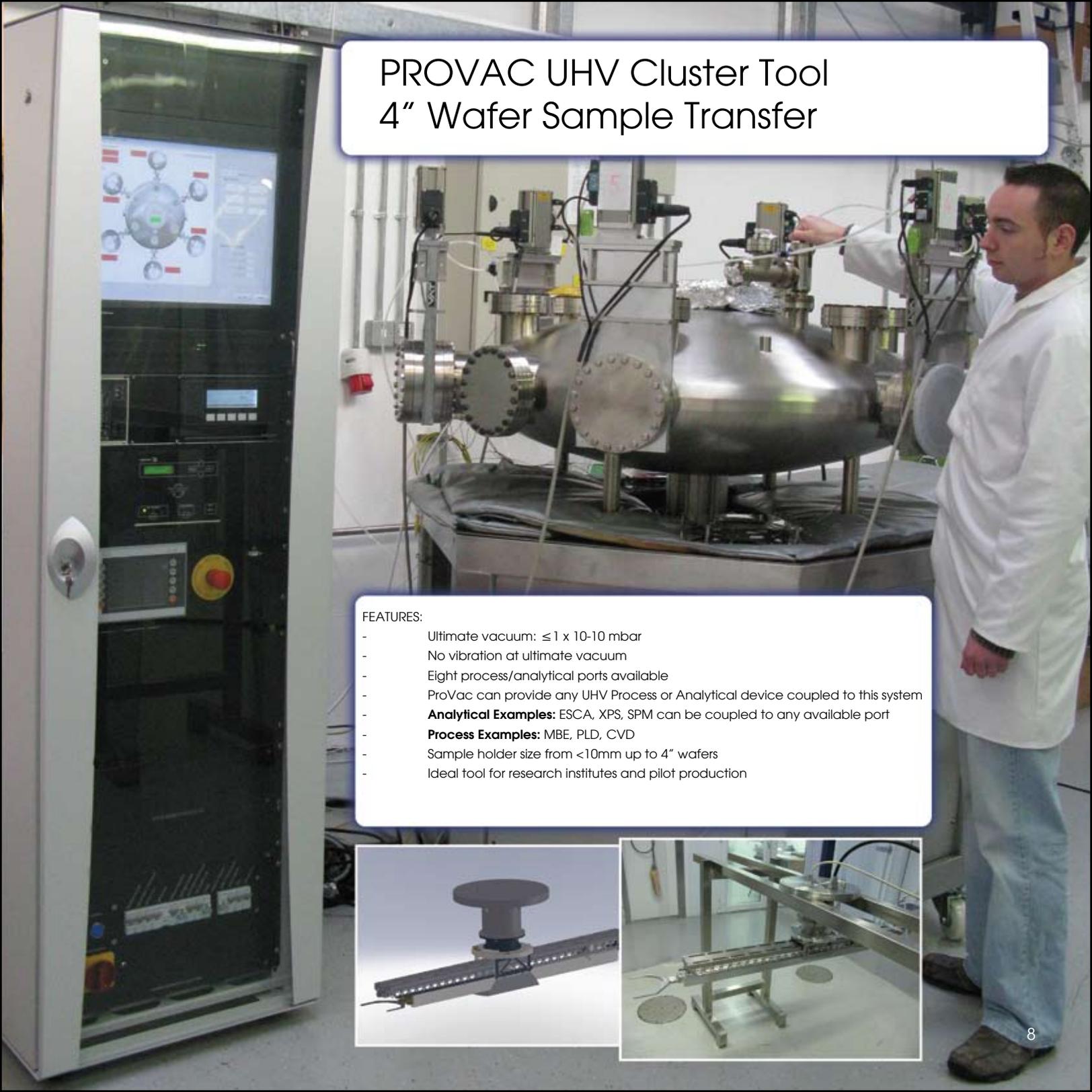


Evacuating System for chemistry applications

## Projects

Provac can convert your ideas into actual designs and provide solutions to satisfy all your vacuum process needs, from simple component assembly to complex hardware and software integration. Our experts work with you to provide the complete solution.

# PROVAC UHV Cluster Tool 4" Wafer Sample Transfer



## FEATURES:

- Ultimate vacuum:  $\leq 1 \times 10^{-10}$  mbar
- No vibration at ultimate vacuum
- Eight process/analytical ports available
- ProVac can provide any UHV Process or Analytical device coupled to this system
- **Analytical Examples:** ESCA, XPS, SPM can be coupled to any available port
- **Process Examples:** MBE, PLD, CVD
- Sample holder size from <10mm up to 4" wafers
- Ideal tool for research institutes and pilot production



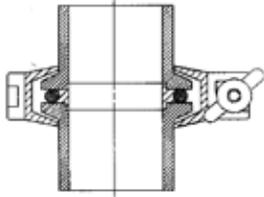
# Vacuum Chambers

Provac provide customised vacuum chambers designed to the specific requirements of our customers. Chambers are manufactured to the highest UHV specification achieving vacuum in <math><10^{-12}</math> mbar and equipped with KF, ISO or CF flanges. All chambers can be supplied with a printout of the RGA Test on request.



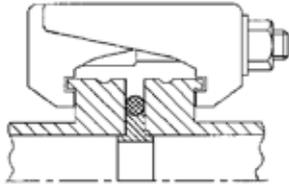
# Vacuum Fittings

ProVac provide a wide range of KF, ISO and CF stainless steel fittings and feedthroughs. Manufactured from high class materials, our fittings are reliable and widely used. Bespoke fittings can also be custom made to any specification.



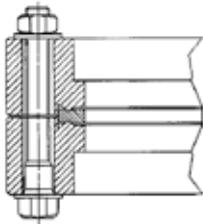
## KF Range

KF quick connect is the standard vacuum connection for diameters up to DN50 vacuum seal to  $10^{-7}$  mbar abs.



## ISO-K Range

ISO-K is the standard vacuum connection for diameters from DN63 up to DN400 – larger diameter on request. Vacuum flange  $10^{-8}$  mbar abs.



## CF Range

Conflat flange (CF) covers the flange DN16 to DN400 – larger on request. Ultra High Vacuum (UHV) sealant with copper gaskets for UHV down to  $10^{-12}$  mbar abs.



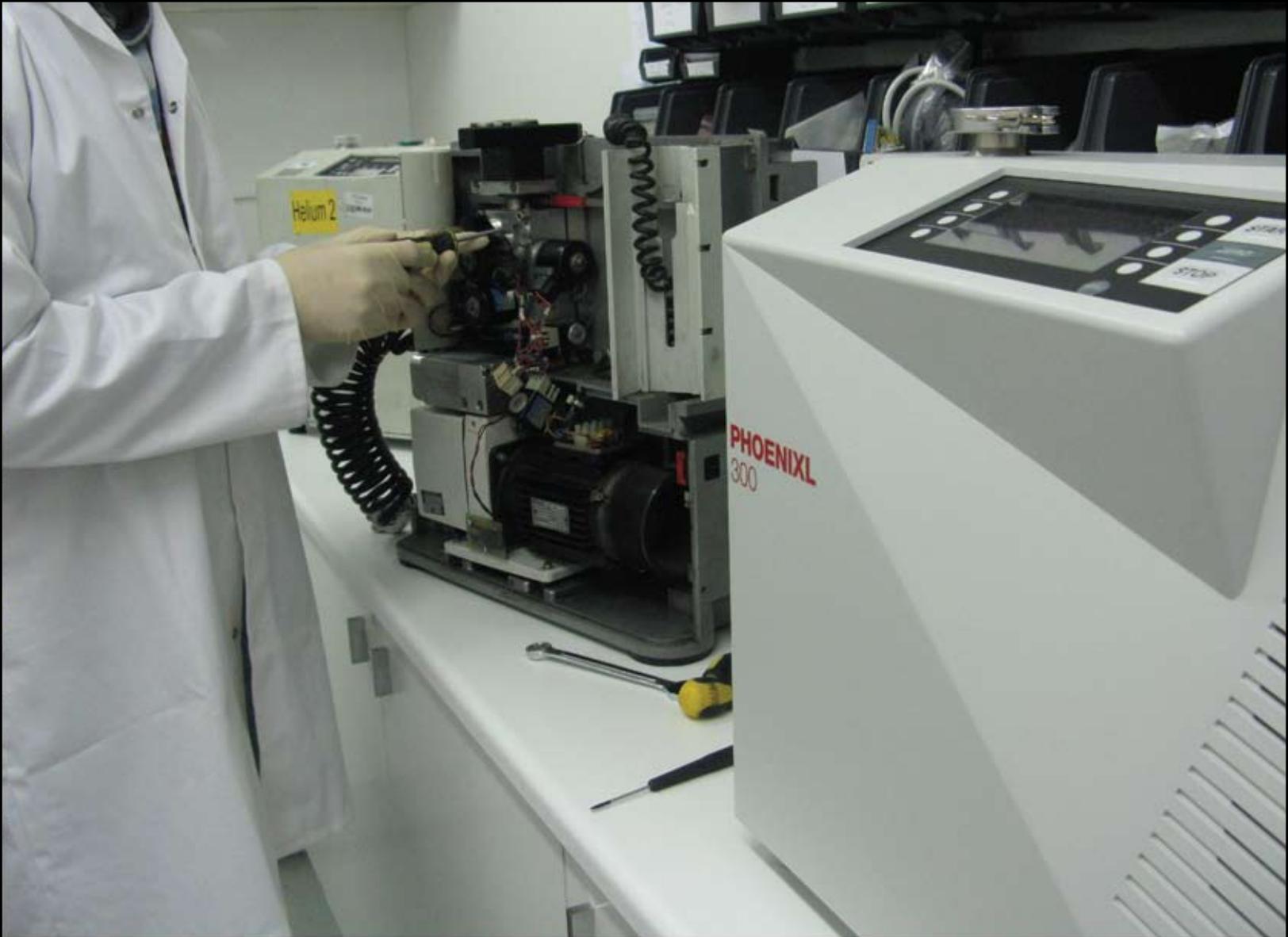


## Vacuum Pump Service

ProVac engineers repair and service all makes and models of vacuum pump either in-house or on-site. Our skilled service personnel provide an emergency call-out service to 32 counties and an exchange and backup pool to keep expensive downtime to a minimum. Maintenance contracts are tailor made to meet customers individual requirements.

*Abbott Vascular Clonmel Ireland have worked closely with PROVAC and developed robust Service Level Agreements which ensure that our equipment is kept functioning on a yearly basis. The service, pricing, professionalism and rapid-response has been excellent.*

Finbarr Foley, Abbott Vascular, Clonmel



## Leak Detector Repair/Service

ProVac technicians provide a comprehensive leak detector repair and calibration service at our service centre in Wexford. All makes and models are catered for by our expert service team. A wide range of spares are on stock and an optimum turnaround time is assured.

ProVac offer a Leak Detection Service, available in vacuum or sniff mode. This service includes the hire of equipment, supply of Helium and a qualified engineer on site in any location in Ireland.

We offer customised leak detectors and leak detection systems for testing of small or large components and for series batch production testing.



## Calibration

ProVac provide factory and independent DKD calibration, carried out at Oerlikon Leybold Vacuum headquarters in Cologne, Germany.

We provide Quality Inspection of all types of vacuum gauges including Penning, Pirani and Ion gauges.



## Vacuum Training Courses

Provac offer training courses in all aspects of vacuum technology, leak detection and leak testing tailor made to meet the specific training requirements our customers. We provide theoretical and practical knowledge transfer by qualified training personnel.

*"The ProVac course was interesting, well structured and well lectured. Detailed questions on all aspects of Vacuum systems, issues, theory, types of pumps, testing methods etc were all answered in a very professional and informed manner. I would recommend this course for anyone associated with a process containing Vacuum systems."*

Barry Foley, Genzyme Ireland Ltd. Waterford

The ProVac name has become synonymous with vacuum technology throughout Ireland and the company has forged a reputation for excellence throughout the specialist vacuum community in Europe.



# PROVAC Ltd.

VACUUM TECHNOLOGY

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