



VACGEN

www.vacgen.com



PRODUCT OVERVIEW

Nuclear

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Nuclear

Engineered Solutions for Vacuum Technology.

VACGEN are experts in the supply of well-proven nuclear valves and, as a result, are tasked by licenced uranium enrichment plants to support their work to fuel nuclear reactors and further research into nuclear energy.

Index

Introduction

About Us

Our Clients

Product Portfolio

Nuclear Valves Overview

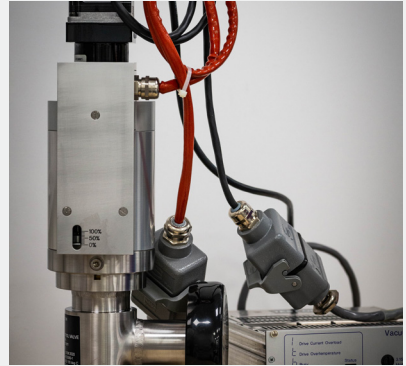
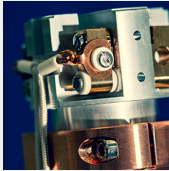
Qualified Range of UF₆ Valves

Product Development

Quality Control

Factory Acceptance Testing (FAT)

Vacuum Chambers





About Us

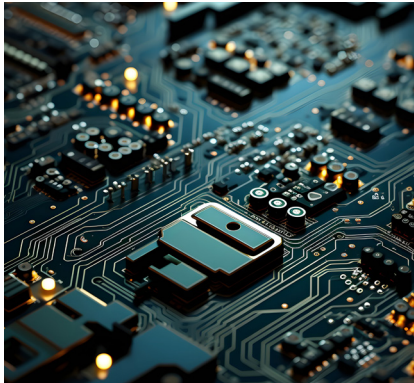
Since 1964, VACGEN (VG) has been the name synonymous with high quality ultra high vacuum products and services. From the manufacture of the first UHV valve to some of the most advanced vacuum research systems built, over 50 years in the research and scientific industry has given us an incredible grounding in the needs of our customers, how we can support new projects through the design phase, delivered product and ongoing support.

VACGEN remains the partner of choice for the next generation of researchers, innovators and builders. From our UK high tech manufacturing base, our focus is on delivering enabling technologies and supporting our customers across industry and academia.

UKAS and BSI ISO 9001:2015 Accredited.

Our Clients

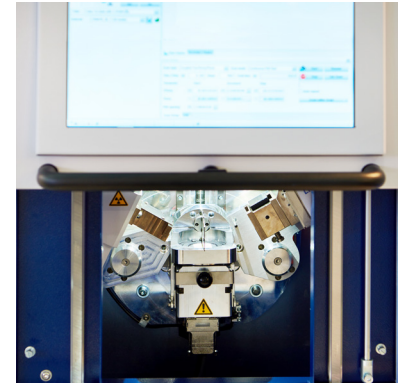
VACGEN offers engineering and manufacturing competence to customers in various industries including semiconductor, medical, defence & aerospace, surface science and deposition.



Semiconductor Industry

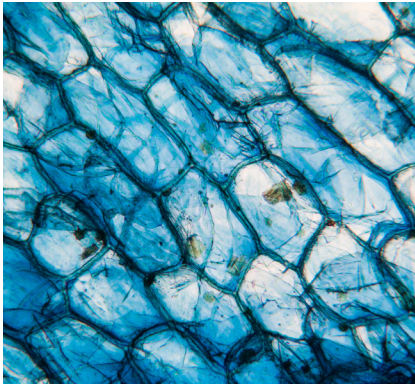


Industrial Vacuum

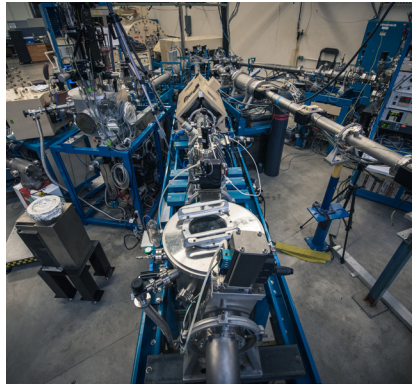


Mass Spectrometry

Build to print or design and prototyping, through to series production, we can support your requirements in vacuum technology. We specialise in design, engineering, CNC machining, welding and clean room assembly.



Surface Science



Synchrotrons



Deposition and Coating

Product Portfolio

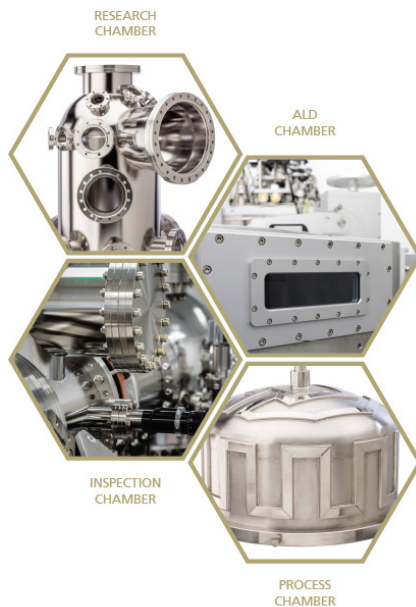
With over 50 years industry experience, our core competence is in the expert design, engineering, manufacture and clean-room assembly of chambers and manipulation subsystems.



DRIVES AND MOTION



UHV VACUUM CHAMBERS



CREMA

CLEAN ROOM ELECTROMECHANICAL ASSEMBLY



Valves Overview

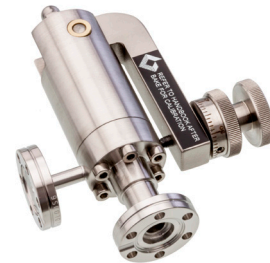
VACGEN have a long standing history of valve manufacture, beginning with the very first true UHV valve developed by VG in 1964. Our wide ranging portfolio of valves includes all-metal right angle valves, leak valves and gate valves. UF₆ Chemical Valves are a significant part of our business.



Right-Angle Valves



Insertable Valves



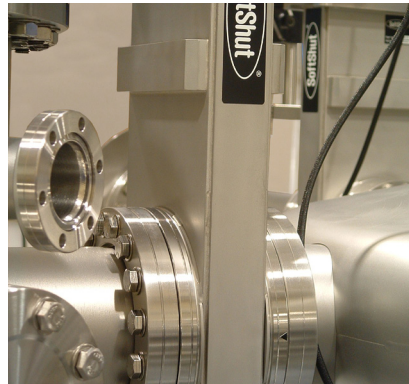
Leak Valves

Since 1998, VACGEN have supplied valves to Capenhurst (UK), Almelo (NL), Gronau (DE), GBII (France) and NEF (USA). Our continued support has been supplied with design updates, spares and replacement product. We pride ourselves on providing technical support and training, online and in person, when new plants are being commissioned.

All valves are supplied under strict export control with all licenses active.



Control Valves



Gate Valves



Nuclear Valves

Nuclear Valves Overview

Our range of valves includes Stop Valves and Control Valves.

Stop Valves

Valves are Open / Closed.

Available in different aperture sizes
(defined by DN size & flange connection).

Actuator methods include Pneumatic and Manual.

Different limit switch configurations to detect open /
closed positions.

U100MS, U100MSL, U100PSNC, U100PNOD,
U100PSNO, U150MS.

Control Valves

Valves are variable to control flow of UF_6

Valves have different cone designs which controls
different flow profiles.

All valves have an integrated stepper motor.

All valves need a valve controller (XVDC0001).

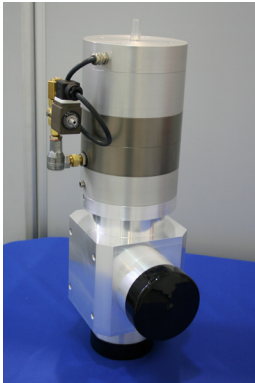
SBUPD602, SBUPD603, SBUPD604, SBUPD869.



Qualified Range UF₆ Valves

All valves are qualified and fully conform to Nuclear Standard specifications. Our supply of large stop valves include DN100 & DN150 sizes and can be manual or automatically actuated. We supply a relatively small range of stop valves to satisfy all the requirements of the plant.

Our range of control valves are supplied in DN40, DN65 and DN100. All valves can be manually or automatically actuated. We have a large number of control valves variants required to satisfy all requirements of the plant.



Stop Valves



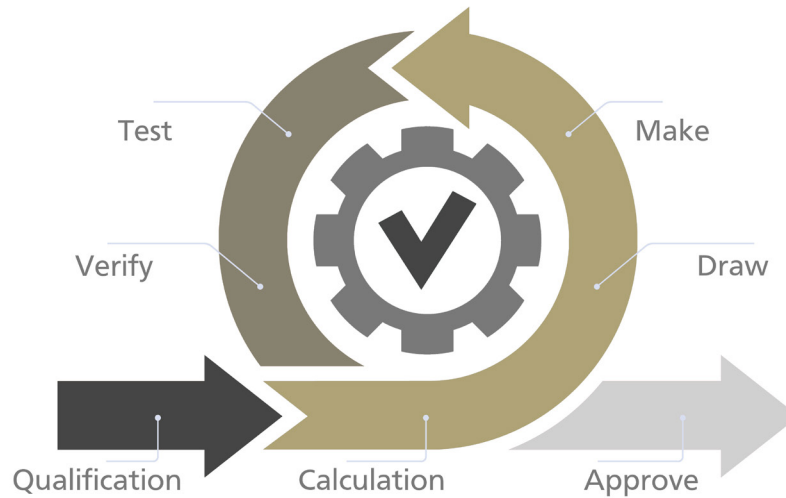
Control Valves



UF₆ Valves

Product Development

Proven designs remain stable with tracked incremental revisions. All design changes are strictly controlled through engineering change procedures at VACGEN, ETC (Enrichment Technology Company) and our key partners.





Quality Control

A certified ISO9001:2015 supplier. Our Quality Management System (QMS) covers design and manufacture of ultra-high vacuum components, manipulation, transport and transfer devices.

We undergo regular audits with British Standards Institute (BSI), internal audits with our quality team, and from external customers.



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Vacgen Limited
Swallow Enterprise Park
Diamond Drive
Lower Dicker
Hailsham
BN27 4EL
United Kingdom

Holds Certificate Number: FM 97504

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Design and manufacture of ultra high vacuum components, manipulation, transport and transfer devices. Design and manufacture and test of assemblies, chambers and components, specialising in clean assembly. With full traceability to incoming material certification in accordance with contractual requirements.

Andrew Laurs

For and on behalf of BSI:

Andrew Laurs, EMEA Systems Certification Director



Quality Management Document Control VGS01-02P

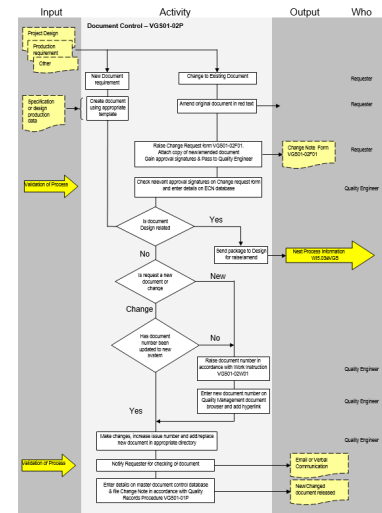
Objective
The purpose of this procedure is to ensure that new documents or changes to documents and the transmittal of internal or external documents, technical queries and correspondence are managed in the best possible manner.

Scope
The procedure does not cover the management of the Engineering Change Note (ECN) process. It looks exclusively at the change control method required when altering or adding documents which form part of the quality management systems at VACGEN Lower Dicker. Changes and requests for VACGEN drawings and related design data changes are dealt with in Procedure VGS04-04P Engineering Changes. For information on the management of design changes, see procedure VGS04-04P. This procedure also covers requests for correspondence, technical queries or documents and transmittals to be transmitted to or received from external parties (suppliers, customers, third parties etc).

Responsibility
The Quality Engineers are responsible for ensuring that this procedure is followed. The Project Manager (PM) and the Appointed Person (AP) are responsible for ensuring all document transmittals are managed and controlled effectively and in compliance with internal and external requirements.

Implementation

- Editing an existing document**
All proposed updates to documents forming part of the quality management systems are submitted, ideally as marked up version or text describing minor changes, to the Quality Engineer for appropriate action (see VGS04-04P Engineering Changes). These requests will then be entered on the ECH database. Quality Management document changes will be administered by the QA department and all design related documents will be forwarded to the design department for consideration. All employees have a duty to inform the Quality Engineers when documents need to be updated. Visitors regarding changes to documents may not be acted on if they fail to meet the requirements laid down by our quality system, design criteria or set by authorities or certification standards.
- Create a new document**
All requests for new documents to be added to the quality management systems are submitted to the Quality Engineer, either verbally or by email. New documents should be created either in draft or on the official template (see below). An ECH need not be submitted for new documents. An electronic copy of the proposed document must be made available. Documents are primarily created in MS Word. Other applications such as MS Excel may be used but only if the format is not suited to a word document. Work Instructions or Forms submitted should ideally comply with VACGEN's document template which is available in the Procedure list in the Quality Links. Procedures however must be created using the procedure template. If alternative templates are employed for work instructions or forms, the person creating or editing the document must ensure the VACGEN header is used.
- Identification**
The document is named on the basis of the rules set out in VGS01-02W01, Rules for File names. These rules apply to all new documents and all changes to existing documents. Many current documents will carry earlier identification numbers. These will remain as the identification until the document is updated, at which time a new number in line with VGS01-02W01 will apply. In these instances, reference to the old document number will be made in the header information. All current documents carrying old identification have been pre-assigned new numbers. These can be found in the quality links under the appropriate document listings. The identification of a document is based primarily on the department concerned, and secondly on the function within that department. All Quality documents will fall within one of three areas, Procedures (Departmental), Work Instructions (job or task) and Forms. Hyperlinks to these documents can be found on the front page of the quality link pages.



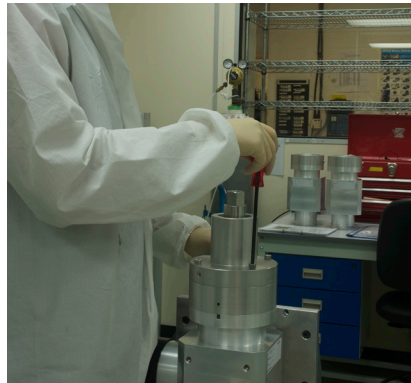
Quality Systems are in place throughout the factory. All aspects of production are controlled, from raw material ordering to packing and despatch, including all documentation.

Our processes are controlled by a quality plan that details specific work instructions. These work instructions include flow charts and turtle diagrams to make processes clear and easy to follow.

All materials are lot traceable by batch.



Raw Materials



Cleanroom Environment Assembly



Controlled Materials

Factory Acceptance Testing (FAT)



UF₆ Valves

Factory Acceptance Testing (FAT) gives the criteria for factory acceptance test and inspection. Setting out all specific tests and inspection levels required (10%, 100% inspection etc).

FAT Includes:

Inspection of documentation including procedures, material certificates and lot traceability.

Visual Inspections.

Functionality Testing.

Leak Testing.

Pneumatics Testing.

Pressure Control Testing.

Helium Leak Testing - General Information

All personnel are qualified as a minimum to EN ISO 9712: 2012 (non-destructive testing).

Leak detector machines are in VACGEN's calibration control system. Internal calibrated reference leaks are in VACGEN's calibration control system. Tenc seal leak tests are carried out using measured helium concentration – catharometer is used and recorded leak rates are corrected for measured He concentration. Leak test data is recorded directly from the leak detector onto computer.



Leak Detector Example



Leak Detector Example



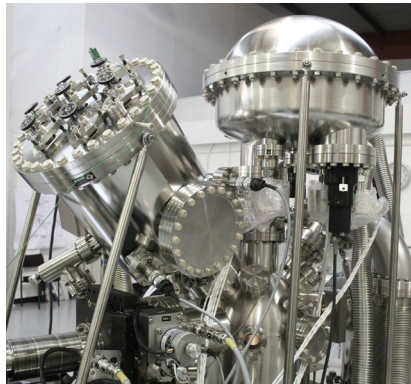
Leak Detector Example

Vacuum Chambers

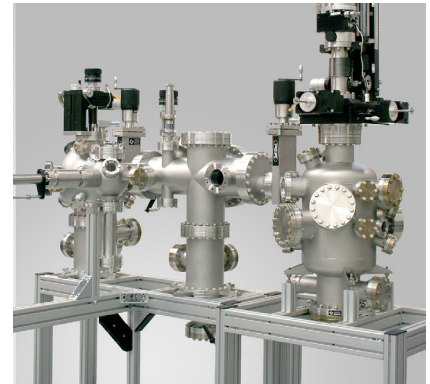
Our vast portfolio of bespoke chamber and system projects, gives us a wealth of knowledge and experience for one-off chamber builds. We can offer a dedicated team to assist you in the design and production of your custom chamber requirements, offering complex geometry chambers with tight focal points and tolerances.



Energy



Research Laboratories



Defence & Aerospace

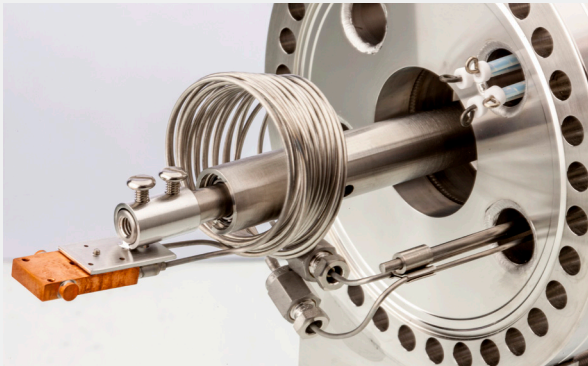
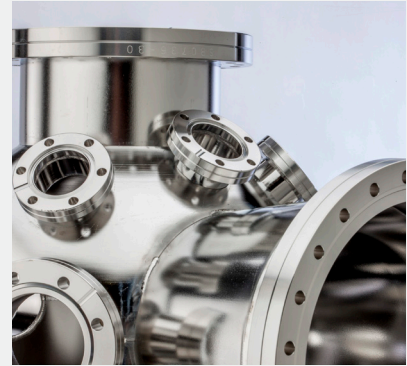
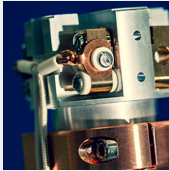
The Value of Partnership

In a high technology business, you have to be confident in the partners you choose to provide mission critical technology, equipment and services. You need to know that your partners can deliver and support what you need, when you need it. As your business grows and develops your need to work with partners that can support that growth. That's where we come in.

We're a fully-fledged UHV equipment manufacturer. At our factory in the UK we exploit extensive engineering resources to take raw materials right through the entire manufacturing workflow, producing finished UHV components, everything happens here.

Our in house design and development functions are world class, and production is supported by extensive CNC machining resources feeding the largest clean room assembly area in the industry. We can react quickly with significant resources as needed. We take pride in being an agile responsive business.

Owning our product lifecycle ensures unparalleled control of quality, and gives us a deep understanding of each and every one of our products, from the simplest component through to the most complex assembly. We understand how they perform and interact across a host of applications and within numerous environments.



Contact Us

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