



Flanges & Fabrications



Glass Components



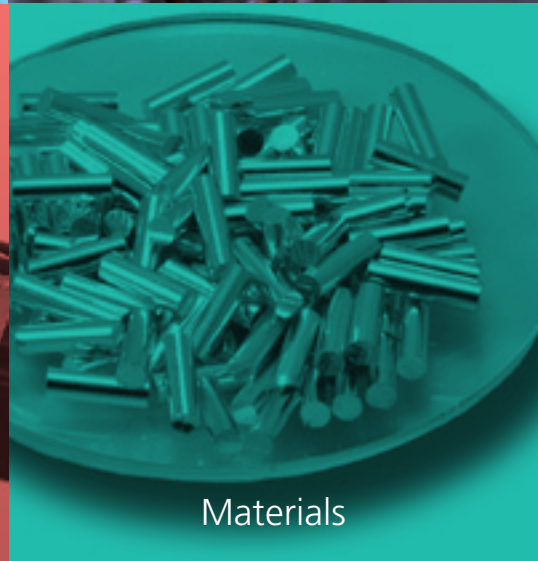
Chambers



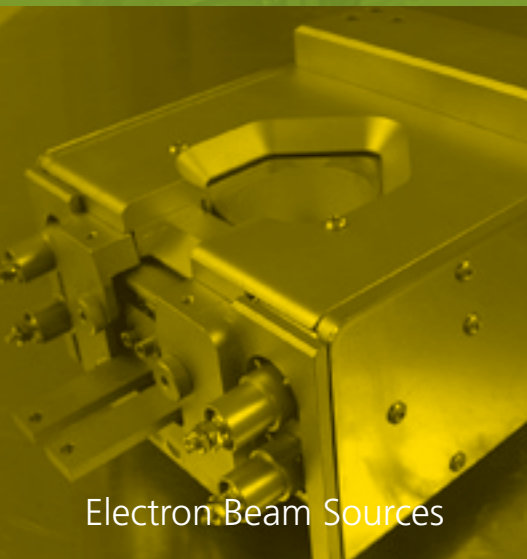
Motion & Positioning



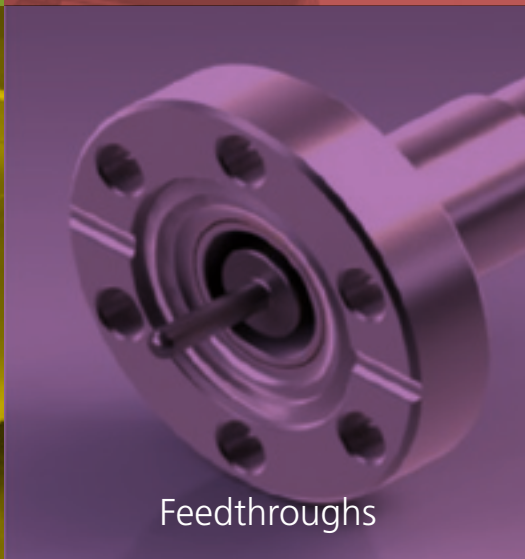
Manipulation & Stages



Materials



Electron Beam Sources



Feedthroughs



Valves



Complete solutions
for vacuum engineering,
research and OEM



ITL a trusted supplier in the specialist vacuum engineering industry.

ITL Vacuum are manufacturers and suppliers of standard and custom products for the world wide vacuum market.

Prompt delivery from stock with custom manufacturing and design.

ITL has invested in the resources required to produce high volume vacuum hardware for the OEM industry. Our comprehensive range is manufactured to the highest quality standards, enabling you to order 'off-the-shelf' components from our large stocks. Where required we can produce special orders by request to your specification.

CNC Machine Shop

High output, precision CNC machining centres are a key element behind ITL's success as an OEM supplier to the world's leaders in vacuum. Economies of scale, low overheads, vast experience, efficient manufacture, materials sourcing and procurement, are all factors which make ITL a first choice supplier.

Manual Machine Shop

ITL's manual machine shop is manned by highly skilled operators with many years experience of manufacturing high and ultra high vacuum products.

Welding Facility

Welding is a critical part of vacuum component manufacture and quality of welds largely determines the ultimate performance of the vacuum system. ITL's highly skilled welders have developed TIG welding techniques to achieve high quality and reliable vacuum fabrications.

Glass Shop

ITL manufactures glass encapsulated ionisation gauge heads, viewports, glass and ceramic feedthroughs. This rare glass working expertise is available as a resource to our customers.

Assembly Room

Highly skilled operatives assemble delicate, precision products in the ITL assembly department. Items manufactured in this section:

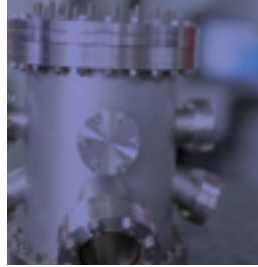
- Ionisation Gauge Heads
- Leads and Connectors
- Filaments and Filament Kits
- Special OEM parts

Leak Testing

All welded components are helium mass-spectrometer leak checked as standard procedure. All products follow a manufacturing routing, providing traceability and record of all leak test operations.

Automated Cleaning

All vacuum components pass through one of ITL's two fully automated cleaning plants. These cleaning systems include ultrasonic wash and de-ionised water rinses, followed by hot air drying to eliminate all sources of contamination from internal surfaces.

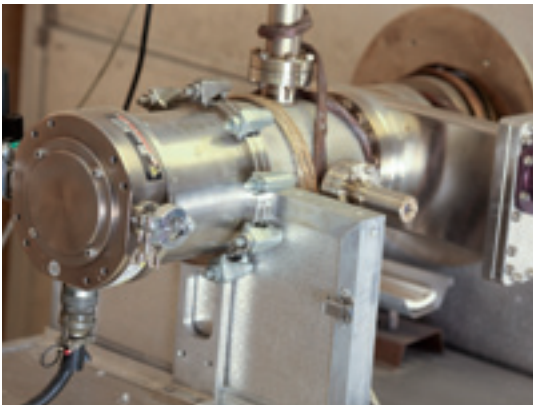


ITL are experts in the manufacture of special orders and chambers direct from your drawings, data or specifications. Where required our Technical Support Engineer's experience is available to you, ensuring we produce the correct design for your application.

Comprehensive manufacturing facilities, including large capacity machining centres and handling equipment, enable us to build custom vacuum chambers or fabrications promptly and cost efficiently whilst ensuring the highest quality standards.

Special conditioning is available, including RGA (residual gas analysis) test and bakeout, with up to 3m oven capacity. Documented printout leak test, RGA and point to point inspection reports available on request.

Our Technical Support Engineers are available to transform your ideas and sketches into engineering drawings.



ITL **PRODUCT** FOCUS

Special OEM Parts and Non-Standard Fabrications

ITL will manufacture components directly from your drawings or data. Alternatively, we can work to your sketches or verbal instructions. We will manufacture your product exactly as you want it. For your prototype and small batch requirements, our traditional machine shop is available.

Enquiries for one-off non-standard items are welcome. Custom built items can vary from small special bore flanges to multi-ported vacuum vessels. Enquiries for higher quantity OEM requirements utilising ITL's machining, welding, leak testing, cleaning and glass working facilities are very welcome and will be responded to promptly and in confidence.

An experienced vacuum system specialist can visit your site to discuss your needs if required.





VACUUM FLANGES, FABRICATIONS & COMPONENTS

A complete supply service for all vacuum components available from stock or to special order.

ITL's comprehensive KF, ISO and CF ranges of flanges and fittings are manufactured to the highest quality and are available for you to order 'off-the-shelf' for speedy delivery. As required we can produce special orders by request to the same high standard offering a complete one-stop supplier for all your vacuum needs.



ITL manufacture a wide range of components, used within HV and UHV applications. The standard range of fittings are supplied with KF, ISO and CF flanges and are manufactured from 304L (1.4306) or 316L (1.4404) stainless steel.

For our CF range, we can offer flanges produced from 316LN (1.4429), this has the additional advantage of a lower magnetic permeability, harder knife edge and high temperature H₂ degassing at up to 950°C.

All flanges are manufactured in-house, from small turned batch production, with large turning capacity, to CNC high volume batches, producing flanges from 30mm to 550mm in diameter. Bespoke requests can be supplied, utilising our extensive manufacturing facilities.



KF swing, metal seal and ISO wall clamps, Viton or Nitrile o-ring seals and Copper gaskets are typically available from stock. Alternative seals or gaskets for different temperatures and applications are available on request.



VACUUM FLANGES, FABRICATIONS & COMPONENTS



Throughout the standard flange ranges, we offer a complete selection of fittings and fabrications. From Tees, Crosses and Elbows, to flexible bellows and hoses. All are TIG welded in-house by our highly skilled welders.

Welded products are helium leak checked to ensure vacuum integrity as part of our standard quality control procedure. Custom products and special length hoses or bellows can be manufactured to any specification on request.

Discuss your requirements with one of our vacuum professionals today on 01424 442121.



ITL **PRODUCT** FOCUS

Glass - Viewports and Gauges

ITL's original business was founded on expertise in the manufacture of glass to metal seals. Today ITL manufacture glass viewports, plus a range of glass and ceramic feedthroughs.. This rare glass working expertise is available as a resource to our customers.

Standard zero length viewports are manufactured using kodial glass. These viewports are UHV compatible and bakeable to 350 degrees centigrade. Graded seals, adaptors and flanged tubulations are also manufactured. Quartz, Magnesium Fluoride and special exotic material windows optimised for particular wavelength transmissions, plus anti-reflective coatings, can be quoted on request.





MOTION & POSITIONING DEVICES

ITL Vacuum represent Huntington Mechanical Laboratories for motion and positioning devices. These include angular, linear and rotational mounting devices. Motion feedthroughs, manipulators and accessories.

Huntington's patented designs allow us to offer high performance and versatility to our positioning range. A line of long stroke feedthroughs, using rare earth magnets and a much improved version of VF-169 series, using Alnico magnets, provides much higher axial force and precision.

Positioning devices are typically supplied with 1.33" OD (DN16CF) or 2.75" (DN35CF) flange configuration, alternative flanges or specials are available upon request.



ITL **FACILITIES** FOCUS

CNC Machine Shop

High output, precision CNC machining centres are a key element behind ITL's success as an OEM supplier to the world's leaders in vacuum. Economies of scale, low overheads, vast experience, efficient manufacture, materials sourcing and procurement, are all factors which make ITL a first choice supplier of vacuum hardware.

Manual Machine Shop

ITL's manual machine shop is manned by highly skilled operators with many years experience of manufacturing high and ultra high vacuum products.

The facility manufactures welded components such as Tees, Crosses and Elbows for standard catalogue ranges of vacuum hardware. Materials worked are typically 304L and 316L stainless steel.



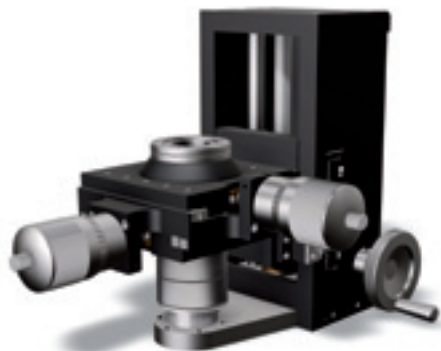
MANIPULATION & STAGES



ITL Vacuum represent Huntington Mechanical Laboratories for vacuum manipulators and stages.

These include tilt motion stages, rotational mounting devices, polar coordinate manipulators and Z, X-Y and X-Y-Z translators. Most of these products are offered in manual or stepper motor driven configurations.

The Vacuum Manipulator and Stages catalogue can be downloaded or viewed online at www.itl-vacuum.com



ITL **FACILITIES** FOCUS



Precision Welding

Welding is a critical part of vacuum component manufacture and the quality of welds largely determines the ultimate performance of the vacuum system.

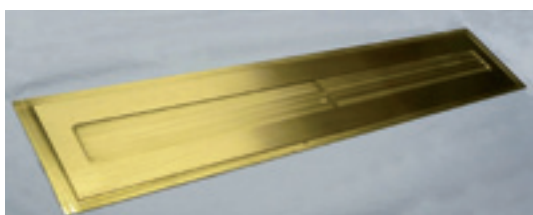
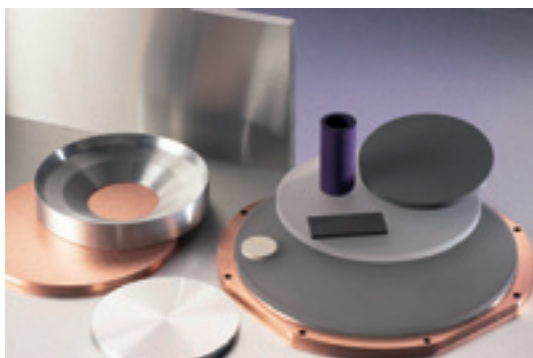
ITL's highly skilled welders have developed TIG welding to achieve high quality and reliable vacuum fabrications.

Certificates of conformity and leak test certificates can be provided on request.

Items welded can be as varied as large batch production of standard vacuum components or the assembly of precision aligned multi-ported UHV chambers up to two metres in diameter.



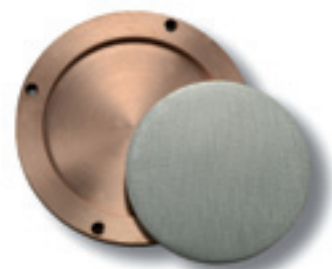
MATERIALS



From aluminium to zirconium, in powder, pellets, targets, substrates, foils, rods and crucibles. ITL Vacuum are pleased to represent Neyco for their complete materials range.

Sputtering targets, are manufactured with wide a range of shapes and sizes, with a variety purity levels, allowing customers to match targets to their specific requirement. We offer crucible liners, evaporation source materials and substrates. Allowing us to support you with all requirements, for both R&D laboratory use and industrial production.

Please do not hesitate to contact us with any requirements or further information.



ITL FACILITIES FOCUS

Automated Cleaning

All vacuum components pass through one of ITL's two fully automated cleaning plant. These cleaning systems include ultrasonic wash and de-ionised water rinses, followed by hot air drying to eliminate all sources of contamination from internal surfaces.

A final bake with vacuum RGA process and test is available on request.



Inorganic powders

Powders and pieces, aluminium to zirconium, 99% to 99.9999% pure with particle size from 1micron to 10mm

Pellets

Granules, pellets, pieces, tablets and shaped sources are available in virtually any known inorganic composition and range of purities

Targets

Sputtering targets 99% to 99.9999% pure

Precious metals

Gold, Platinum, Palladium, Silver, Rhodium and alloys on request: targets, wires, pellets and crucibles

Refractory Materials

Evaporation materials for layers using thermal evaporation and electron beam

Crucible Liners

Crucible liners protect the water-cooled copper hearth in electron beam units and eliminate the risk of contamination

Substrates

Single crystals and pyrex substrates for thin film deposition

Wires, foils and rods

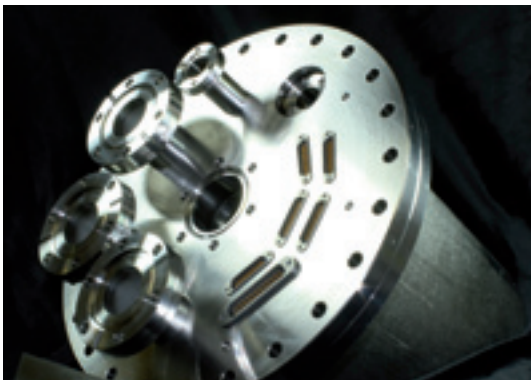
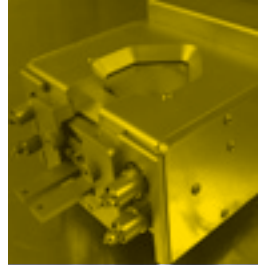
Ribbons, wires, clads, spheres, brazing alloys and soft solders

Evaporation Sources

This source selection guide is provided to help you determine which evaporation source type might fit your needs to make your thin film coating a success



ELECTRON BEAM SOURCES



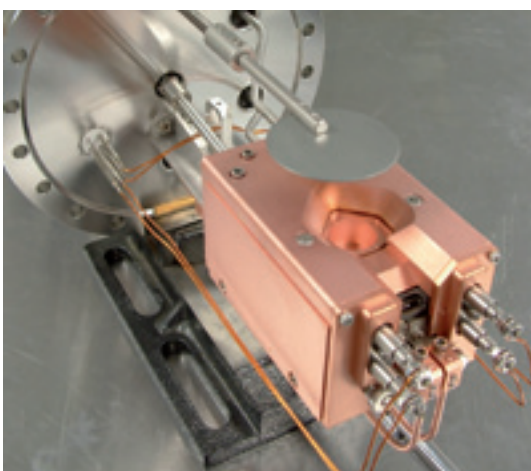
ITL Vacuum are pleased to represent Island e-Beam LLC throughout Europe. Island e-Beam are specialists in electron beam, thermal evaporation equipment and custom vacuum brazing.

Over 45 years experience in the vacuum and thin film evaporation field, allows us to offer valued technical and customer support, covering the design, installation and through to start up assistance.



Product ranges offered:

- Electron Beam Sources, including small, medium and large frame, this includes thermal sources
- Controller Units, including power supplies, XY Sweep, source control and auto indexers
- Spare parts and accessories
- Custom products



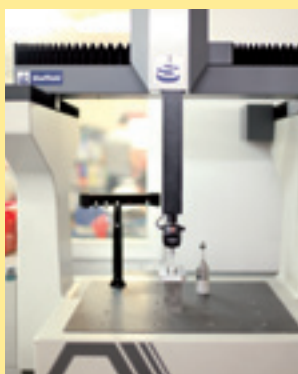
We have a number of e-Beam data sheets (PDF's) available at www.itl-vacuum.com

ITL **QUALITY** ASSURANCE

The Highest Quality at Competitive Prices

Products are supplied to the highest quality standards yet still offered at competitive prices and are backed by the highest level of customer service. Our products are ISO 9001-2008 compliant and where required we can offer production routing and material traceability.

We are a high volume manufacturer offering, CNC manufacture, semi automated mills and large capacity turning. Due to a continual investment program we are able to offer a cost efficient low cost base combined with highly competitive bulk material procurement including 304L and 316L, 316LN, Stainless Steel and Aluminium. All this combines to ensure we remain exceptionally competitive.





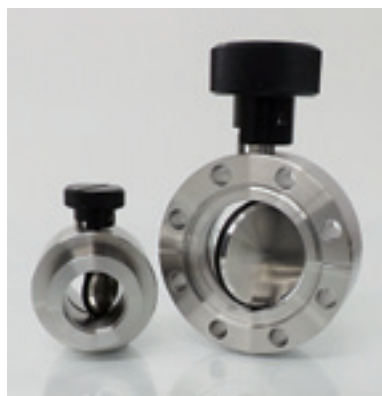
VALVES

ITL offer a complete range of valves, for HV and UHV applications, these consist of right angle, butterfly, gate and all metal bakeable valves.

Angle valves feature tapered seats, full-stroke actuators and unibody construction with threaded actuator-to-body assemblies. These unique design features provide important functional benefits including superior seal integrity, maximum conductance and faster pump-down time.

Our standard pneumatic valves up to DN63CF are configured as air-to-open / spring-to-close, automatically closing in the event of power or pressure failure.

Modification to our valves, or a specially designed version to meet custom requirements are available.



ITL **PRODUCT** FOCUS

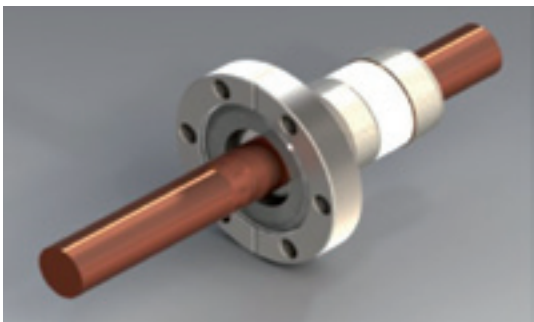
Tees, Crosses and Elbows

Standard fabrications are produced in KF, ISO and CF formats in 304L and 316L stainless steel. ITL's highly skilled welders have developed TIG welding to a fine art. All welded components are helium leak checked as standard procedure. Non-standard fabrications can be manufactured to customer specifications.

Flexible Hoses and Bellows

Flexible hoses and hydro formed bellows assemblies are manufactured and supplied in CF, ISO and KF formats. Standard hoses with an outer braided skin are also manufactured. Special length hoses or bellows can be manufactured to customer request.

ELECTRICAL FEEDTHROUGHS



All feedthroughs can be supplied for HV and UHV application. Additional feedthroughs available, as single supply or custom multi-configuration.

A complete range of vacuum feedthroughs are available from ITL. Common ranges include:

LIQUID A process of introducing liquid into a vacuum system via stainless steel tubes. We offer single or multiple tube configurations, with or without metric fittings. Standard tube sizes used - 6mm or 12mm.

POWER Transmit a broad range of high voltages and/or current into the vacuum chamber. High purity alumina ceramic insulators provide electrical isolation, various conductor materials provide specific current capacities.

COAXIAL Feature parallel and concentric conductor paths, with the inner most conductor path electrically isolated from the vacuum flange. Grounded shield versions have one isolated path, floating shield versions have two. Bayonet Naval Connectors (BNC) are used for low power, while Miniature High Voltage (MHV) connectors are rated for high power.

MULTIPIN CONNECTOR For transmission of signals, voltages and/or current. Various options are available, from circular to Subminiature C/D connectors, supplied on KF, ISO or CF flanges.

THERMOCOUPLE Used to measure the temperature inside a vacuum system, with varying thermocouple types, allowing temperatures ranging from cryogenic -269°C to 450°C. Single or multiple pairs available.

ITL **PRODUCT** FOCUS

Clamps, Rings and Seals

ITL provides a wide variety of gaskets, centering rings, seals and clamps for assembly of KF, ISO and CF hardware.



Flanges - KF, ISO and CF

Flanges are produced in Stainless Steel and Aluminium. Sizes range from 30mm to 419mm OD, larger specials and wire seal type flanges are manufactured to order.

The CF series flange utilises the well proven captured copper gasket sealing principle which is now almost universally used in the UHV industry. The ISO and KF ranges seal with O-rings and are used for high vacuum applications within industry and research.



ITL DEDICATED SERVICE

ITL understand the needs of the vacuum engineering market.

We work in partnership with our customers to supply a complete hardware range for CF, ISO and KF components and other vacuum environment products and devices.

Talk to our team of vacuum professionals today on
01424 442121

FULL PRODUCT CATALOGUE
AVAILABLE ON REQUEST



Menzies Road, Ponswood Industrial Estate, St. Leonards on Sea, East Sussex, TN38 9BB, England

Telephone: **+ 44 (0)1424 442121**

Fax: **+ 44(0)1424 719696**

Email: **sales@itl-vacuum.com**

www.itl-vacuum.com