BOISWOOD

GAS AND LIQUID CONTROL TECHNOLOGIES

Pressure & Vacuum

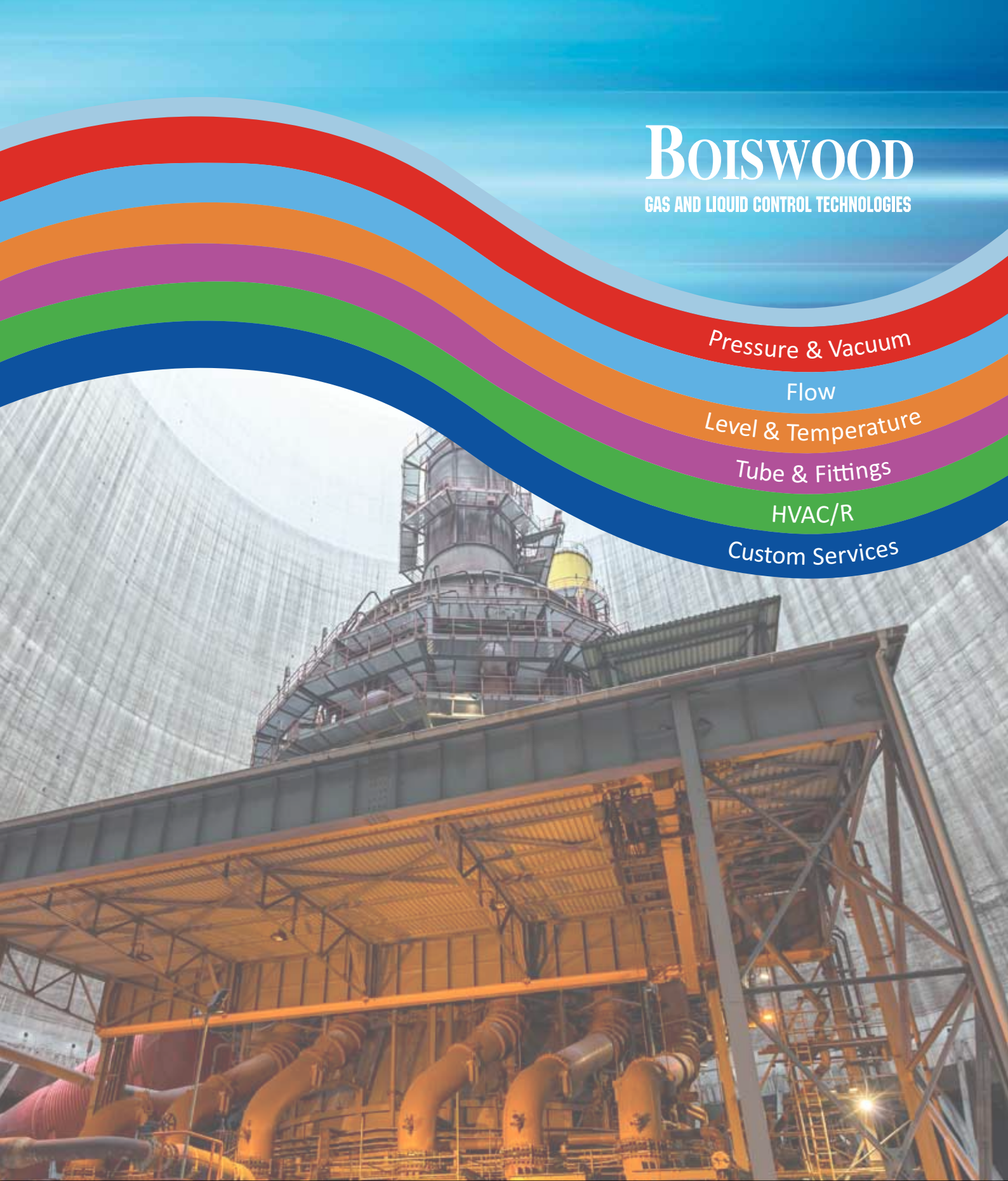
Flow

Level & Temperature

Tube & Fittings

HVAC/R

Custom Services



Nuclear

Products and Services Catalogue



WE'RE KNOWN FOR SELLING SOLUTIONS

Our journey started in 1989, when Boiswood was founded. As our knowledge and expertise grew, so did our vast range of products and services, and today, we are one of the country's most well respected and trusted suppliers of gas and liquid control technologies.

We are partnered with several high-quality, globally reputable manufacturers with a distinct range of products and services that offer unique features and benefits to EPC's, System Integrators, OEM's and End Users....our customers.

Our whole business culture centres around our genuine commitment to hands-on service and support, whenever and wherever this is required. We offer unparalleled advice and support, and our 'one stop shop' approach removes all the headache and hassle from our customers, ensuring you always get what you need on-time, on-budget and the perfect fit for your application.

We have over 30 years of successful experience in an extensive range of applications and processes within the markets we serve. Our visionary, technically astute and customer focused approach ensures we consistently add value. Working closely with our customers and supply partners ensures we stay up to date with the latest technologies, using our insight to facilitate the niche and specialist markets we serve.

You can rely on us to specify, supply and support all your gas and liquid control needs.

In order to meet the scrupulous requirements of the Nuclear industry, we are partnered with seasoned manufacturers, enabling us to meet all your bespoke supply and service demands, ensuring minimal downtime for your systems.

EMPOWERING SOLUTIONS

At Boiswood, we are familiar with the demands of the industry for crucial components, with a large install base of pressure regulators all over the country, and we also carry a vast amount of stock at Boiswood HQ readily available for next-day delivery.

We specialise in almost all applications involving gas and liquid transfer and control. With our special nuclear grade valves and instrumentation, we offer the best products on the market, coupled with excellent customer service. For an informal, obligation free chat, give us a call.

WE'RE TRUSTED BY...

Product Solutions

PR1 SERIES
Instrumentation Pressure Regulators

GO REGULATOR

In Stock

The PR1 Series is a versatile pressure reducing regulator designed to fulfil a wide range of needs in instrumentation sample systems and other applications.

TECHNICAL DATA:

Gas or Liquid Service • Inlet Pressures up to 6,000 PSIG • Outlet Pressures from 10 to 750 PSIG • -40°C to +260°C Temperature Ranges • Five Seat Material Options • 20 Micron Inlet Filter • Range of CV values up to 0.50

FEATURES & BENEFITS:

Range of standard configurations in stock • Easily field maintainable • Long-life span • Training Services available

CYL-20 SERIES
Dual Stage Pressure Regulators

GO REGULATOR

In Stock

The CYL-20 Series offers precision pressure control with less than 0.01% outlet pressure change with varying inlet pressures, and is designed for use in gas calibration systems and cylinder applications.

TECHNICAL DATA:

Gas or Liquid Service • Inlet Pressures up to 6,000 PSIG • Outlet Pressures from 10 to 500 PSIG • -40°C to +260°C Temperature Ranges • Five Seat Material Options • 20 Micron Inlet Filter • Range of CV values up to 0.50

FEATURES & BENEFITS:

Range of standard configurations in stock • Easily field maintainable • Long-life span • Training Services available

RX2400 SERIES
High Purity Single Stage Regulators

ROTAREX

The RX2400 Series is a diaphragm controlled pressure regulator, designed for medium flow rates in high purity applications.

TECHNICAL DATA:

100% Functional & Helium Leak Test Performed • Hastelloy Diaphragm • Low Internal Volume • Fluid Specific Seat Materials Available • Up to 240 BAR Inlet Pressure • -20°C to +65°C Temperature Range • CV values up to 0.20

FEATURES & BENEFITS:

No Spring in Gas Flow (True UHP) • Suitable for Aggressive Media • Individual serial number for full traceability • Assembled in Class ISO 4 Cleanroom • Electropolished as per SEMI F19 UHP Grade

UNIVERS 1200 SERIES
Cryogenic Globe Valves

STÖHR

Pg. 9

The Univers 1200 is a high quality stainless steel valve designed for gaseous and liquid media. Straight or angle configuration is available with a wide range of end connections suited for your application.

TECHNICAL DATA:

Available in Manual, Pneumatic and Electric versions • -269°C to +50°C Operating Temperature Range • Up to 40 BAR Nominal Pressure • Available in DN10 – DN300 • Variety of service fluids • Position Indicators, IP Regulators and Limit Switches Optional

FEATURES & BENEFITS:

Stainless Steel bellow allows for a long life span • High leak-tightness to atmosphere • Valve body machined from one piece of stainless steel • Fully Customisable • Check Valve and Filter Versions Available

PAD SERIES
Differential Pressure Transmitters

The PAD series is a micro-processor based high performance transmitter, with flexible calibration and output configurations.

TECHNICAL DATA:

Up to 413.7 BAR Measuring Range • 310 BAR Max. Static Pressure • Up to +120°C Temperature • Various Output and Connection options • Differential, Gauge or Absolute pressure types • ±0.075% High Accuracy

FEATURES & BENEFITS:

Digital communication with HART® Protocol • ATEX Version Available

PAS SERIES
Standard Pressure Transmitters

The PAS series is available as a piezo-resistive pressure transmitter capable of measuring gauge and absolute pressures.

TECHNICAL DATA:

Up to 600 BAR Measuring Range • Up to +120°C Temperature Range • Various output and connection options • Gauge or Absolute pressure types • ±0.075% High Accuracy

FEATURES & BENEFITS:

Digital communication with HART® Protocol • ATEX Version Available • Self-diagnostic function (sensor, memory A/D converter, power)

Product Solutions

100/200 SERIES
Safety Relief Valves

The 100/200 series flanged safety relief valves were designed for use in process, nuclear and energy industries due to it's high performance and custom designs.

TECHNICAL DATA:

Available in Carbon Steel, Stainless Steel or Cast Iron • DN20 to DN150 Connections • Up to 50 BAR Set pressure • Plug Tight, With/Without Lever or Counterweight Design

FEATURES & BENEFITS:

Fast Delivery • Available with PTFE Internal Parts or Epoxy Painting • Special designs available • ATEX and PED Approved • Technical/Quality File provided Free of Charge with each valve

EFV SERIES
Automatic Excess Flow Valves

The EFV adjustable excess flow valve is perfect for preventing uncontrolled flows of liquids and gases. Using a controlled bleed it can reset automatically and can restrict or shut off flow completely.

TECHNICAL DATA:

Available from 0.5 up to 3681 SLPM (Air) or 0.015 to 75.7 LPM (Water) • 1/8" – 3/4" FNPT Ports (as Standard) • Stainless Steel or Brass Construction • Positive Shut Off Available • Fully custom models can be quoted on request

FEATURES & BENEFITS:

Unobtrusive right angle flow path to prevent blockage in the line • Operates via magnetic piston rather than spring design • Very low pressure drop • Adjustable flow range (not fixed)

3100 SERIES
Thin Film Pressure Transducers

In Stock

The 3100 Series is ideal for OEMs that require consistent high levels of performance, reliability and stability utilising the sputtered thin film technology.

TECHNICAL DATA:

Pressure Ranges from 0 – 7 BAR up to 2,200 BAR • High Proof Pressures • Broad Choice of Outputs and Pressure Ports • Pressure and Temperature Measurement Combination • RoHS Compliant • From -40 to +125°C Temperature Ranges

FEATURES & BENEFITS:

Unbeatable Price/Performance Ratio v Compact Design • OEM Discount Available

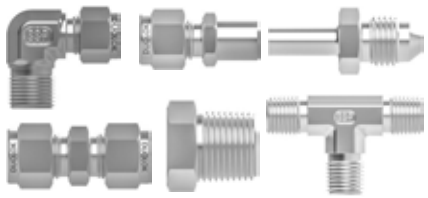
Product Solutions

PRESSURE GAUGES
Including Mechanical and Digital Pressure Gauges and Indicators

INSTRUMENTATION VALVES
Including Ball, Needle, Plug, Check. Toggle, Relief and Quick Connects

MANIFOLD VALVES
Including Block, Bleed, Vent and Gauge Manifolds

CONTROL VALVES
A range of pneumatic and electric Globe, Bellows and Control Valves



INSTRUMENTATION FITTINGS
Including Twin Ferrule Compression Tube, Pipe and Weld Fittings

HIGH PURITY FITTINGS
Including FaceSeal™, Microweld and PFA/PTFE Fittings

FILTERS, STRAINERS & SEPARATORS
A range of filters, strainers and separators for process and vacuum

BURSTING DISKS
Including forward and reverse acting bursting disks and holders

TUBING, PIPING AND HOSES
A selection of metal tubing, hoses and PTFE/PFA piping.

PRESSURE SWITCHES
Including Mechanical and Digital Pressure Switches and Sensors

SOLENOID VALVES
Including miniature, latching and cryogenic versions.

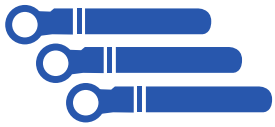
WIRES & SEALS
Including feedthroughs, sealing glands and packing glands.

CUSTOM SOLUTIONS
Boiswood have been involved in several custom build projects to meet our customers' specific requirements, please visit our website to read our application successes or feel free to ask for more details.

Many of our customers call upon us for subassembly, service, repair and testing solutions from within our manufacturer-certified headquarters.

Product Solutions

Value Added Services



In-House Service Centre

We can offer manufacturer certified in-house evaluation, repair, testing, servicing and assembly of our products from within our Boiswood HQ.

Local Technical Support

We offer a technical helpline from our HQ as well as having a “man on the ground” for on-site support whenever and wherever this is required.

Fast Turnaround

Our local stocks allow us to quickly respond to requirements. We hold a vast range of products in stock so that they’re always readily available.

Training Services

We provide a range of educational classes and training seminars that can be delivered from Boiswood HQ or on-site.

Design Services

Over the years we have been involved in many bespoke product designs and system build solutions for our customer base.

Response Times

We endeavour to provide all our customers with unrivalled service with quick responses to both technical and commercial queries.

Calculation Tools

Our calculation tools allow you to correctly select the required flow coefficient (Cv) value for your pressure reducing or back pressure regulator. These software tools will utilise your process data to calculate the Cv so that you can achieve your required flow rate. Basic operating parameters you will need to have on hand are as follows:

- Inlet/Supply Pressure
- Outlet/Control Pressure
- Flow Rate (Maximum in SCFM)
- Media
- Temperature

GO Regulator Calculation Tool

From entering the above required information, this calculation tool will produce a recommend Cv value (that must be doubled as a safety factor) for your pressure.

The calculation software can also do the reverse of this – allowing you to use a pre-selected Cv value to calculate your maximum possible flow rate.

ValvePilot by Mankenberg

This calculation and design software calculates KV/ KVS values, as well as indicating noise pressure level, nominal diameter, reduction ratio and velocity limits.

The software can also provide warnings about potential hazards such as cavitation, flashing or excess noise pressure levels. You will also receive recommends surrounding pipe size extensions.

Products in Focus

Since 1938, from standard valves to custom designed solutions - our partner, Stöhr Armaturen, has been unrivalled with expertise and technical know-how in manufacturing optimised solutions.

Stöhr have always been well-known for their specialist designs, functional reliability and long operational lifespan. It's not unheard of for their valves to be installed in service for 25 years or longer. All of this commences with the individual consultation, product selection and design the best solution for your application. The manufacturing facility in Königsbrunn subsequently ensures quality, flexibility and high on-time delivery performance.

For decades, Stöhr have been providing valves which have convinced customers through their quality and price, from small quantities of standard units to completely tailor-made solutions. Stöhr is renowned in the markets they serve for their technical expertise and comprehensive advisory service.

The engineers, technicians and administrative staff are always happy to assist in the sizing, selection and specification of their valves for your unique application.

Special Valves for Nuclear Power Plants

If you can't find what you are looking for we would be happy to discuss with you a custom solution specific to your application. We can help you to size and design a custom valve based on your operating parameters. Below is some of our special solutions designed and manufactured for the nuclear industry:

SOLENOID GLOBE VALVE

SOLENOID GLOBE VALVE WITH EMERGENCY HANDWHEEL

REGULATOR FOR LOW PRESSURE

SOLENOID GLOBE VALVE

SOLENOID GLOBE VALVE WITH EMERGENCY HANDWHEEL

REGULATOR FOR HIGH PRESSURE

BESPOKE VALVE DESIGNS 1

From standard valves to completely bespoke solutions, we can help you find the right valve for your application.

VALVE SIZING 2

We can assist with providing intuitive sizing calculations and functional valve data with the help of our expert partners.

QUALITY THAT LASTS 3

Our valves give long operational lifespan and functional reliability, made with the highest quality materials available.

Products in Focus

Choices can become overwhelming when selecting a valve for an instrumentation system. To name a few, there are; check valves, excess flow valves, needle valves, ball valves, relief valves, control valves, diaphragm and bellows valves. All of these are available in many configurations, materials, sizes and actuation types, making thousands of possible combinations.

Have you matched the valve type to its function?

Matching the required function to the valve type is the vital first step in the safe selection process. It can be detrimental for systems and end users if the correct valve is not specified. For example, if a check valve is not installed downstream of a critical pressure regulator or control valve, a burst of back pressure could cause major damage to the equipment.

Valve packing prevents the process media from escaping into the atmosphere where the valve body meets the stem. The cylindrical stem is surrounded by a packing material. Valves that require packing must be replaced or serviced regularly, however some valves last longer than others depending on the seal material and process conditions. Always ensure you correctly choose a seal material by checking the chemical compatibility with your media.

On the contrary, the "packless" **diaphragm valve** provides swift shut-off and rigorous actuation speeds. Usually, diaphragm valves are specified in high-purity applications in the pharmaceutical and semiconductor industries. Each valve holds a thin film plastic or metallic diaphragm ensuring a leak-tight seal.

Similarly, there is also the "packless" **bellows valve**. This is a great choice when an atmospheric seal is vital and access for maintenance is restricted. You would often find these valves operating in nuclear power plants. The inlet is entirely sealed by a metal bellows that moves up and down, fixed to a non-rotating stem.

Is directional control required?

Check valves or 3-way ball valves should be considered for directional control of flow. Within check valves, a spring-loaded poppet is opened by the upstream fluid force, allowing flow through. In the event of a back pressure build up (increase in downstream pressure), the reverse flow is stopped by the poppet being forced back into the seat.

In many **3-way ball valves**, the media enters through a single inlet and is directed to the outlets based on the selected flow path. Common flow paths include quarter turn switching, tee flow on/off and tee flow switching.

Excess flow valves stop the uncontrolled release of expensive or hazardous media into the atmosphere in the event of downstream equipment failure. Our excess flow valves utilise magnets to operate a reed switch and can be easily adjusted to the required flow set point. Utilising magnets to operate the unit allows for a completely unimpeded right-angle flow.

Is flow control essential?

Flow control valves have a rotating handle that allows the operator to control the system flow rate. The operator can adjust the valve to accurately hold at the desired flow rate. Needle, metering and plug valves are all frequently used for reliable flow control in systems.

Needle valves provide exceptional flow control and leak-tight shut-off characteristics. They have a long stem and are available with a few different highly engineered stem tips, including metering, regulating and shut-off (vee type).

Our needle valves are often used for severe service in harsh oil and gas, chemical and petrochemical and power applications. Depending on construction materials and operating pressures, these can also be used for cryogenic service.

Fine metering valves should be considered for the most precise flow control. They have a thin stem that lowers through a narrow channel, making it perfect for controlling fine graduations of flow. These are typically found in laboratory environments.

Stem Type
1. V-Type Shutoff Stem
2. Metering Stem
3. Soft Seal Stem (PCTFE)
4. Regulating Stem

Something more standard?

Quarter-turn plug valves and standard **2-way ball valves** are both economically priced utility valves. Applications with either simple on/off functionality or pressure throttling commonly will use these valves.

Pressure relief valves can be found in almost any application and are used to protect sensitive equipment. These can either vent to atmosphere or be piped away safely.

Still unsure what you need?

Once the valve type has been matched to function, you are on the right path in the valve selection process. However, many details remain.

If you need advice and guidance on selecting the right valve, contact us today and we'd be more than happy to help.

We have over 30 years experience with sizing, selection and specifying instrumentation and control valves, so you can rely on us to support you every step of the way.

Products in Action

Assembly & Testing
Our stocks allow us to assemble and test a variety of pressure regulators on a next-day delivery services.

Service & Repair
We can offer manufacturer certified service, repair and certification for our range of pressure regulators.

Subassembly
We can take special requests for component subassembly and control panel design solutions according to your requirements.

Pressure Regulators and Valve Selection Seminar

Selecting the correct pressure regulators and instrumentation valves to suit your needs can be a complex exercise with several factors to consider. Our seminar has been developed to help you understand more about our products and during this you will learn more about:

- The basic functions of pressure regulators and valves
- Analysis of different models and types
- How to correctly size and specify units
- Identifying problems and ways to rectify performance issues
- Build and repair training exercises

Tube Fittings Safe Installation Course

This challenging course will explore the many benefits of our tube fittings range and focuses on each aspect needed to achieve right-first-time installations. You will typically learn more about:

- How the Tube Fitting works
- Hands-on Tube Fitting Installation Exercises
- Typical Health & Safety Considerations
- How to Avoid Installation Problems
- Selection and Correct Handling of Tubing
- Tube Burst and Bending Exercises (Practical and Theoretical Examinations)

Fusion Power Application Details

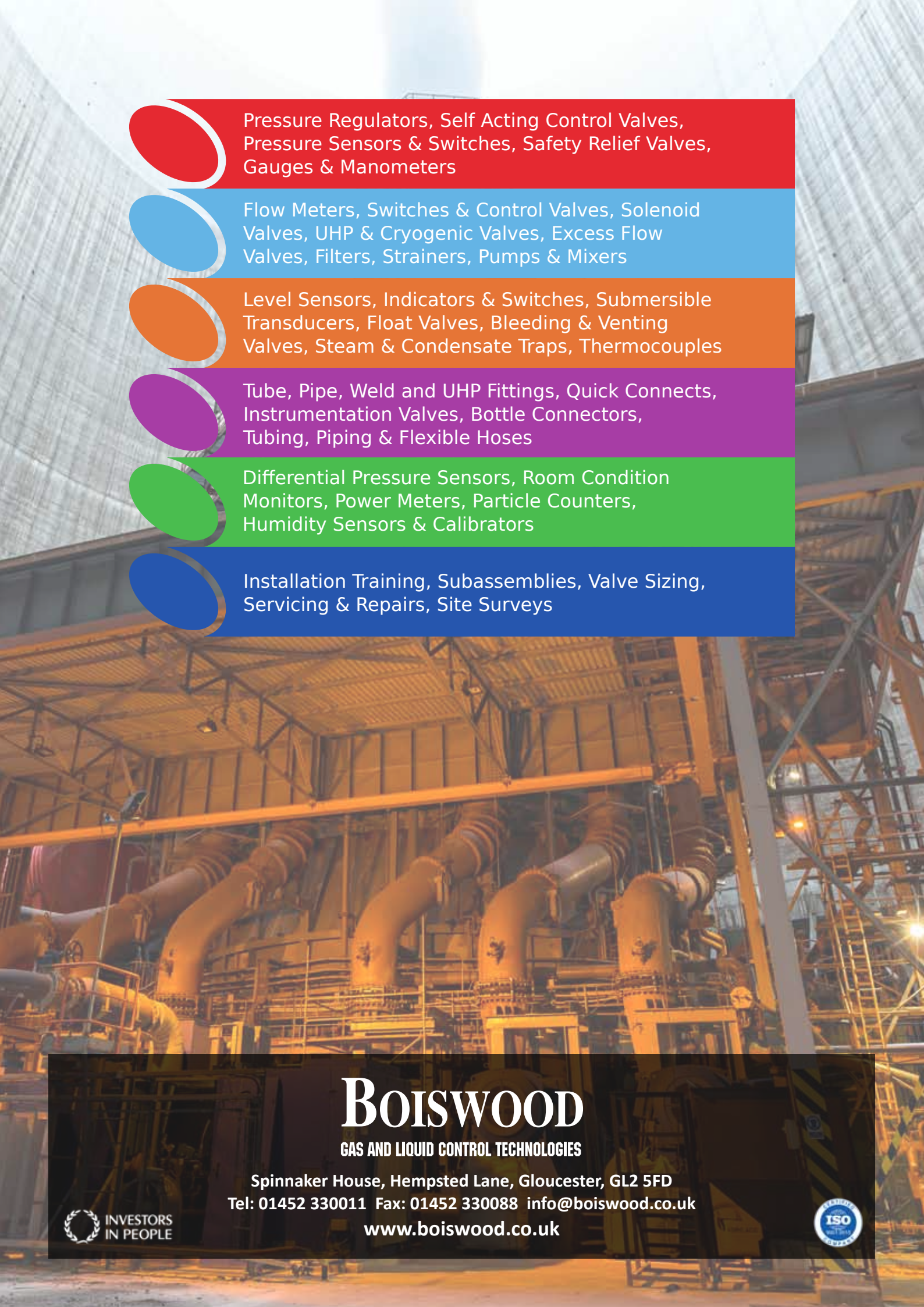
Our customer is an industry leader in fusion power research and their application was a helium recovery circuit test rig.

Customer Requirements

2 bespoke control panels designed, built and tested according to their specifications. One was a helium fill-point valve panel and the other was a pressure control and distribution panel. Each panel was fitted with pressure regulators, isolation valves, indicators, relief valves and the relevant tubing and instrumentation fittings ready to pipe into the system.

Why Boiswood Was Successful

We offered the customer a one-stop solution – to procure, supply, assemble and test the control panels all in-house at our headquarters. Utilising our supply channels, product expertise and workshop facilities at Boiswood we were able to provide the customer with a cost-effective “fit and forget” solution.



Pressure Regulators, Self Acting Control Valves, Pressure Sensors & Switches, Safety Relief Valves, Gauges & Manometers

Flow Meters, Switches & Control Valves, Solenoid Valves, UHP & Cryogenic Valves, Excess Flow Valves, Filters, Strainers, Pumps & Mixers

Level Sensors, Indicators & Switches, Submersible Transducers, Float Valves, Bleeding & Venting Valves, Steam & Condensate Traps, Thermocouples

Tube, Pipe, Weld and UHP Fittings, Quick Connects, Instrumentation Valves, Bottle Connectors, Tubing, Piping & Flexible Hoses

Differential Pressure Sensors, Room Condition Monitors, Power Meters, Particle Counters, Humidity Sensors & Calibrators

Installation Training, Subassemblies, Valve Sizing, Servicing & Repairs, Site Surveys

BOISWOOD

GAS AND LIQUID CONTROL TECHNOLOGIES

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INVESTORS IN PEOPLE

ISO