

GAS AND LIQUID CONTROL TECHNOLOGIES

Pressure & Vacuum

Flow

Level & Temperature
Tube & Fittings

HVAC/R

Custom Services



Food & Beverage Products and Services Catalogue



BOISWOOD GAS AND LIQUID CONTROL TECHNOLOGIES







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.

We provide a range of standard and CIP (clean-inplace) products for those in the food and beverage industries, including breweries, dairies, sugar refineries, oil mills, meat producers, distilleries, soft drink factories and many more. Whether standard or custom-engineered, our products meet the high-performance demands of our customers, covering a variety of applications, such as process bottle filling, beverage dispensing, condensate/ steam removal, fruit dosing, slurry sterilisation, nitrogen and CO2 supply, food and drink storage/ maturing tanks.

THE PROOF IS IN THE PUDDING

Our trusted global supply partners deliver the highest standards of food and beverage products using top- quality robust and reliable materials. Our extensive knowledge of their specialist products

means we can advise on the best possible solution to any challenges you face, whether that be installing brand new equipment, retrofit systems or requiring parts for maintenance, repairs or spares.

We pride ourselves on specifically partnering with manufacturers who have designed their products in such a way that means they are among the easiest products to service and often maintain in-situ. This helps enormously in keeping good rates of uptime in your plant.

From self-acting pressure reducing valves, pressure switches and transducers, to flow switches, level sensors/switches, safety relief valves and busting discs, we've got you covered. Speak to any of our experienced product experts to find out more.

WE'RE TRUSTED BY...











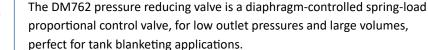














TECHNICAL DATA:

Gas and Liquid Service • Up to 16 BAR Inlet Pressure • Control ranges from 0.002 - 0.52 BAR • Sizes from DN15-50 and G1/2-2 • KVS Values from 0.2 -28 m 3 /h • Temperatures up to +130°C • ATEX Version Available

FEATURES & BENEFITS:

Long Operational Lifespan • Highly Accurate Control • Tight Valve Closure at Low Pressures • Easy to Clean • Minor Control Deviation • BGV Compliant for Combustible and Dangerous Media

MANKENBERG



UV3.9 SERIESMillibar Control Valves



The UV3.9 back pressure regulator is a diaphragm-controlled spring-load proportional control valve, for very small outlet pressures and large volumes, perfect for tank blanketing applications.



TECHNICAL DATA:

Gas and Liquid Service • 0.01-1.1 BAR Inlet Pressure • Sizes from DN15-50 and G1/2-2 • KVS Values from 0.2-28 m³/h • Temperatures Up to +130°C

FEATURES & BENEFITS:

Long Operational Lifespan • Highly Accurate Control • Tight Valve Closure at Low Pressures • Easy to Clean • No adapters or fitting required • Minor Control Deviation

MANKENBERG

EFV SERIESAutomatic 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)



The 5000 series features a sturdy diaphragm that detects minute pressure variations, while withstanding large pressure spikes. The unit is designed to operate in the most demanding applications.

TECHNICAL DATA:

318 Duplex Stainless Steel Case Construction • Ranges from 25 to 1,000 mBAR • Current and Voltage Outputs • Broad Range of Pressure Connections and Electrical Terminations • ATEX Zenier or Galvanic Barriers • -40 to +100°C Temperature Ranges

FEATURES & BENEFITS:

Submersible and General Purpose models available • Designed to withstand Sea Water • High Accuracy • High Proof Pressures • Detects Minute Pressure Changes



The DVH vortex flowmeter utilises a velocity, temperature and pressure sensor to measure mass flow rates in food and beverage pipelines.

TECHNICAL DATA:

Up to 970 m 3 /h (Liquids), 9034 Nm 3 /h (Air) and 5797 kg/h (Steam) • Up to DN200 and ANSI 8" • 4-20 mA, HART $^{\otimes}$ Protocol and Modbus Outputs • Up to 100 BAR ABS • ATEX Approved

FEATURES & BENEFITS:

HART Enabled • Integrated temperature and pressure measurement • Measurement of mass and density optional



The ELS-1150 compact electro-optic level switch can be used for critical fluid level monitoring in beverage storage tanks.

TECHNICAL DATA:

Nickel-Plated and Stainless Steel Housing • Wet and Dry Probe Condition at Current Sink • FM Explosion Proof version available • 2500 PSI Rated • -40°C to +100°C Temperature Range

FEATURES & BENEFITS:

OEM Discount Available • Unbeatable Price/Performance Ratio

Instrumentation Pressure Regulators $oldsymbol{GO}$ regulator

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





🔒 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









 $oldsymbol{GO}$ regulator

The HPR2 series electrically or steam heated pressure regulator is designed to supply heat to samples entering instrumentation systems.

TECHNICAL DATA:

Gas or Liquid Service • Inlet Pressures up to 6,000 PSIG • Outlet Pressures from 10 to 500 PSIG • Five seat material options • Range of CV values up to 0.20 • Available in 120 or 240 VAC • CSA and ATEX Approved

FEATURES & BENEFITS:

Unique spiral wrapped heat exchange element provides up to 100 square inches of transfer area • Modular pressure control and heat exchanger assemblies for easy maintenance

DM505 SERIES

Universal Process Pressure Regulators



The DM505 Series is a self-acting pressure reducer offering simple and accurate control, whilst being extremely easy install and maintain.

TECHNICAL DATA:

Gas and Liquid Service • Up to 3,600 PSIG Inlet Pressure • Adjustable Outlet Pressures of up to 290 PSIG and down as low as 0.07 PSIG • Operating Temperatures from -35°C to +130°C

FEATURES & BENEFITS:

Fast Delivery • Fully Customisable • Ease of Maintenance • Long Life Span • Precise Control Ranges • Adjusting Screw Externally Visible • BGV Compliant for Combustible and Aggressive Media

1700 SERIES

MANKENBERG



The 1700 Series features a stainless steel diaphragm with various process connections suitable for dairy and other hygienic applications.

TECHNICAL DATA:

Pressure Ranges from 100 Millibar to 40 BAR • Sanitary or G1" Process Connections • Voltage and Current Output Models • Temperature Cooling Options Available • ATEX Approved

FEATURES & BENEFITS:

Optional Mobil DTEFM32 filling liquid

Hygienic Pressure Transmitters



TYGON E-1000 SERIES Food & Beverage Dispensing Tubing







The Tygon® E-1000 Series pumpable tubing is designed soft and flexible to deliver superior performance in food and beverage dispensing applications.

TECHNICAL DATA:

Low temperature resistant down to -55°C • Sizes from 1/16" to 1/2" • Excellent vacuum ratings • Pressures from 0.6 to 1.8 BAR • High resistance to corrosive media

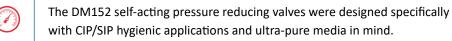
FEATURES & BENEFITS:

Low durometer for use in low-torque pump applications • Meets FDA 21 CFR 175.300 requirements for food contact

DM152 SERIES

High Purity Pressure Reducing Valves





TECHNICAL DATA:

DN15 to DN50 Connections • Up to 8 BAR Inlet Pressure • 0.3 to 5 BAR Outlet Ranges • 2 to 7 m³/h KVS Values • Up to +180°C Temperature • For Liquids, Gases and Steam • Internal surface quality up to 0.25 μm available

FEATURES & BENEFITS:

Low thermal losses during CIP/SIP applications • Easy to clean and maintain • Long operational lifespan v FDA, BGV and USP approved

DM462V SERIES

MANKENBERG

High Purity Pressure Regulators



The DM462V self-acting pressure reducing valve is a double-seat diaphragm controlled and spring loaded proportional control valve designed for use in CIP/SIP hygienic applications.

TECHNICAL DATA:

DN25 Connections • Up to 8 BAR Inlet Pressure • 0.8 to 5 BAR Outlet Ranges • 4 m³/h KVS Value • Up to +180°C Temperature • For Liquids, Gases and Steam • Internal surface quality up to 0.25 μ m available

FEATURES & BENEFITS:

Low thermal losses during CIP/SIP applications • Easy to clean and maintain • Long operational lifespan • FDA, BGV and USP approved • Flexible Installation • Low Dead Pockets (No O-Ring Abrasion)

LS-3 SERIES

Single Point Level Switches



The LS-3 small sized single point level switches are ideal for shallow tanks or restricted spaces, for any low-cost and high volume use. Engineered plastics are available in FDA compliant materials.

TECHNICAL DATA:

Available with NPT, Straight and Metric Threads • Polysulfone, Polypropylene, Nitrile and PVDF Materials • Range of Pressures and Temperatures to suit your requirements

FEATURES & BENEFITS:

Low Cost OEM Pricing • High Reliability • Compact Size • FDA Compliant Materials Available



Gems



PRESSURE GAUGES
Including Mechanical and Digital
Pressure Gauges and Indicators



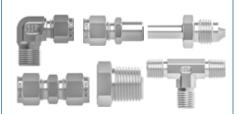
INSTRUMENTATION VALVES
Including Ball, Needle, Plug, Check.
Toggle, Relief and Quick Connects



MANIFOLD VALVES
Including Block, Bleed, Vent and
Gauge Manifolds



CONTROL VALVESA 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 HOSESA selection of metal tubing, hoses and PTFE/PFA piping.



PRESSURE SWITCHES
Including Mechanical and Digital
Pressure Switches and Sensors



SOLENOID VALVESIncluding 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.

Value Added Services



In-House Service Centre

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



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.



Design Services

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



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.



Training Services

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



Response Times

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







Products in Focus



Using our DM762 tank blanketing valves considerably reduces the costs for customer plants, thanks to lower inert gas consumption.

The one-seated straight-way valve is a diaphragm controlled, spring loaded proportional control valve for very low outlet pressures and medium flowrates. Its self-acting design allows for regulation of a constant downstream pressure without requiring any pneumatic or electrical control elements.

The high millibar control accuracy of the DM762 is ensured by the large control surface and lever transmission. In many applications, the pressure reducers' large reduction ratio allows for single-stage control, whilst other systems must often be controlled in two stages.

The unit is completely made of deep-drawn CrNiMo-Steel (316L) and boasts a surface finish of \leq 1.6 μ m. It's lightweight, compact and corrosion-resistant body is available in many different configurations.

Connections (DN): 15-50Connections (G) 1/2-2Nominal Pressure (PN): 16

Inlet Pressure: Up to 16 BAR

Outlet Pressure:0.002 - 0.52 BARKVS Value:0.2 - 3.6 m³/hTemperature:-35 to +130°CMedia:Gas/Liquids

Products in Focus







A COMPLETE RANGE OF GAS EQUIPMENT FOR FOOD PROCESSING

Fully EC 1935/2004 Compliant

- Prevents gas contamination
- Materials, process, quality and packaging comply with EU Regulations
- All our food product range with specific labels and laser marking

Compatible with the Following Food-Grade Gases

N2, CO2, O2, Ar, N2O, He, H2 and Gas Mixtures

Proven Quality

- Appropriate computability certificates provided
- Specific laser marking including the EU regulation
- Full traceability for all products

A Complete Food Handling Range

- All the equipment to configure a compliant gas distribution system
- One-stop-shop for your gas handling needs



Products in Focus



High Pressure Regulators

Diaphragm and Balanced Valve Technology, Up to 200 BAR Inlet Pressure, Up to 50 BAR Outlet Pressure, Chrome Plated Brass, 50 to 100 Nm³/h Flow Rates

Supply Boards

Diaphragm and Balanced Valve Technology, Up to 200 BAR Inlet Pressure, Up to 50 BAR Outlet Pressure, Chrome Plated Brass, 110 to 180 Nm³/h Flow Rates





Switchover Boards

Diaphragm Operated, Up to 200 BAR Inlet Pressure, Up to 30 BAR Outlet Pressure, Chrome Plated Brass, 70 to 150 Nm³/h Flow Rates

Low Pressure Regulators

Diaphragm and Balanced Valve Technology, Up to 25 BAR Inlet Pressure, Up to 15 BAR Outlet Pressure, Chrome Plated Brass or Aluminum Versions, 50 to 120 Nm³/h Flow Rates



AN ENTIRE LINE OF GAS CONTROL SOLUTIONS





In the industrial production of food and drinks, most of the processing operations involve water, oil or steam as energy carriers. Here the cooking, drying or cooling take place in closed systems. All these processes are governed by a range of extremely stringent quality and hygiene regulations.

A suitable valve is available for each of these production facilities. International aseptic standards apply, extreme temperatures occur, and highly viscous or heavily corrosive media must be handled.

The challenge for self-acting control valves is to optimise the production processes and all cleaning procedures simultaneously. Their resistance to acids, brines and temperatures as well as tightness and easy maintenance should always be considered.

All of our valves for the food and beverage industry are manufactured from high-quality Stainless Steel 1.4404 / 316L to meet these high demands.



As a manufacturer of self-actuated pressure and level control valves, our partner, Mankenberg, manufacture valves for production facilities all over the world. All the internationally relevant approval regulations, such as DIN 11866 or ASME BPE, are fully complied with.

When it comes to plant planning or optimisation with our components, our high level of

customisation is world renown. The full range of elastomers, aspectic connections, flanges, sockets, screwed and welding ends, that are fully compliant with FDA and USP Class VI are available.

We completely safeguard hygiene, efficiency and safety.



Pressure Reducing Valves DM 652



Pressure Regulation of Cleaning Steam in a Bottle Filling Plant

Pressure Reducing Valves DM 618Z ASME



Steam Pressure Reduction for a Honey Tank Heater

Millibar Control Valves



Tank Blanketing in the Foodstuffs Industry

Bleeding & Venting Valves EB 1.12



Water disinfection with Ozone in Food Production

Gas & Liquid Separators AS 2



Corrosion Resistance in Clean Steam Systems

Pressure Reducing Valves DM 582



Controlled Sterile Air Supply into Beer Tanks

Pressure Reducing Valves DM 652



CO2 Regulation for Beer Barrels for the Munich Oktoberfest

Bleeding & Venting Valves FB 1.12



Ozonisation for Cold Sterilisation of Water

Gas & Liquid Separators



Draining Excess Liquids from a Steam Flow

Pressure Reducing Valves DM 462



Regulation of the Water Supply for a Centrifuge Test Stand

Pressure Reducing Valves DM 555



Pressure Reducing Unit for a Drinking Water Supplier

Pressure Reducing Valves DM 505 Special



Reducing Sterile Air Pressure in a Filling Machine

What is the DM555?

The DM555 is a single stage pressure reducing regulator that is manufactured by Mankenberg. Being a self-acting pressure reducer, the DM555 offers accurate control within your application and is easy to install and maintain.

The DM555 is a spring-loaded proportional control valve for universal application at small and medium

rates. Made from SAE 316L grade stainless steel, the DM555 has excellent corrosion resistance giving it a long lifespan. The DM555 has a phenomenal costbenefit ratio.

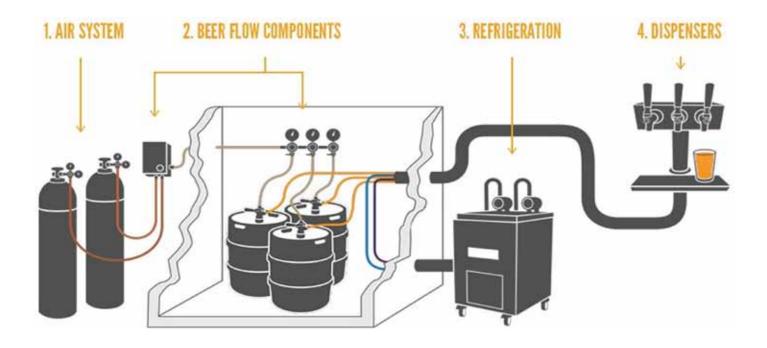
The valve can be used for toxic or dangerous media as it has a sealed adjusting screw and a sealed spring cap complete with leakage line connection.

Where Can You Find the DM555?

The DM555 can be found within applications in nearly all industries worldwide. This product is an industrial valve with optimised flow dynamics, making it the perfect valve for small and medium rate liquid and gases. The DM555 can be used in CO2 systems such as modulating panels and bottle filling plants.

A small-scale common use of the DM555 is within a draft beer dispensing system in a bar or restaurant.

In this application, the DM555 acts as a primary pressure regulator to ensure the correct amount of gas is pumped through the airlines. Saving space, the DM555 is also placed as the secondary regulator to make sure each individual keg is dispensed at the right pressure. The valve plays an important role within this application, making it easy to troubleshoot problems whilst dispensing the perfect brew.



Understanding It Further...

How does the DM555 work within applications? The force of the valve spring (set pressure) balances the outlet pressure across the control unit. The adjusting screw is used to set the pressure; when the outlet pressure rises above the pressure set, the valve cone reduces the volume of medium by

moving towards the seat. As the outlet pressure drops, the valve control orifice increases; the valve opens once the pipeline is depressurised. Rotating the adjusting screw clockwise increases the outlet pressure.

Benefits and Special Features

The DM555 has a minimum closing pressure and a minimum control deviation in case the flow rate changes, this makes the valve easy to monitor and use. It has a small influence of changing inlet pressure and has a fail closed valve position. The

valve also has the best flow characteristics and exact pressure regulation due to matching springs and control areas. This unit can be manufactured according to DIN or ANSI compliant standards.

Let's Get Technical

Connections (DN): 15-50Connections (G): 1/2-2

Nominal Pressure (PN): 40

Inlet Pressure: Up to 40 BAR

Outlet Pressure:0.5-16 BARKVS Value:1.3-7.5 m³/hTemperature:-35 to +130°CMedia:Gas/Liquids



Tank Blanketing Application Details

The customer is a specialist system designer providing turnkey solutions to the food and beverage industry – specifically a process plant for the production of tuna oil.

Customer Requirements

A selection of custom pressure reducing and back pressure valves to create tank blanketing of Nitrogen over the tuna oil storage containers.

Why Boiswood Was Successful

We were able to size, recommend and quote on the bespoke valves to deliver within the project timeframe supported by on-the-ground technical support.

We offer a complete range of standard and customised valves for tank blanketing applications. Contact us today find out more about how we can help you.









Back Pressure Valves



Pilot Operated Control Valves



Bespoke Solutions

Flow Monitoring in Beer and Brewing

At the last count in 2017, there were over 2,000 breweries in the UK. The revolution of craft beer has seen Britain become a 'brewing powerhouse' as there are 64% more breweries now than there was five years ago.

Brew pubs (brewed and sold on site) are becoming increasingly popular in the UK and the USA so customers can enjoy the homemade taste of ale on-site. Pubs, craft breweries and microbreweries together are no-doubt making millions of bottles filled with traditional and innovative brews.

Production of Beer

The flavouring and boiling processes are just as important as the brewing. The flavouring, hops, goes into a wort made from grain and is boiled into a liquid. After it has rested, this liquid gets put into the chiller, fermented and put into storage. This process takes place in a maze of pumps and piping attached to large stainless steal tanks.

Cleanliness is always vital when brewing beer.
Steam and other methods are used by brewers on their equipment to ensure no batches go to waste from contamination. Bottles are washed and sterilised before receiving their 330ml of beer that is delivered from a foam free rotary device. This device is connected to the steel pipes of the holding tanks.

Why is monitoring flows important?

Careful regulation of time and temperature are governed by the rate at which the liquid flows through the system – this plays a big part in creating that perfect bottle of beer. Stalls and blockages will

expose the product to temperatures that are too high or too low and will give unwanted effects to the ale. From the reduced flow, pumps may be damaged and overflows may arise elsewhere; it can also cause under-filled bottles.

Our Solutions

Flow monitors are registered to perform target flow rates. If the flow is obstructed, the monitor responds to this with an alarm signal. A warning light, lamp or a shut down pump could be used to avoid any damage to equipment or the product.

Our partner, ChemTec, manufacture flow monitors. These devices are simple but effective, like those in the FS and LPH ranges. A small magnetic piston is suspended in the flowing liquid. A sensor outside the stream detects the change in position resulting from a drop or increase in flow.

There are excess flow valves that are designed for more extreme cases. For example, if an uncontrolled release occurs or if a pipe is broken, the valve will shut off the flow completely. Excess flow valves can help protect breweries against mistakes and accidents or potential floods.



