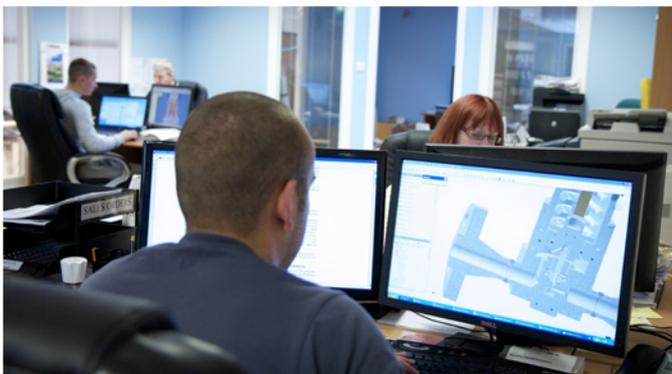


## **Total Pressure Regulator Solutions**



## Working with customers to support their exact needs

A pressure regulator is a critical component in any fluid control system. At Pressure Tech, we offer high quality products with all design and manufacturing performed at our UK facilities in Glossop, Derbyshire. We work closely with our customers to ensure they achieve the specific control they require on their systems. Pressure Tech regulators are predominantly machined from 316SS but we also supply products in Titanium, Inconel, Hastelloy and other exotic alloys. From regulators used subsea to regulators used in aircraft our flexible and rapid response to “engineered solutions” provides a distinct advantage to our customers. Pressure Tech has a range of pressure regulators covering pressure control from 0.1bar to 1380bar (20,000psi) and port sizes from 1/8” to 3”.



### Leading the market through innovation

Our innovative approach to product design means that we consider materials that last longer in service and downtime is reduced due to features that allow the regulators to be easily maintained. Our knowledge of pressure regulator principles and our rapid response to problem solving has allowed us to develop an extensive range of products used worldwide on various systems from gas analysers to hydraulic wellhead panels.



### Quality design & manufacture

A committed and continual investment in our CNC machine centres ensures we have total control over production to minimise lead times, allow flexibility in our scheduling and provide components to the highest quality standard including traceability of material on all pressure retaining parts. Pressure Tech regulators are designed and manufactured within the UK and are covered by ISO-9001-2008.



### Working closely with our customers

Our ability to work closely with our customers and listen to their needs means we can be flexible and innovative in our supply. A strategic network of distributors provides local support to our international customer base. Combining the marketing advantages of a distributor network with an ‘open approach’ to technical requirements provides a win-win situation for all our customers. Ultimately, we lead the market in design and allow ease of access via our distributors.

# Pressure Regulator Range

DATASHEETS : Please refer to [www.pressure-tech.com](http://www.pressure-tech.com) for individual datasheets on all our products.



## ANALYSER/INSTRUMENT RANGE

Typically incorporating Inconel X750 diaphragm sensed elements to provide strength and flexibility our instrumentation range of regulators covers gas cylinder regulators to ATEX certified (94/9/EC) heated regulators. Our versatile range has endured extensive cycle tests and includes design features that make us the market leaders in this sector.



## HIGH PRESSURE RANGE

An extensive range of piston-sensed regulators for use on liquid and gas applications. Precision machined sensing elements provide control to 1380bar (20,000psi) on liquid applications and self venting is available on several models. Port sizes from 1/4" to 3/4" are available with ratio or dome loaded options. Special designs cover sub-sea and CNG applications.



## HIGH FLOW RANGE

The 'HF Series' includes diaphragm and piston-sensed regulators with port sizes ranging between 1/2" and 3" with either threaded or flanged connections: Pressure control options up to 10bar (150psi) with a diaphragm sensed element and 210bar (3000psi) with a piston. The standard high pressure inlets have a balanced main valve whilst the optional lower pressure inlets (50bar) have an unbalanced main valve.



## BACK PRESSURE RANGE

For accurate control of inlet pressures to any process the back pressure regulators include all the design features of the other product ranges and cover from 1/8" to 2". The complete range of back pressure regulators controls pressures from 0.1bar (2psi) to 690bar (10,000psi) on both gas or liquid applications. The designs provide accurate and repeatable shut off due to the large sensing area and minimised loading on the seating area.

# ANALYTICAL & INSTRUMENTATION REGULATORS



## MINI-300

A compact and economical regulator with two piston sensed options that provide control from 1bar to 100bar.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/8"	0.06	Gas	210bar 3000psi	PCTFE	100bar 1500psi	Piston	Non venting
			300bar 4350psi	PEEK			



## LF-230

A Teflon lined diaphragm provides accurate control of low pressure and low flow within a relatively compact design. Optional diaphragm materials available on request.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	10bar 150psi	Elastomeric Diaphragm	Non venting
			10bar 150psi	PTFE			



## LF-300

A Single Stage Regulator with Inconel X750 diaphragm for ultimate strength and reliability on clean or corrosive applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	35bar 500psi	InconelX750 Diaphragm	Non venting
			300bar 4350psi	PEEK			



## TS-300

A Two Stage Regulator incorporating the same features as the LF-300 but with a two stage let down to maintain stable outlet pressure under changing inlet conditions.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	20bar 300psi	InconelX750 Diaphragm	Non venting
			300bar 4350psi	PEEK			



## CYL-300

Basic regulator models adapted into gas cylinder regulator assemblies with full safety pattern gauges, bottle connectors, relief valves, isolation valves and flexible hoses.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	35bar 500psi	InconelX750 Diaphragm	Non venting
			300bar 4350psi	PEEK			



### ACU-300

Basic Auto-Changeover Regulator to maintain continual supply of gas between banks of gas bottles. A simple 1/2 turn of the handwheel determines cylinders as primary supply and standby. A 2nd stage regulator maintains steady outlet.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	20bar 300psi	Diaphragm	Non venting



### ACS-300

Complete Auto-Changeover System to maintain continual supply of gas between banks of gas bottles with additional block and vent purge valves, 2nd stage regulator, pressure gauges, flexible hoses, bottle connectors, and safety relief valve.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	20bar 300psi	Diaphragm	Non venting



### XHS-300 XHS-301

Heated regulator with single 100W heater cartridge to prevent condensing of gas samples prior to analysis. Approved to ATEX and IECEx for use in hazardous areas.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	35bar 500psi	Diaphragm	Non venting
			300bar 4350psi	PEEK	180bar 2600psi	Piston	



### XHR-300 XHR-301

Unique Dual Heated regulator with two 100W heater cartridges to preheat and reheat gas samples prior to analysis, or vapourise liquid hydrocarbons. Approved to ATEX for use in hazardous areas.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas or Liquid	210bar 3000psi	PCTFE	35bar 500psi	Diaphragm	Non venting
			300bar 4350psi	PEEK	180bar 2600psi	Piston	



### XHM-300

Simple heater manifold block to heat sample stream or probes with two 1/4" flow channels. Approved to ATEX and IECEx for use in hazardous areas.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	N/A	Gas or Liquid	300bar 4350psi	N/A	N/A	N/A	N/A



# HIGH PRESSURE REGULATORS - GAS



## LF-301

Economical piston sensed regulator with two sensor sizes to control to 70bar (12mm sensor) or 180bar (8mm sensor).

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing	Venting option
1/4"	0.06	Gas	210bar 3000psi	PCTFE	180bar 2600psi	Piston	Non venting
			300bar 4350psi	PEEK			



## LF-540

High Pressure regulator with sensitive piston sensed elements and unbalanced main valve for positive shut off. Two sensor sizes provide accurate control with low torque adjustment. Non captured self vent or non venting options.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.1	Gas	550bar 8000psi	PEEK	414bar 6000psi	Piston	Non / Self venting



## LF-550

Same features as LF-540 but with higher inlet pressure rating and removable seat cartridge assembly. Three sensor sizes provide accurate control with low torque adjustment. Non captured self vent or non venting options.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.1	Gas	690bar 10000psi	PEEK	690bar 10000psi	Piston	Non / Self venting



## LF-692

High spec high pressure regulator with 3 sensor ranges to control up to 690bar. Lower entry plug for quick access and servicing of PEEK seat. Self venting with captured vent port.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.1	Gas	690bar 10000psi	PEEK	690bar 10000psi	Piston	Non / Self venting captured



## MINI-301

Extremely compact regulator with high inlet pressure rating to 690bar - originally designed for use on Hydrogen Fuel Cell applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/8"	0.06	Gas	690bar 10000psi	PCTFE	350bar 5100psi	Piston	Non venting



### MF-101

Simple and accurate piston sensed regulator for medium flow applications on liquid or gas applications. As standard with an unbalanced main valve or optional balanced main valve allows inlet pressure to 300bar.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4"	0.5	Gas	100bar 1500psi 300bar(mod) 4350psi	PCTFE PEEK	35bar 500psi	Piston	Non / Self venting



### MF-230 MF-231

Versatile and economical regulator for gas applications. Teflon lined diaphragm and piston sensed options, with balanced main valve to minimise load on seat and provide stable control. Easy to access seat cartridge from base of regulator.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/2"	1.0	Gas	230bar 3350psi	PCTFE	10bar 150psi 200bar 2900psi	Diaphragm Piston	Non / Self venting



### MF-300 MF-301

Economical piston sensed regulator with two precision machined sensing elements for accurate control of pressure on 'Medium Flow' applications. Balanced main valve to minimise load on seat and provide stable control.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/2" 3/4"	2.0	Gas	300bar 4350psi	PCTFE	250bar 3625psi	Piston	Non / Self venting



### MF-400 MF-401

Versatile non venting regulator for liquid and gas applications. Diaphragm sensed element for sensitive control to 10bar and range of piston elements for higher outlet ranges to 400bar.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/2" 3/4"	2.0	Gas Liquid	400bar 5800psi	PCTFE PEEK	10bar 150psi 400bar 5300psi	Diaphragm Piston	Non venting



### MF-414G

Piston sensed regulator with captured self vent to safely pipe away flammable or toxic gases. Long spring chamber to minimise droop effect under flowing conditions.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/2" 3/4"	2.0	Gas	414bar 6000psi	PEEK	414bar 6000psi	Piston	Non / Self venting captured

# HIGH PRESSURE REGULATORS - HYDRAULIC



## HYD-691

Economical hydraulic regulator with ceramic (HYD691) seating and captured self vent all built into a compact design. Ideal for oil based applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4" 3/8"	0.06	Liquid	690bar 10000psi	Ceramic	690bar 10000psi	Piston	Non / Self venting captured



## LGC-690

Specially designed regulator for control of low outlet pressures typically used on logic control systems where control of setpoint has to be within +/-1bar accuracy. Features include balanced main valve, diaphragm sensed element, and lower entry access to seating cartridge with built in filter.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4" 3/8"	0.3	Liquid	414bar 6000psi	PEEK	10bar 150psi	Piston	Non / Self venting captured



## LF-690 LF-691

Innovative market leading design with ceramic seating that lasts 5 times longer than metal seated alternatives. Easy to access seat cartridge and fully supported main valve to minimise unstable resonating. Supplied with segregated captured vent as standard. Ideal for water glycol.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/4" 3/8"	0.05 0.1	Liquid	1380bar 20000psi	Ceramic Vespel™	1380bar 20000psi	Piston	Non / Self venting captured



## MF-414H

Medium Flow regulator with same ceramic seating features as LF-690. Balanced Main Valve to minimise load on seats and ensure stable pressure control. Also supplied with segregated captured vent as standard.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1/2" 3/4"	2.0	Liquid	414bar 6000psi	Ceramic Vespel™	414bar 6000psi	Piston	Non / Self venting captured

# HIGH FLOW REGULATORS



## HF-300G/H HF-301G/H

High flow regulator with diaphragm or piston sensed options for use on liquid or gas applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1"	4.0	Gas Liquid	300bar 4350psi	PCTFE VespeI™	10bar 150psi	Diaphragm	Non venting
					300bar 4350psi	Piston	



## HF-250G/H HF-251G/H

High flow regulator with diaphragm or piston sensed options for use on liquid or gas applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
1 1/2"	7.0	Gas Liquid	250bar 3625psi	PCTFE VespeI™	10bar 150psi	Diaphragm	Non venting
					250bar 3625psi	Piston	



## HF-210G/H HF-211G/H

High flow regulator with diaphragm or piston sensed options for use on liquid or gas applications. Spring / dome loaded option.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
2"	13.0	Gas Liquid	210bar 3000psi	PCTFE VespeI™	10bar 150psi	Diaphragm	Non venting
					200bar 2900psi	Piston	



## HF-200G/H HF-201G/H

High flow regulator with diaphragm or piston sensed options for use on liquid or gas applications.

Port size	Cv	Service	Max inlet	Seat	Max outlet	Sensing element	Venting option
3"	30.0	Gas Liquid	200bar 2900psi	PCTFE VespeI™	10bar 150psi	Diaphragm	Non venting
					150bar 2175psi	Piston	

# BACK PRESSURE REGULATORS



## BP-300

Economical low pressure back pressure regulator with a convoluted Inconel diaphragm, ideal for clean or corrosive gases.

Port size	Cv	Service	Max rating	Seat	Max inlet control	Sensing element
1/4"	0.1	Gas	35bar 500psi	Viton™ EPDM	20bar 300psi	Diaphragm



## BP-301

Versatile and compact piston sensed regulator with two sensor ranges and two seating sizes to provide excellent control on liquid or gas applications.

Port size	Cv	Service	Max rating	Seat	Max inlet control	Sensing element
1/4"	0.1 0.5	Gas Liquid	300bar 4350psi	PCTFE PEEK	150bar 2175psi 35bar 500psi	Piston



## BP-MF400 BP-MF401

Diaphragm or piston sensed elements with balanced main valve ensure accurate control across the full range of inlet pressures.

Port size	Cv	Service	Max rating	Seat	Max inlet control	Sensing element
1/2" 3/4"	2.0	Gas	400bar 5800psi	PCTFE PEEK	10bar 150psi 400bar 5800psi	Diaphragm Piston



## BP-LF690

A combination of precision machined elements and heavy duty springs provide control of inlet pressures to 690bar on gas or liquid applications.

Port size	Cv	Service	Max rating	Seat	Max inlet control	Sensing element
1/4"	0.1	Gas Liquid	690bar 10000psi	PEEK HASTELLOY™	690bar 10000psi	Piston



## BP-MF690

Unique ceramic seating for liquid applications provides excellent protection from cavitation and positive shut off on medium flow applications. A PEEK seat is used for gas applications.

Port size	Cv	Service	Max rating	Seat	Max inlet control	Sensing element
1/2" 3/4"	0.5 1.5	Gas Liquid	690bar 10000psi	PEEK Ceramic	414bar 6000psi 300bar 4350psi	Piston

## CUSTOM SOLUTIONS

Not every system is the same and hence pressure regulators need to be sized and selected to provide an exact solution. The ability for a pressure regulator to provide stable control depends on pressures and flow rates within the system being able to pass through the seating area and cross holes within the valve. Other factors such as temperature, media and external environment provide variations that mean 'off the shelf' products may not be acceptable for many systems.

## SUBSEA REGULATORS



Designed to operate subsea at depths up to 3000m (10,000ft) these regulators can either use the external seawater pressure as a reference pressure or be completely sealed to operate at topside ambient pressure conditions, thus are completely unaffected by external pressure conditions. A version of the regulator is also available with a 'bucket handle' to allow subsea adjustment by ROVs

## DIVING REGULATORS



Based on our well established range of stainless steel regulators, our range of brass regulators are cleaned and degreased within the guidelines of ASTM G93 for equipment used in Oxygen enriched environments, and intended for use on critical life support or hyperbaric diving applications where accurate control and high cleanliness is required for breathing systems. Typically used in hyperbaric and decompression chambers and on breathing air analyser systems.

## FLOW CONTROL VALVES



Pressure Tech will shortly be introducing a unique range of mechanical flow control valves primarily for use on chemical injection systems. The design uses a biased back pressure regulator to create a constant differential pressure across an adjustable metering orifice to ensure a constant flow rate on critical chemical dosing systems. The flexible manifold arrangement also allows the option of a self-cleaning filter assembly. Replaceable ceramic seats and all 316 stainless steel wetted parts, built into a unique manifold arrangement ensures our new range of flow control valves will provide innovative 'solution led' technology for those involved with chemical injection systems.



Designed and manufactured in the UK



ISO 9001 : 2008

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