



TECHLINE CATALOGUE
Complete range

GCE IN GLOBAL LEAD



GCE BUSINESS IN GENERAL

GCE's main business originally concentrated on the oxy-acetylene cutting and welding market, but with almost 100 years of experience in the handling of high pressure gases, the product range has grown rapidly. Today's product portfolio fits a large variety of applications, from simple pressure regulators and blowpipes for welding and cutting to highly sophisticated gas supply systems for the medical and electronics industry and analytical laboratory equipment.

GCE GROUP INCLUDES FOUR BUSINESS AREAS:

- Cutting & Welding
- Process Applications
- Medical
- High Purity

ORIGINS

The origins of GCE (Gas Control Equipment) go back as far as the beginning of the twentieth century when oxy-acetylene cutting and welding methods were first invented. GCE group as an independent entity was formed in 1987 through the merging of gas equipment activities by two of the world's leading industrial gas and welding equipment companies into one independent entity. The GCE Group has grown rapidly since its establishment and is leading the restructuring of the European gas-equipment industry through mergers and acquisitions. Through the years, GCE Group's R&D work has resulted in innovative solutions that have quickly become field standards.

GCE SERVICES

GCE's main customers in industrial area are wholesalers and local distributors, though in some markets gas companies also distribute equipment and cooperate with GCE Group.

For these companies we provide local commercial support, professional support and marketing activities. Key end-customers such as shipyards, repair shops and OEM customers, such as welding machine manufacturers, account for a significant part of the sales volume.

A COMPLETE RANGE FOR HIGH PURITY

Specialty gases are used in various industries to operate analytical instruments, to initiate, stabilize and avoid chemical processes and to create amplified light for hardening, marking, welding and cutting purposes. These gases are provided in highly purified form and have either flammable, toxic or corrosive properties and therefore require specific gas-regulating equipment that is leak-proof and corrosion-resistant and thus does not affect the purity, chemical properties or composition of the given gas. Pressure regulators and valves must ensure safe discharge and transportation of gases without posing any risk to users, devices or buildings. The equipment has to withstand inlet pressures of several hundred bars and must meet the highest expectations for flow and pressure stability.

Specialty-gas regulators and valves are produced from materials such as stainless steel, brass or other metallic alloys. Proper surface treatment and coating, leak-proof connection technology and gas-resistant seals are the key elements of specialty-gas systems that either locally discharge gas or distribute it through pipelines to points of use in facilities and laboratories operating in the chemical, petrochemical, pharmaceutical and other industries.

GCE – DruVa has been a leader in field of specialty-gas equipment since 1967. With production and service centres in Germany, the Czech Republic and China, GCE's High Purity Division is one of the market leaders in providing system components, solutions and services for specialty, high-purity and ultra-high-purity gases to engineers, designers, distributors and end-users in all corners of the globe.

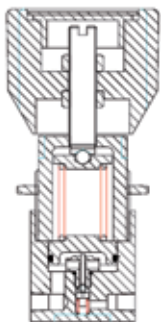
GLOBAL LEADER IN OXY-FUEL TECHNOLOGY

With extensive experience in the development and production of machine cutting torches and cutting nozzles, GCE Group is a global leader in oxy-fuel cutting technology. The design of the products is based on GCE's extensive knowledge and expertise in the oxy-fuel area.

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MINI-300 SERIES - COMPACT 'LOW FLOW' REGULATOR



SPECIAL FEATURES

- 38 mm diameter body provides small foot space
- Fully supported 'sensitive' pistons with low pressure and high pressure outlet options
- Low internal volume
- All 316SS wetted parts including bonnet with panel mounting as standard
- 'Soft' seating area perpendicular to flow stream to minimise particle damage

DESCRIPTION

The MINI-300 provides an economical, lightweight, and versatile regulator range, designed for customers who want accurate control from a compact unit.

The standard units utilise two piston sensing options to allow pressure control from 5 psi to 1000 psi (and a modified version up to 3000 psi).

APPLICATION

- Analyser systems
- Point of Use
- Instrumentation control
- Gas Sticks
- Lecture bottle assembly

OPTIONS

- '003' Mod of 210 bar outlet range
- Handknob or Thumbwheel adjustment
- Dome loaded

TECHNICAL DATA

STANDARD SPECIFICATION*

Body and wetted parts	316SS
Bonnet	316SS
Seat	PCTFE
Connections	1/8"NPT
'O' ring seals	Viton

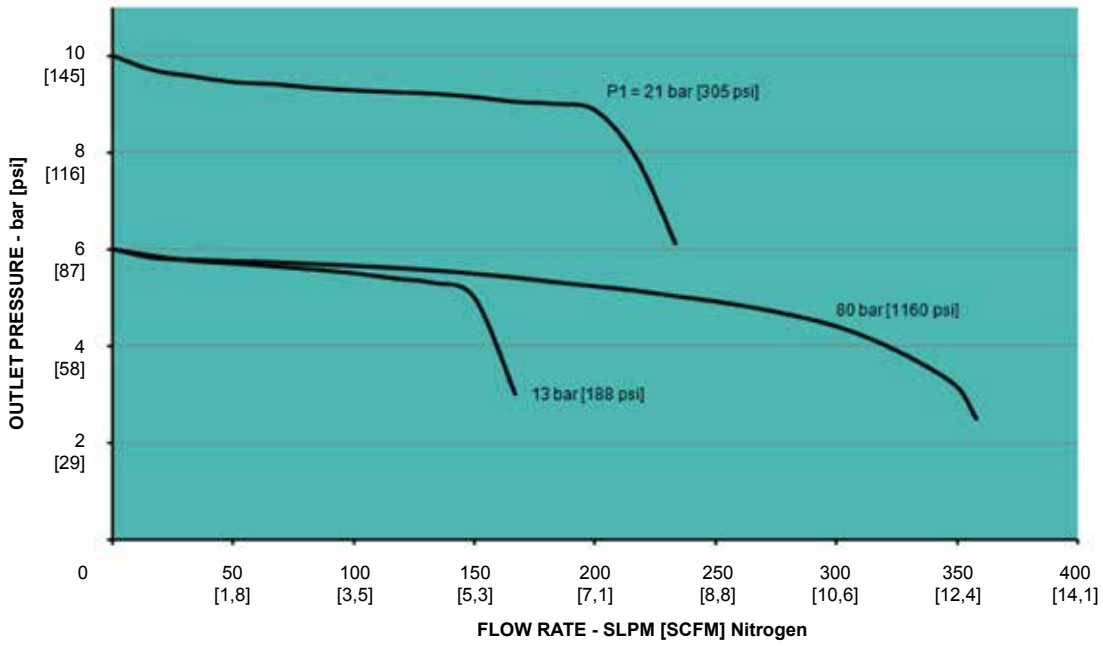
* Changes can be made to suit individual needs - please refer to our sales office to discuss specific requirement.

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

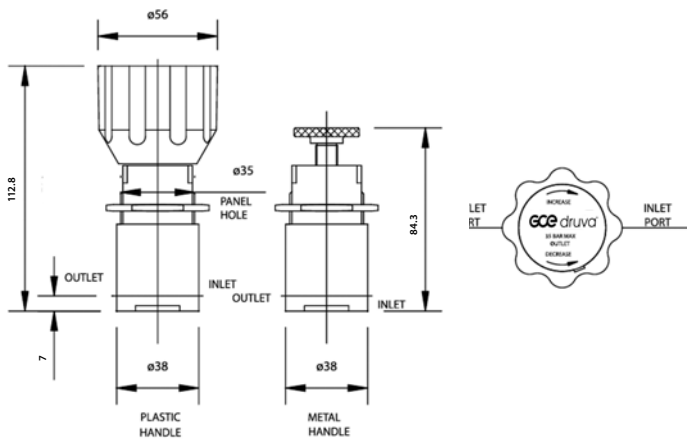
ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat	Porting configuration
MINI-300	06	SS	10	P	N
MINI-300	06 - 0.06	SS - 316SS	01: 0-1 bar/0-15 psi 10: 0-10 bar/0-145 psi 50: 0-50 bar/0-725 psi 100: 0-100 bar/0-1450 psi	K - PCTFE	Check Page 47 = Gauge Port locations

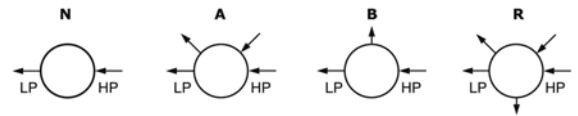
PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



EXAMPLE PORTING OPTIONS:



LF-300 SERIES - 'LOW FLOW' PRESSURE REDUCING REGULATOR DIAPHRAGM SENSED FOR OUTLET CONTROL TO 35 BAR / 500 PSI



SPECIAL FEATURES

- Metal to metal diaphragm sealing
- Sealing area protected and centralized on the body of the regulator
- Lightweight compact design
- Strong and sensitive diaphragm element
- High Accuracy

DESCRIPTION

The LF-300 has been designed with quality and reliability in mind, with genuinely unique features designed into this single stage regulator. Finite Element Analysis, combined with physical cycle tests, created an Inconel X750 diaphragm that lasts 50% longer than a typical stainless steel designs. The metal diaphragm means that leak integrity is maintained, and that no sample media is absorbed by the sensing element – reducing purge times between sample analysis. A Brass machined Washer also ensures no torsional load is applied to the diaphragm during assembly.

APPLICATION

- Gas and Liquid Analyzer Systems
- Gas Cylinder Regulator Assemblies
- Portable Calibration Kits
- Laboratories & Research Labs
- Low Pressure Hydraulic Systems

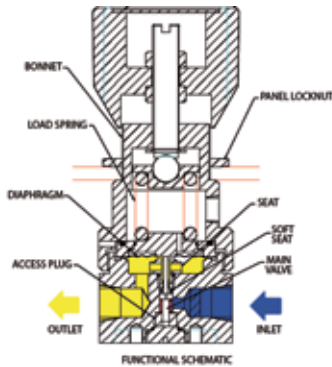
TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 35 bar (500 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	0.9 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK or PCTFE
Valve spring	Inconel X750
Diaphragm	Inconel X750
Handwheel	Nylon
Diaphragm washer	Brass
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Aluminum Bronze
Loading Spring	302SS

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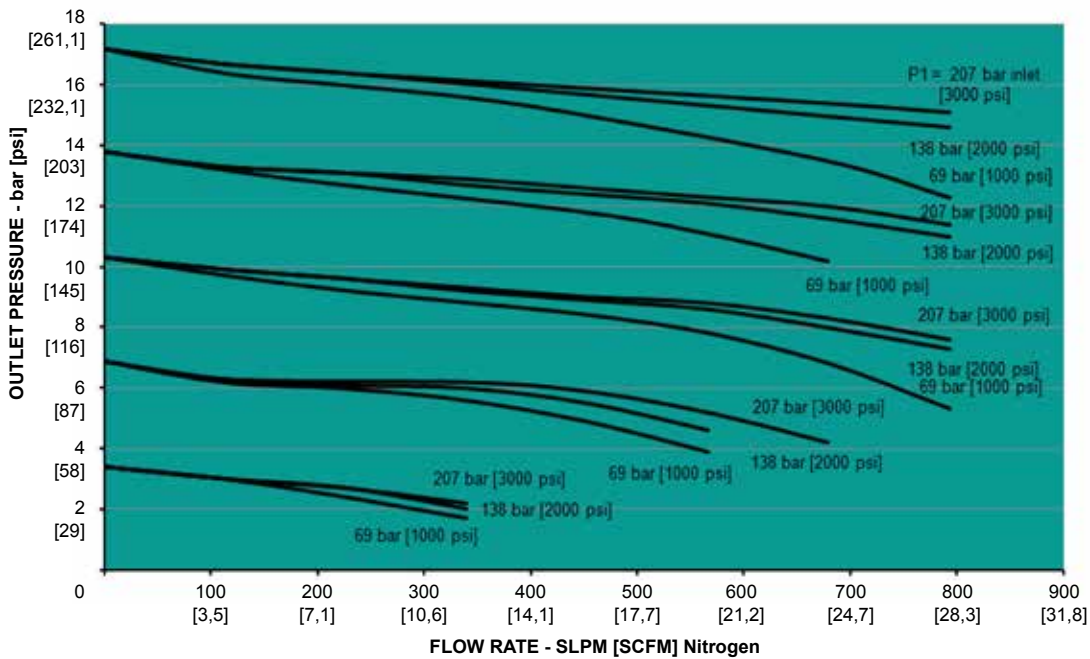
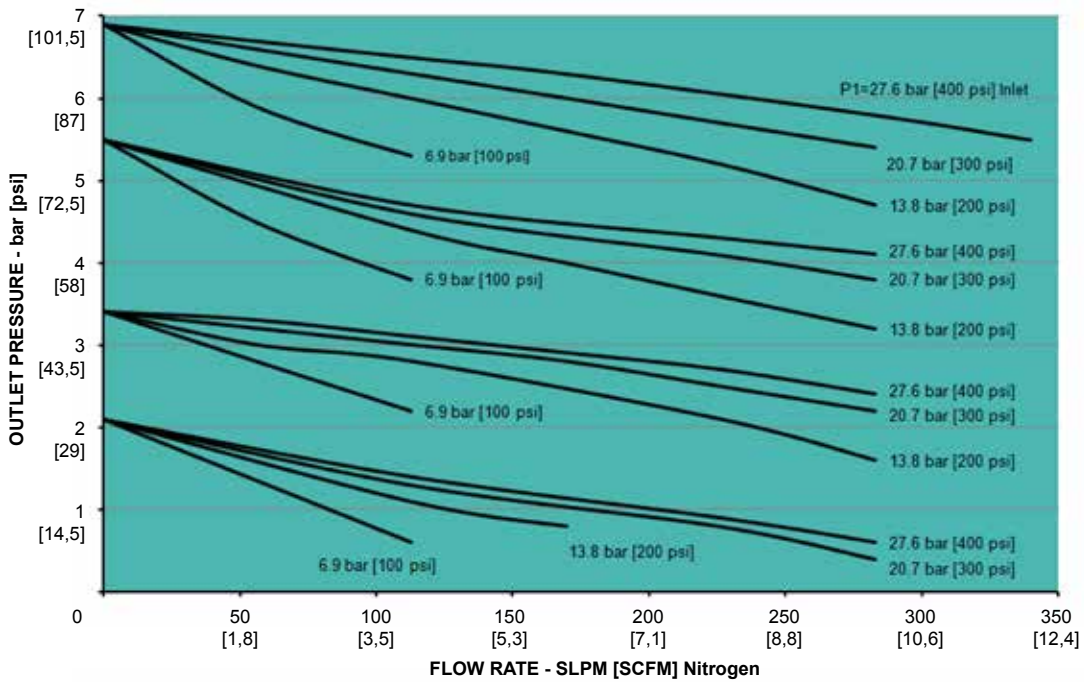
Assembly drawing for reference only. Refer to office for specific detail.

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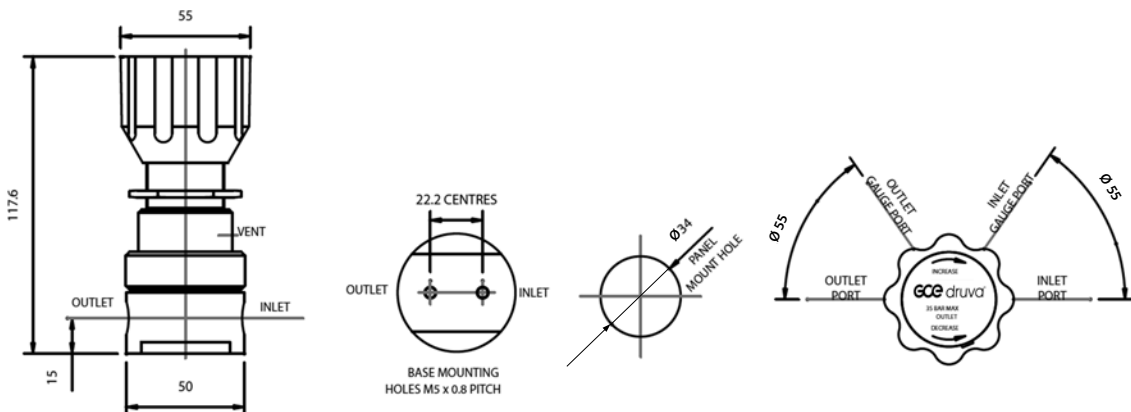
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat Cone	Porting configuration
LF300	06	SS	50	P	N
LF300	06 – 0.06	SS – 316SS	05: 0-5 bar/0-73 psi 10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi 35: 0-35 bar/0-508 psi	P – PEEK (max 300bar inlet) K – PCTFE (max 210bar inlet)	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



Subject to change without notice

TS-300 SERIES - TWO STAGE PRESSURE REDUCING REGULATOR DIAPHRAGM SENSED FOR OUTLET CONTROL TO 25BAR / 360PSI



SPECIAL FEATURES

- Metal to metal sealing diaphragm
- Sealing area protected and centralized within the body of the regulator
- 0.04% decaying pressure effect
- 'Interstage' relief valve option

DESCRIPTION

The TS-300 provides stable pressure control under decaying cylinder pressures. The first stage of the regulator is set to 35 bar to allow maximum flow capability through the regulator.

APPLICATION

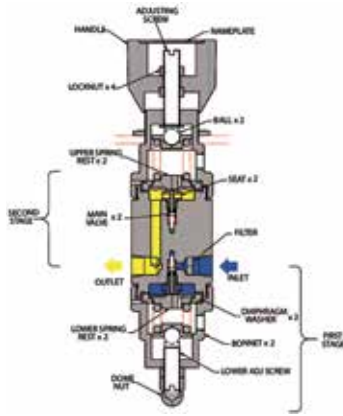
- Gas and Liquid Analyzer Systems
- Gas Cylinder Regulator Assemblies
- Carrier gases
- Laboratories & Research Labs

TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 25 bar (360 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	1.4kg (2.8lbs)
Temperature range	-48 to +300deg C
	(materials vary - contact office for details)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK or PCTFE
Valve spring	Inconel X750
Diaphragm	Inconel X750
Handwheel	Nylon
Diaphragm washer	Brass
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Alti Bronze
Loading Spring	302SS



Assembly drawing for reference only. Refer to office for specific detail.

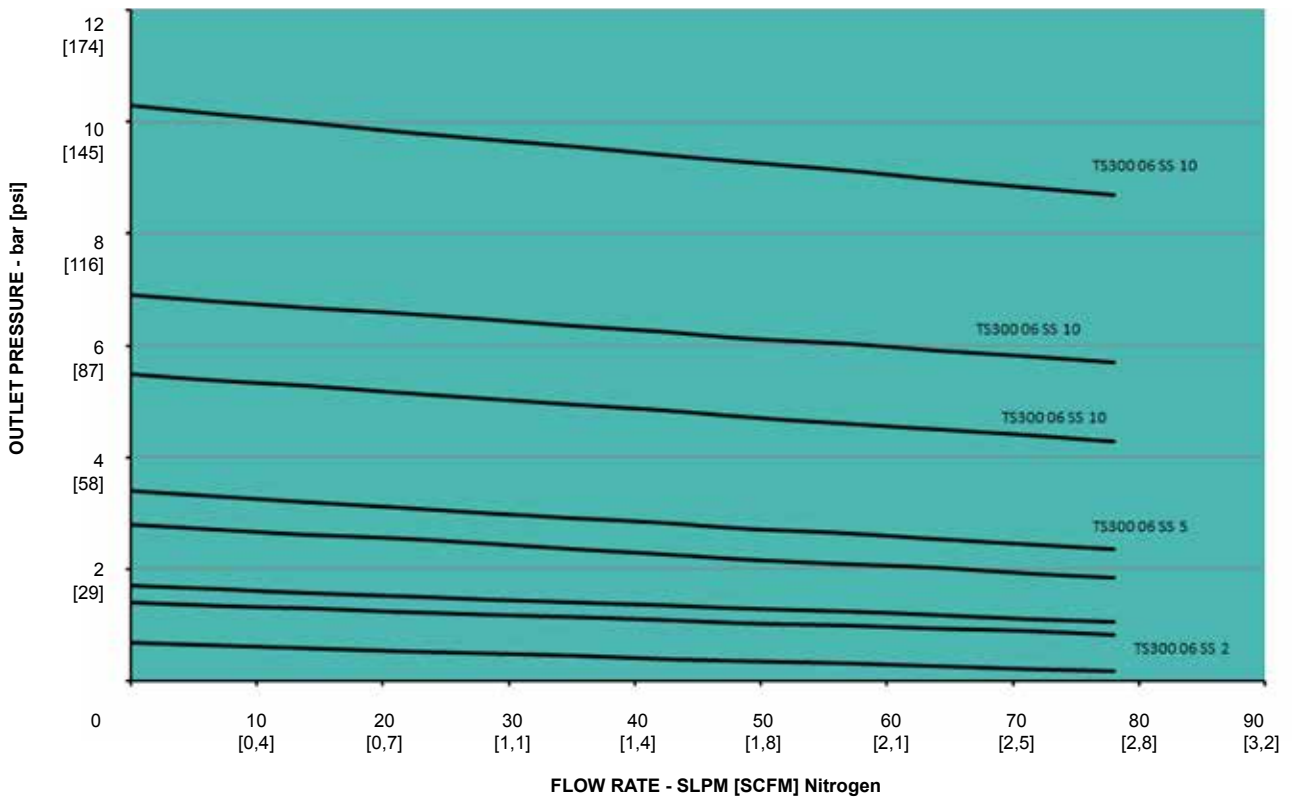
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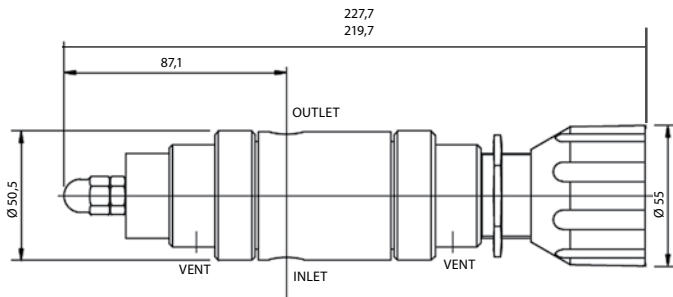
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat Cone	Porting configuration
TS300	06	SS	25	P	N
TS300	06 – 0.06	SS – 316SS	02: 0-2 bar/0-29 psi 05: 0-5 bar/0-73 psi 10: 0-10 bar/0-145 psi 25: 0-25 bar/0-363 psi	P – PEEK (max 300bar inlet) K – PCTFE (max 210bar inlet)	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



LF-230 SERIES - LOW FLOW PRESSURE REGULATOR WITH SENSITIVE ELASTOMERIC DIAPHRAGM



SPECIAL FEATURES

- 316L SS Machined Wetted Parts
- Large sensitive elastomeric diaphragm
- 0.1bar to 10bar / 1.5psi to 150psi control range
- Minimal decaying inlet pressure effect
- For flow rates to 30Nm³/hr (@ max P2)

TECHNICAL DATA

Max rated inlet pressure	230bar (3300psi)
Max outlet ranges	Diaphragm: 10bar (150psi)
Body and trim	316 St St.
Leakage	Bubble tight to ANSIFCI 70-3-2004
Seat diameter	2.5 mm
Weight	Approx 1kg

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet	316SS
Seat	PCTFE
Diaphragm (P2 max 10bar)	Extreme Viton
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	FKM
Adjusting screw	Ali Bronze
Loading Spring	Spring Steel
Lubricant	Krytox GPL 205

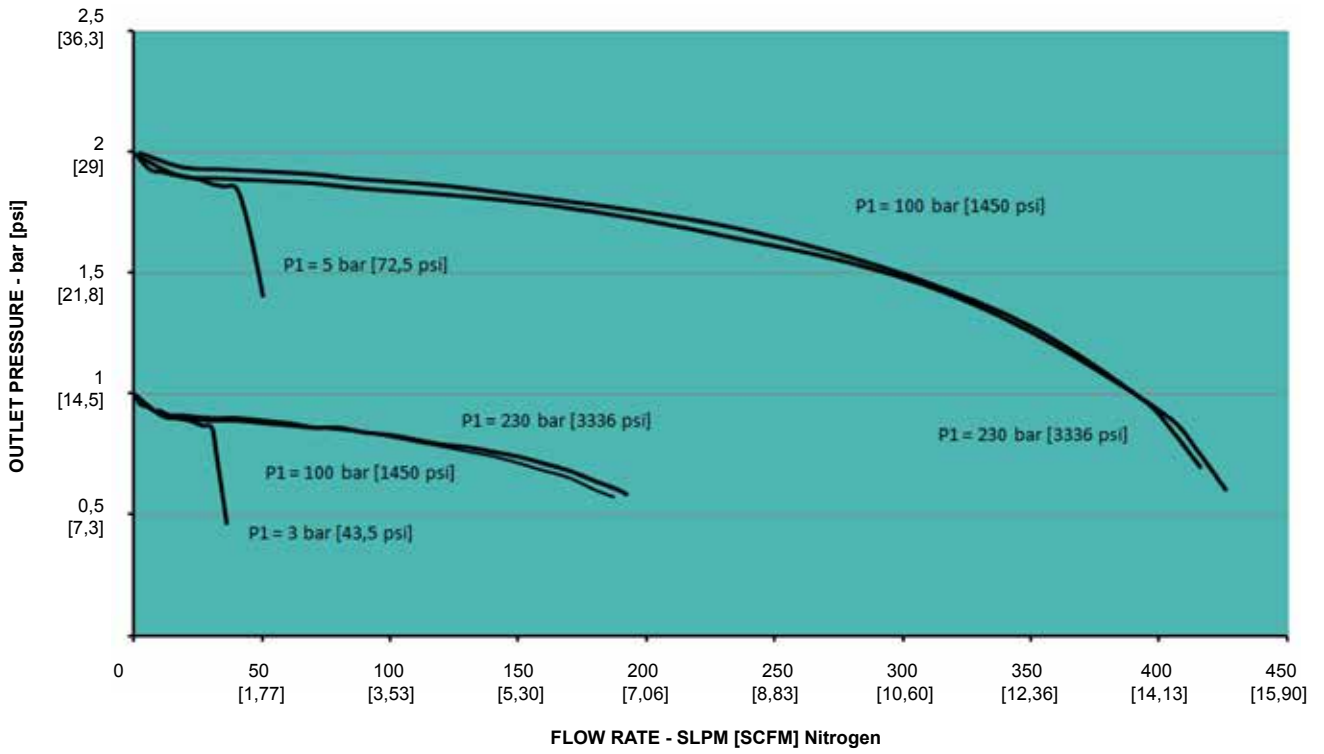
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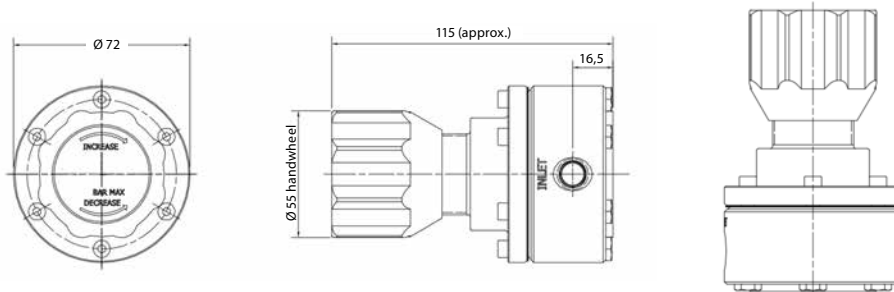
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat material	Inlet/outlet conn.	Porting configuration	None venting
LF-230	06	SS	10S	K	02N	N	NV
LF-230	06 – 0.06	SS – 316SS	01S: 0-1 bar/0-15 psi 02S: 0-2 bar/0-29 psi 05S: 0-5 bar/0-73 psi 10S: 0-10 bar/0-145 psi	T – Teflon (Max inlet: 10bar/150psi) F – FEP (Max inlet: 50bar/725psi) K – PCTFE (Max inlet: 230bar/3300psi)	02N – ¼" NPT 02B – ¼" BSP	Check Page 47 = Gauge Port locations	NV

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



LF-301 SERIES - 'LOW FLOW' PRESSURE REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 180 BAR / 2600 PSI



SPECIAL FEATURES

- Compact design
- Economical
- 316SS Bonnet
- Max 300 bar inlet

DESCRIPTION

The LF-301 provides a compact and economical solution for controlling pressures up to 180 bar on low flow applications.

Ideal for first stage pressure let down where basic pressure control is required. A small piston sensing element allows low torque adjustment with a range of springs with fine pressure adjustment.

APPLICATION

- Gas Cylinder regulator assemblies
- Pressure test rigs
- Instrument Air Lines
- Aircraft service carts

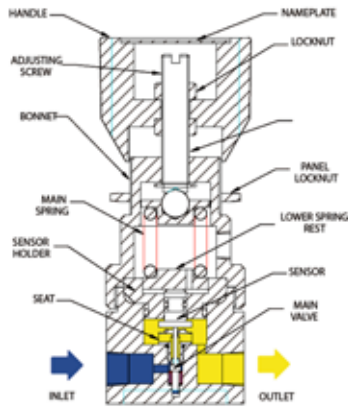
TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	0 – 50, 0 – 100, 0 – 180 bar
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	1 kg (2.2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK – Max 300 bar PCTFE – Max 210 bar
Valve spring	Inconel X750
Sensor and holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Alu Bronze
Loading Spring	302SS
Lubricant	Krytox GPL 205

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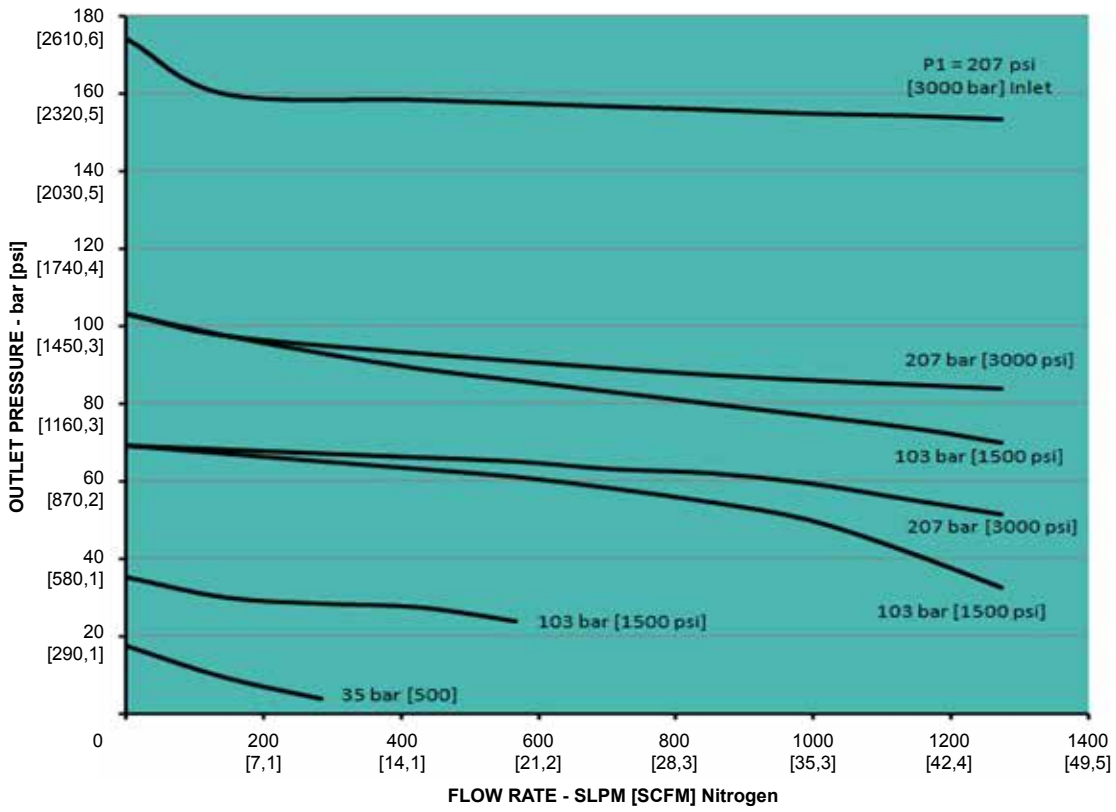
Assembly drawing for reference only. Refer to office for specific detail.

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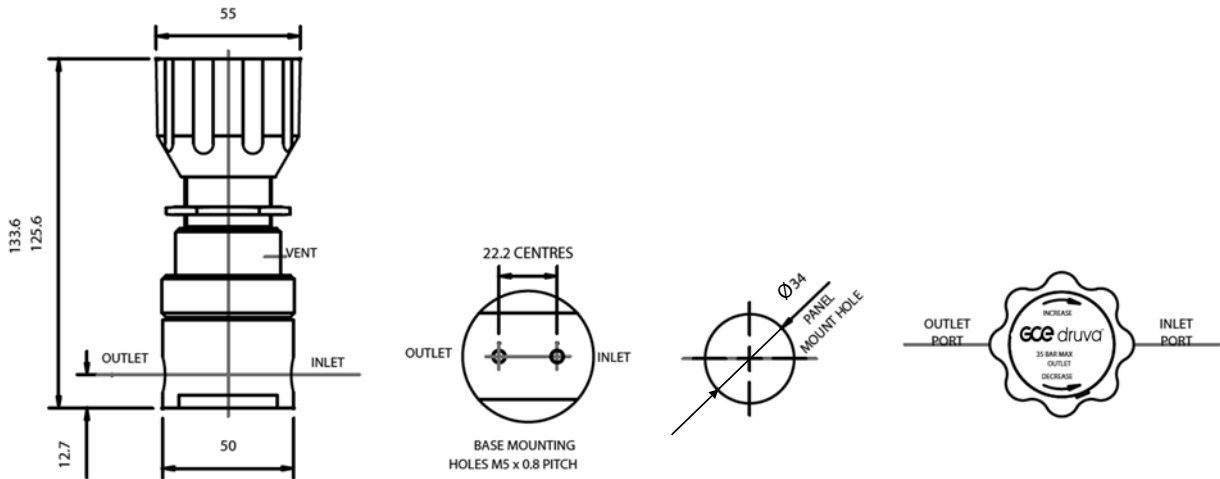
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O ring seals	Seat Cone	Porting configuration
LF-301	06	SS	50	V	P	N
LF-301	06 – 0.06	SS – 316SS	50: 0-50 bar/0-725 psi 100: 0-100 bar/0-1450 psi 180: 0-180 bar/0-2611 psi	V - Viton B - NBR E - EPDM	P – PEEK (max 300bar inlet) K – PCTFE (max 210bar inlet)	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



XHS-300 SERIES - DIAPHRAGM SENSED PRESSURE REGULATOR WITH SINGLE 100W HEATER



SPECIAL FEATURES

- IECEx, ATEX certified to EEx d IIC T3
- 100 W Heater cartridge
- Strong Inconel X750 Convolute diaphragm
- Easy to wire potted board with 115 V or 230 V supply
- Fully serviceable design
- Optional entry points for cable supply

DESCRIPTION

An economical heated regulator available in 'side entry' or 'in-line' heat transfer options to maintain sample gases in their vapour state. The 'in-line' design maximizes the heat transfer area via a unique spiral machined heater sheath, which mixes the gas and ensures efficient heat transfer.

The 'side entry' design can be used in applications where heat transfer is less critical, and where installations have height restrictions. Both options incorporate an efficient 100W heater cartridge, and are fully serviceable to remove carbon deposits and maintain maximum heat transfer.

APPLICATION

- Natural Gas sample systems
- Oxygen sample systems
- Moisture sample system

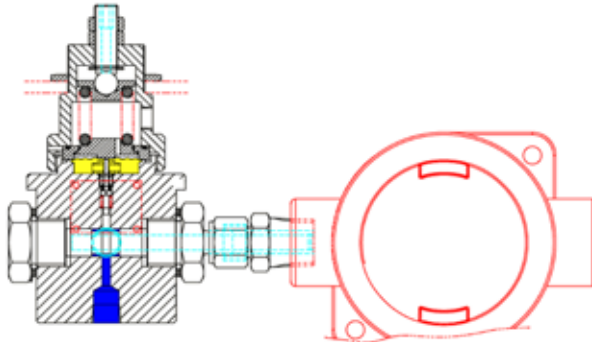
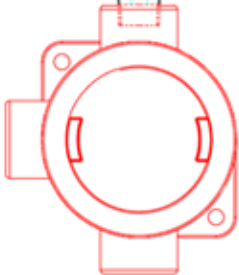
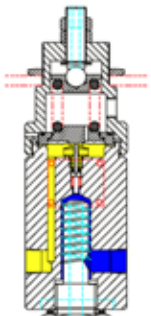
TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 35 bar (500 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	3.2 kg (1.5 lbs)

STANDARD MATERIALS OF CONSTRUCTION

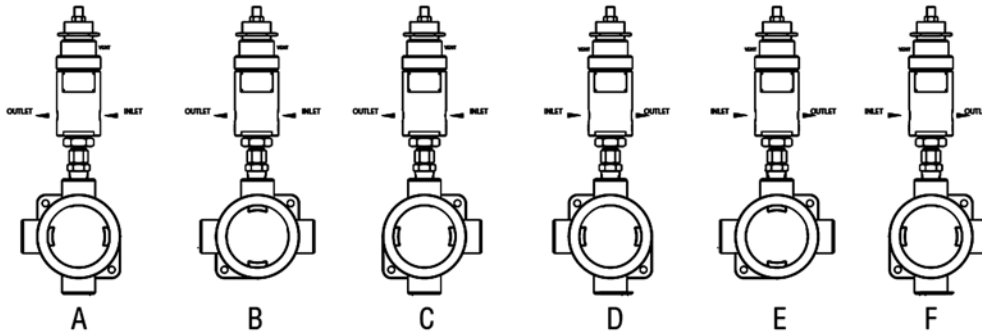
Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK – 300 bar inlet
	PCTFE - 210 bar inlet
Valve spring	Inconel X750
Diaphragm	Inconel X750
Diaphragm washer	Brass
Cartridge Holder	316SS
'O' ring seals	Viton
Adjusting screw	Al Bronze
Electric Enclosure	Coated Aluminium
Compression Fitting	316SS

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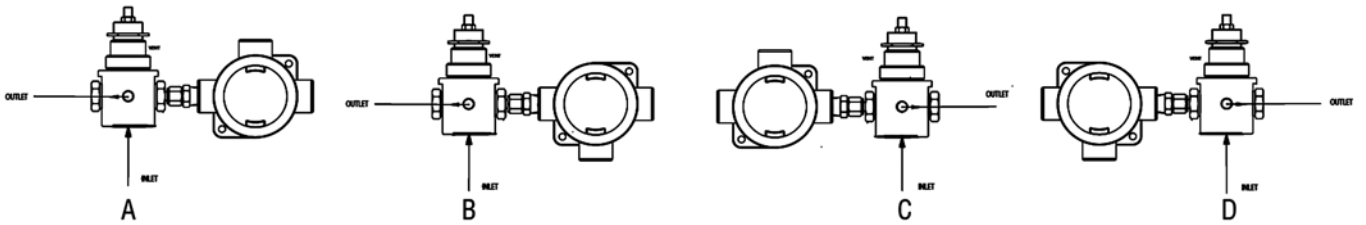


CONFIGURATION:

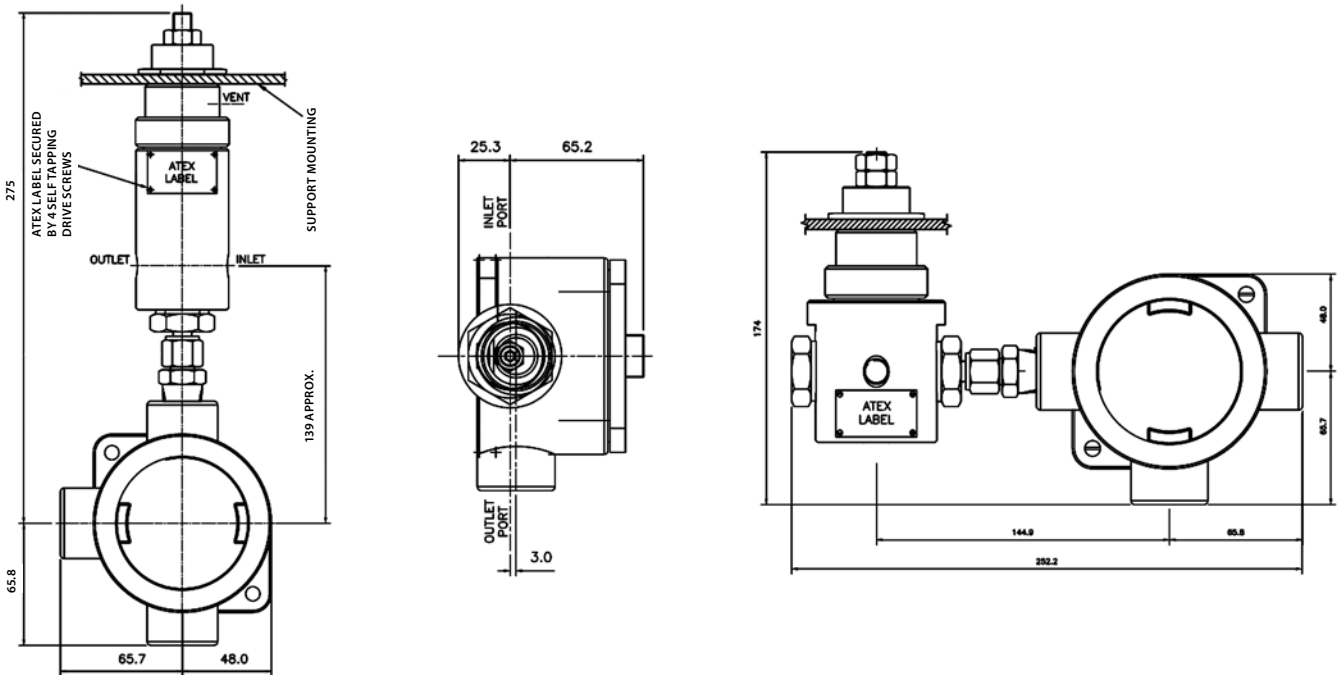
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INSTALLATION DIMENSIONS:



ORDER CODE

Basic Model	Configuration	Body material	Outlet ranges (Examples*)	Seat	Voltage supply	Orientation	Porting configuration
XHS300	06	SS	10	K	1	B	N
XHS300	IL - In-Line SE Side	SS – 316SS	02: 0-2 bar/0-29 psi 04: 0-4 bar/0-58 psi 08: 0-8 bar/0-116 psi 10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi 35: 0-35 bar/0-508 psi	K- PCTEE (max 210 bar inlet) P- PEEK (max 300 bar inlet)	1 – 115 V 2 – 230 V	Refer to page above	Check Page 47 = Gauge Port locations

Subject to change without notice

* Maximum inlet pressure can be set to specific requirements

XHR-300 SERIES - 'LOW FLOW' ELECTRIC AND STEAM HEATED REGULATOR DIAPHRAGM SENSED

SPECIAL FEATURES

- ATEX certified to EEx d IIC T3
- Dual, independent, 100 W heaters for pre heat and re-heat of sample gas. Oxygen sample - Inconel X750 Diaphragm for extra strength
- Large surface area for heat transfer
- Easy to wire circuit board with 115 V or 230 V supply
- Stylish Junction Box with 7 mm mounting supports.
- Fully serviceable design
- Optional entry points for cable supply

DESCRIPTION

Certified to ATEX directive 94/9/EC, the XHR-300 helps to maintain saturated gases in their vapourised state due to its unique DUAL heating design. Two 100 W heater cartridges, or steam tubes, are inserted in spiral machined sheaths, which agitate the media to help with the heat transfer and analysis process. The propriety PCB is easy to wire and incorporates an adjustable potentiometer to adjust the temperature setting to the heaters.

APPLICATION

- Natural Gas sample systems
- Oxygen sample systems
- Moisture sample systems

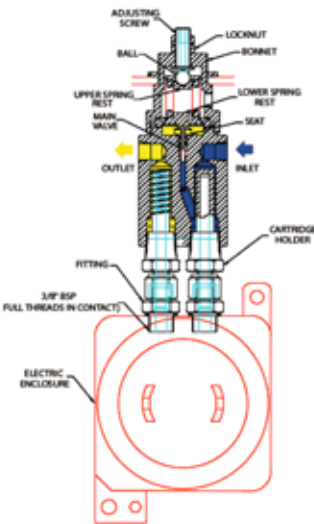
TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 35 bar (500psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	4.1 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK
Valve spring	Inconel X750
Diaphragm	Inconel X750
Handwheel	Nylon
Diaphragm washer	Brass
Cartridge Holder	316SS
'O' ring seals	Viton
Adjusting screw	Al Bronze
Electric Enclosure	Coated Aluminium
Compression Fitting	316SS

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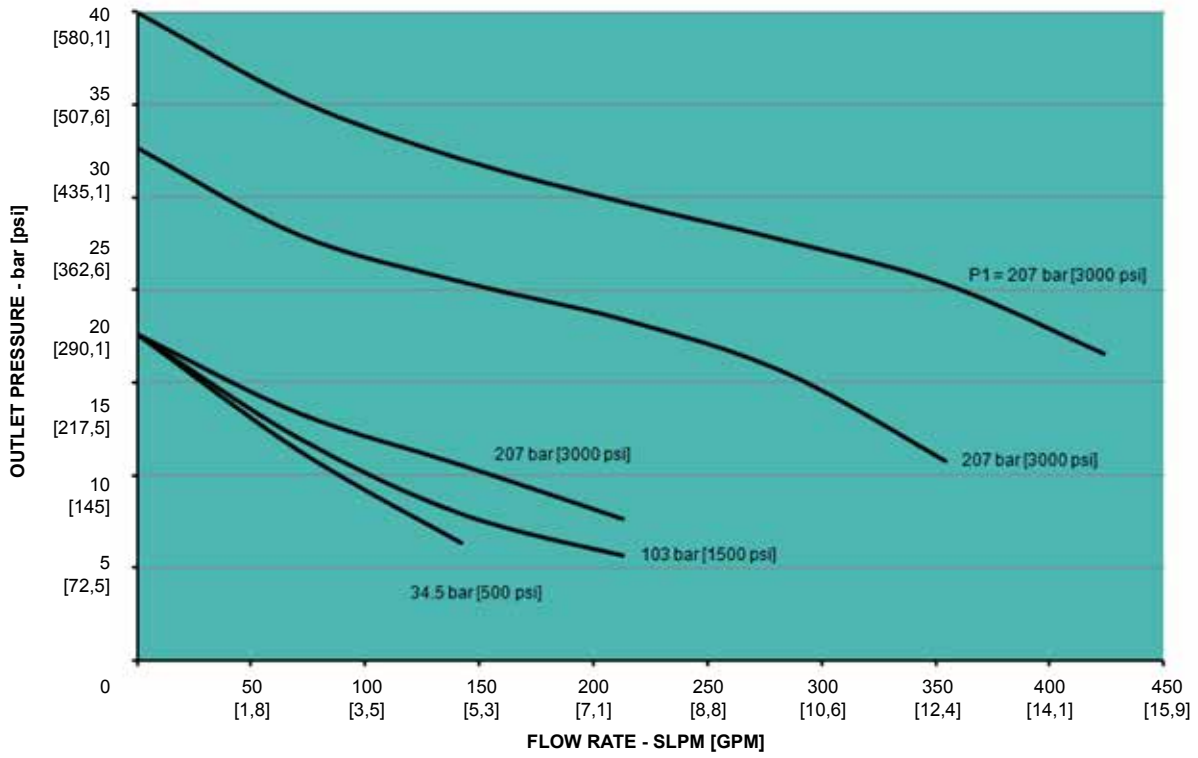
Assembly drawing for reference only. Refer to office for specific detail.

ORDER CODE

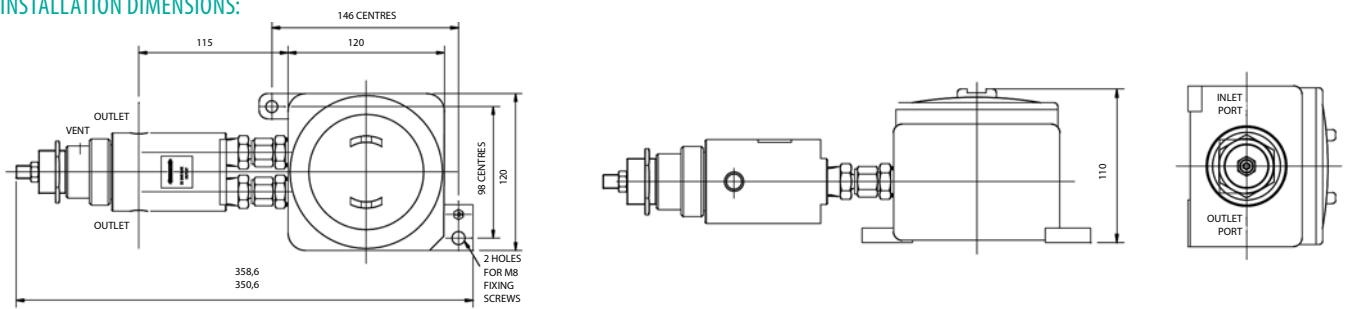
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat	Heat supply	Power cable supply	Porting configuration
XHR300	06	SS	10	K	1	L	N
XHR300	06 – 0.06	SS – 316SS	02: 0-2 bar/0-29 psi 04: 0-4 bar/0-58 psi 08: 0-8 bar/0-116 psi 10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi 35: 0-35 bar/0-508 psi	K- PCTEE (max 210 bar inlet) P- PEEK (max 300 bar inlet)	1 – 115 V 2 – 230 V S – Steam	L – Left side R – Right side B – Bottom side	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



XHR-301 SERIES - 'LOW FLOW' ELECTRIC AND STEAM HEATED REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 150 BAR / 2175 PSI



SPECIAL FEATURES

- ATEX certified to EEx d IIC T3
- Dual, independent, 100 W heaters for pre heat and re-heat of sample gas.
- 316SS Piston sensed element for low torque adjustment and high pressure control
- Large surface area for heat transfer
- Easy to wire circuit board with 115 V or 230 V supply
- Stylish Junction Box with 7mm mounting supports.
- Fully serviceable design
- Optional entry points for cable supply

DESCRIPTION

Based on the proven heat transfer design of the XHR-300, the XHR-301 allows greater outlet pressures to 150 bar via its piston sensed element.

APPLICATION

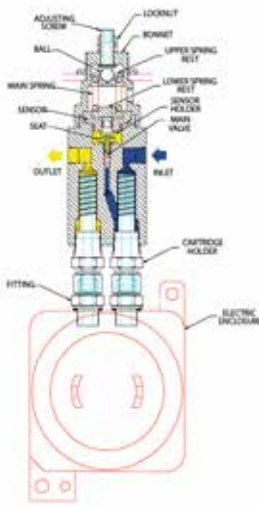
- Natural Gas sample systems
- Oxygen sample systems
- Moisture sample systems

TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 150 bar (2175 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Outlet Weight	4.1 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

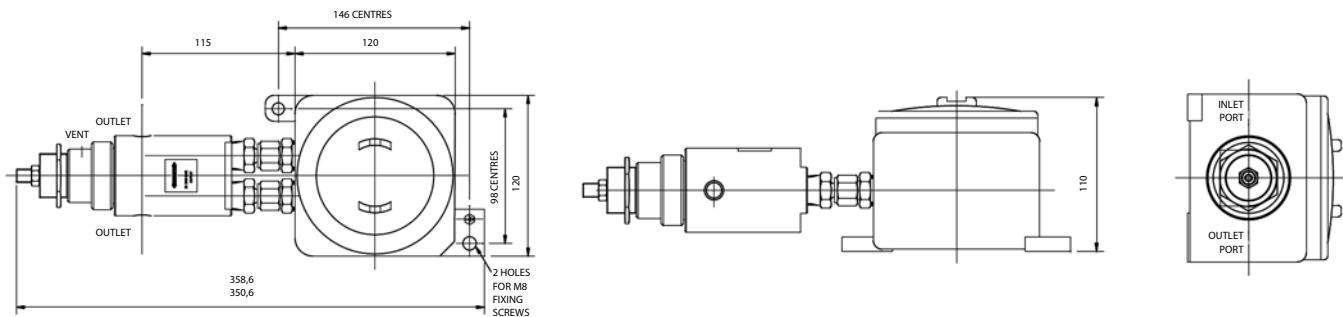
Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK
Valve spring	Inconel X750
Piston/Sensor Holder	316SS
Diaphragm washer	Brass
Cartridge Holder	316SS
'O' ring seals	Viton
Adjusting screw	Ali Bronze
Electric Enclosure	Coated Aluminium
Compression Fitting	316SS
Lubricant	Krytox GPL 205



Assembly drawing for reference only. Refer to office for specific detail.

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

INSTALLATION DIMENSIONS:

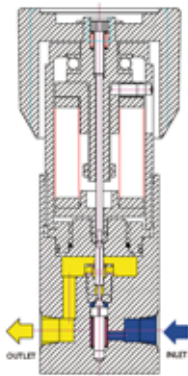


ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat	Heat supply	Power cable supply	Porting configuration
XHR301	06	SS	50	K	1	L	N
XHR301	06 – 0.06	SS – 316SS	50: 0-50 bar/0-725 psi 75: 0-75 bar/0-1088 psi 100: 0-100 bar/0-1450 psi 150: 0-150 bar/0-2176 psi	K- PCTEE (max 210 bar inlet) P- PEEK (max 300 bar inlet)	1 – 115 V 2 – 230 V S – Steam	L – Left side R – Right side B – Bottom side	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

LF-540 SERIES - 'LOW FLOW' PRESSURE REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 414BAR / 6000PSI



Assembly drawing for reference only. Refer to office for specific detail.

SPECIAL FEATURES

- 550 bar / 8000 psi inlet pressure
- Economical Design
- Precision machined sensing elements
- Load bearings and large handwheel for low torque adjustment
- Excellent sensitivity
- Self venting and non venting options

DESCRIPTION

A compact and economical high pressure regulator with precision machined sensing elements to allow fine pressure control on pressures up to 414 bar, which can be supplied as none venting or self venting (none adjustable).

APPLICATION

- Test and calibration systems
- Aircraft charging carts
- Valve Actuator Systems
- Gas Cylinder Regulator Assemblies

TECHNICAL DATA

Max rated inlet pressure	550 bar (8000 psi)
Outlet ranges	up to 414 bar (6000 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	2.1 kg (4.62 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Seat	PEEK GF30
Valve spring	Inconel X750
Sensor and Holder	316SS
Handwheel	Nylon
Valve Cage and Seat Nut/Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	AlI Bronze
Loading Spring	302SS
Lubricant	Krytox GPL 205

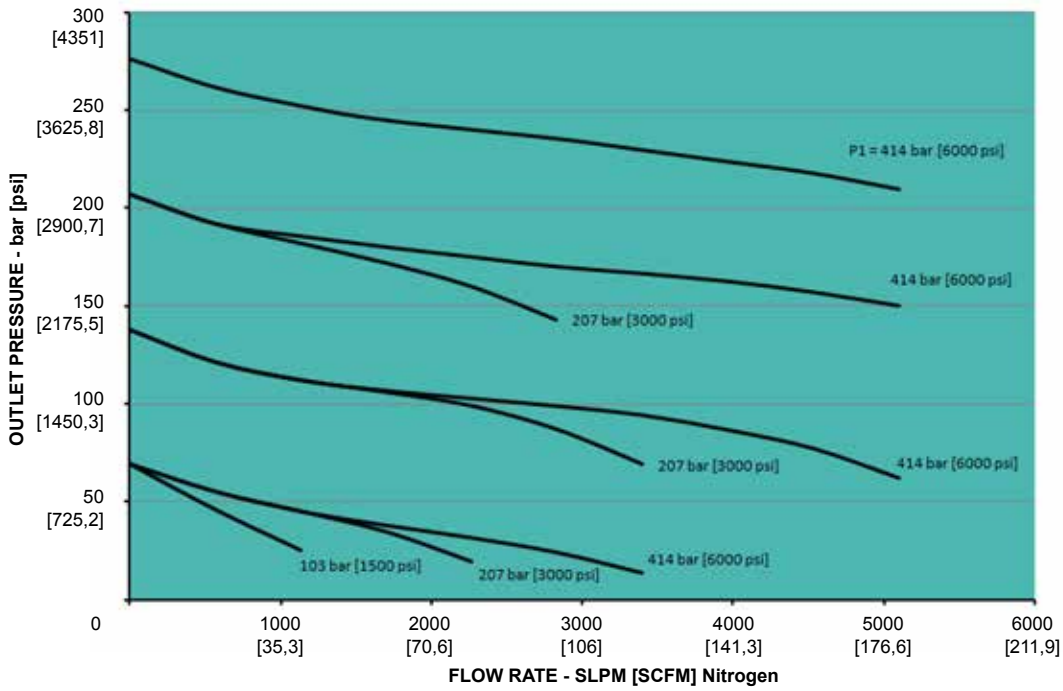
NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

ORDER CODE

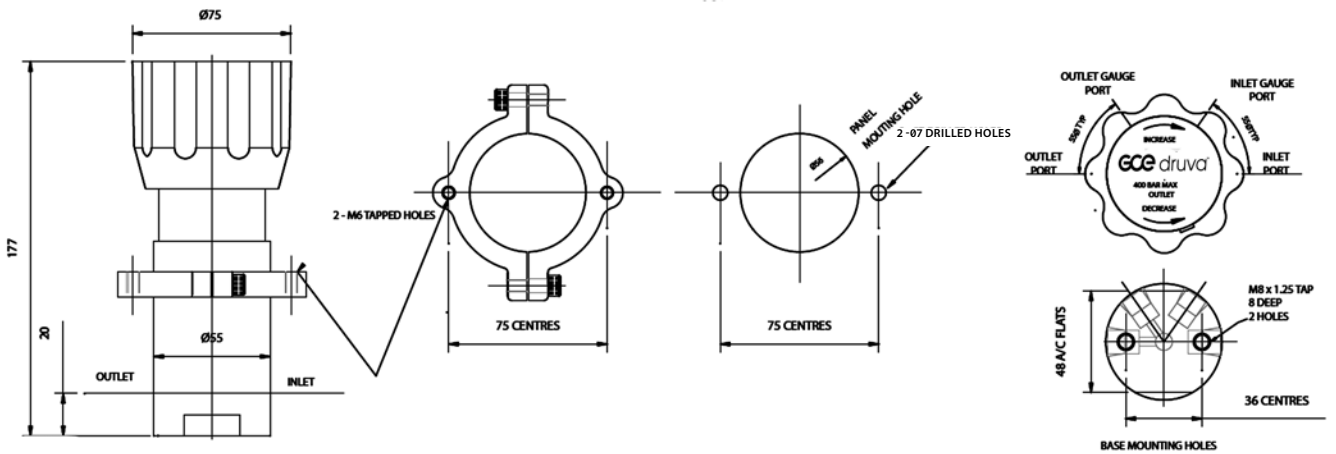
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O ring seals	Inlet/outlet connections	Porting configuration	Venting Options
LF540	01	SS	414S	N	02N	N	SV
LF540	01 – 0.1 02 – 0.2	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi	N - NBR V - Viton E - EPDM	02N – ¼"NPT 03N – 3/8"NPT	Check Page 47 = Gauge Port Locations	SV – Self Venting NV – Non Venting

Subject to change without notice

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



LF-550 SERIES - 'LOW FLOW' PRESSURE REDUCING REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 414BAR / 6000PSI



SPECIAL FEATURES

- 690 bar / 10000 psi inlet pressure
- Precision machined sensing elements
- Load bearings and large handwheel for low torque adjustment
- Excellent sensitivity
- Self venting and non venting options

DESCRIPTION

Designed with precision machined sensing elements to allow fine pressure control on pressures up to 414 bar. Two piston sensors combined with two spring ranges, provide 4 outlet control options with a combination of low torque adjustment and excellent sensitivity. A self venting design and optional ratio loaded actuator makes it an ideal regulator for use with electro-pneumatic controllers for automated pressure control.

APPLICATION

- Test and calibration systems
- Aircraft charging carts
- Diving applications
- Automated pressure cycling
- Gas assisted plastic injection systems

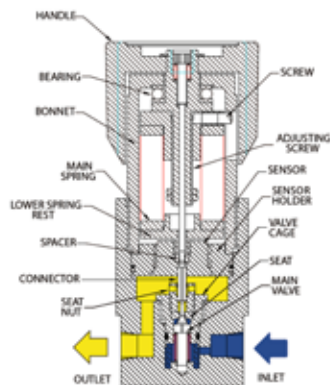
TECHNICAL DATA

Max rated inlet pressure	690 bar (10000psi)
Outlet ranges	up to 414bar (6000psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	2.9kg (6.4lbs)

STANDARD MATERIALS OF CONSTRUCTION

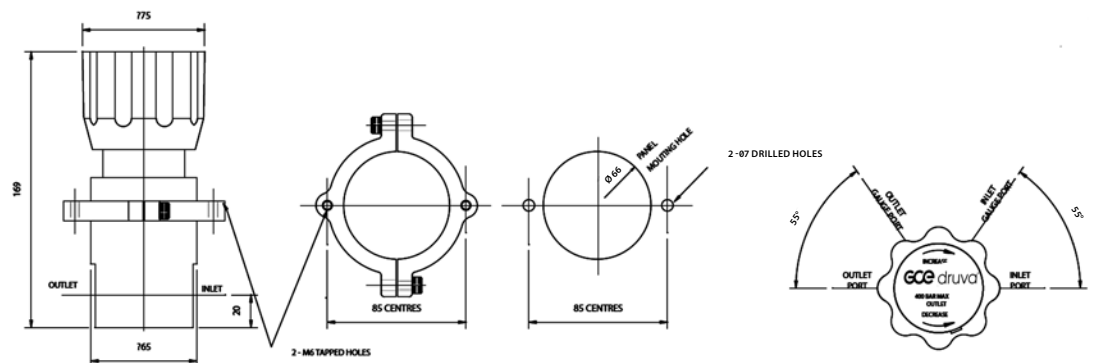
Body and Bonnet/Main valve pin	316SS
Seat	PEEK
Valve spring	Inconel X750
Sensor and Holder	316SS
Handwheel	Nylon
Valve Cage and Seat Nut/Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



Assembly drawing for reference only. Refer to office for specific detail.

INSTALLATION DIMENSIONS:

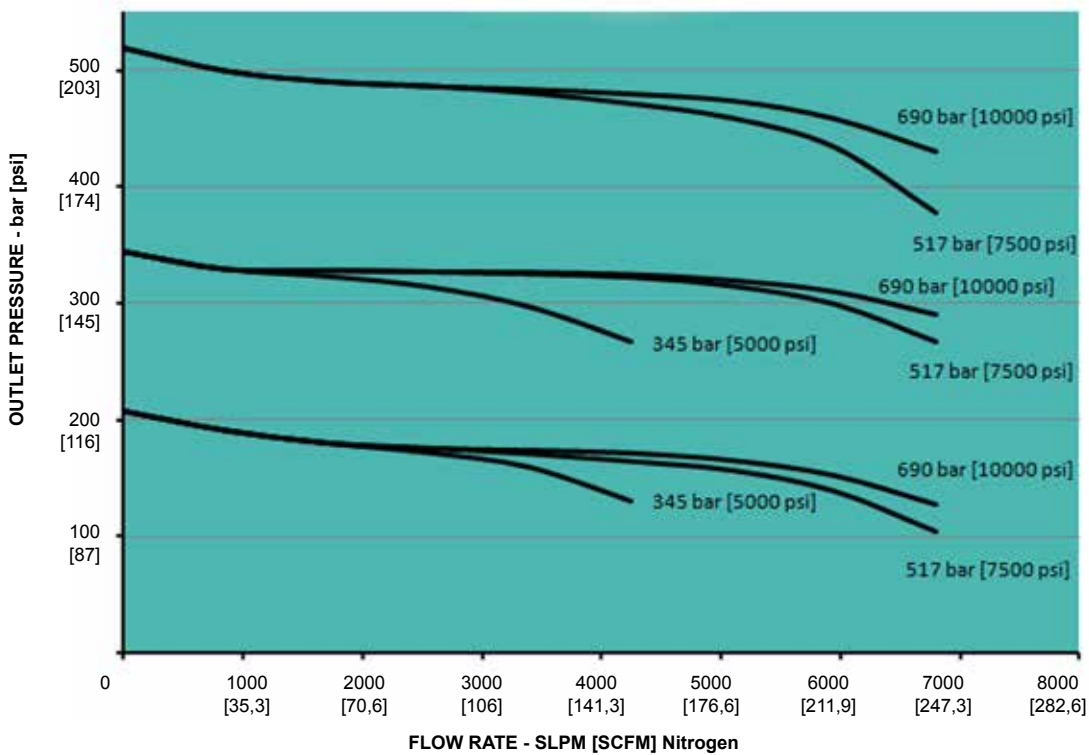
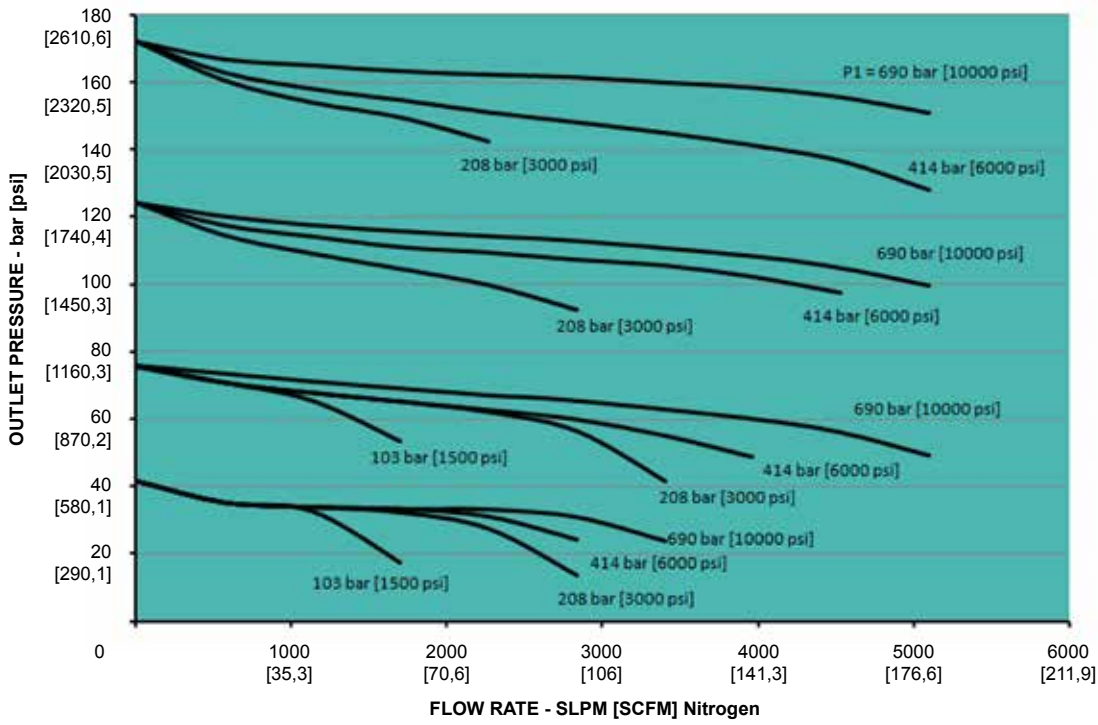


ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration	Venting Options
LF550	01	SS	414S	N	02N	N	SV
LF550	01 – 0.1 02 – 0.2	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 140A: 0-140 bar/0-2031 psi (Air actuated) 600A: 0-600 bar/0-8702 psi (Air actuated)	N - NBR V - Viton E - EPDM	02N – ¼"NPT 03N – 3/8"NPT	Check Page 47 = Gauge Port locations	SV – Self Venting NV – Non Venting

Subject to change without notice

PERFORMANCE CHARTS



LF-692 SERIES - 'LOW FLOW' GAS REDUCING REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 690 BAR / 10000 PSI



SPECIAL FEATURES

- 690 bar/10,000 psi inlet pressure
- PEEK seating for positive shut off on gas service
- Precision machined sensing elements
- 3 Sensor ranges for combination of low torque and high sensitivity. Segregated captured vent
- 316SS Panel mounting rings

DESCRIPTION

Based on the same design features of the LF-690 Hydraulic Regulator, the LF-692 incorporates a PEEK seat for use on high pressure gases, using a range of precision machined sensing elements to provide control of pressure to 690 bar.

The regulator is self relieving with segregated captured vent to allow vented gases to be piped away to a safe area. The seating area can easily be accessed from the base of the regulator for speedy servicing in situ.

APPLICATION

- Pneumatic Test Systems
- Aircraft Charging Carts
- Diving Systems
- Calibration Kits

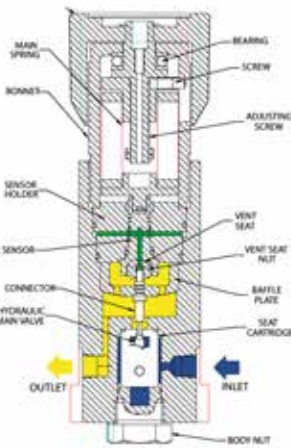
TECHNICAL DATA

Max rated inlet pressure	690 bar (10,000 psi)
Outlet ranges	up to 690bar(10,000 psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight seal at max inlet pressure
Weight	4.8 kg (11 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body	316SS or 17-4PH SS
Bonnet	316SS
Main valve	316SS
Seat Cartridge	PEEK
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Baffle Plate	316SS
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Aluminum
Loading Spring Spring	Steel
Bottom Nut	316SS
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



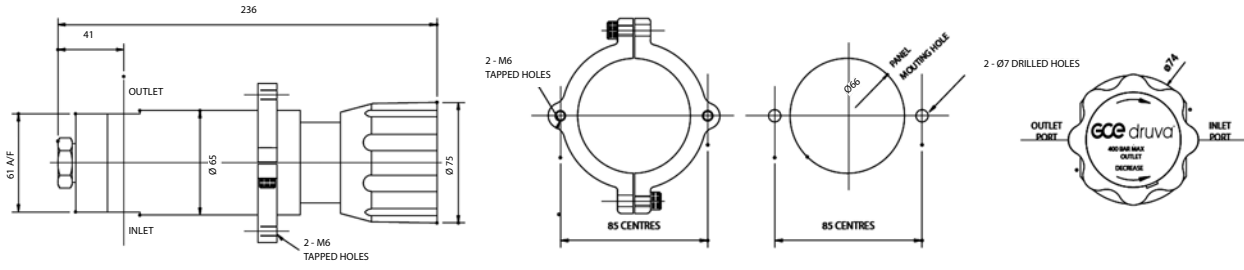
Assembly drawing for reference only. Refer to office for specific detail.

ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration	Venting Options
LF692	01	SS	414S	N	02N	N	SV
LF692	01 – 0.1	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 690S: 0-690 bar/0-10008 psi 140A: 0-140 bar/0-2031 psi (Air actuated) 600A: 0-600 bar/0-8702 psi (Air actuated)	N - NBR V - Viton E - EPDM H - Hydrogenated Buna	02N – ¼"NPT 03N – 3/8"NPT 04N – ½"NPT 04A – 9/16 Medium Pressure	Check Page 47 = Gauge Port locations	SV – Self Venting NV – Non Venting

Subject to change without notice

INSTALLATION DIMENSIONS:



MF-101 SERIES - 'MEDIUM FLOW' PRESSURE REGULATOR, PISTON SENSED FOR MEDIUM PRESSURE APPLICATIONS



SPECIAL FEATURES

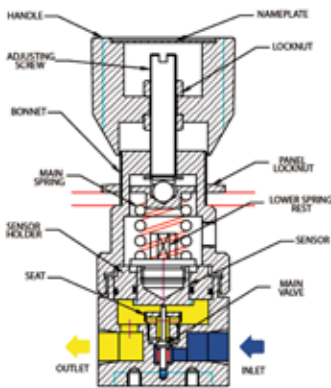
- Lightweight compact design
- Piston sensing element
- High accuracy

DESCRIPTION

The MF-101 incorporates a large precision machined sensing element to control outlet pressures up to 35 bar from a maximum 100 bar inlet. The main valve is an unbalanced design to create positive shut off on gas or liquid applications against the PEEK seat.

APPLICATION

- Gas and Liquid Analyzer Systems
- Low Pressure Hydraulic Systems
- Research labs
- Instrument Air Lines



Assembly drawing for reference only. Refer to office for specific detail.

TECHNICAL DATA

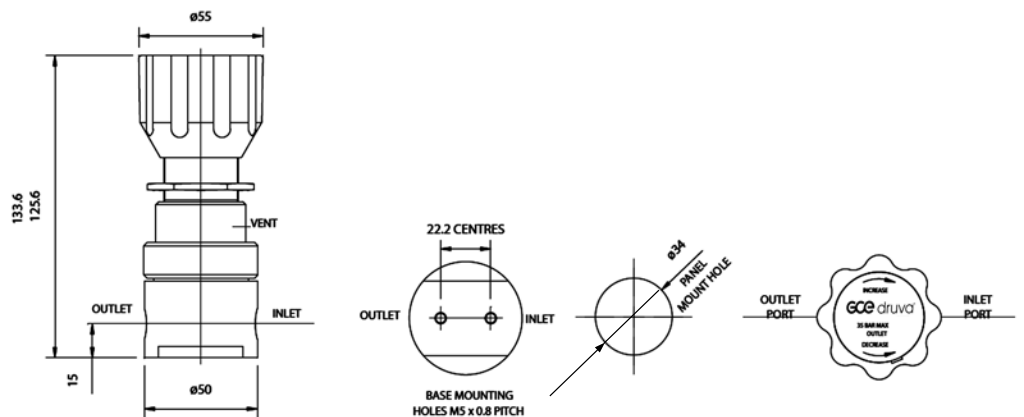
Max rated inlet pressure	100 bar (1450 psi)
Outlet ranges	0 – 10 bar, 0 – 20 bar, 0 – 35 bar
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP
Weight	0.9 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK or PCTFE
Valve spring	Inconel X750
Sensor and holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Ali Bronze
Loading Spring	302SS

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

INSTALLATION DIMENSIONS:



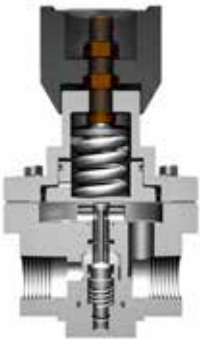
ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O ring seals	Seat Cone	Port connection	Boring configuration
MF-101	5	SS	35	V	P	02N	N
MF-101	5 – 0.5	SS – 316SS	10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi 35: 0-35 bar/0-508 psi	V - Viton B - NBR E - EPDM	P – PEEK K - PCTFE	02N – ¼" NPT 03N – 3/8" NPT	Check Page 47 = Gauge Port locations

Subject to change without notice

* Maximum inlet pressure can be set to specific requirements

MF-230 SERIES - MEDIUM FLOW PRESSURE REGULATOR WITH SENSITIVE ELASTOMERIC DIAPHRAGM



SPECIAL FEATURES

- 316L SS Machined Wetted Parts
- Large sensitive elastomeric diaphragm
- 0.1bar to 10bar / 1.5psi to 150psi control range
- Minimal decaying inlet pressure effect
- For flow rates to 240Nm³/hr (@ max P2)

TECHNICAL DATA

Max rated inlet pressure	230bar (3300psi)
Max outlet ranges	Diaphragm: 10bar (150psi)
Body and trim	316 St St.
Leakage	Bubble tight to ANSIFCI 70-3-2004
Seat diameter	7.2 mm
Weight	Approx 1.7kg

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet	316SS
Seat	PCTFE
Diaphragm (P2 max 10bar)	Extreme Viton
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	FKM
Adjusting screw	Ali Bronze
Loading Spring	Spring Steel
Lubricant	Krytox GPL 205

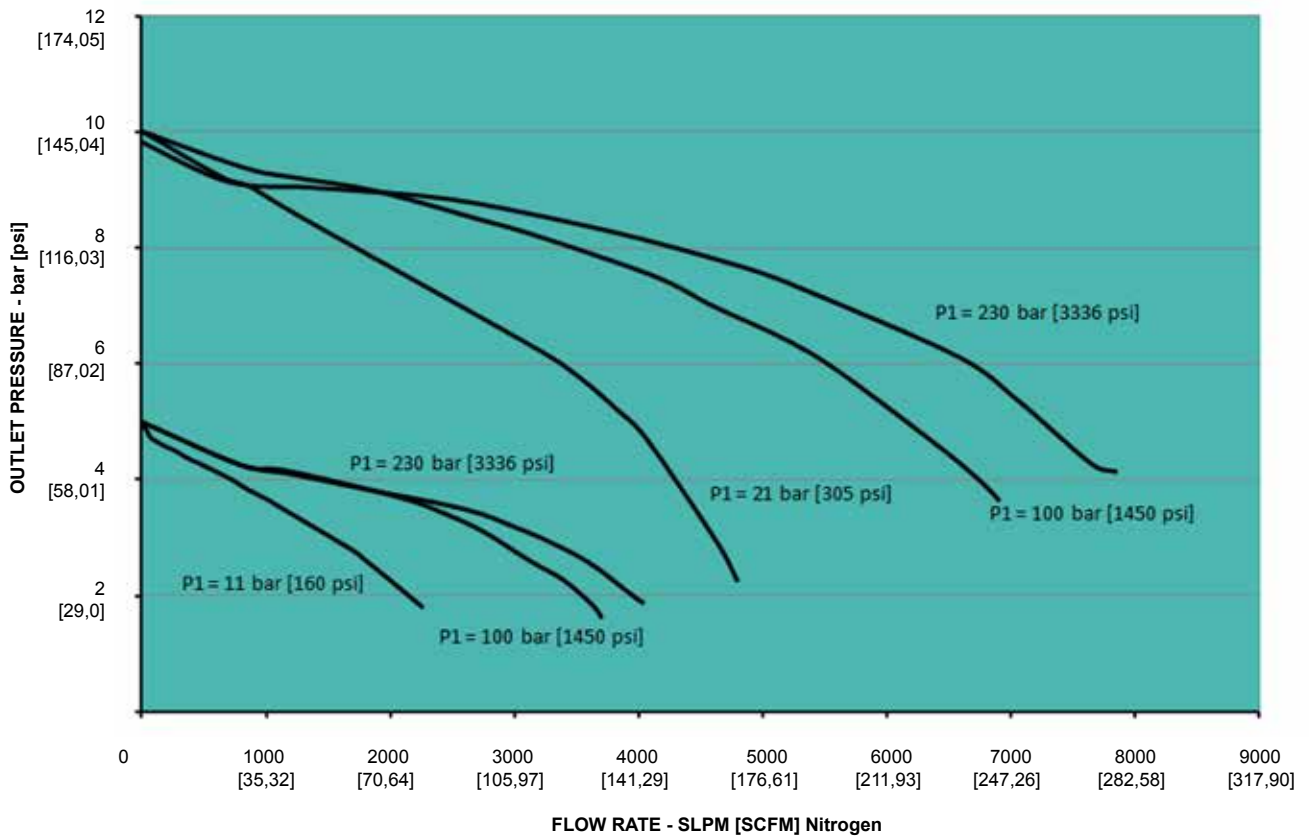
NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

ORDER CODE

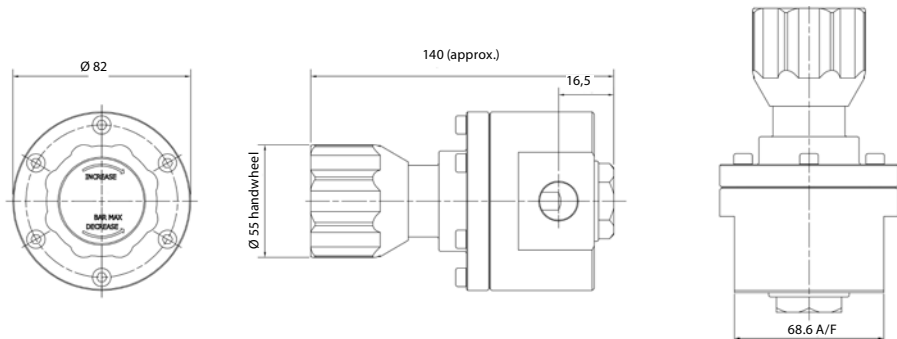
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat material	Inlet/outlet conn.	Porting configuration	None venting
MF-230	1	S	10S	K	04N	N	NV
MF-230	1 – 1.0	S – 316SS	01S: 0-1 bar/0-15 psi 02S: 0-2 bar/0-29 psi 05S: 0-5 bar/0-73 psi 10S: 0-10 bar/0-145 psi	T – Teflon (Max inlet: 10bar/150psi) F – FEP (Max inlet: 50bar/725psi) K – PCTFE (Max inlet: 230bar/3300psi)	04N – ½" NPT 04B – ½" BSP	Check Page 47 = Gauge Port locations	NV

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



MF-301 SERIES - 'MEDIUM FLOW' PRESSURE REDUCING REGULATOR PISTON SENSED FOR OUTLET CONTROL TO 200 BAR / 2900 PSI



SPECIAL FEATURES

- 300 bar / 4350 psi inlet pressure
- Precision machined sensing elements
- PCTFE seat fitted to main valve to help protect from potential particle damage
- Excellent sensitivity
- Self venting and non venting options

DESCRIPTION

The MF-301 provides control of pressures up to 200 bar outlet pressure, and has a balanced main valve to minimize effect of decaying inlet pressure. The seating design incorporates protection against dynamic loads hitting the sensing element as the main valve open, hence providing stable control and hunting of the regulator. A lower entry plug also provides easy servicing of the PCTFE seat.

APPLICATION

- Compressed air systems
- Gas Quads
- Diving applications
- Automated pressure cycling
- Pipeline test systems

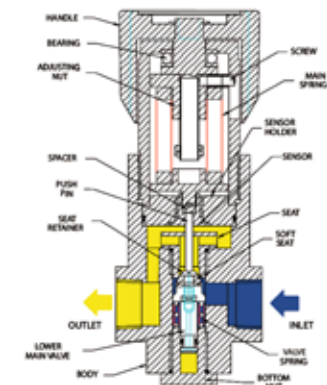
TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi)
Outlet ranges	up to 200 bar (2900 psi)
Design Proof pressure	50% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	3.9 kg / 8.4 lbs)

STANDARD MATERIALS OF CONSTRUCTION

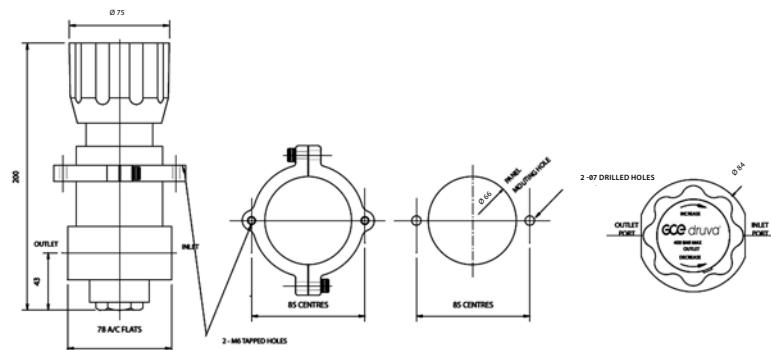
Body and Bonnet/ Main valve pin	316SS
Seat	PCTFE
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Push pin/Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Alu Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



Assembly drawing for reference only. Refer to office for specific detail.

INSTALLATION DIMENSIONS:



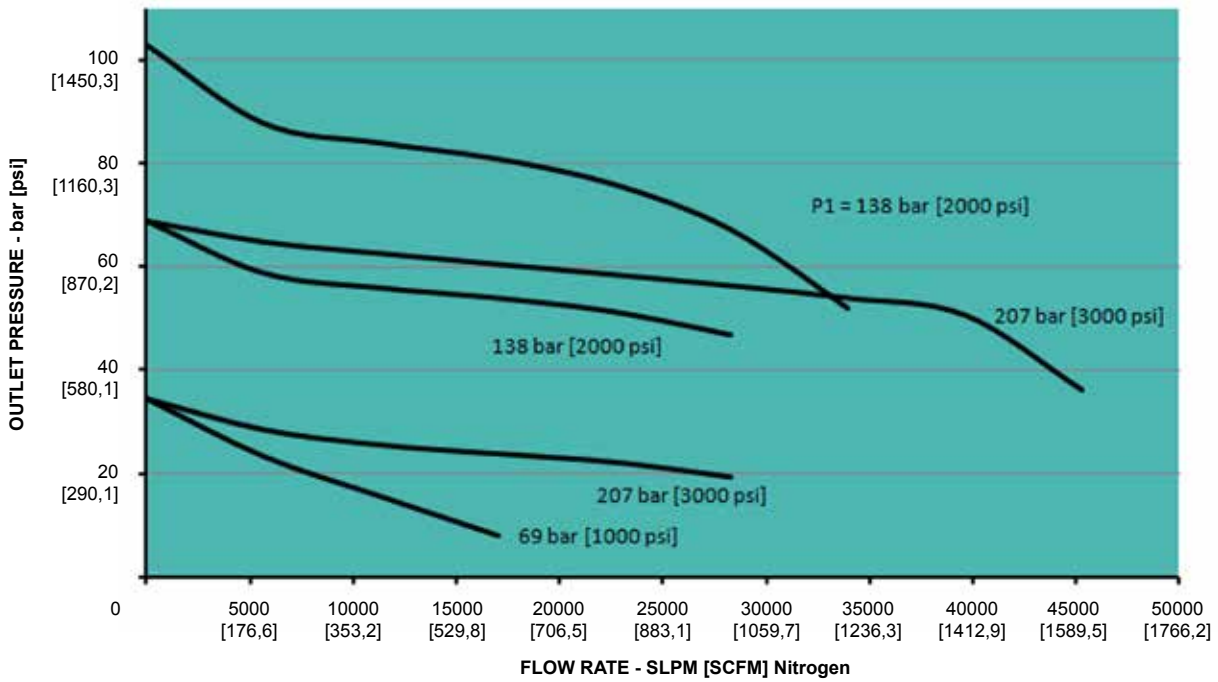
ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration	Venting Options
MF-301	2	SS	50S	V	04N	N	SV
MF-301	2 – 2.0	SS – 316SS	20: 0-20 bar/0-290 psi 50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi O Ring 200S: 0-200 bar/0-2901 psi N - NBR 140A: 0-140 bar/2031 psi	N - NBR V - Viton E - EPDM	04N – 1/2" NPT 06N – 3/4" NPT	Check Page 47 = Gauge Port locations	SV – Self Venting NV – Non Venting

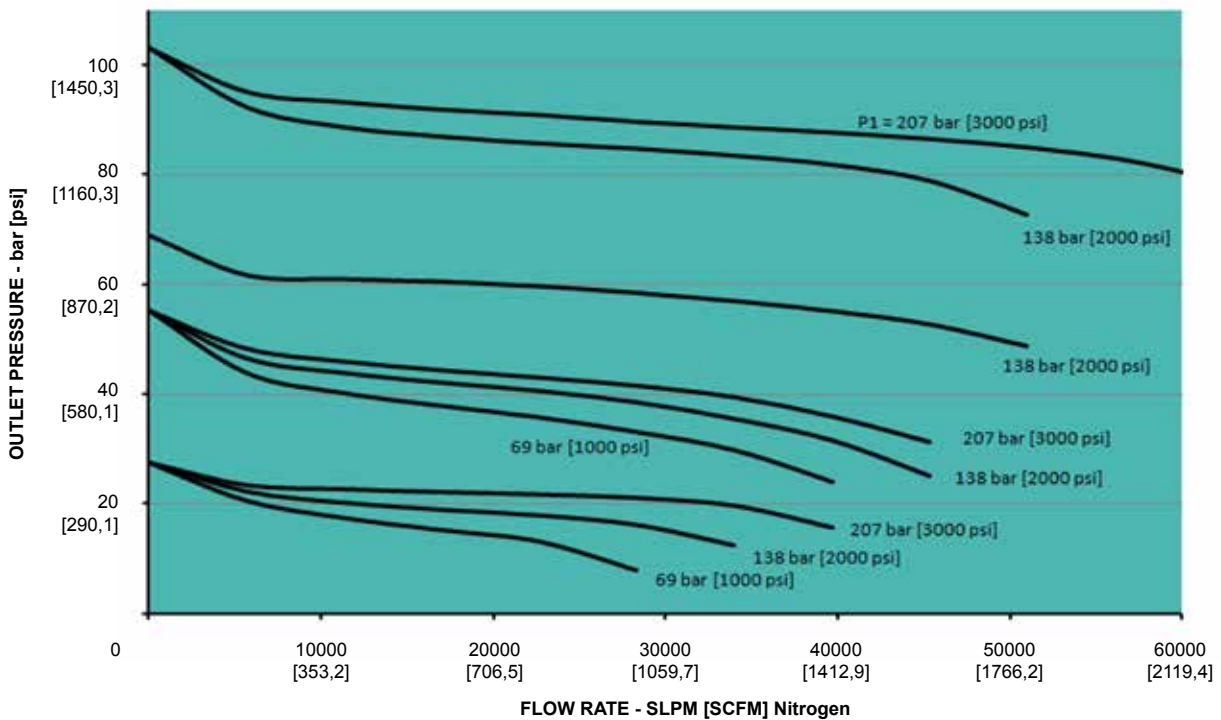
* Maximum inlet pressure can be set to specific requirements (Air actuated)

PERFORMANCE CHARTS

MF-301 SERIES $C_v = 0.8$



MF-301 SERIES $C_v = 2.0$



MF-400/401-2 SERIES - 'MEDIUM FLOW' PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS DIAPHRAGM AND PISTON SENSED



SPECIAL FEATURES

- 316L SS Wetted Parts
- Balanced Main Valve
- Cv 2.0
- Diaphragm or Piston Sensed
- Range of O Rings
- None rising stem
- Low torque adjustment
- Threaded or Flanged Options

TECHNICAL DATA

Max rated inlet pressure	50 bar or 400 bar
Max outlet ranges	Diaphragm: 10 bar Piston: 300 bar
Leakage	Liquid: Zero drops of water at max inlet Gas: Bubble tight
Seat diameter	10 mm
Weight	5 kg

DIAPHRAGM SENSED DESIGN:



STANDARD MATERIALS OF CONSTRUCTION

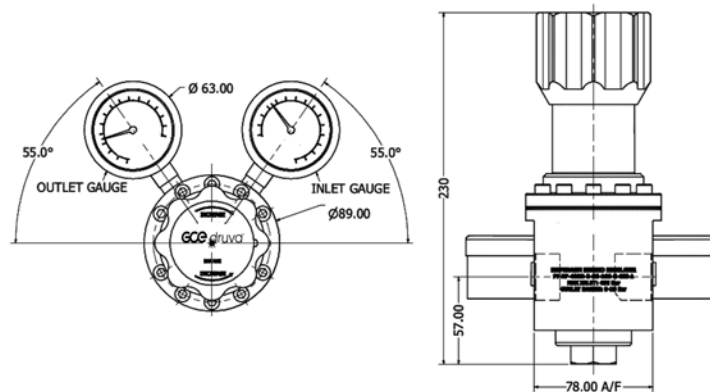
Body/Bonnet	316SS
Seat	Liquid: Vespel Gas: PEEK
Sensor (P2 max 250bar)	316SS
Diaphragm (P2 max 10bar)	NBR or FPM
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

PISTON SENSED DESIGN:



INSTALLATION DIMENSIONS:



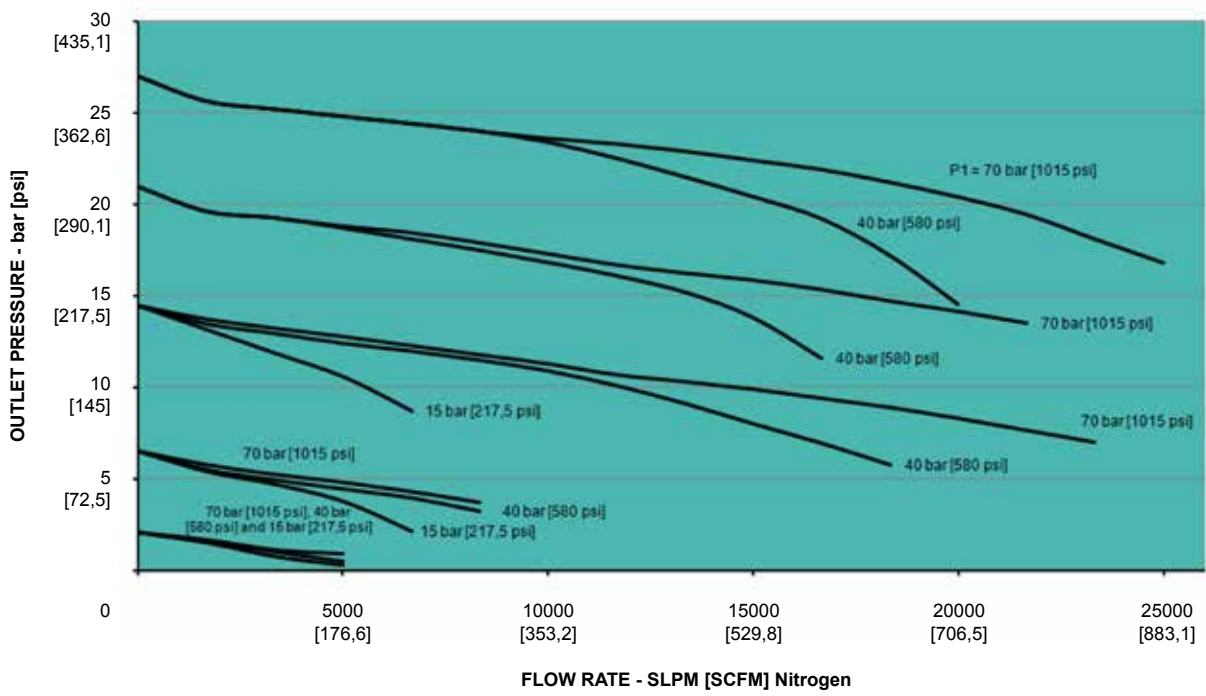
Dimensions for indication purposes only

ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration
MF400G	2	S	400S	N	04B	N
MF400G – Diaphragm sensed, gas service	2 – 2.0	S – 316SS	05S: 0-5 bar/0-73 psi 10S: 0-10 bar/0-145 psi	N - NBR V - FKM/FPM	04B – ½" BSP 06B – ¾" BSP	Check Page 47 = Gauge Port locations
MF400H – Diaphragm sensed, hydraulic service			50: 0-50 bar/0-725 psi 100: 0-100 bar/0-1450 psi	E - EPDM	04N – ½" NPT	
MF401G – Piston sensed, gas service			200S: 0-200 bar/0-2901 psi 400S: 0-400bar/0-5802 psi	K - FFKM/FFPM	06N – ¾" NPT	
MF401H – Piston sensed, hydraulic service						

Subject to change without notice

PERFORMANCE CHARTS



HF300/301-4 SERIES - 'HIGH FLOW' PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS DIAPHRAGM AND PISTON SENSED



SPECIAL FEATURES

- 316L SS Wetted Parts
- Balanced Main Valve
- Cv 4.0
- Diaphragm or Piston Sensed
- Range of O Rings
- None rising stem
- Low torque adjustment
- Threaded or Flanged Options

TECHNICAL DATA

Max rated inlet pressure	300 bar (4350 psi) with PEEK seat
Outlet ranges	up to 35 bar (500psi)
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	4.1 kg (2 lbs)

DIAPHRAGM SENSED DESIGN:



STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Main valve pin	316SS
Soft seat cone	PEEK
Valve spring	Inconel X750
Diaphragm	Inconel X750
Handwheel	Nylon
Diaphragm washer	Brass
Cartridge Holder	316SS
'O' ring seals	Viton
Adjusting screw	Alu Bronze
Electric Enclosure	Coated Aluminium
Compression Fitting	316SS

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

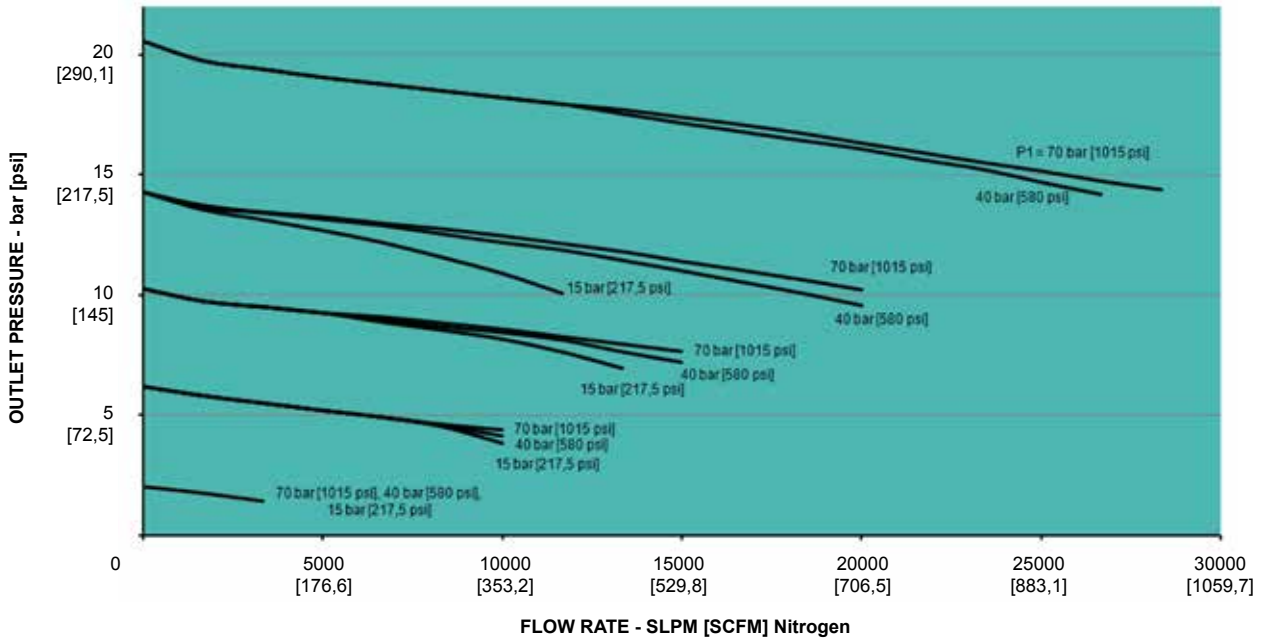
PISTON SENSED DESIGN:



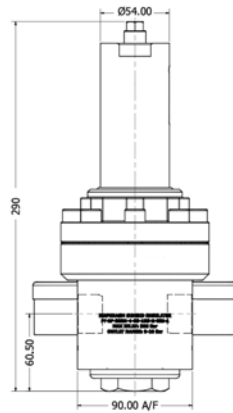
ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration
HF300G	4	SS	10S	N	08B	N
HF300G – Diaphragm sensed, gas service	4 – 4.0	SS – 316SS	05S: 0-5 bar/0-73 psi 10S: 0-10 bar/0-145 psi	N - NBR V – FKM/FPM	08B – 1" BSP 08N – 1" NPT	Check Page 47 = Gauge Port locations
HF300H – Diaphragm sensed, hydraulic service			50: 0-50 bar/0-725 psi 100: 0-100 bar/0-1450 psi	E - EPDM	08FA150 – DN25 ANSI	
HF301G – Piston sensed, gas service			250S: 0-250bar/0-3626 psi	K – FFKM/FFPM	150 08FD40 – DN25 DIN	
HF301H – Piston sensed, hydraulic service					PN40	

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



BP-300 SERIES - 'LOW FLOW' BACK PRESSURE REGULATOR DIAPHRAGM SENSED FOR INLET CONTROL TO 20 BAR / 300 PSI



SPECIAL FEATURES

- Metal to metal diaphragm sealing
- Positive sealing against Viton seat
- Lightweight compact design
- Strong and sensitive diaphragm element
- High Accuracy

DESCRIPTION

The BP-300 has been designed with a convoluted Inconel X750 diaphragm that lasts 50% longer than a typical stainless steel designs. Its compact simple design makes it ideal for general purpose applications, where accurate control of upstream pressure is required.

APPLICATION

- Gas and Liquid Analyzer Systems
- Blanketing applications
- Laboratories & Research Labs

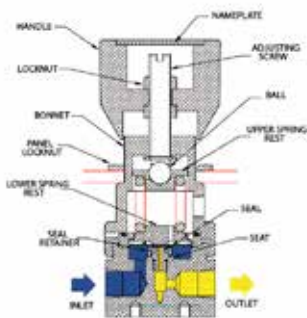
TECHNICAL DATA

Max rated pressure	50 bar (725 psi)
Inlet ranges	up to 20 bar (300 psi)
Design Proof pressure	50% max WP
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	0.9 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body and Bonnet/Seat retainer	316SS
Soft seat	Viton
Valve spring	Inconel X750
Diaphragm	Inconel X750
Handwheel	Nylon
Diaphragm washer	Brass
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Aluminum Bronze
Loading Spring	302SS

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



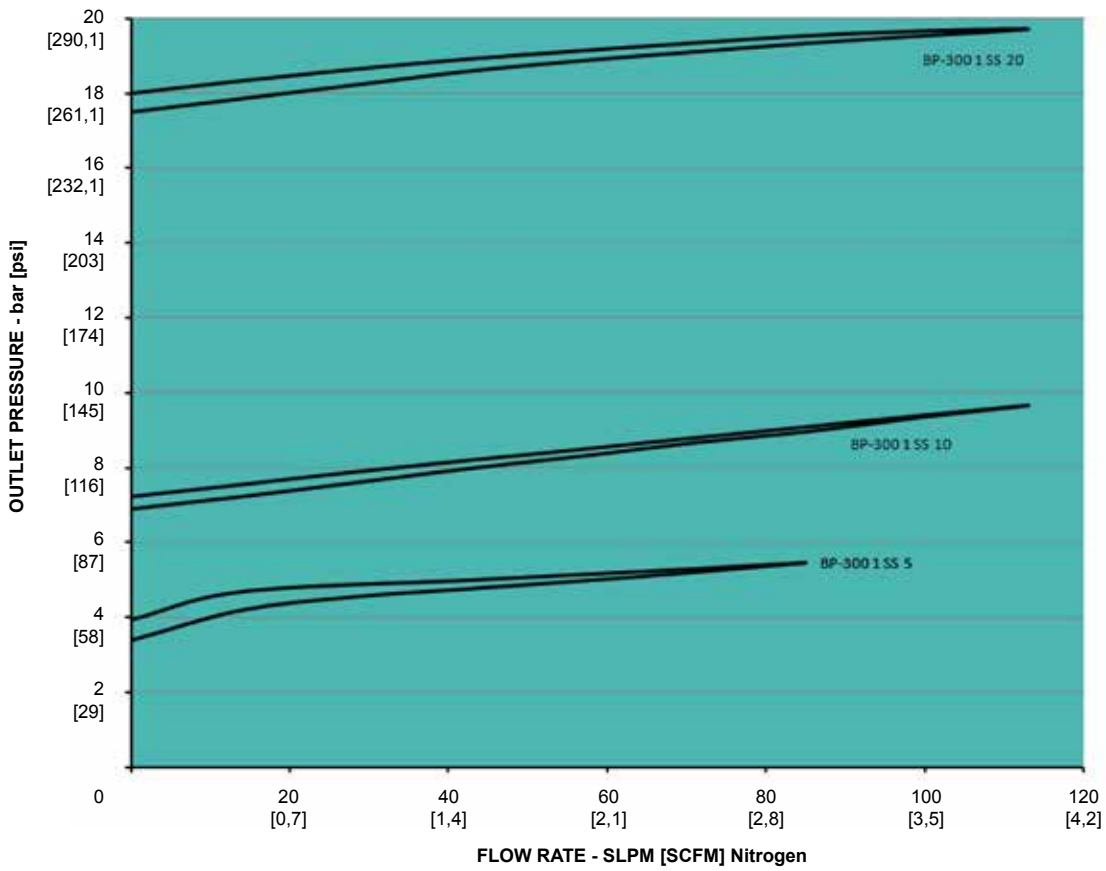
Assembly drawing for reference only. Refer to office for specific detail.

ORDER CODE

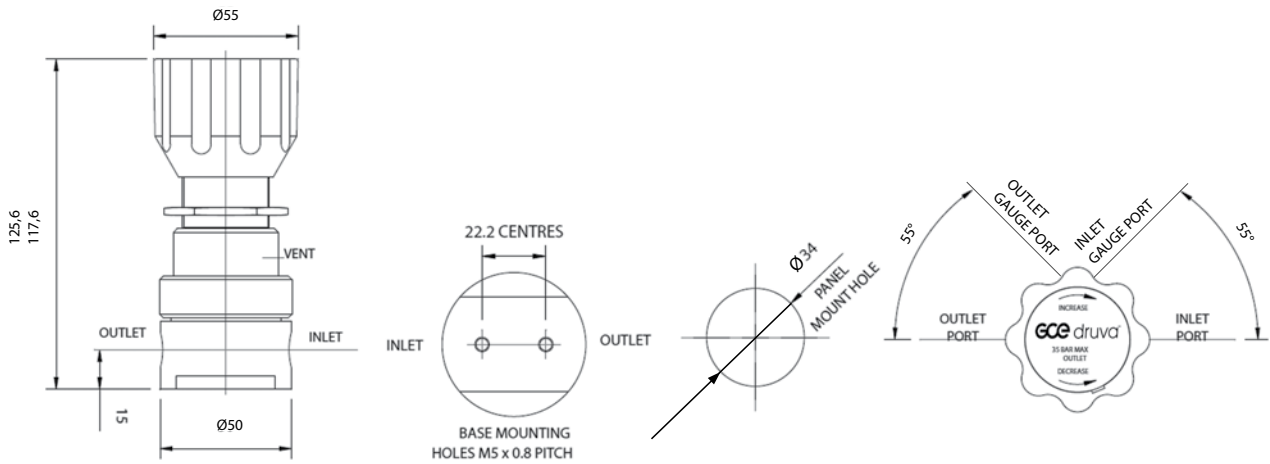
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	Seat	Porting configuration
BP-300	1	SS	10	V	N
BP-300	1 – 0.1	SS – 316SS	05: 0-5 bar/0-73 psi 10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi	V - Viton	Check Page 47 = Gauge Port locations

* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



BP-301 SERIES - BACK PRESSURE REGULATOR, PISTON SENSED FOR MEDIUM PRESSURE APPLICATIONS



SPECIAL FEATURES

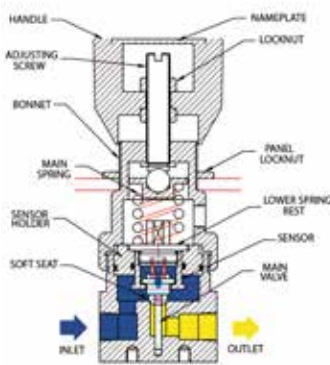
- Lightweight compact design
- Piston sensing element
- High accuracy

DESCRIPTION

The BP-301 incorporates a highly sensitive piston to control pressures up to 70 bar with the lower Cv value of 0.1, and 35 bar with a higher Cv of 0.5. Both designs provide accurate back pressure control on liquid or gas applications. Unlike relief valves, the set load from the spring is not directly applied to the seating area, and the piston sensor provides accurate control throughout the control range.

APPLICATION

- Fuel Analyzer Systems
- Portable Calibration Kits
- Medium Pressure Reactor Vessels
- Instrument Air Lines



Assembly drawing for reference only. Refer to office for specific detail.

TECHNICAL DATA

Max rated inlet pressure	225 bar (3248 psi)
Inlet ranges	Flow Cv 0.1: 0.5 – 70 bar
	150: 0-150 bar/0-2176 psi Flow Cv 0.5: 0–10 bar, 0–20 bar,
	0–35 bar
Design Proof pressure	150% max WP
Leakage	Bubble tight at max WP
Weight	0.9 kg (2 lbs)

STANDARD MATERIALS OF CONSTRUCTION

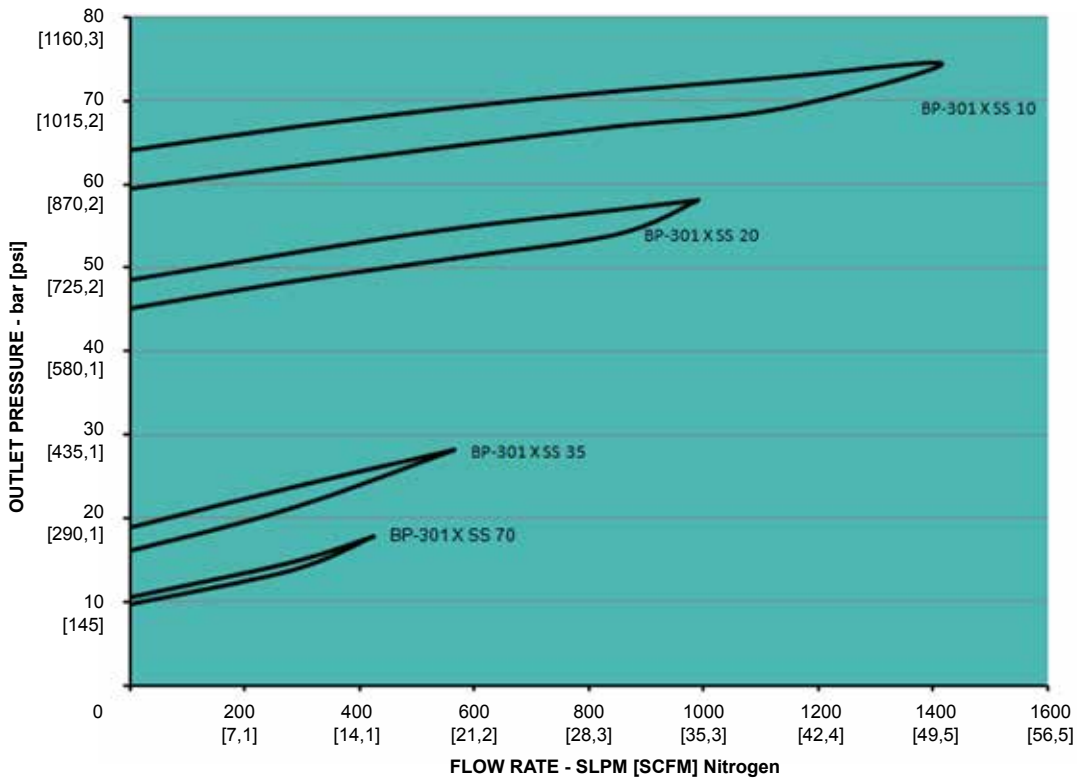
Body and Bonnet/ Main valve pin	316SS
Soft seat cone	PEEK – Liquid PCTFE – Gas
Valve spring	Inconel X750
Sensor and holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	Viton
Adjusting screw	Aluminum Bronze
Loading Spring	302SS

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

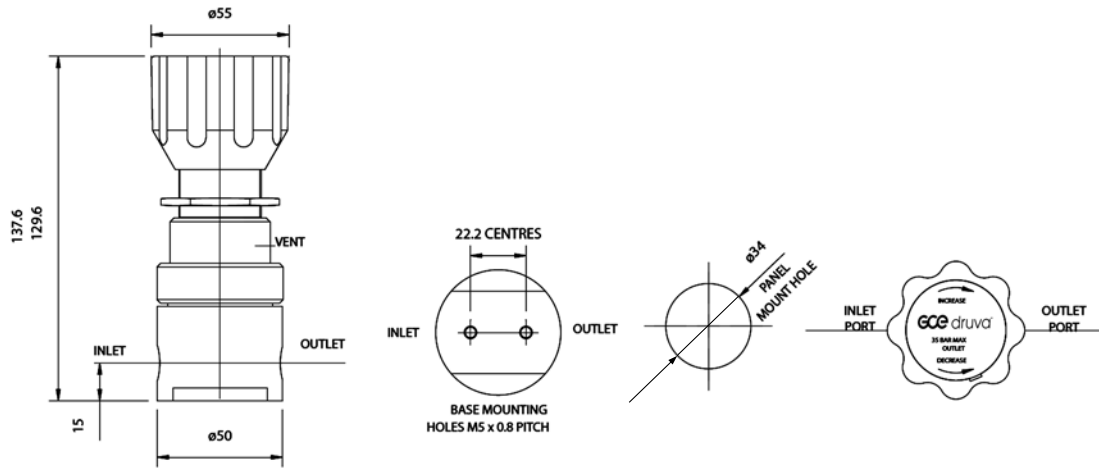
ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O ring seals	Seat Cone	Port connections	Porting configuration
BP-301	5	SS	35	V	P	02N	N
BP-301	1 – 0.1 5 – 0.5	SS – 316SS	10: 0-10 bar/0-145 psi 20: 0-20 bar/0-290 psi 35: 0-35 bar/0-508 psi 70: 0-70 bar/0-1016 psi (max 0.1 Cv) 150: 0-150 bar/0-2176 psi (0.1 Cv)	V - Viton N - NBR E - EPDM	P – PEEK K - PCTFE	02N – ¼" NPT 03N – 3/8" NPT	Check Page 47 = Gauge Port locations

PERFORMANCE CHARTS



INSTALLATION DIMENSIONS:



BP-LF690 SERIES - 'LOW FLOW' BACK PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS PISTON SENSED



SPECIAL FEATURES

- 690 bar/10000 psi inlet pressure
- Metal to metal seating for liquid and PEEK seating for Gas
- Precision machined sensing elements
- 3 Sensor ranges for combination of low torque and high sensitivity
- Captured outlet port
- Optional 316SS Panel mounting ring

DESCRIPTION

The BP-LF690 is a back pressure regulator for gas or liquid applications suited for typical low flow applications to 10lpm (liquid), this accurate regulator controls inlet pressure and vents excess pressure back via the threaded 1/4" NPT outlet port.

APPLICATION

- Chemical injection systems
- Valve test rigs
- Liquid sampling
- Supercritical liquid

TECHNICAL DATA

Max rated inlet pressure	690 bar (10,000 psi)
Inlet ranges	up to 690 bar (10,000 psi)
Design Proof pressure	150% max WP
Leakage	Liquid: Zero drops of water at max inlet Gas: Bubble tight
Seat diameter	2,5 mm
Weight	2,9 kg (6,4 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body/Bonnet	316SS
Main valve	Alloy 718
Seat	Liquid: 17-4PH SS Gas: PEEK
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Baffle Plate/Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Alu Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

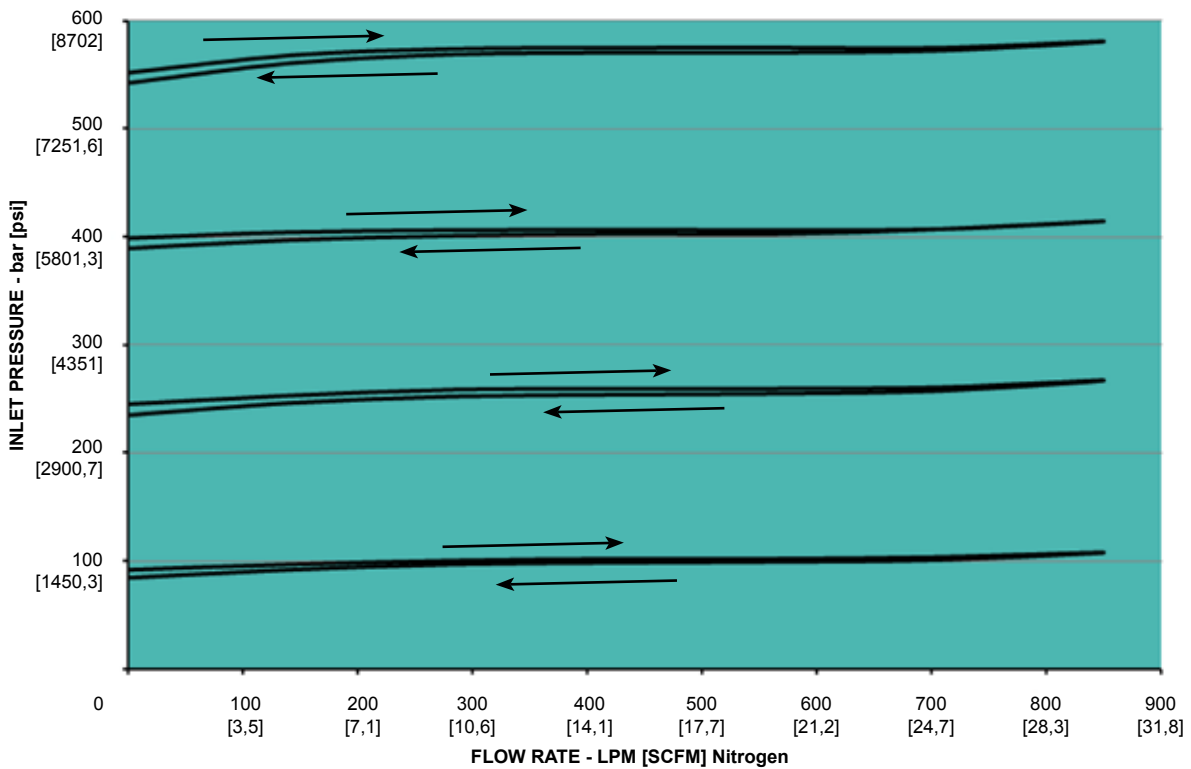
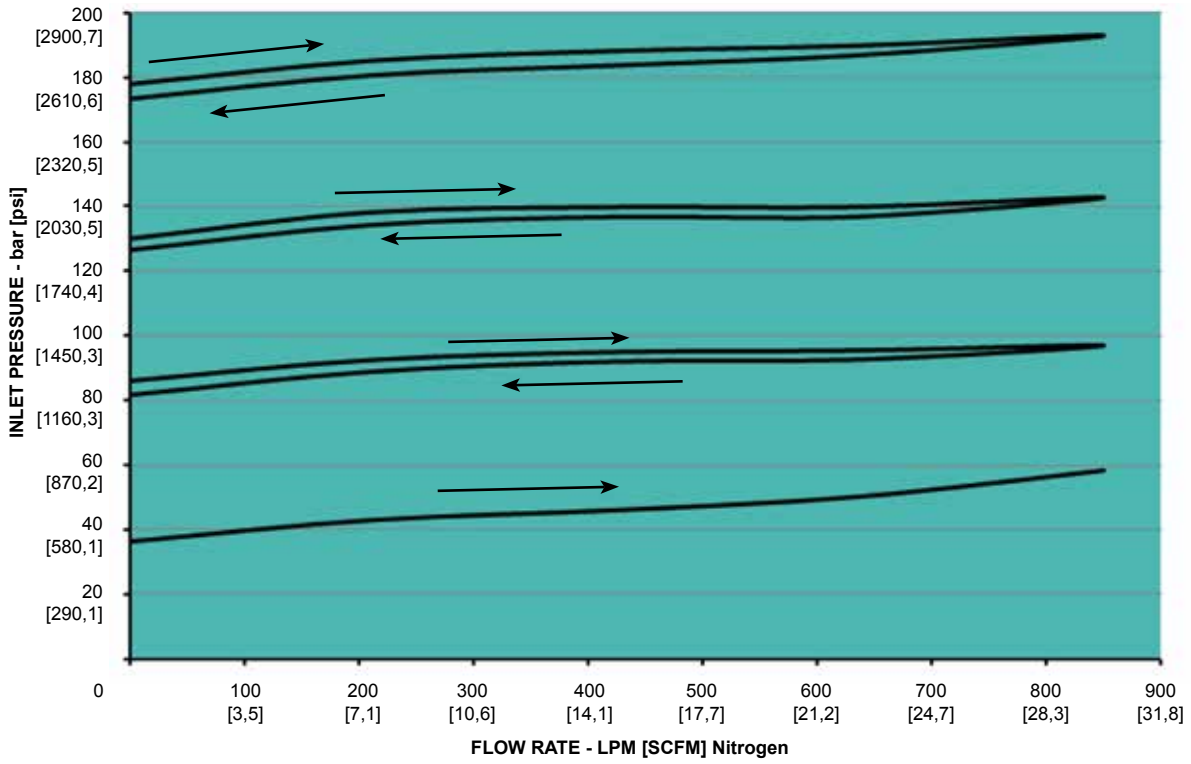


ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration
BPLF690G	1	SS	414S	N	03N	N
BPLF690G - Gas	1 – 0.1	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 690S: 0-690 bar/0-10008 psi 140A: 0-140 bar/0-2031 psi (Air actuated) 600A: 0-600 bar/0-8703 psi (Air actuated)	N - NBR V - Viton E - EPDM H - Hydrogenated Buna	04N – 1/2" NPT 03N – 3/8" NPT	Check Page 47 = Gauge Port locations
BPLF690H - Hydraulic						

Subject to change without notice

PERFORMANCE CHARTS



BP-MF690-05 SERIES - 'MEDIUM FLOW' BACK PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS WITH CV 0.5 PISTON SENSED

SPECIAL FEATURES

- 690 bar/10000 psi inlet pressure
- Metal to metal seating for liquid and PEEK seating for Gas
- Precision machined sensing elements
- 3 Sensor ranges for combination of low torque and high sensitivity
- Captured outlet port
- Optional 316SS Panel mounting ring

DESCRIPTION

The BP-MF690 is a back pressure regulator for gas or liquid applications suited for typical low flow applications to xx lpm (liquid), this accurate regulator controls inlet pressure and vents excess pressure back via the threaded 1/2" NPT outlet port.

APPLICATION

- Chemical injection systems
- Valve test rigs
- Liquid sampling
- Supercritical liquid

TECHNICAL DATA

Max rated inlet pressure	690 bar (10,000 psi)
Inlet ranges	up to 690 bar (10,000 psi)
Design Proof pressure	150% max WP
Leakage	Liquid: Zero drops of water at max inlet Gas: Bubble tight
Seat diameter	10 mm
Weight	4,5 kg (10 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body/Bonnet	316SS
Main valve	Alloy 718
Seat	Liquid: 17-4PH SS Gas: PEEK
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Baffle Plate/Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration
BPMF690G	5	SS	414S	N	04N	N
BPMF690G - Gas	5 – 0.5	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 690S: 0-690 bar/0-10008 psi 140A: 0-140 bar/0-2031 psi (Air actuated)	N - NBR V - Viton E - EPDM K – FFKM/FFPM	04N – ½"NPT	Check Page 47 = Gauge Port locations
BPMF690H - Hydraulic			600A: 0-600 bar/0-8703 psi (Air actuated)			

* Maximum inlet pressure can be set to specific requirements

BP-MF690-15 SERIES - 'MEDIUM FLOW' BACK PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS WITH CV 1.5 PISTON SENSED



SPECIAL FEATURES

- Inlet control range to 310 bar
- NEW ceramic seating for liquid & PEEK seating for Gas
- Precision machined sensing element
- Captured outlet port
- Optional flanged connections
- Optional 316SS Panel mounting ring

DESCRIPTION

The BP-MF690 is a back pressure regulator for gas or liquid applications suited for typical low flow applications to xx lpm (liquid). The liquid version includes ceramic seating for ultimate protection against cavitation and erosion on aggressive application media such as water glycol and methanol. This accurate regulator controls inlet pressure and vents excess pressure back via the threaded 3/4" NPT outlet port.

APPLICATION

- Chemical injection systems
- Valve test rigs
- Methanol Injections systems
- Supercritical liquid



TECHNICAL DATA

Max rated WP pressure	690 bar (10,000 psi)
Inlet ranges	up to 310 bar (8,000psi)
Design Proof pressure	150% max WP
Leakage	Liquid: Zero drops of water at max inlet Gas: Bubble tight
Seat diameter	10 mm
Weight	4,5 kg (10 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body/Bonnet	316SS
Main valve	Gas: 316SS Liquid: Ceramic
Seat	Gas: PEEK Liquid: Ceramic
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.

ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration
BPMF690G	15	SS	200S	N	04N	N
BPMF690G - Gas	15 - 1.5	SS - 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 320S: 0-320 bar/0-4641 psi	N - NBR V - Viton E - EPDM K - FFKM/FFPM	04N - 1/2"NPT 06N - 3/4"NPT 08N - 1"NPT 06WF - 3/4" Weld flange 08WF - 1" Weld flange	Check Page 47 = Gauge Port locations
BPMF690H - Hydraulic						

Subject to change without notice

HYD 690 SERIES - 'LOW FLOW' HYDRAULIC REGULATOR FOR LIQUID OR GAS APPLICATIONS PISTON SENSED FOR OUTLET CONTROL TO 690 BAR / 10000 PSI



SPECIAL FEATURES

- Compact economical design
- 690 bar / 10000 psi inlet pressure
- Precision machined sensing elements
- Load bearings and large handwheel for low torque adjustment SS Panel Mounting Ring

DESCRIPTION

The HYD 690 is the compact version of the highly successful LF-690 series regulator, it has been designed as an economical alternative to the LF-690, yet still incorporates all the key features of the larger regulator. The Tungsten carbide main valve and 17-4PH SS seat provide ultimate protection against the harsh service encountered on hydraulic services and can now be easily serviced from the spring section. The regulator is self relieving with a segregated captured vent as standard.

APPLICATION

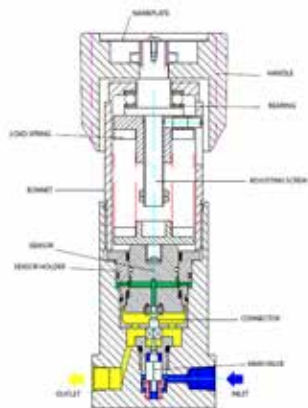
- Wellhead logic and control systems
- Subsea valve actuator control
- Valve test rigs
- Liquid sampling
- Hydraulic power packs

TECHNICAL DATA

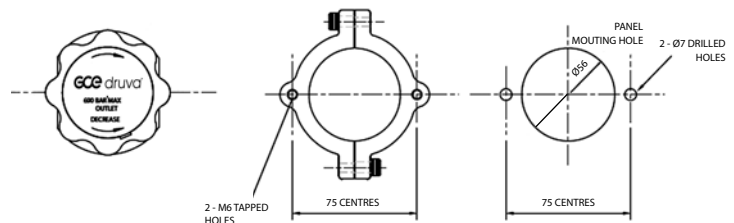
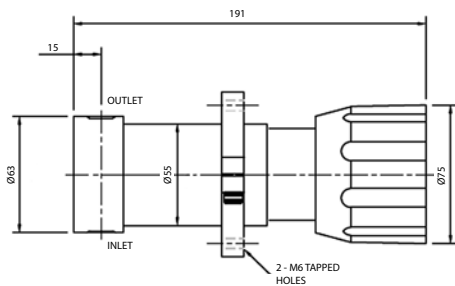
Max rated inlet pressure	690 bar (10,000 psi)
Outlet ranges	up to 690bar (10000psi)
Design Proof pressure	150% max WP
Flow rate	up to 7 lpm/1,5 Gpm water
Leakage	Zero drops of water at max inlet pressure
Weight	2.5 kg

STANDARD MATERIALS OF CONSTRUCTION

Bodies and Bonnets	316SS
Main valve pin	Tungsten carbide
Seat	17-4PH SS
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205



INSTALLATION DIMENSIONS:



ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outlet connections	Porting configuration	Venting Options
HYD690	01	SS	414S	N	02N	N	SV
HYD690	01 – 0.1	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 690S: 0-690 bar/0-10008 psi	N - NBR V - Viton E - EPDM H - HNBR	02N – ¼"NPT 03A - 3/8" Medium Pressure	Check Page 47 = Gauge Port locations	SV – Self Venting NV – Non Venting

* Maximum inlet pressure can be set to specific requirements

LF-690 SERIES - 'LOW FLOW' HYDRAULIC REGULATOR FOR LIQUID OR GAS APPLICATIONS PISTON SENSED FOR OUTLET CONTROL TO 1380 BAR / 20000 PSI



SPECIAL FEATURES

- 1380 bar/20,000 psi inlet pressure
- Ceramic seating for ultimate resistance against cavitation and erosion*. Precision machined sensing elements. 3 Sensor ranges for combination of low torque and high sensitivity. Segregated captured vent
- 316SS Panel mounting rings

DESCRIPTION

The LF-690 uses Ceramic Seating to provide ultimate protection against the harsh service encountered on hydraulic services. The unique seating cartridge provides a dampening action on this critical component to prevent 'chattering' or 'unstable frequency resonance'. The regulator is self relieving with segregated captured vent to prevent deterioration to the loading mechanism and making the regulator cleaner to service. The seating area can easily be accessed from the base of the regulator for speedy servicing in situ.

APPLICATION

- Wellhead logic and control systems
- Subsea valve actuator control
- Valve test rigs
- Liquid sampling
- Hydraulic Power Packs

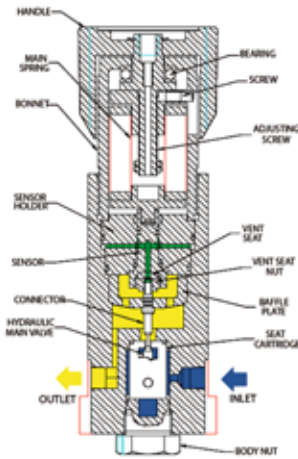
TECHNICAL DATA

Max rated inlet pressure	1380 bar (20,000 psi)
Outlet ranges	up to 1380 bar (20,000 psi)
Design Proof pressure	150% max WP
Flow rate	up to 20 lpm/4 Gpm water
Leakage	Zero drops of water at max inlet
Weight	4.8 kg (11 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Body	316SS or 17-4PH SS
Bonnet	316SS
Main valve	Ceramic TX2000
Seat	Ceramic TX3000
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Baffle Plate	316SS
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Bottom Nut	316SS
Lubricant	Krytox GPL 205

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



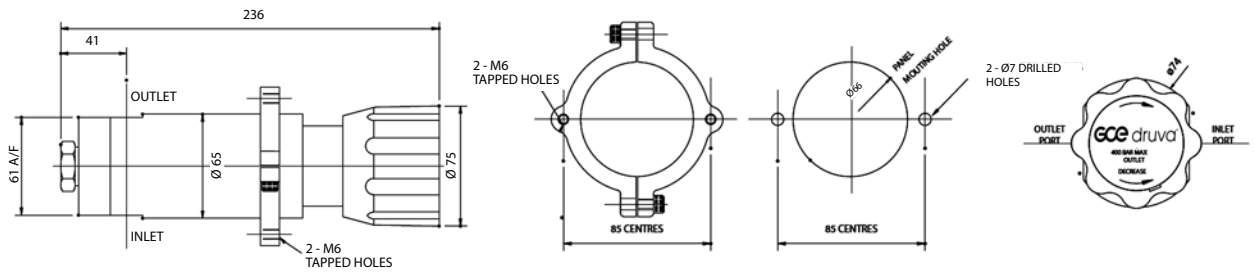
Assembly drawing for reference only. Refer to office for specific detail.

ORDER CODE

Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O ring seals	Inlet/outlet connections	Porting configuration	Venting Options	Ceramic seating options
LF690	01	SS	414S	V	02N	N	SV	018 TO 020
LF690 - 690 bar	01 - 0.1	SS - 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi 690S: 0-690 bar/0-10008 psi 140A: 0-140 bar/0-2031 psi (Air actuated) 600A: 0-600 bar/0-8702 psi (Air actuated)	N - NBR V - Viton E - EPDM H - Hydrogenated Buna	02N - 1/4" NPT 03N - 3/8" NPT 04N - 1/2" NPT 03A - 3/8" Med. Pressure 04A - 9/16 Medium Pressure	Check Page 47 = Gauge Port locations	SV - Self Venting NV - Non Venting	

Subject to change without notice

INSTALLATION DIMENSIONS:



MF-414 SERIES - MEDIUM FLOW PRESSURE REGULATOR FOR LIQUID OR GAS APPLICATIONS PISTON SENSED FOR OUTLET CONTROL TO 414 BAR / 6000 PSI



SPECIAL FEATURES

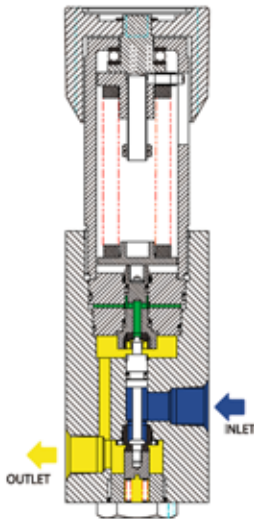
- 414 bar / 6000 psi inlet pressure
- Precision machined sensing elements
- Load bearings and large handwheel for low torque adjustment
- Excellent sensitivity
- Self venting and non venting options

DESCRIPTION

The MF-414 is a medium flow piston sensed pressure reducing regulator, which incorporates a balanced main valve to provide stable control under varying inlet pressures. The regulator has the option of a PEEK seat for gas service, or 17-4SS for hydraulic service. Both designs have a segregated captured vent to allow pressure reduction of the outlet pressure through a 1/4 NPT port on the side of the regulator body.

APPLICATION

- Valve Actuator Control
- Large diameter pipe testing
- Gas compression systems
- Automated pressure cycling
- Aircraft charging carts



TECHNICAL DATA

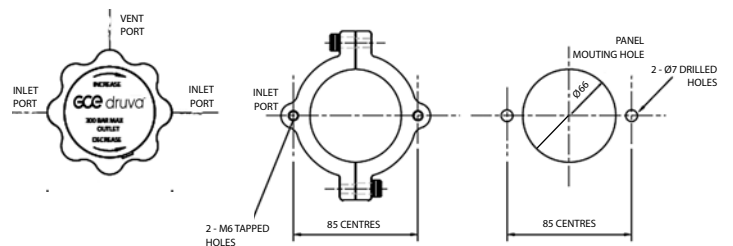
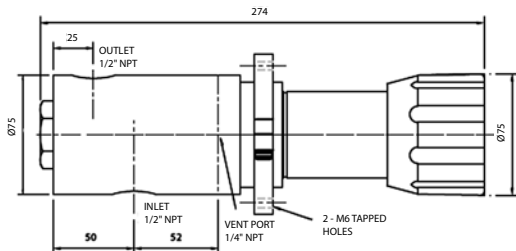
Max rated inlet pressure	414 bar (6000 psi)
Outlet ranges	up to 414 bar (6000 psi)
Design Proof pressure	150% max WP
Flow rate	up to 70 lpm/15 Gpm water
Leakage	Bubble tight at max WP (tested on Nitrogen)
Weight	6.0 kg (8.8 lbs)

STANDARD MATERIALS OF CONSTRUCTION

Bodies and Bonnets/Main valve pin	316SS
Seat	17-4PH SS or PEEK
Seat nut	316SS
Valve spring	302SS
Sensor and Holder	316SS
Handwheel	Nylon
Spring rests	316SS
'O' ring seals	NBR, Viton or EPDM
Adjusting screw	Ali Bronze
Loading Spring Spring	Steel
Lubricant	Krytox GPL 205

INSTALLATION DIMENSIONS:

NOTE: Product availability and specifications contained here in are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues.



ORDER CODE

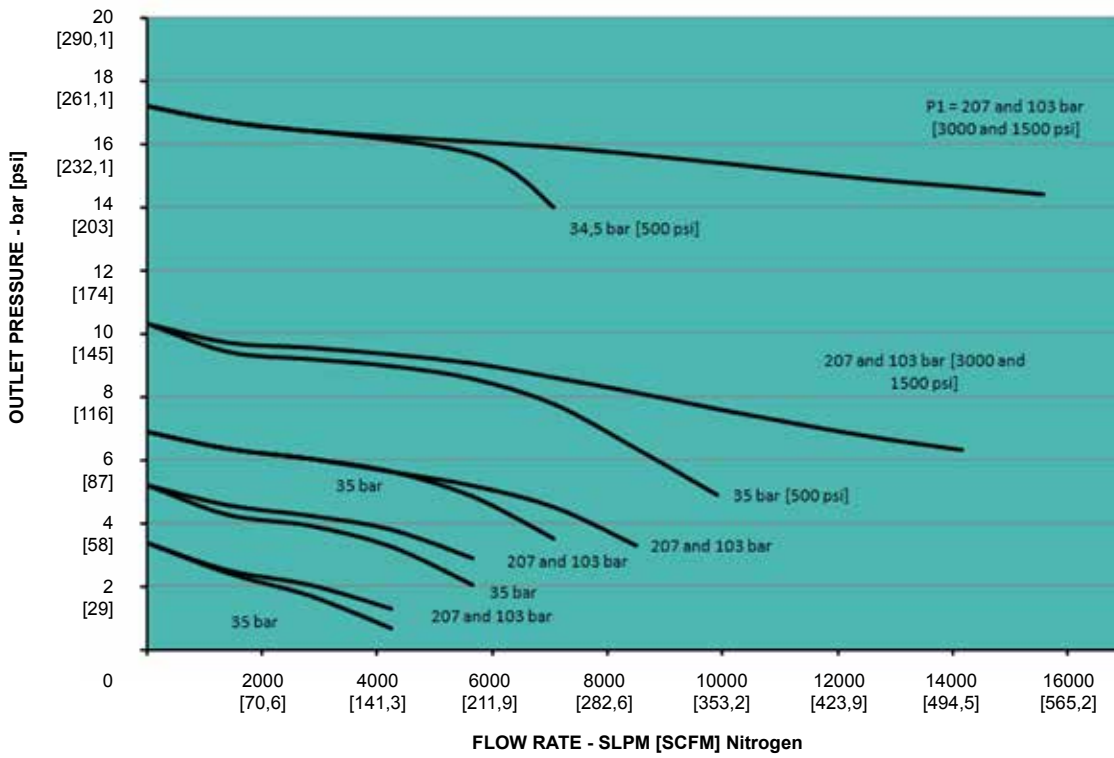
Basic Model	Cv Value	Body material	Outlet ranges (Examples*)	O Ring	Inlet/outle. connections	Porting configuration	Venting Options
MF-414G	2	SS	414S	N	04N	N	SV
MF-414G – Gas Service	2 – 2.0	SS – 316SS	50S: 0-50 bar/0-726 psi 100S: 0-100 bar/0-1451 psi 200S: 0-200 bar/0-2901 psi 414S: 0-414 bar/0-6005 psi	N - NBR V - Viton E - EPDM	04N – 1/2" NPT 06N – 3/4" NPT	Check Page 47 = Gauge Port locations	SV – Self Venting NV – Non Venting
MF-414H – Hydraulic Service							

Subject to change without notice

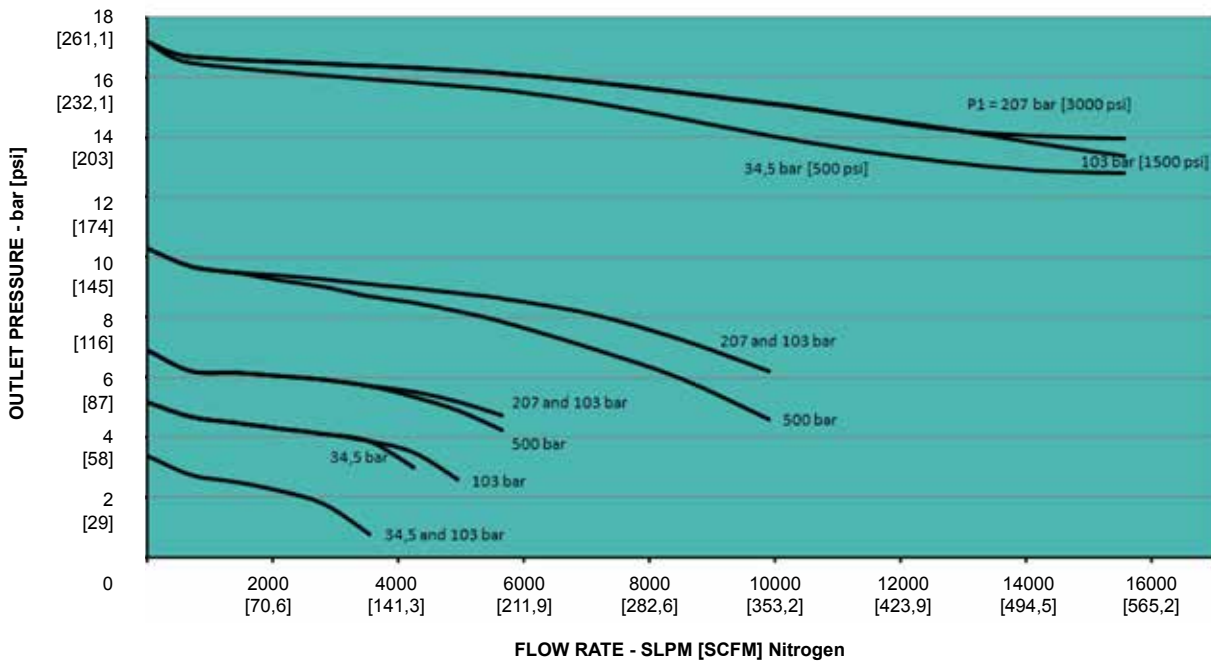
* Maximum inlet pressure can be set to specific requirements

PERFORMANCE CHARTS

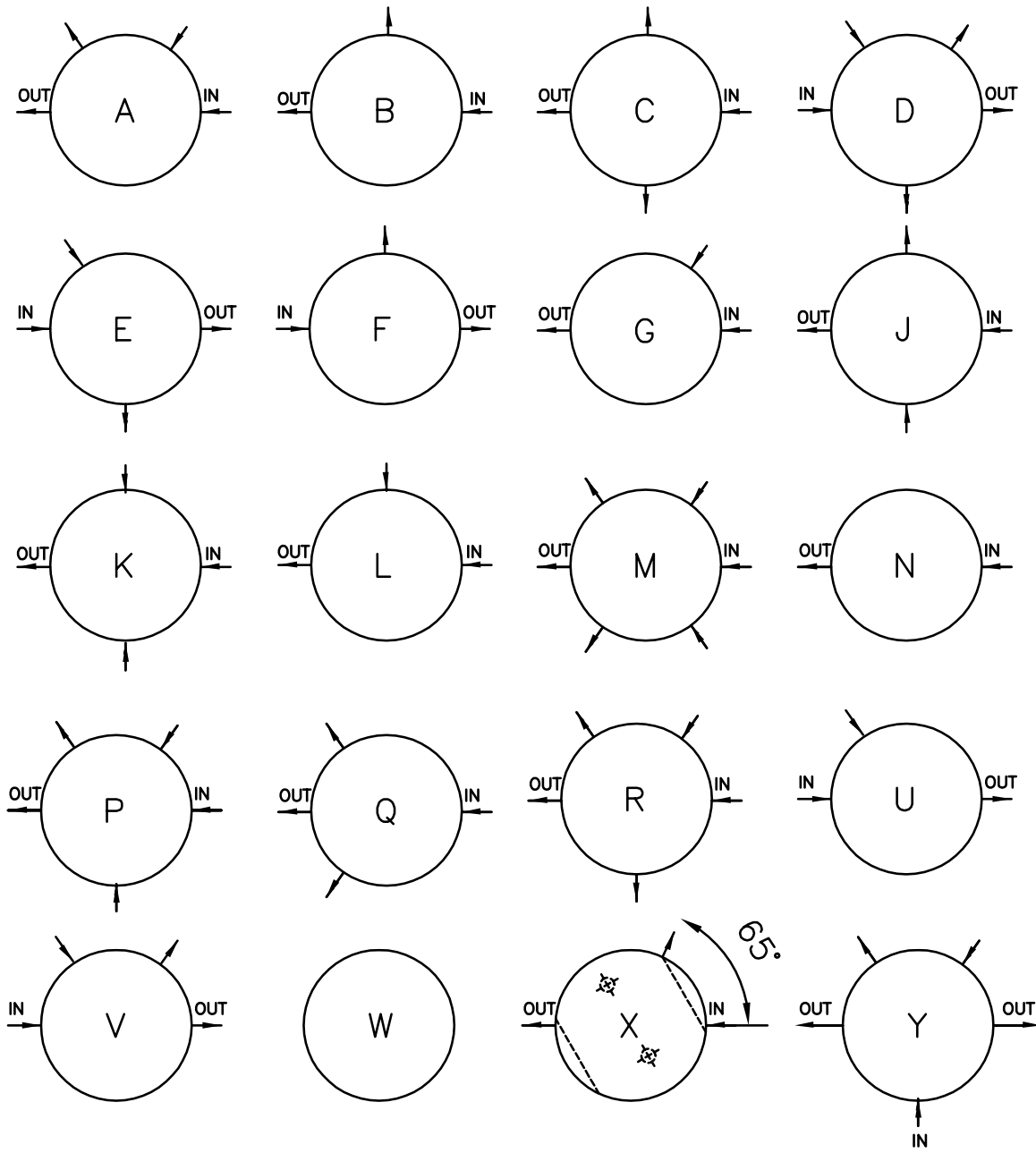
MF-414 SERIES $C_v = 0.8$



MF-414 SERIES $C_v = 2.0$

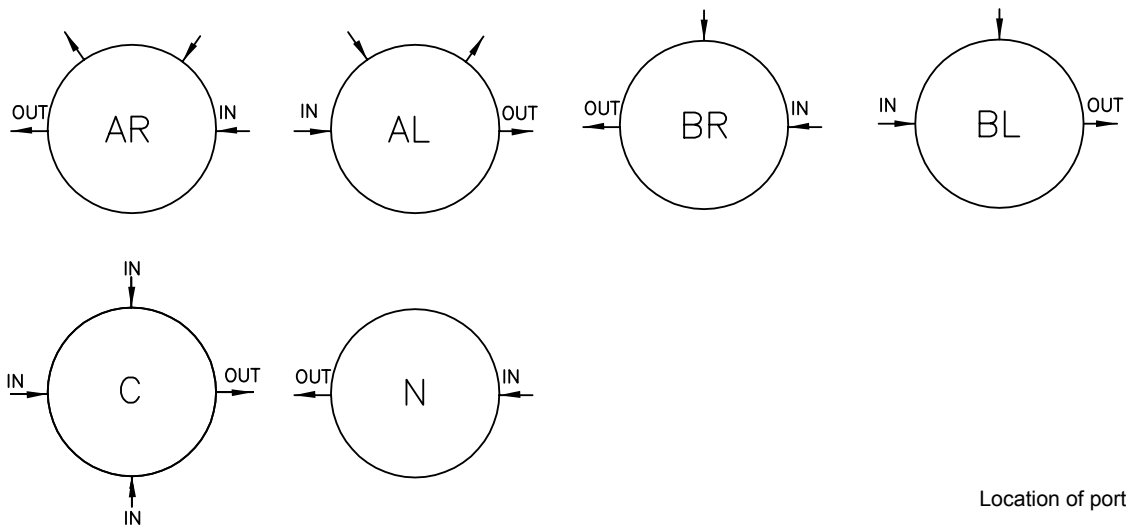


FORWARD REDUCING REGULATORS, GAUGE PORT LOCATIONS



Location of ports from TOP/HANDWHEEL

BACK PRESSURE REGULATORS, GAUGE PORT LOCATIONS



Location of ports from TOP/HANDWHEEL

Subject to change without notice

GCE Group is one of the world's leading companies in the field of gas control equipment. The headquarters are in Malmö, Sweden, and the two major supply units are located in Europe and in Asia. The company operates 15 subsidiaries around the world and employs more than 850 people. GCE Group includes four business areas – Cutting & Welding, Process Applications, Medical and High Purity. Today's product portfolio corresponds to a large variety of applications, from single pressure regulators and blowpipes for cutting and welding to sophisticated gas supply systems for medical and electronics industry applications.



Gas Control Equipment
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