PRESSURE REGULATORS

Master Pneumatic regulators are made in a wide range of sizes to suit nearly all industrial requirements for pneumatic pressure regulation. Good pressure regulation is essential to the efficient use of pneumatic equipment. A compressor may supply air at 150 psig, but most of the equipment will operate best at lower pressures. A cylinder, for example, may develop sufficient force for its purpose with 50-psig air. Remember that compressed air is costly, so using higher air pressure than necessary is wasteful, and may also shorten the life of the cylinder. A general purpose pressure regulator is the answer for greater economy and efficiency.

Regulators are of two basic designs. Piston design provides highest air flow; diaphragm design provides high sensitivity and quick response. All regulators are self-relieving, but a non-relieving option is available. A pressure gauge is standard, and gauge ports are at the front and the rear of each unit.

In addition there are precision regulators in all port sizes for applications demanding extra precision in the regulation of air pressure, plus regulators for remote, external piloting.

MODULAR or INLINE MOUNTING

SENTRY, GUARDSMAN, SERIES 350, SERIES 380, and **Full-Size VANGUARD** regulators are of modular design. Regulators are connected to filters or lubricators by special modular connectors which seal the faces between units. They may also be inline mounted with pipe nipples. MINIATURE and High-Capacity VANGUARD regulators are inline mounted only.

SENTRY REGULATORS

Port sizes 1/8 and 1/4 or fittings for tubing up to 10 mm. Modular units have durable plastic, corrosion-resistant bodies. A non-relieving version can be used with water, oil, and many other liquids.

GUIDE to REGULATORS and SERVO VALVES

REGULATOR SERIES	MODULAR	PORTS	PAGES
SENTRY †			
General Purpose **R10M, R11M** models	yes	1/8, 1/4	134-135
Water Pressure **R13M, R14M** models	yes	1/8, 1/4	196-197
External piloted **PR11M** models	yes	1/8, 1/4	166-167
MINIATURE			
General Purpose **R55M, R56M** models	no	1/8, 1/4	136-137
Stainless Steel **R56S** models	no	1/4	138-139
Precision **R57M** models	no	1/8, 1/4	158-159
Externally Piloted **PR56M** models	no	1/8, 1/4	168-169
Water Pressure **R53MB, R54MB** models	no	1/8, 1/4	198-209
Relief Valves **RV56** models	no	1/8, 1/4	164-201
CO_2 Miniature relief valve **CX** models	no	1/8, 1/4	202-203
CO_2 Miniature **CX** models	no	1/8, 1/4	140-141
High pressure model	no	1/8, 1/4, 3/8	146-147
GUARDSMAN			
General Purpose **R60** models	yes	1/4, 3/8, 1/2	142-143
GUARDSMAN II			
General Purpose **R75** models	yes	1/4, 3/8, 1/2	144-145
350 SERIES			
General Purpose **R350** models	yes	1/4, 3/8, 1/2	148-149
Full-Size VANGUARD			
General Purpose **R100** models	yes	1/4, 3/8, 1/2, 3/4	150-151
Precision **IR100** models	yes	1/4, 3/8, 1/2, 3/4	162-163
External Pilot **PR100** models	yes	1/4, 3/8, 1/2, 3/4	174-175
High relief externally pilot **HPR100**	no	1/4, 3/8, 1/2, 3/4	178-179
External relief pilot PRH100 models	yes	1/4, 3/8, 1/2, 3/4	176-177
Full-Size SERIES 380			
General Purpose **R380** models	yes	3/8, 1/2, 3/4	152-153
Precision **IR380** models	yes	3/8, 1/2, 3/4	160-161
External pilot **PR380** models	yes	3/8, 1/2, 3/4	170-171
External relief pilot **PRH380** models	no	3/8, 1/2, 3/4	172-173
High-Flow VANGUARD			
General Purpose **R180, M** models	no	3/4, 1, 1-1/4, 1-1/2	154-157
Precision **IR180M** models	no	3/4, 1, 1-1/4, 1-1/2	164-165
External Pilot **PR180M** models	no	3/4, 1, 1-1/4, 1-1/2, 2	180-181
External Pilot **R200** models	no	1-1/2, 2	186-187
External pilot **PR300** models	no	3	194-195
High-relief externally pilot **HPR180**	no	3/4, 1, 1-1/4	184-185
External relief pilot **PRH180m** models	no	3/4, 1, 1-1/4, 1-1/2	182-183
Electro-Pneumatic Servo Valves	no		204-206

† Also available with quick-connect tube fittings up to 10 mm.

MINIATURE REGULATORS

Port sizes 1/8, 1/4. Aluminum-bodied units for inline mounting. Same performance characteristics as the **SENTRY** models. Brass or stainless steel bodies, and water pressure models are also available.

PRECISION MINIATURE regulators are available to provide outstanding pressure control at relatively low cost. A large diaphragm area gives high sensitivity, and a small valve seat gives greater precision and little variation in outlet pressure from fluctuations in supply pressure. With an inlet pressure of 100 psig (7 bar), repeatability is within 1/4 psig. Regulated pressure range is 0–60 psig (0–4.1 bar). Optional springs allow other pressure ranges.

GUARDSMAN REGULATORS

Port sizes 1/4, 3/8, 1 /2. Modular units in a balanced-valve, piston design with very quick response for fast-cycling valves and cylinders. Two sub-series: **R60** models with durable plastic dome, and **R75** models with high-strength metal dome for more severe environments. Regulation performance is essentially the same.

SERIES 350, SERIES 380 and VANGUARD REGULATORS

Port sizes 1/4 to 3/4. Modular units with diaphragm design for sensitivity and accurate pressure regulation. An adjustment-locking key to prevent tampering is standard.

Full-Size **VANGUARD SERIES 350**, and **SERIES 380 PRECISION** regulators are also available. They are of diaphragm design, and were developed to give superior torque control with pneumatic tools. However, they are well suited to many other applications because of their ability to regulate very high air flows with great precision. They will hold regulated pressure within 3 psig (0.2 bar), and repeatability is within 0.5 psig (0.034 bar). For torque control and applications that cannot tolerate over-pressurization, regulated pressure can be limited to 85 psig (5.9 bar). Air from a constant bleed, which is important to the precision of these units, is normally inaudible.

HIGH-FLOW VANGUARD REGULATORS

Port sizes 3/4 to 1-1/2. Inline mounting and piston design are featured in these high-air-flow models. An adjustment-locking key to prevent tampering is standard.

PRECISION High-Capacity regulators are also available. They are of diaphragm design, and have essentially the same precise operating characteristics as the Full-Size **VANGUARD** precision regulators described above. Their larger port sizes, however, make them the choice for very high-air-flow applications.

EXTERNALLY PILOTED REGULATORS

Regulators operated with external pilots are as precise as the external pilot regulators used. A 1/4" R55M pilot regulator (or R57M precision model) provides an accurately controlled air spring for excellent regulation. The pilot control regulator can be installed at a distance from the main regulator for convenience in making adjustments.

Full-Size **VANGUARD PRH100** modular external relief piloted regulators use a diaphragm design for high sensitivity. They provide air flows up to 160 scfm (94 l/s) in applications where low pressure drop and/or remote adjusting are desired.

High-Flow PR180 VANGUARD external piloted regulators and High-Flow PRH180 VANGUARD external relief piloted regulators are of diaphragm design, and provide air flows up to 600 scfm (284 l/s).

High-Flow R200 VANGUARD Regulators provide air flows up to 1000 scfm (474 l/s). For fast response, good sensitivity, and long service life they employ a piston traveling in a hard-anodized, Teflon-impregnated, metal cylinder. A high-flow, self-relieving valve is built into the main regulator.

RELIEF VALVES

Relief valves are set for a desired maximum system pressure, and inserted in a tee downstream of regulated pressure to prevent over-pressurization of the system beyond the relief valve setting. Relief valves are adjustable from 1 to 125 psig (0.07 to 8.6 bar). Optional springs are available for other pressure ranges. If pressure exceeds the relief valve setting it will dump system air to atmosphere or to a valve to provide a warning signal.

Port sizes 1/8 and 1/4. A pressure gauge is standard equipment.

ELECTRO-PNEUMATIC SERVO VALVES

Electro-pneumatic servo valves employ the latest in closed loop control technology. Flow rate is typically one scfm, but when used with a volume booster a flow rate in excess of 1,000 scfm can be achieved.

SENTRY Modular
General Purpose Regulators

R10M, R11M Models
Port Sizes: 1/8, 1/4; Tube Fittings

Model Shown: R10M-2G

- Modular assembly and mounting.
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter.
- Piston-type design (R10M models) or diaphragm-type (R11M models).
- Self-relieving; non-relieving optional.
- Pressure gauge.
- **NPTF** port threads; optional **BSPP** threads or fittings for tubing up to 10 mm.

SPECIFICATIONS

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Body: Acetal.

Dome and Knob: Acetal

Fluid Media: Compressed air.

Inlet Pressure: 150 psig (10 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (7 bar).

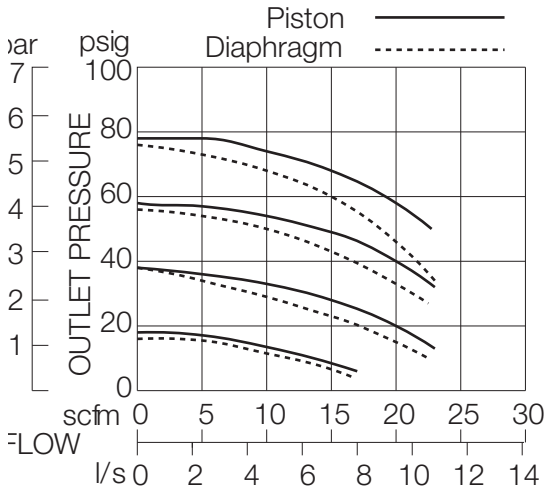
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 gauge ports front and rear.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Nitrile.

FLOW CHART

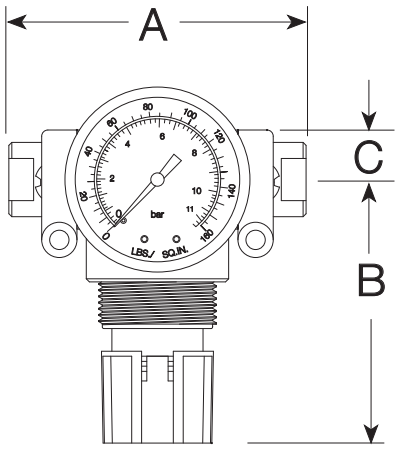
Inlet Pressure: 100 psig (7 bar)



DIMENSIONS inches (mm)

Ports	A	B	C	Depth †	Weight † lb (kg)
No Port	1.7 (43)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
1/8, 1/4	3.0 (76)	2.6 (67)	0.5 (13)	1.8 (45)	0.43 (0.19)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
3/8	3.9 (99)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
4 mm	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
6 mm	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
8 mm	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
10 mm	3.9 (99)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)

† Less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R10M P – 2 X Y G W L

REGULATOR TYPE
Piston type R10M
Diaphragm type R11M

MOUNTING HOLE LOCATION
Bottom mount (Standard) ..... Leave Blank
Top mount ..... P

INLET PORT SIZE
No Inlet and Outlet ports ..... Leave blank
Threaded:
1/8 NPTF ..... -1
1/4 NPTF ..... -2
Fittings for Tubing:
1/4 ..... -04
3/8 ..... -06
4 mm ..... -M4
6 mm ..... -M6
8 mm ..... -M8
10 mm ..... -M10

OUTLET PORT SIZE
Same as inlet port ..... Leave Blank
Threaded:
1/8 NPTF 1
1/4 NPTF 2
Fittings for Tubing:
1/4 04
3/8 06
4 mm M4
6 mm M6
8 mm M8
10 mm M10

MOUNTING BRACKETS
See page 356.

PORT TYPE
As specified in **INLET PORT** ..... Leave Blank
BSPP threads on both ports ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
Delete gauge ..... Leave Blank
0-160 PSI Gauge ..... G
Plastic mounting nut ..... P
Metal mounting nut ..... PN
Hex plastic mounting nut ..... PE

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
Non-relieving ..... A
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-125 psig (0-8.6 bar) ..... H
0-50 psig (0-3.4 bar) L
0-8 psig (0-0.6 bar) L8
0-15 psig (0-1 bar) L15
0-30 psig (0-2.1 bar) L30
Tamper-resistant spinning knob (psig preset) ..... MV(*)
Viton seals V

*Insert maximum limited pressure.

MINIATURE
General Purpose Regulators

R55M, R56M Models
Port Sizes: 1/8, 1/4

Model Shown: R56M-2G

- Inline mounting.
- Piston-type design (**R55M** models) or diaphragm-type (**R56M** models).
- Self-relieving; non-relieving optional.
- Pressure gauge.
- **NPTF** port threads; optional **BSPP** threads.
- Miniature regulators have the ability to reverse flow.

SPECIFICATIONS

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Body: Aluminum.

Dome and Knob: Glass Filled Nylone and Acetal.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (7 bar).

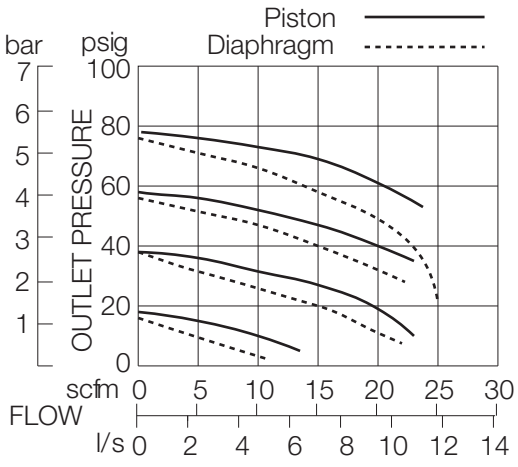
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Nitrile.

FLOW CHART

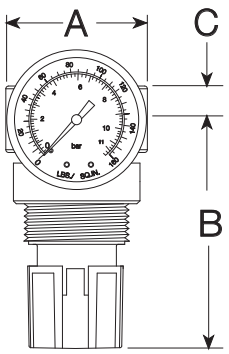
Inlet Pressure: 100 psig (7 bar)

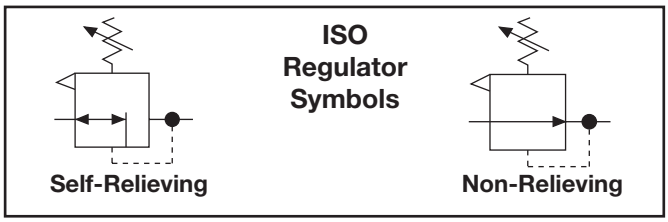


DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
1.6 (41)	2.7 (68)	0.4 (10)	1.6 (41)	0.24 (0.11)

† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R55M B – 2 Y G W

REGULATOR TYPE
Piston type R55M
Diaphragm type..... R56M

BODY MATERIAL TYPE
Aluminum ..... Leave Blank
Brass ..... B

PORT SIZE
1/8 NPTF..... 1
1/4 NPTF..... 2

PORT TYPE
NPTF threads .....Leave Blank
BSPP threads ..... .W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
Delete gauge .....Leave Blank
0-160 PSI Gauge .....G
Plastic mounting nut ..... P
Metal mounting nut .....PN
Hex plastic mounting nut ... .PE

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None..... .....Leave Blank
Non-relieving .....A
Small valve seat.....C
Metal dome (threaded).....D
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-125 psig (0-8.6 bar) .....H
0-50 psig (0-3.4 bar) L
0-8 psig (0-0.6 bar) L8
0-15 psig (0-1 bar) L15
0-30 psig (0-2.1 bar) L30
Tamper-resistant spinning knob (psig preset).....MV(*)
No gauge ports .....NP
Viton seals V

*Insert maximum limited pressure.

MOUNTING BRACKETS
See page 356.

MINIATURE Stainless Steel General Purpose Regulators

R56S Models Port Sizes: 1/4

Model Shown: R56S-2V

- Stainless steel construction provides unique corrosion resistance.
- Viton elastomers throughout.
- Inline mounting.
- Diaphragm-type design.
- Self-relieving; non-relieving optional.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 125°F (4° to 52°C).

Body: Stainless steel.

Dome and Knob: Glass Filled Nyon and Acetal.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

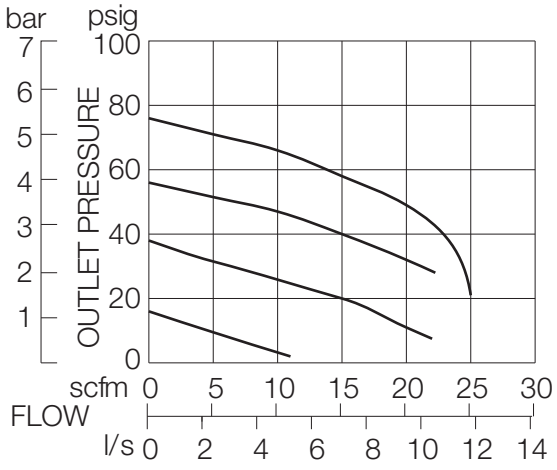
Outlet Pressure: Adjustable up to 100 psig (7 bar).

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Viton.

FLOW CHART

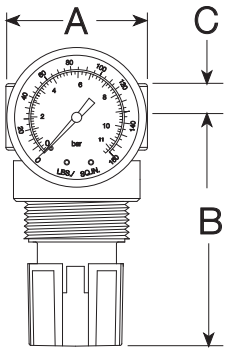
Inlet Pressure: 100 psig (7 bar)

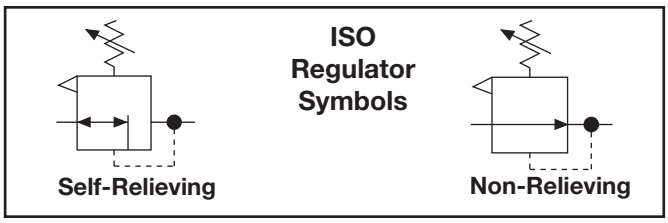


DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
1.6 (41)	2.7 (68)	0.4 (10)	1.6 (41)	0.24 (0.11)

† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R56S – 2 Y V G W

PORT SIZE
1/4 NPTF..... 2

PORT TYPE
NPTF threads .....Leave Blank
BSPP threads ....W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None .....Leave Blank
Plastic mounting nut ....P
Metal mounting nut .....PN
Hex plastic mounting nut ....PE

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
Non-relieving ..... A
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-125 psig (0-8.6 bar) ..... H
0-50 psig (0-3.4 bar) L
0-15 psig (0- 1 bar)..... L15
0-30 psig (0-2.1 bar)..... L30

MOUNTING BRACKETS
See page 356.

CO_2 MINIATURE Regulators

CX (CO_2) Models
Port Sizes: 1/8, 1/4

Model Shown: CX-2B0A1A0-2AG

- Inline mounting.
- Available in relieving and non-relieving diaphragm designs.
- Outstanding control at relatively low cost
- Pressure gauge optional.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
-40° to 175°F (-40° to 79.4°C).

Body and dome: Aluminum. Optional anodized coating

Fluid Media: CO_2, inert gases

Inlet Pressure: 300 psig (21 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (7 bar). standard. Optional pressure ranges available.

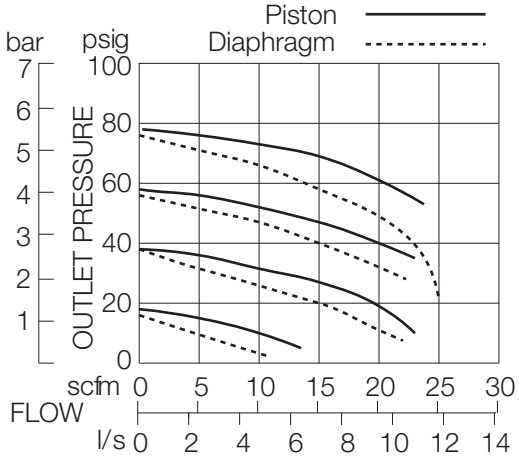
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear. Optional gauges sold seperately.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Neoprene seals and o-rings. Nitrile diaphragm; optional Nitrile seals, o-rings, and diaphragm.

FLOW CHART

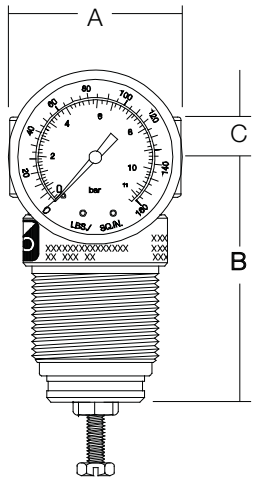
Inlet Pressure: 100 psig (7 bar)

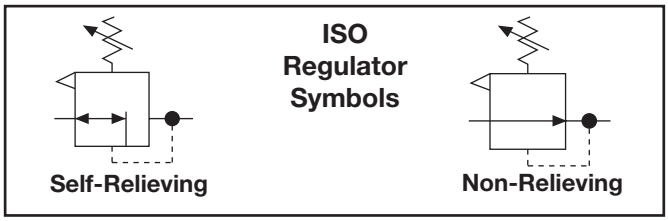


DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
1.6 (41)	2.28 (58)	0.4 (10)	1.6 (41)	0.30 (0.14)

† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the CO_2 regulator you want.

CX- 0 A 0 A 0 A 0- 2 A G W

REGULATOR TYPE
Relieving diaphragm 0
Non-relieving diaphragm 1

ANODIZED TYPE
None ..... A
Clear Anodized head and dome. ..... B

DOME TYPE
Threaded metal dome 0
Stainless steel adjustment screw and stainless steel nut.

O-RING AND SEAL MATERIAL
Neoprene seals and o-rings, and nitrile diaphgram. .. 0
Nitrile seals, o-rings and diaphragm. 1

SPRING RANGES
0-100 psig (0-7 bar) ..... A
0-175 psig (0-12.1 bar) ..... B
0-125 psig (0-8.6 bar) C
0-50 psig (0-3.4 bar) ..... D
0-8 psig (0-0.6 bar) ..... E
0-15 psig (0-1 bar) ..... F
0-30 psig (0-2.1 bar) ..... H

PORT SIZE
1/8-NPTF 1
1/4-NPTF 2

PANEL MOUNT NUTS
None ..... A
Plastic nut ..... B
Plastic hex nut C
Metal nut * ..... D

* If anodize is chosen, then panel mount nut will be the same color.

GAUGE OPTION
No Gauge ..... Leave blank
Gauge 0-160 psig ..... G

PORT TYPE
NPTF threads ..... Leave blank
BSPP threads ..... W

GUARDSMAN Modular General Purpose Regulators

R60 Models
Port Sizes: 1/4, 3/8, 1/2

Model Shown: R60-4G

- Modular or inline mounting.
- Piston-type design.
- Self-relieving; non-relieving optional.
- Pressure gauge.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Body: Zinc.

Cap: Nylon.

Dome and Knob: Acetal.

Fluid Media: Compressed air.

Inlet Pressure: 250 psig (17 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (7 bar).

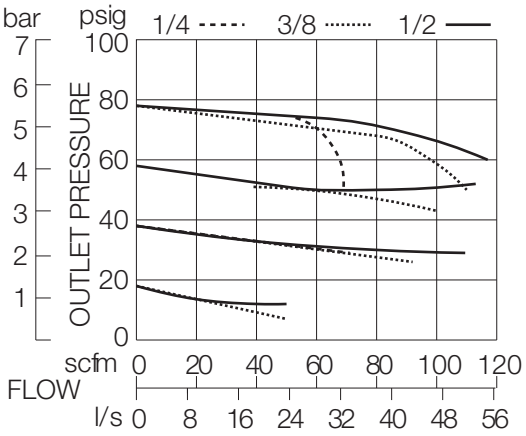
Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 1-9/16 inch (40 mm) hole required.

Seals: Nitrile.

FLOW CHART

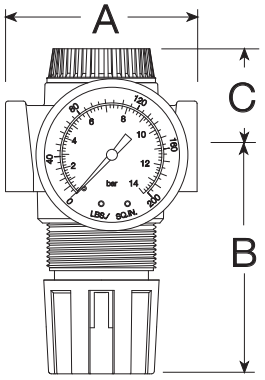
Inlet Pressure: 100 psig (7 bar)

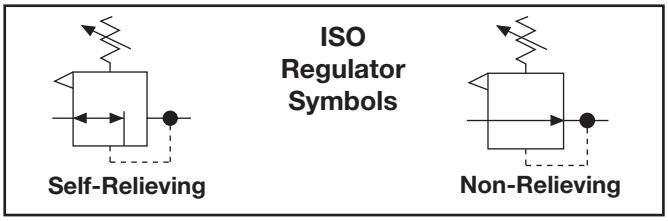


DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
2.7 (67)	3.3 (83)	1.3 (33)	1.8 (45)	1.0 (0.46)

† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R60 – 2 Y G W

PORT SIZE
1/4 NPTF.....2
3/8 NPTF.....3
1/2 NPTF.....4

OPTIONS *(More than one option can be chosen)*
None ....Leave Blank
Non-relieving .....A
Internal bypass–reverse flow.....E
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-150 psig (0-10 bar) .....H
0-50 psig (0-3.4 bar) L

PORT TYPE
NPTF threads ..... Leave Blank
BSPP threads ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None . .....Leave Blank
0-200 psig Gauge .....G
Plastic Mounting nut .....P
Metal Mounting nut .....PN

MOUNTING BRACKETS
See page 346.

GUARDSMAN II Modular General Purpose Regulators

R75 Models Port Sizes: 1/4, 3/8, 1/2

Model Shown: R75-4G

- Modular or inline mounting.
- Piston-type design.
- Self-relieving; non-relieving optional.
- Extra-strength metal dome.
- Pressure gauge.
- Panel mounting nut.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 175°F (4° to 79°C).

Body: Zinc.

Dome: Aluminum.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Knob: Acetal.

Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting:
Nut included. 1-7/8 inch (48 mm) hole required.

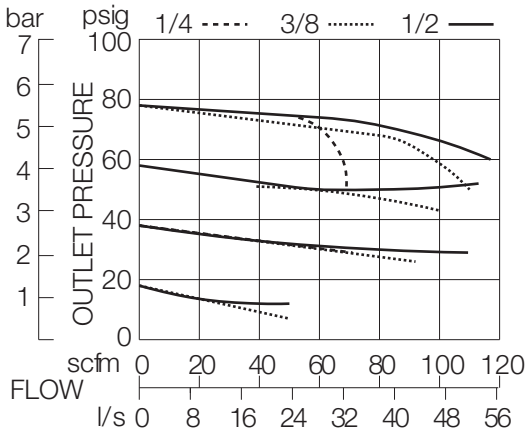
Seals: Nitrile.

Valve: Brass.

Valve Cap: Nylon.

FLOW CHART

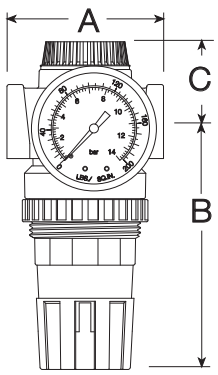
Inlet Pressure: 100 psig (7 bar)

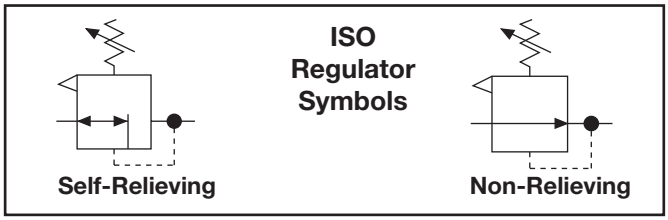


DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
2.7 (67)	4.2 (107)	1.4 (35)	2.1 (52)	1.13 (0.51)

† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R75 – 2 Y G W

PORT SIZE
1/4 NPTF..... 2
3/8 NPTF..... 3
1/2 NPTF..... 4

PORT TYPE
NPTF threads ..... Leave Blank
BSPP threads ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
0-200 psig Gauge ..... G

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
Non-relieving ..... A
Adjustment-locking key ..... B
Internal bypass–reverse flow ... E
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-200 psig (0-14 bar) ..... H
0-50 psig (0-3.4 bar) L
Tee handle ..... T

MOUNTING BRACKETS
See page 356.

HIGH PRESSURE 400 psi Maximum Inlet Regulator

R67 Models
Port Sizes: 1/8, 1/4, 3/8

Model Shown: R67-3G1

- 400 PSIG maximum inlet pressure
- Pressure adjustment has a locking feature (Locknut).
- Self-relieving; non-relieving optional.
- Extra-strength metal dome.
- Aluminum body and dome; piston operation design
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).

Body and Dome: Aluminum

Fluid Media: Compressed air.

Inlet Pressure: 400 psig (27.5 bar) maximum.

Knob: Glass filled Nylon.

Outlet Pressure: Adjustable up to 390 psig (26 bar); optional 0-100 psig (7 bar) and 0-200 psig (14 bar).

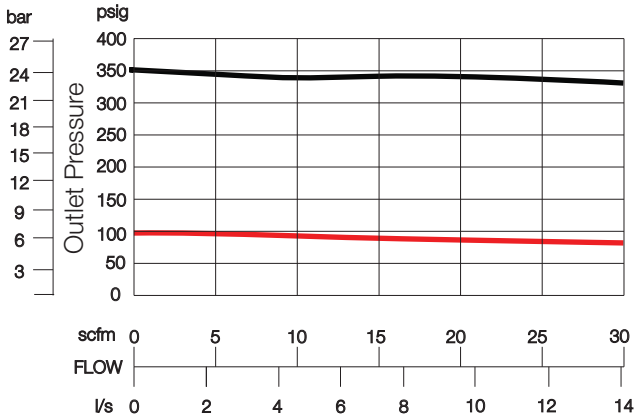
Pressure Gauge: 0 to 200 psig (0 to 14 bar); optional 0 to 600 psig (0 to 41 bar); 1/4-NPTF gauge ports on front and rear of head.

Seals and O-rings: Nitrile; optional Viton.

Panel Mounting: 1-9/16 inch (40mm) hole required.

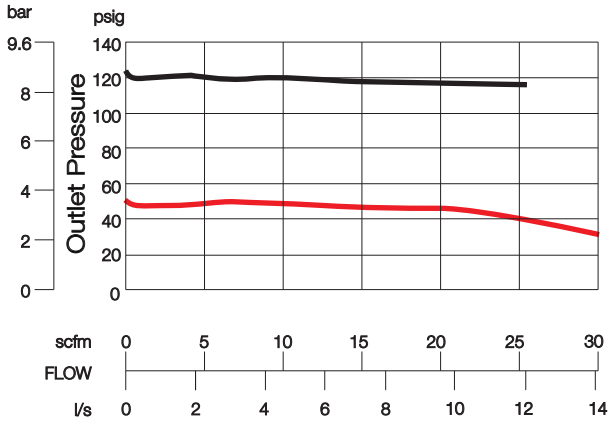
FLOW CHART

R67-3 Flow Characteristics using a 0-400 psig main spring and a 400 psig inlet



FLOW CHART

R67-3 Flow Characteristics using a 0-200 psig main spring and a 400 psig inlet

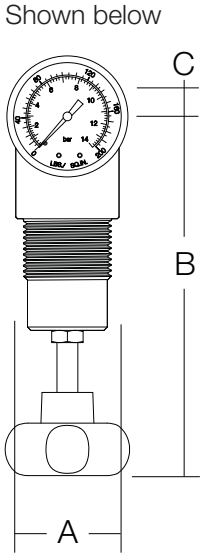


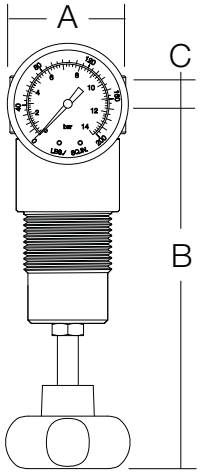
DIMENSIONS inches (mm)

Port Size	A	B	C	Depth †	Weight † lb (kg)
1/8-NPTF 1/4-NPTF	1.9 (47)	7.3 max (186 max)	0.4 (10)	1.9 (47)	1.15 (0.53)
3/8-NPTF	2.1 (54)	7.4 max (188 max)	0.5 (13)	2.1 (54)	1.30 (0.59)

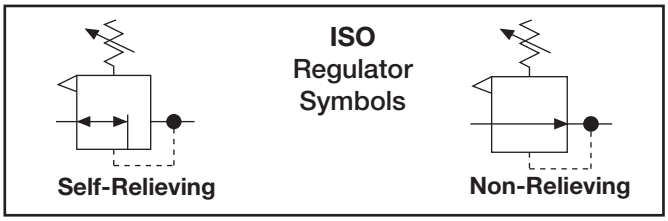
† Less Gauge

1/8" and 1/4" model
Shown below





3/8" model
Shown above



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R67- 3 Y G1 PN W

PORT SIZE
1/8 NPTF..... 1
1/4 NPTF..... 2
3/8 NPTF..... 3

OPTIONS
(More than one option can be chosen)
None . ..... Leave Blank
Non-relieving ..... A
Small Valve Seat C
Springs: (0-390 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-100 psig (0- 7 bar) L100
0-200 psig (0- 14 bar) L200
Viton O-rings and seals..... V

PORT TYPE
NPTF threads ..... Leave Blank
BSPP threads ..... W

PANEL MOUNT OPTION
None ..... Leave Blank
Metal mounting nut ..... PN

GAUGE OPTIONS
None ..... Leave Blank
0-200 psig 1/4" Gauge ..... G
0-600 psig 1/4" Gauge G1

SERIES 350 Modular General Purpose Regulators

R350 Models Port Sizes: 1/4, 3/8, 1/2

Model Shown: R350-3G

- Modular or inline mounting. Modular mounting allows regulators to be positioned at 45º increments for ease in adjustment.
- Superior pressure regulation - diaphragm type regulator
- Self relieving design; large diaphragm sensing area; non-relieving optional.
- Optional Pressure adjustment locking key; tamper resistant pressure setting.
- Inlet rated to 300 psig (21 bar)
- Reverse flow option.
- Pressure gauge.
- Front mounted modular clamping design with encapsulated screws.
- Compatible with modular 380 series of products.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).

Body: Zinc.

Dome: Nylon.

Knob: Acetal

Fluid Media: Compressed Air.

Inlet Pressure: 300 psig (21 bar) maximum.

Outlet Pressure: Adjustable up to 150 psig (10 bar); optional adjusting springs.

Optional Pressure Adjustment locking key: removable

Pressure Gauge: 0 to 200 psig (14 bar); 1/4-NPT gauge ports front and rear.

Panel Mounting: 2-1/16 inch (52 mm) hole required.

Seals: Nitrile.

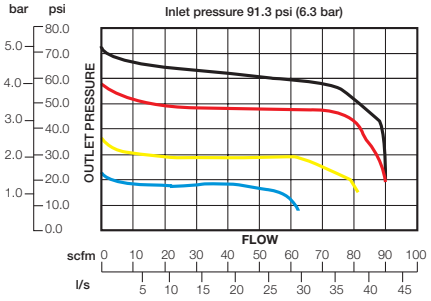
Self-relieving: Non-relieving optional.

Valve: Brass

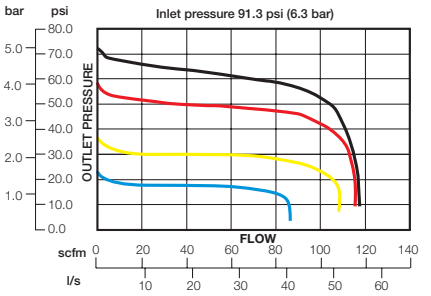
Valve Cap: Nylon.

FLOW CHARTS

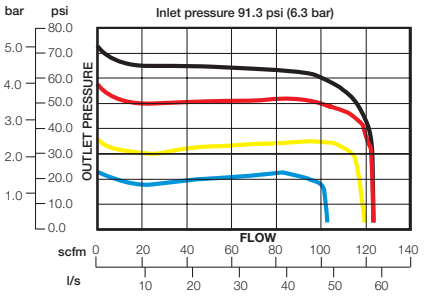
R350-2 FLOW CHARACTERISTICS



R350-3 FLOW CHARACTERISTICS



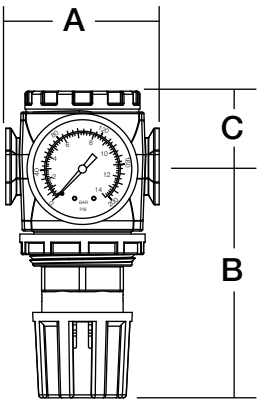
R350-4 FLOW CHARACTERISTICS



DIMENSIONS inches (mm)

A	B	C	Depth	Weight lb (kg)
3.0 (76.2)	4.52 (114.9)	1.46 (37)	2.51 (63.8)	1.9 (0.86)

Panel mounting: 2-1/16" (52mm) hole required.
Dome removal clearance: add 0.575 (14.6)
Cap removal clearance: add 0.750 (19.1)
Dimensions above reflect less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R350 - 3 A G W

PORT SIZE
1/4 NPTF 2
3/8 NPTF 3
1/2 NPTF 4

OPTIONS (more than one can be chosen. Add in alphabetical order).
None ..... Leave blank
Relieving ..... Leave blank
Non-relieving ..... A
Locking knob ..... B
Reverse flow ..... E
SPRINGS:
0-200 psig (0-13 bar) ..... H
0-150 psig (0-10 bar) std ..... Leave blank
0-100 psig (0-6 bar) L100
0-50 psig (0-3 bar) L
Limit maximum psig setting ..... M*
Tee Handle ..... T

* insert maximum limited pressure.

PORT TYPE
NPTF threads ..... Leave blank
BSPP threads ..... W

OPTIONS (more than one can be chosen. Add in alphabetical order).
None ..... Leave Blank
Pressure gauge ..... G
Mounting nut ..... P

MOUNTING BRACKETS
See page 356.

Full-Size VANGUARD Modular General Purpose Regulators

R100 Models Port Sizes: 1/4, 3/8, 1/2, 3/4

Model Shown: R100-6G

- Modular or inline mounting.
- Diaphragm-type design.
- Self-relieving; non-relieving optional.
- Pressure gauge.
- Pressure adjustment locking key.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 175°F (4° to 79°C).

Body: Zinc.

Dome:
Nylon; aluminum with optional 0-175 psig spring.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Knob: Acetal.

Outlet Pressure: Adjustable up to 125 psig (8.6 bar).

Pressure Adjustment Locking Key: Removable.

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

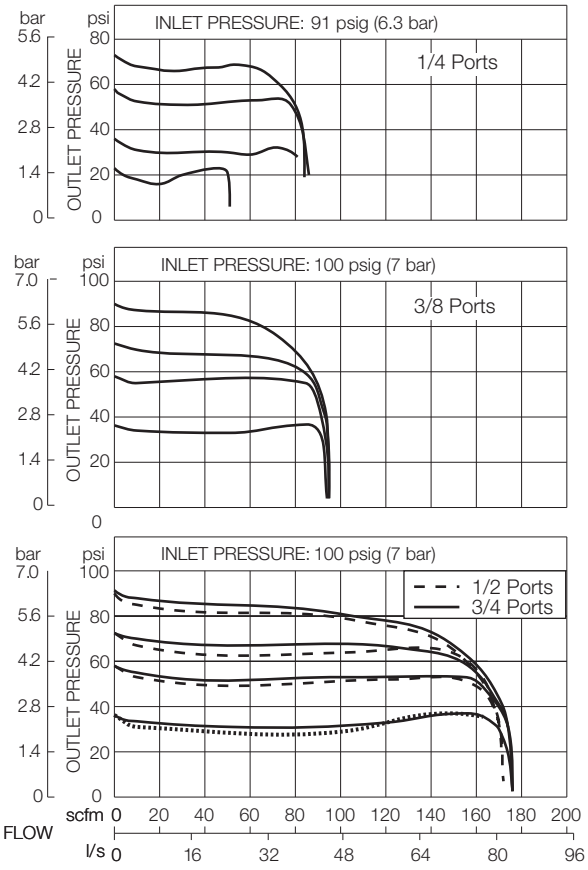
Panel Mounting: 2-1/16 inch (52 mm) hole required.

Seals: Nitrile.

Valve: Brass.

Valve Cap: Nylon.

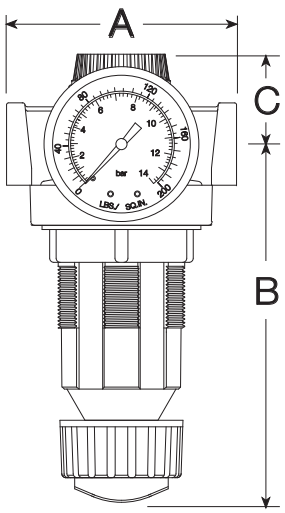
FLOW CHARTS



DIMENSIONS inches (mm)

A	B *	C **	Depth †	Weight † lb (kg)
3.5 (89)	5.8 (146)	1.3 (33)	2.8 (71)	2.06 (0.92)

* Dome removal clearance: add 0.63 (16).
** Cap removal clearance: add 0.5 (13).
† Less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R100 – 2 Y G W

PORT SIZE
1/4 NPTF..... 2
3/8 NPTF..... 3
1/2 NPTF..... 4
3/4 NPTF..... 6

PORT TYPE
NPTF threads .....Leave Blank
BSPP threads .. ..W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None . ..... Leave Blank
0-200 psig Gauge ..... G
Mounting nut ..... P

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None..... Leave Blank
Non-relieving ..... A
Internal bypass–reverse flow..... E
Springs: (0-125 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-175 psig (0-12 bar) ..... H**
0-50 psig (0-3.4 bar) L
0-20 psig (0-1.4 bar)..... L20
Metal Dome ..... MD
Limit maximum psig setting .. .... M*
Tee handle..... T
Viton Seals V

* Insert maximum limited pressure.
** H option spring includes metal dome

MOUNTING BRACKETS
See page 356.

Full-Size SERIES 380 Modular General Purpose Regulators

R380 Models
Port Sizes: 3/8, 1/2, 3/4

Model Shown: R380-6G

Available Color Caps

Yellow *(optional)*

Red *(optional)*

Blue *(optional)*

Grey *(standard)*

- Modular or inline mounting. Modular mounting allows regulators to be positioned at increments of 45° for ease in adjustment.
- Self-relieving diaphragm design; large diaphragm sensing ratio; non-relieving optional.
- Pressure gauge.
- Pressure adjustment locking key; tamper-resistant pressure setting.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 175°F (4° to 79°C).

Body: Zinc.

Dome:
Nylon; aluminum with optional 0-175 psig spring.

Cap Color: Grey. Yellow, red, and blue optional.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Knob: Acetal

Outlet Pressure: Adjustable up to 125 psig (8.6 bar); optional adjusting springs.

Pressure Adjustment Locking Key: Removable.

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 2-1/16 inch (52 mm) hole required.

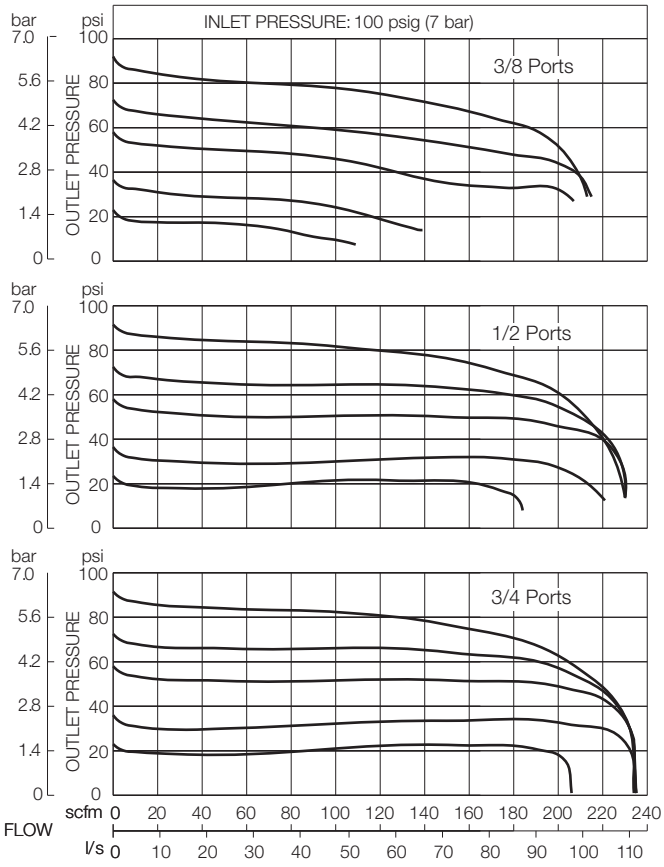
Seals: Nitrile.

Self-relieving: Non-relieving optional.

Valve: Brass.

Valve Cap: Nylon.

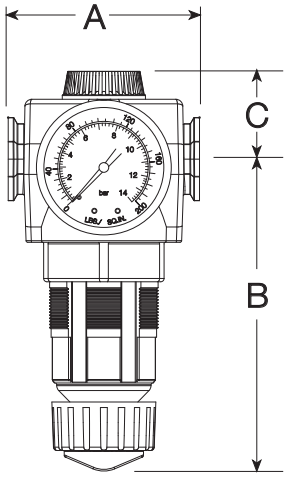
FLOW CHARTS



DIMENSIONS inches (mm)

A	B *	C **	Depth †	Weight † lb (kg)
3.5 (87)	5.6 (142)	1.6 (40)	2.9 (73)	2.56 (1.16)

* Dome removal clearance: add 0.625 (16).
** Cap removal clearance: add 0.50 (13).
† Less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R380 – 3 Y G W

PORT SIZE
3/8 NPTF 3
1/2 NPTF 4
3/4 NPTF 6

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
Non-relieving ..... A
Cap color: Grey is standard.
Yellow C1
Red C2
Blue C3
Internal bypass - reverse flow ..... E
Springs: (0-125 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-175 psig (0-12 bar) ..... H**
0-50 psig (0-3.4 bar) L
0-20 psig (0-1.4 bar) L20
Metal Dome ..... MD
Limit maximum psig setting ..... M*
Tee handle ..... T

* Insert maximum limited pressure.
** H option spring includes metal dome.

PORT TYPE
NPTF threads ..... Leave Blank
BSPP threads ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None . ..... Leave Blank
0-200 psig Gauge ..... G
Mounting nut ..... P

MOUNTING BRACKETS
See page 356.

High-Flow VANGUARD
General Purpose Regulators

R180M Models
Port Sizes: 3/4, 1

Model Shown: R180M-6G

- Inline mounting.
- Piston-type design.
- Self-relieving; non-relieving optional.
- Pressure gauge.
- Pressure adjustment locking key.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 175°F (4° to 79°C).

Body: Aluminum.

Dome:
Nylon; aluminum with optional 0-150 psig spring.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Knob: Acetal

Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Adjustment Locking Key: Removable.

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

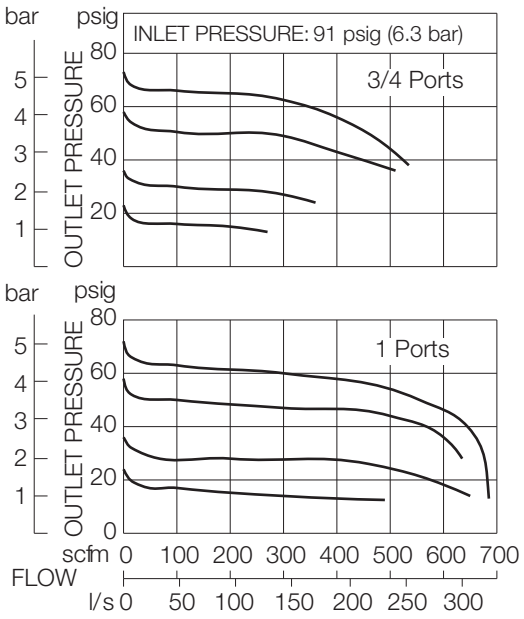
Panel Mounting: 2-1/16 inch (52 mm) hole required.

Seals: Nitrile.

Valve: Aluminum.

Valve Cap: Nylon.

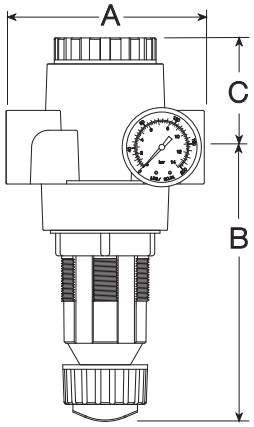
FLOW CHARTS



DIMENSIONS inches (mm)

A	B *	C **	Depth †	Weight † lb (kg)
4.4 (111)	6.1 (154)	2.4 (62)	2.8 (71)	2.19 (0.99)

* Dome removal clearance: add 0.63 (16).
** Cap removal clearance: add 0.65 (16.5).
† Less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R180M – 6 Y G W

PORT SIZE
3/4 NPTF 6
1 NPTF 8

PORT TYPE
NPTF threads .....Leave Blank
BSPP threads ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None .....Leave Blank
0-200 psig Gauge . ..... G
Mounting nut ..... P

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None .....Leave Blank
Non-relieving ..... A
Internal bypass–reverse flow..... E
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-150 psig (0-10 bar) ..... H**
0-50 psig (0-3.4 bar) L
0-20 psig (0-1.4 bar)..... L20
Metal Dome ..... MD
Limit maximum psig setting .. .. M*
Tee handle ... . T

* Insert maximum limited pressure.
** H option spring includes metal dome.

MOUNTING BRACKETS
See page 356.

High-Flow VANGUARD
General Purpose Regulators

R180 Models
Port Sizes: 1-1/4, 1-1/2

Model Shown: R180-10G

- Inline mounting.
- Piston-type design.
- Self-relieving; non-relieving optional.
- Pressure gauge.
- Pressure adjustment locking key.
- **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:
40° to 175°F (4° to 79°C).

Body: Aluminum.

Dome:
Nylon; aluminum with optional 0-150 psig spring.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Knob: Acetal

Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Adjustment Locking Key: Removable.

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

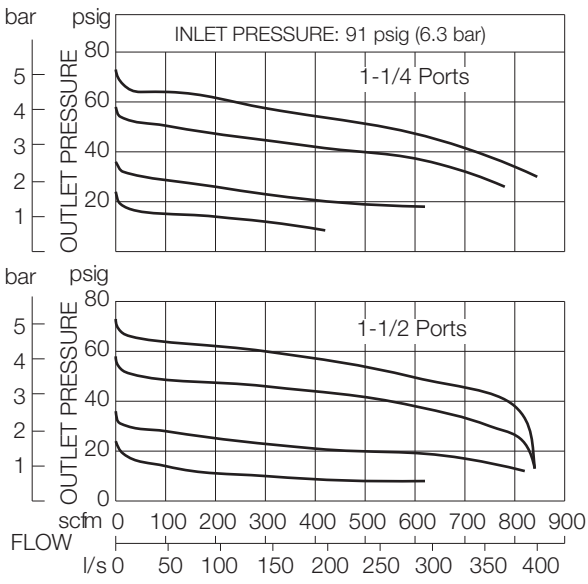
Panel Mounting: 2-1/16 inch (52 mm) hole required.

Seals: Nitrile.

Valve: Aluminum.

Valve Cap: Nylon.

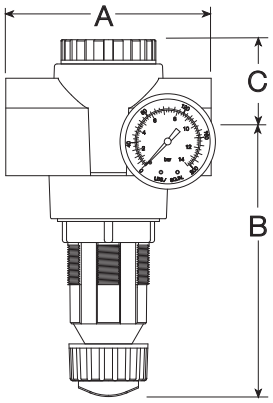
FLOW CHARTS

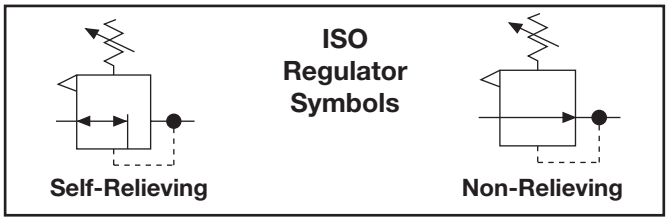


DIMENSIONS inches (mm)

A	B *	C **	Depth †	Weight † lb (kg)
4.9 (124)	6.4 (162)	2.1 (54)	2.8 (71)	2.5 (1.14)

* Dome removal clearance: add 0.63 (16).
** Cap removal clearance: add 0.65 (16.5).
† Less gauge.





ORDERING INFORMATION

Change the letters in the sample model number below to specify the regulator you want.

R180 – 10 Y G W

PORT SIZE

1-1/4 NPTF	10
1-1/2 NPTF	12

PORT TYPE
NPTF threads ..... Leave Blank
BSPP threads ..... W

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None . ..... Leave Blank
0-200 psig Gauge ..... G
Mounting nut ..... P

OPTIONS *(More than one option can be chosen. Add in alphabetical order)*
None ..... Leave Blank
Non-relieving ..... A
Internal bypass–reverse flow .... E
Springs: (0-100 psig standard)
For optimum performance operating pressure should fall approximately in the middle of the spring range.
0-150 psig (0-10 bar) ..... H**
0-50 psig (0-3.4 bar) L
Metal Dome ..... MD
Limit maximum psig setting .... M*
Tee handle ..... T

* Insert maximum limited pressure.
** H option spring includes metal dome.

MOUNTING BRACKETS
See page 356.