

B84G - General purpose filter/regulator Excelon® Plus Modular System



- > Port size: 3/8" ... 3/4" (ISO G/PTF)
- > Excelon® Plus design allows in-line installation or modular installation with other Excelon® Plus products
- > 5 or 40 micron particle and high efficiency water removal (> 98%)
- > Double safety lock bowl
- > Air purity classes in accordance to ISO8573-1:2010: 7:8:4 (40µm) 6:8:4 (5µm)
- > Push to lock adjusting knob with built in tamper resistant feature
- > Metal bowl with prismatic liquid level indicator lens
- > Light weight Polycarbonate bowl
- > Easy to read flush mounted gauge as standard, integrated electronic pressure sensor as option



Technical features filter/regulator

Medium:

Compressed air only

Maximum supply pressure:

Polycarbonate bowl: 145 psi (10 bar)

Metal bowl: 290 psi (20 bar)

Outlet pressure ranges:

5 ... 145 psi (0.3 ... 10 bar),

5 ... 58 psi (0.3 ... 4 bar),

10 ... 250 psi (0.7 ... 17 bar)

Filter element:

5 µm & 40 µm

Port size:

G3/8, G1/2, G3/4,

3/8 PTF, 1/2 PTF, 3/4 PTF

Gauge:

Integrated as standard ,

Gauge port 1/8, or electronic pressure sensor

Flow:

212 scfm (100 dm³/s) at port

size: 1/2", inlet pressure 145

psi (10 bar), 91 psi (6.3 bar)

set pressure and a Δp: 14.5

psi (1 bar) droop from set.

Filter element: 40 µm

Diaphragm Type:

Relieving

Drain:

Manual or automatic

Automatic drain operating conditions (float operated):

Bowl pressure required to close

drain: > 5 psi (0.35 bar)

Bowl pressure required to

open drain: ≤ 2.9 psi (0.2 bar)

Minimum air flow required to

close drain: 2 scfm (1 dm³/s)

Ambient/Media temperature:

Polycarbonate bowl:

+14 ... +140°F (-10 ... +60°C)

Metal bowl:

-4 ... +149°F (-20 ... +65°C)

Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).

Atex:

Filter/regulators B84 are in conformity with Atex 2014/34/EU

Ex II 2 GD

Ex h IIC T6 Gb

EX h IIIC T85°C Db

excluding all versions with electronic pressure sensor

Materials:

Body: Die cast aluminum

Body covers: ABS

Bonnet: Acetal/Aluminum

Valve: PP

Transparent Bowl :

Polycarbonate with

Polypropylene Guard.

Metal Bowl: Die cast Aluminum

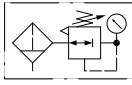
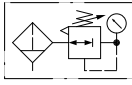
with PA liquid level indicator lens

Filter element: sintered PP

Bowl 'o'- ring: Chloroprene

Elastomers: NBR

Technical data B84G - standard models with integrated flush mounted gauge

Symbol	Port size PTF	Drain	Pressure range psi (bar)	Filter element (µm)	Bowl	Weight lbs (kg)	Model *1)
	3/8	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-3AK-AP3-RMG
	1/2	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-4AK-AP3-RMG
	3/4	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-6AK-AP3-RMG
	3/8	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-3AK-AD3-RMG
	1/2	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-4AK-AD3-RMG
	3/4	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-6AK-AD3-RMG
	3/8	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-3AK-QP3-RMG
	1/2	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-4AK-QP3-RMG
	3/4	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	1.61 (0.73)	B84G-6AK-QP3-RMG
	3/8	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-3AK-QD3-RMG
	1/2	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-4AK-QD3-RMG
	3/4	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	1.94 (0.88)	B84G-6AK-QD3-RMG

*1) All models shown here are supplied with integrated gauge applicable for flow direction left to right.

With flow direction right to left please use the online configurator www.norgren.com/air-preparation-configurator or contact Norgren

B84G - Filter/regulator with integrated electronic pressure sensor

- > Electronic monitoring of secondary pressure
- > 1.44" full color graphic display. Excellent Visual Management.
- > Parameter Adjustment via front screen Buttons or Accessed Via IO-Link
- > Configurable switching output
- > Adjustable settings:
 - Setpoint,
 - Tolerance,
 - Hysteresis,
 - Pressure Units,
 - Temperature Units,
 - Screen Orientation,
 - Digital Output Type (NPN, PNP, Push-Pull),
 - Digital Output State (Normally High, Normally Low)
- > Install as a standard electronic pressure sensor or a pressure transducer with IO-Link




Technical features integrated electronic pressure sensor

Electrical parameters

Secondary pressure measurement range:

0 ... 145 psi
(0 ... 10 bar, 0 ... 1.0 MPa)

Repeatability:

≤ 0.1% of full scale (FS) at stable temperature

Accuracy:

≤ 1.5% of full scale (FS) of detected pressure
+32 ... +122°F (0 ... +50°C)

Units:

Pressure: bar, psi, MPa
Temperature: °C, °F
Voltage: V

Display:

1.44" full color TFT LCD
Text / background colors
white/green: pressure in range
white/red: pressure out of range
white/amber: error
black/white: setting mode

Display fields:

User configurable identifier,
pressure value, pressure units,
user configurable message, menu

IO-Link function:

Pressure information
Pressure out of range warnings
Temperature diagnostic
Supply voltage diagnostic
Operating time diagnostic

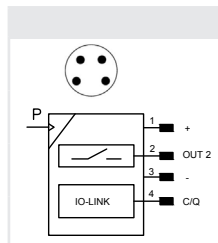
Min. cycle time:

20 ms

For product IODD file please use the online link <http://s.norgren.com/digital-gauge-iodd>

for a copy of the Quick Start Guide or comprehensive Operators manual please use the following online link www.norgren.com/excelon-plus

Electrical connection M8 x 1

	Pin-No.	Signal	Cable
	1	L+ (24V)	brown
	2	Out 2 (switching)	white
	3	L- (0V)	blue
	4	C/Q (IO-Link)	black

Electrical connection:

M8 x 1

Power supply:

18 ... 30 V d.c.

Current consumption:

20 mA

Electromagnetic compatibility:

According to EN 61000-6-2;
EN 61000-6-3

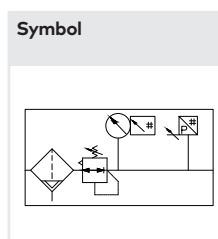
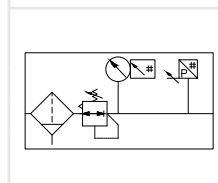
Switching output:

Configurable NPN / PNP /
Push-Pull / NO / NC / hi-Z

Load current:

100mA with short
circuit protection

Technical data B84G - standard models with integrated electronic pressure sensor

Symbol	Port size PTF	Drain	Pressure range psi (bar)	Filter element (µm)	Bowl	Weight lbs (kg)	Model *)
	3/8	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-3AK-AP3-RME
	1/2	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-4AK-AP3-RME
	3/4	Auto	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-6AK-AP3-RME
	3/8	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-3AK-AD3-RME
	1/2	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-4AK-AD3-RME
	3/4	Auto	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-6AK-AD3-RME
	3/8	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-3AK-QP3-RME
	1/2	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-4AK-QP3-RME
	3/4	Manual	5 ... 145 (0.3 ... 10)	40	Guarded polycarbonate	2.05 (0.93)	B84G-6AK-QP3-RME
	3/8	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-3AK-QD3-RME
	1/2	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-4AK-QD3-RME
	3/4	Manual	5 ... 145 (0.3 ... 10)	40	Metal with level indicator	2.38 (1.08)	B84G-6AK-QD3-RME

*) All models shown here are supplied with integrated pressure sensor applicable for flow direction left to right.

With flow direction right to left please use the online configurator www.norgren.com/air-preparation-configurator or contact IMI Norgren

B84G-★★★-★★★-R★★

The diagram illustrates a limit process. On the left, there is a vertical sequence of five nested rectangles. Each rectangle has an arrow pointing to the left, indicating a direction of approach. The rectangles are nested such that each subsequent one is further to the left and has a smaller width. On the right, there is a single, larger rectangle that encompasses the area of the nested rectangles, also with an arrow pointing to the left. This visualizes the concept of a limit where a sequence of objects approaches a final state.

Gauge	Substitute
With integrated electronic pressure sensor *3)	E
With integrated gauge	G
Without integrated gauge but with gauge port 1/8"	N
Pressure range *4)	Substitute
0,3 ... 4 bar	F
0,3 ... 10 bar	M
0,7 ... 17 bar	S*2)
Element	Substitute
40 µm	3
5 µm	1

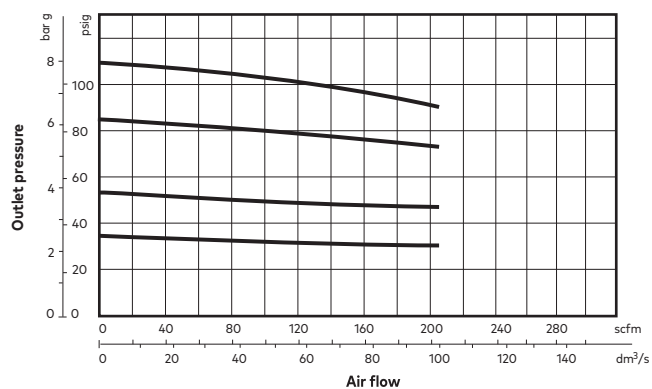
*4) Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

*2) Units with 17 bar outlet pressure range are available only with the T-bar adjustment and only with metal bowl. Not available in connection with integrated pressure sensor.

Flow characteristics

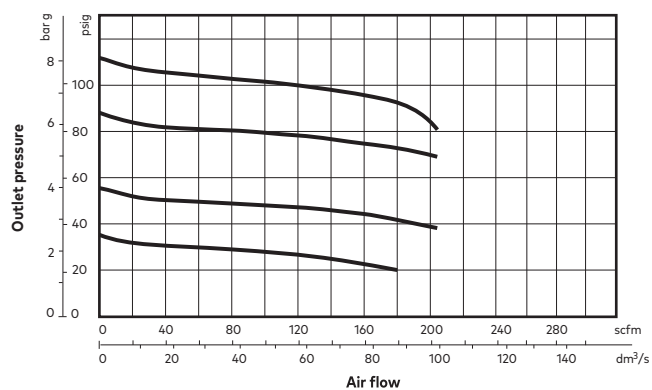
Inlet pressure: 145 psi (10 bar)

Port size: 1/2", 40 µm element



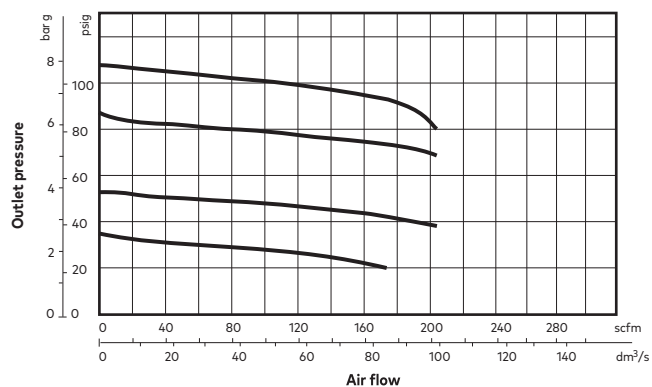
Inlet pressure: 145 psi (10 bar)

Port size: 3/8", 5 µm element



Inlet pressure: 145 psi (10 bar)

Port size: 3/8", 40 µm element



Accessories

Quikclamp®



Page 6

840014-51KIT

Quikclamp® with bracket assembled



Page 6

840014-52KIT

Hybrid Quikclamp® *1



Page 6

840014-61

Hybrid Quikclamp® with bracket assembled *1



Page 6

840014-62

*1) To connect new Excelon Plus to old Excelon 74/73 units. Having the same hole centers as 74 series mounting bracket. A Quikclamp adds 13.6 mm to the overall width of a combination unit

Neck mounting bracket and panel nut



Page 6

840068-51KIT

Panel mounting nut



Page 6

840048-89KIT

Mounting bracket



Page 6

840024-50KIT

Integrated gauge 10 bar gauge



840073-01KIT

Integrated gauge 20 bar gauge



840073-02KIT

Gauge adaptor kit 1/8 PTF



840100-01KIT

Gauge adaptor kit R 1/8



840100-02KIT

Full flow porting block horizontal, 3/4 PTF



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840028-50KIT

Full flow porting block horizontal, G3/4



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840028-53KIT

Full flow porting block vertical, 3/4"PTF



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840028-68KIT

Full flow porting block vertical, G3/4"



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840028-69KIT

Pressure switch interface block (18D pressure switch) G1/2



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Pressure sensing block 1/4 PTF



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840016-50KIT

Pressure sensing block G1/4



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840016-51KIT

Padlock



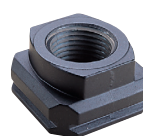
840055-01KIT

Lockout device



840055-02KIT

Port Adaptors



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3/8 PTF	840015-02KIT
1/2 PTF	840015-03KIT
3/4 PTF	840015-04KIT
G3/8	840015-10KIT
G1/2	840015-11KIT
G3/4	840015-12KIT

**Pressure switch 18D
(7.25 ... 116 psi) *1**

Page 8

0881300000000000

**Digital pressure switch
51D (-14.5 ... 145 psi) *2**

Page 8

0860811000000000

**Electronic Pressure Sensor
– stand alone version *3**


Q84G

IO-Link cables
Connection cable M8x1 for integrated digital pressure sensor


Description	Cable length (m)	Model
M8 female to M12 male	0.6	NC-084FS-124MS-A
	1.0	NC-084FS-124MS-1
	2.0	NC-084FS-124MS-2
	5.0	NC-084FS-124MS-5
M8 female to free end	5.0	NC-084FS-00000-5

*1) Flanged version. For other pressure ranges, please see data sheet 5.11.001

*2) For other pressure ranges, please see data sheet 5.11.385

*3) Q84G standalone electronic pressure sensor module
see <http://s.norgren.com/digital-gauge-iodd> for data-sheet 8.900.905.

Gauges

(For regulators with gauge port instead of integrated port)

Center back connection, white face


Pressure range (bar)*3)	(psi)	MPa	Ø	Thread size	Model
0 ... 6	0 ... 0.6	0 ... 0.4	40mm	R1/8	18-015-885
0 ... 10	0 ... 1	0 ... 0.7	40mm	R1/8	18-015-989
0 ... 25	0 ... 2.5	0 ... 1.7	40mm	R1/8	18-015-908

Center back connection, black face


Pressure range (psi)*3)	(bar)	(MPa)	Ø	Thread size	Model
0 ... 60	0 ... 4	0 ... 0.4	2"	1/8" NPT	18-015-202
0 ... 160	0 ... 11	0 ... 1.1	2"	1/8" NPT	18-015-204
0 ... 300	0 ... 20	0 ... 2.1	2"	1/8" NPT	18-015-205

*3) primary scale

*3) primary scale

Maintenance/Service
**Filter cartridge
5 micron**


840038-50KIT

**Filter cartridge
40 micron**


840038-51KIT

**Auto drain kit with
metal Nut - Imperial**


6000-61KIT

**Auto drain kit with
metal Nut - Metric**


6000-60KIT

**R84 / B84
Elastomer Kit**


FRLB84-KIT

Spare parts
**Filter Bowl (Guarded
Poly bowl with auto
drain 6 mm PIF)**


840025-51KIT

**Filter Bowl (Guarded Poly
bowl with manual drain)**


840025-50KIT

**Filter Bowl (Metal with S/
Glass & auto drain, 6 mm PIF)**


840003-51KIT

**Filter Bowl (Metal with S/
Glass & manual drain)**


840003-50KIT

**Filter Bowl (Guarded Poly
bowl with auto drain, 1/4 PIF)**

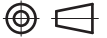

840025-53KIT

**Filter Bowl (Metal with S/
Glass & auto drain, 1/4 PIF)**

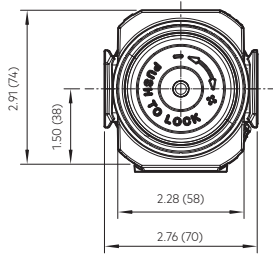

840003-56KIT

Dimensions

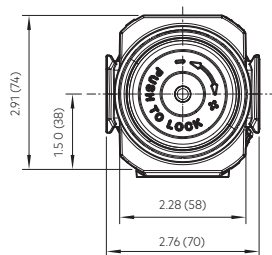
Dimensions in inches (mm)
Projection/Third angle



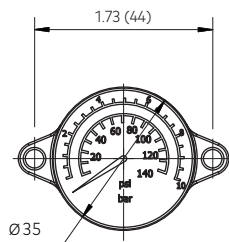
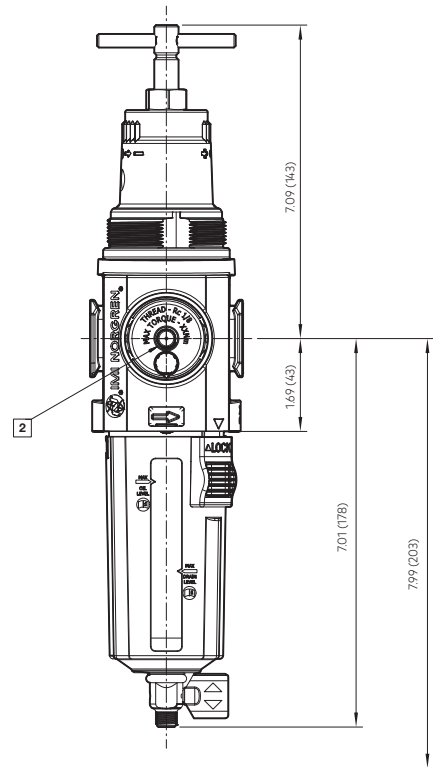
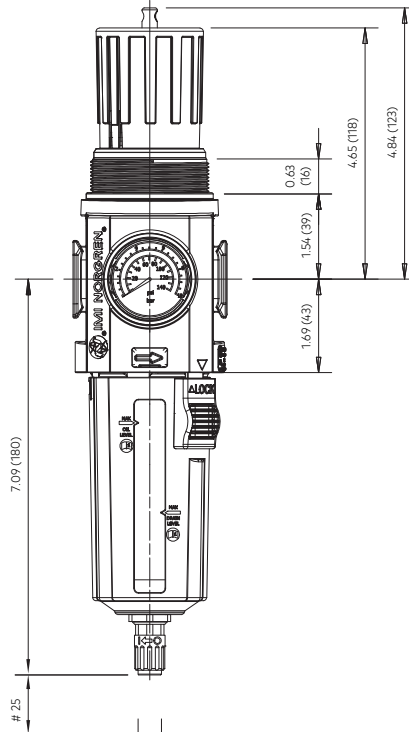
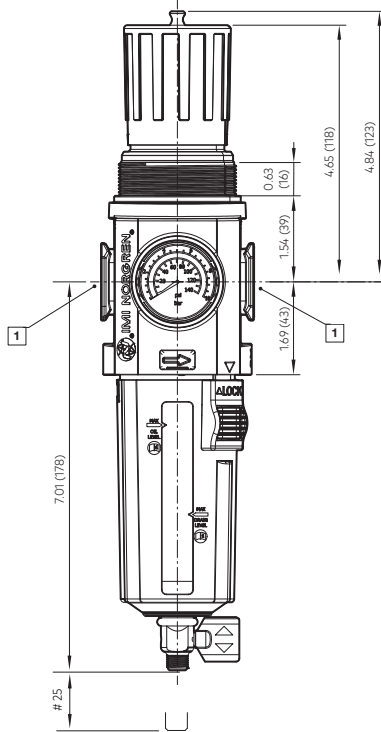
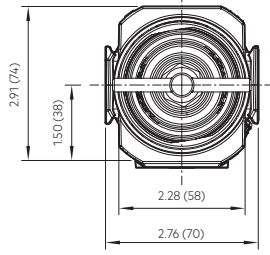
1/4 Turn Manual Drain
With knob



Automatic Drain
With knob



1/4 Turn Manual Drain
With T-bar



Minimum clearance for bowl removal

① Main ports 3/8", 1/2" or 3/4"
(ISO G/PTF)

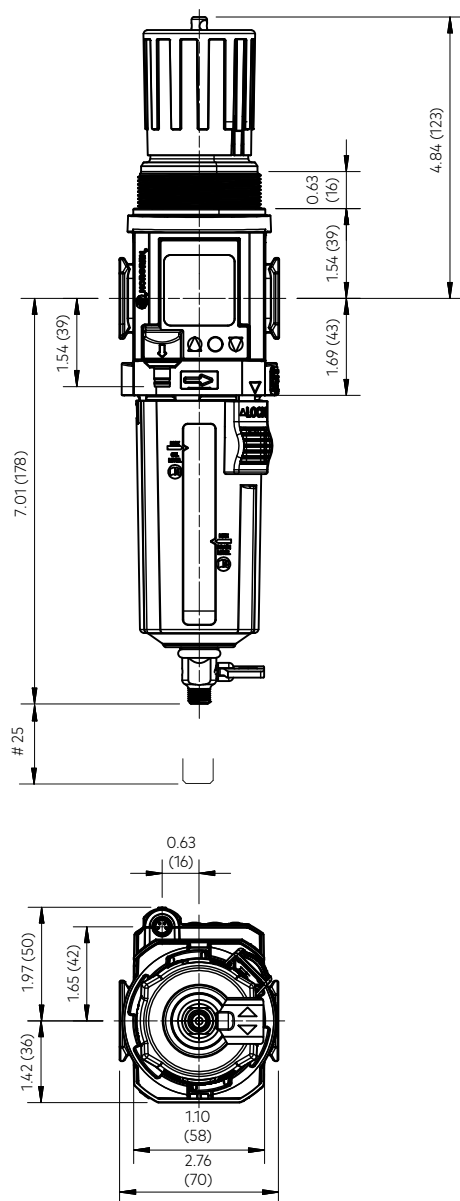
② Gauge port Rc 1/8 for ISO G and
1/8 PTF for PTF main ports

Dimensions B84G- General Purpose Filter Regulator

1/4 Turn Manual Drain

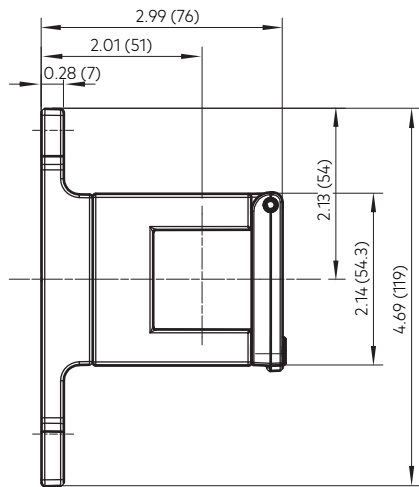
With knob

Dimensions in inches (mm)
Projection/Third angle

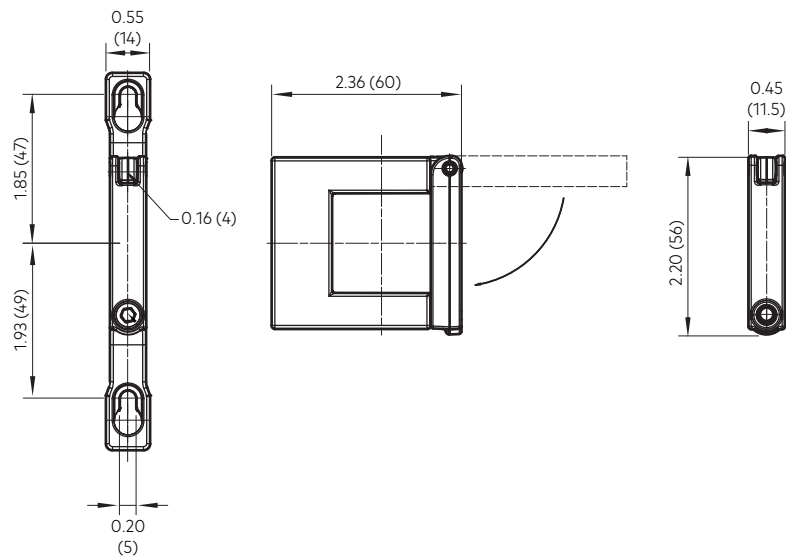


Accessories

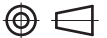
Quikclamp® with wall bracket



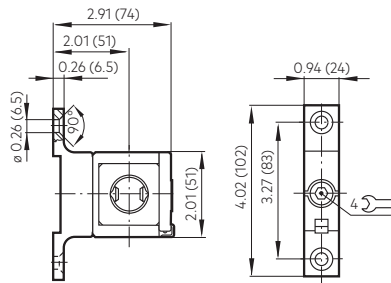
Quikclamp®



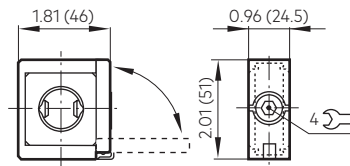
Dimensions in inches (mm)
Projection/Third angle



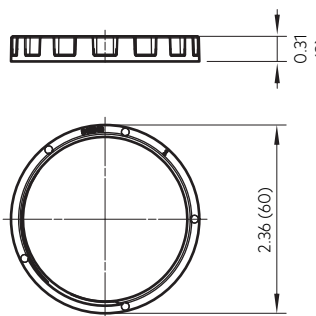
Hybrid-Quikclamp® with wall bracket



Hybrid-Quikclamp®

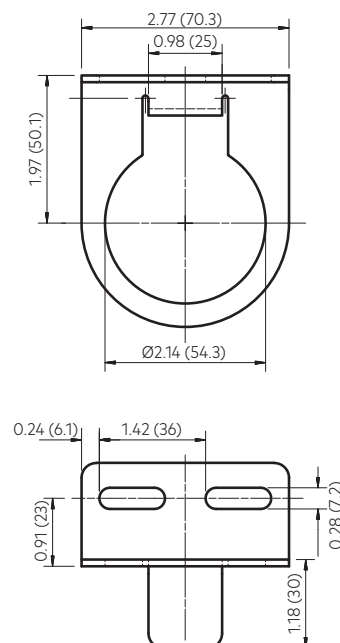


Panel mounting nut



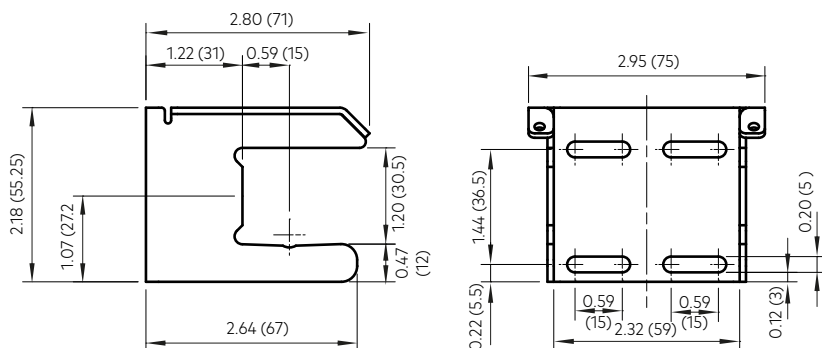
Recommended panel hole size:
Ø 55 mm ... 57 mm
Panel thickness:
2 ... 6 mm

Neck mounting bracket

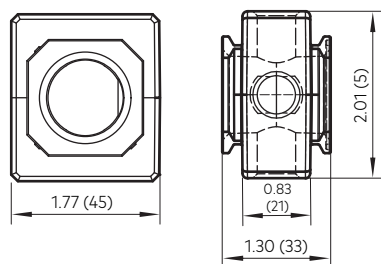


Mounting bracket

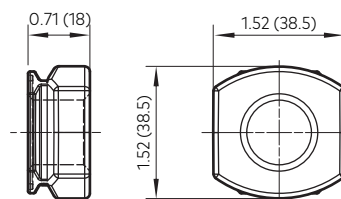
Dimensions in inches (mm)
Projection/Third angle



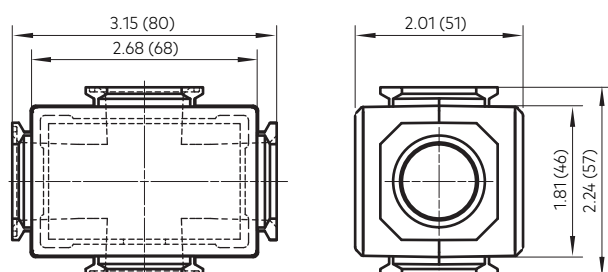
Pressure sensing block



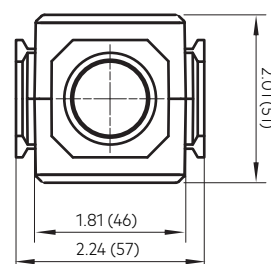
Pipe adaptor



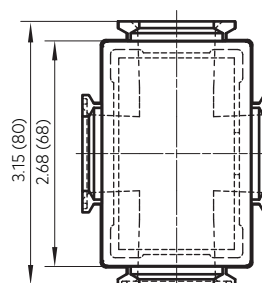
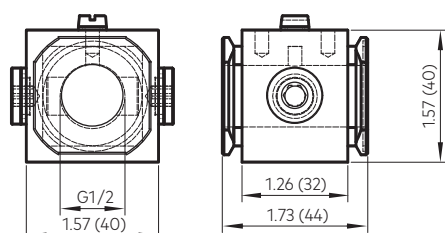
Full flow porting block horizontal



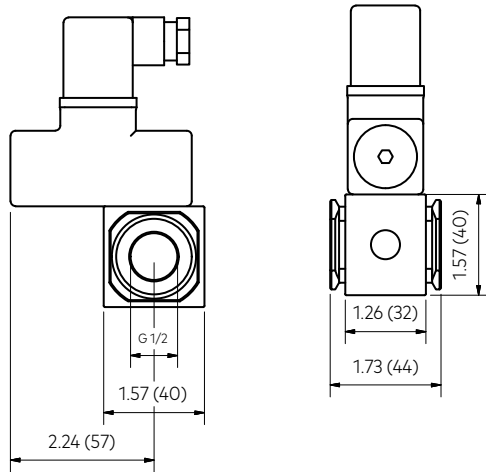
Full flow porting block vertical



Porting block for 18D pressure switch

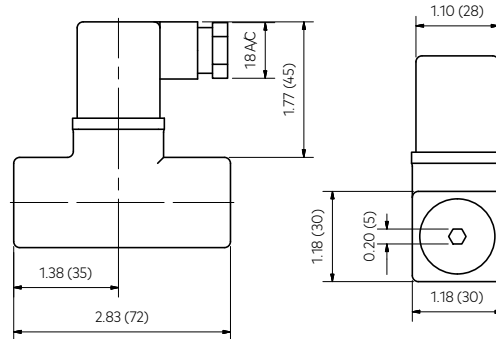


18D Porting block and 18D assembled

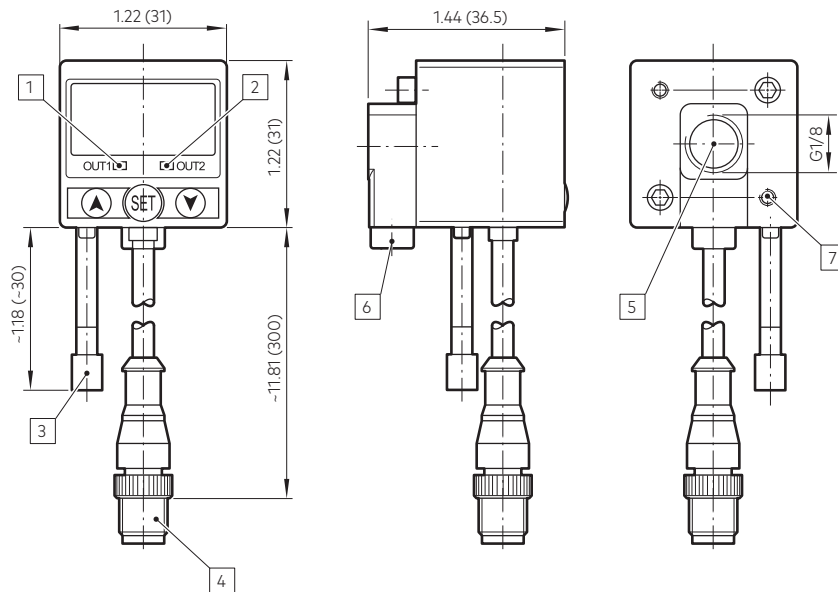


18D Pressure switch

Dimensions in inches (mm)
Projection/Third angle



51D Pressure switch - digital



- 1 Switch OUT 1, green LED
- 2 Switch OUT 2, red LED
- 3 Dustproof protector
- 4 Connector M12 x 1
- 5 Inlet port
- 6 Alternative inlet port G1/8 plugged
- 7 Thread for mounting screw

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.