

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

- Port size: 3/8" to 3/4" (PTF/ISO G)
- 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
- Push to lock adjusting knob with built in tamper resistant feature
- Metal bowl with prismatic liquid level indicator lens
- Light weight Polycarbonate bowl with guard
- Easy to read flush mounted integrated pressure gauge



Technical features

Medium:

Compressed air only

Maximum supply pressure:

Polycarbonate bowl:

145 psi (10 bar)

Metal bowl: 290 psi (20 bar)

Outlet pressure ranges:

4 to 58 psi (0.3 to 4 bar),

4 to 102 psi (0.3 to 7 bar),

4 to 145 psi (0.3 to 10 bar),

10 to 247 psi (0.7 to 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 as option

Flow:

212 scfm 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 to +140°F (-10 to +60°C)

Metal bowl:

-4 to +149°F (-20 to +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



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

Bowl: Transparent PC with PP

guard or die cast aluminum

Liquid level indicator lens

(metal bowl): PA

Filter element: sintered PP

Bowl 'o' ring: Chloroprene

Elastomers: NBR

Technical data B84G - standard models

Symbol	Port PTF	Drain	Pressure range psi (bar)	Filter element (µm)	Bowl	Weight lb (kg)	Model *1)
 Automatic Drain Relieving	3/8	Auto	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-3AK-AP3-RMG
	1/2	Auto	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-4AK-AP3-RMG
	3/4	Auto	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-6AK-AP3-RMG
	3/8	Auto	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-3AK-AD3-RMG
	1/2	Auto	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-4AK-AD3-RMG
	3/4	Auto	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-6AK-AD3-RMG
 Manual Drain Relieving	3/8	Manual	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-3AK-QP3-RMG
	1/2	Manual	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-4AK-QP3-RMG
	3/4	Manual	4 to 145 (0.3 to 10)	40	Guarded polycarbonate	1.6 (0.73)	B84G-6AK-QP3-RMG
	3/8	Manual	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-3AK-QD3-RMG
	1/2	Manual	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-4AK-QD3-RMG
	3/4	Manual	4 to 145 (0.3 to 10)	40	Metal with level indicator	1.9 (0.88)	B84G-6AK-QD3-RMG

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

Other models can be configured using the option selector below or by visiting <https://imiplc.com/industrial-automation>

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

Repeatability:

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

Accuracy:

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

Units:

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

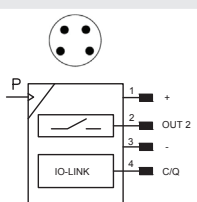
IO-Link smart functions:

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

Min. cycle time:

20 ms

For the Quick Start Guide, Operations Manual, and IODD files, please visit:
<https://imiplc.com/industrial-automation>

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

*1) All models shown here are supplied with integrated pressure sensor applicable for flow direction left to right.
Other models can be configured using the option selector below or by visiting <https://imiplc.com/industrial-automation>

Option selector

B84G-★★★★-★★★★-★★★★

Port size	Substitute
3/8"	3
1/2"	4
3/4"	6
Thread form	Substitute
PTF	A
ISO G parallel	G
PTF (right to left flow)	J
ISO G parallel (right to left flow)	L
Adjustment	Substitute
Knob	K
T-bar	T*1)
Drain	Substitute
Manual	Q
Auto drain	A
Bowl	Substitute
Metal with liquid indicator	D
Transparent with guard	P

*1) Units with 246 psi (17 bar) outlet pressure range are available only with the T-bar adjustment; therefore substitute T at the 7th position and S at the 9th position.

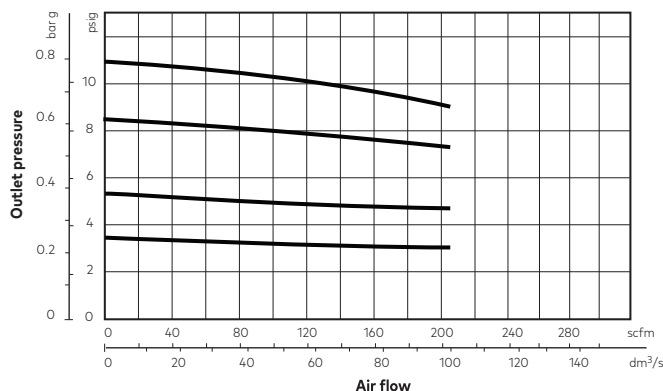
Gauge	Substitute
With integrated electronic pressure sensor *2)	E
With integrated gauge	G
Without integrated gauge but with gauge port 1/8"	N
Pressure range *3)	Substitute
4 to 58 psi (0.3 to 4 bar)	F
4 to 102 psi (0.3 to 7 bar)	K
4 to 145 psi (0.3 to 10 bar)	M
10 to 247 psi (0.7 to 17 bar)	S*1)
Diaphragm	Substitute
Relieving	R
Non-relieving	N
Element	Substitute
40 µm	3
5 µm	1

*2) Not available with 17 bar pressure range

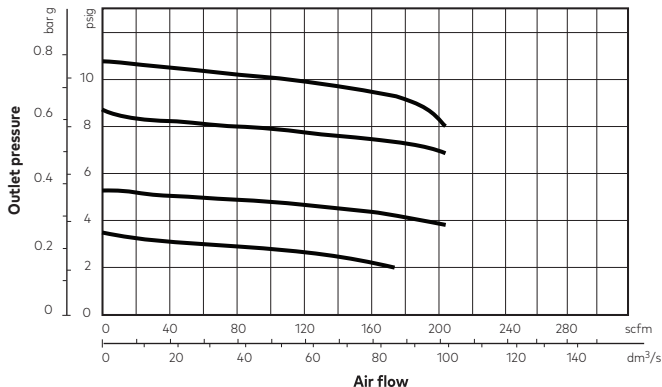
*3) Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

Flow characteristics

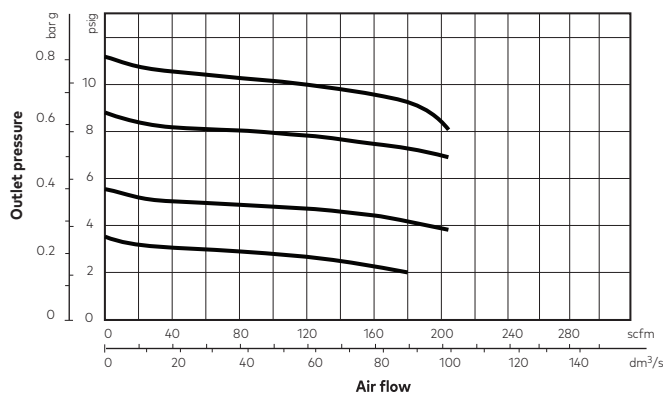
Inlet pressure: 145 psi (10 bar)
Port size: 1/2", 40 µm element



Inlet pressure: 145 psi (10 bar)
Port size: 3/8", 40 µm element



Inlet pressure: 145 psi (10 bar)
Port size: 3/8", 5 µm element



Accessories

Quikclamp®



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840014-51KIT

Quikclamp® with bracket assembled



Page 6

840014-52KIT

Hybrid Quikclamp® *1



Page 6

840014-61

Hybrid Quikclamp® with bracket assembled *1



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840014-62

*1) To connect new Excelon Plus to 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



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840068-51KIT

Panel mounting nut



Page 6

840048-89KIT

Mounting bracket



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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"



Page 7

840028-69KIT

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



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0337717000000000

Pressure sensing block 1/4 PTF



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840016-50KIT

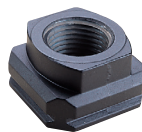
Pressure sensing block G1/4



Page 7

840016-51KIT

Port Adaptors



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1/4 PTF	840015-01KIT
3/8 PTF	840015-02KIT
1/2 PTF	840015-03KIT
3/4 PTF	840015-04KIT
G1/4	840015-09KIT
G3/8	840015-10KIT
G1/2	840015-11KIT
G3/4	840015-12KIT

Pneumatic pressure switch 18D (7 to 120 psi)



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0881300000000000

Digital pressure switch 54D (-14.5 to 145 psi) *2



Page 8

54D-V110G-DD0-AA

Padlock



840055-01KIT

Lockout device



840055-02KIT

Electronic Pressure Sensor – stand alone version *3



Page 7

Q84G

*1) For other pressure ranges, please see 18D data sheet

*2) For other pressure ranges, please see 54D data sheet

*3) For Q84G standalone electronic pressure sensor module, see Q84G data sheet

Gauges

(For regulators with gauge port instead of integrated gauge)

Center back connection, white face



Pressure range

(psi)	(bar) *3)	(MPa)	Ø	Thread size	Model
0 to 84	0 to 6	0 to 0.6	1.58"	R1/8	18-015-885
0 to 145	0 to 10	0 to 1	1.58"	R1/8	18-015-989
0 to 362	0 to 25	0 to 2.5	1.58"	R1/8	18-015-908

*3) primary scale

Center back connection, white face



Pressure range

(psi)	(bar) *3)	(MPa)	Ø	Thread size	Model
0 to 84	0 to 6	0 to 0.6	2"	R1/8	18-015-012
0 to 145	0 to 10	0 to 1	2"	R1/8	18-015-013
0 to 362	0 to 25	0 to 2.5	2"	R1/8	18-015-014

*3) primary scale

Center back connection, black face



Pressure range

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

*3) primary scale

IO-Link cables

Connection cable M8x1 for integrated digital pressure sensor



Description	Cable length (ft)	Model
	2.0	NC-084FS-124MS-A
M8 female to M12 male	3.3	NC-084FS-124MS-1
	6.6	NC-084FS-124MS-2
	16.4	NC-084FS-124MS-5
M8 female to free end	9.8	NC-084FS-00000-3

Maintenance/Service

Auto drain kit with metal Nut - inch



6000-61KIT

Auto drain kit with metal Nut - Metric



6000-60KIT

R84 / B84 Elastomer Kit



FRLB84-KIT

Filter cartridges 5 micron



840038-50KIT

Filter cartridges 40 micron



840038-51KIT

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)

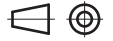


840025-53KIT

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



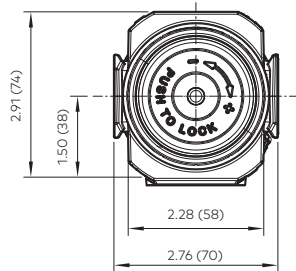
840003-56KIT



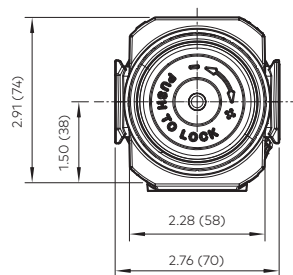
Dimensions

1/4 Turn Manual Drain

With knob

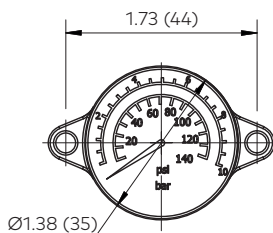
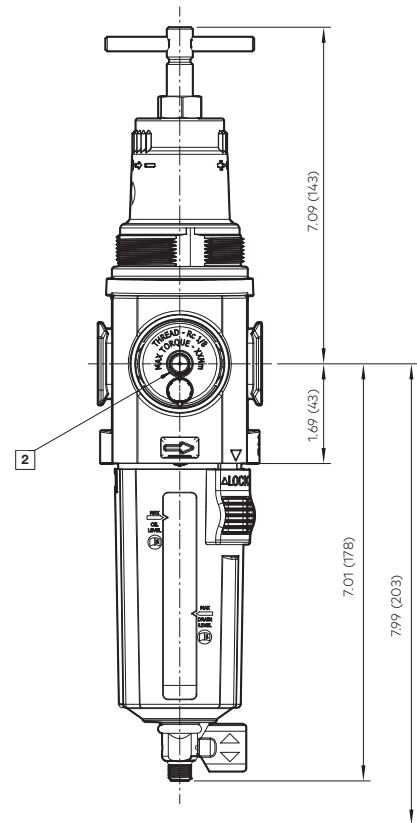
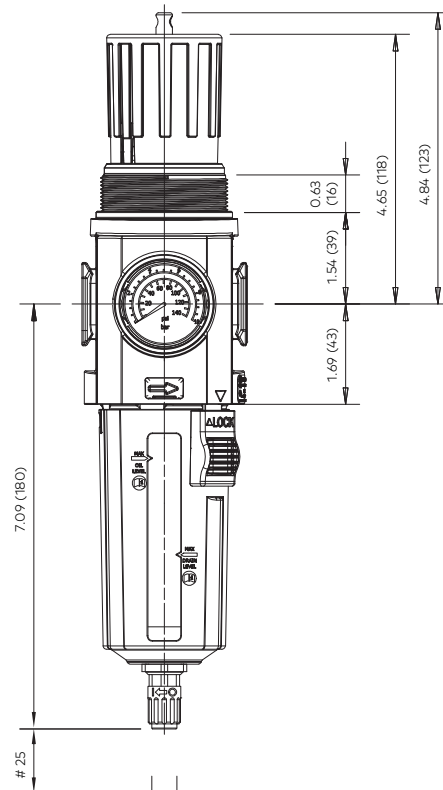
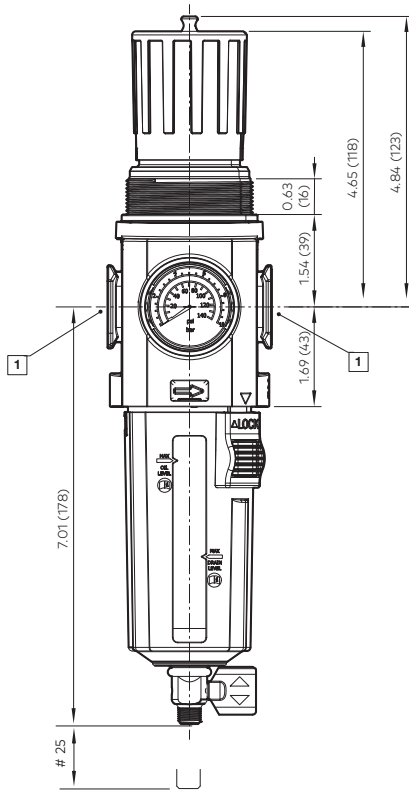
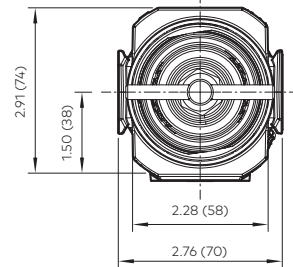


Automatic Drain



1/4 Turn Manual Drain

With T-bar



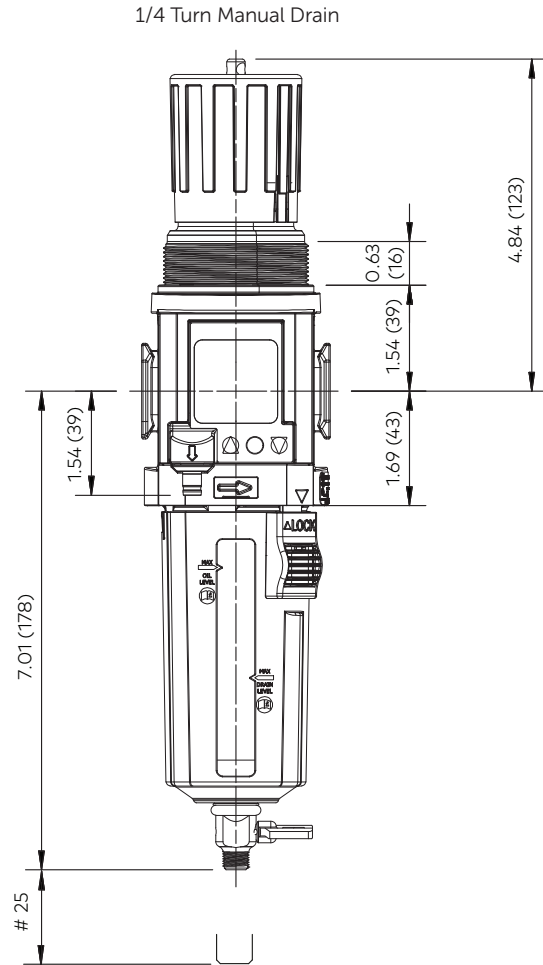
Minimum clearance for bowl removal

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

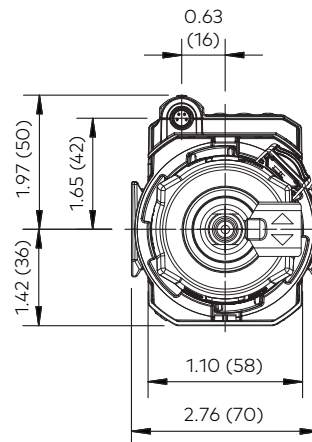
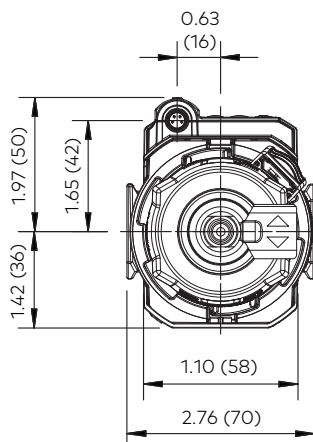
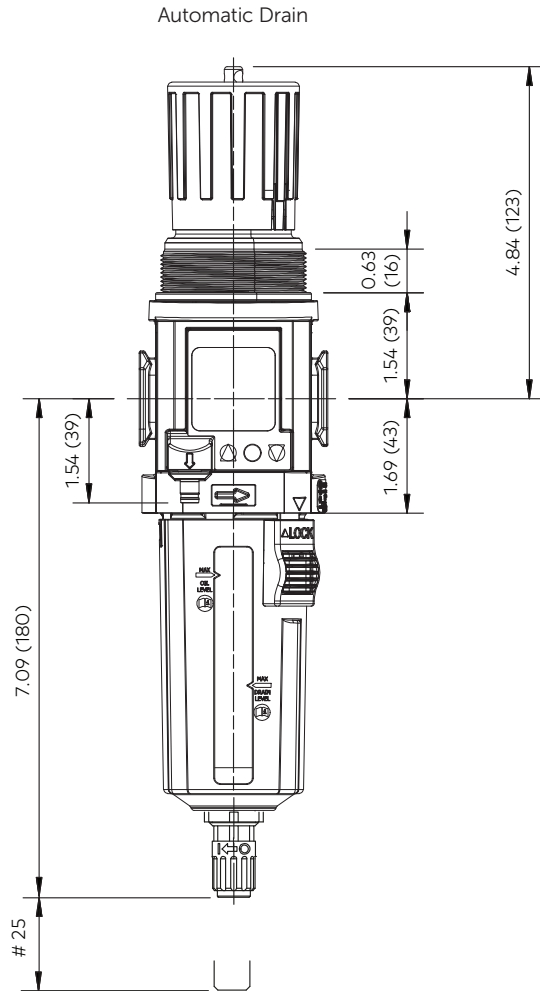
2 Gauge port Rc 1/8 for ISO G and 1/8 PTF for PTF main ports

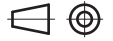


Dimensions B84G- General Purpose Filter Regulator

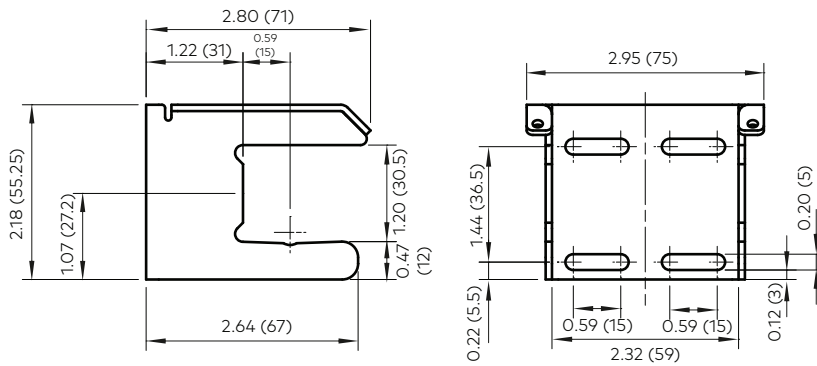


With knob

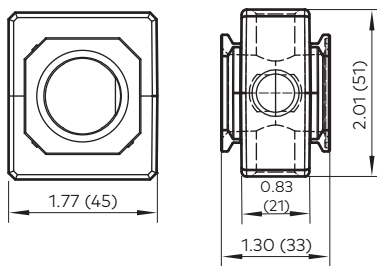




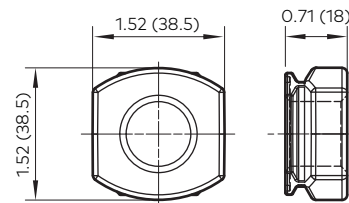
Mounting bracket



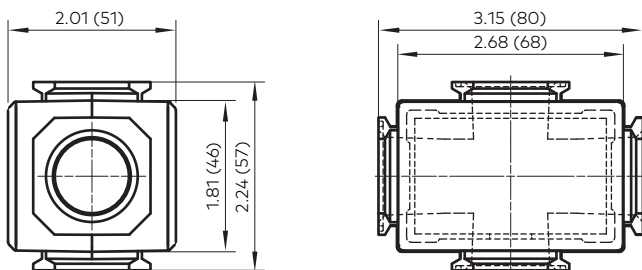
Pressure sensing block



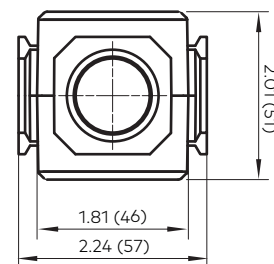
Pipe adaptor



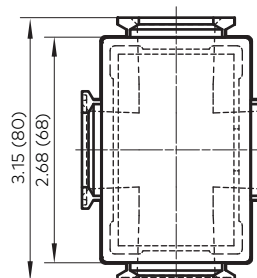
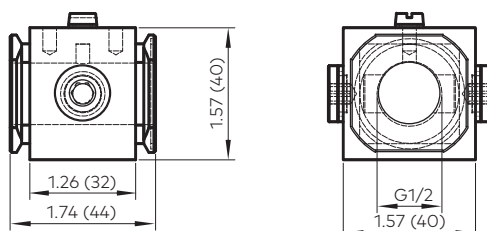
Full flow porting block horizontal

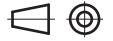


Full flow porting block vertical

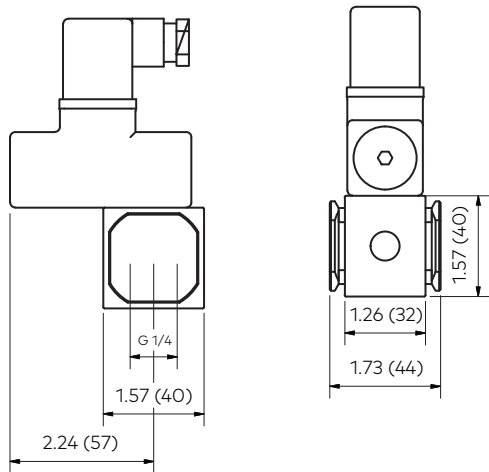


Porting block for 18D pressure switch

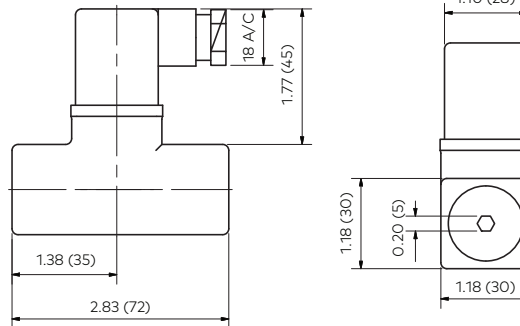




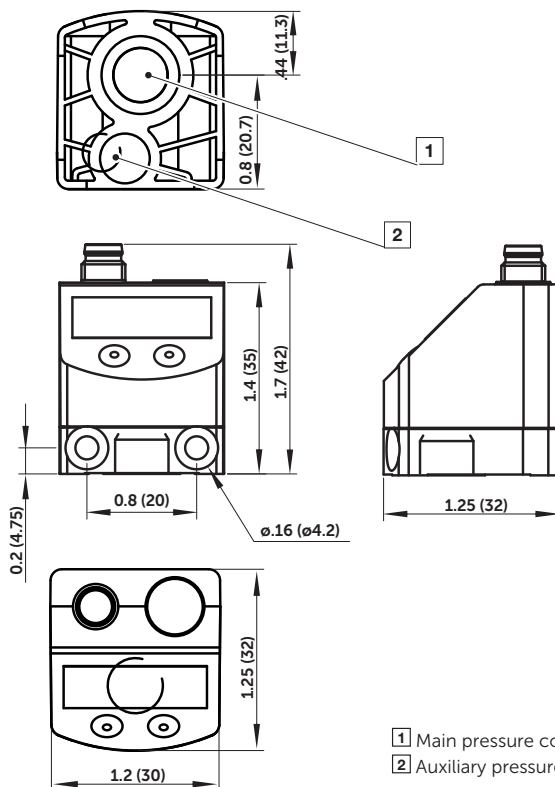
18D Porting block and 18D assembled



18D Pressure switch



54D Pressure switch - digital



- 1 Main pressure connection (PTF 1/8)
2 Auxiliary pressure connection for differential pressure sensing (M5)

Warning

Improper selection, misuse, age or malfunction of components used in systems can cause failure in various modes. The system designer is warned to consider the failure modes of all component parts and to provide adequate safeguards to prevent personal injury or damage to equipment or property in the event of such failure modes. System designers and end users are cautioned to consult instruction sheets and specifications available from the factory. The system designer/end user is responsible for verifying that all requirements for the application are met.

Warranty

The products described herein are warranted subject to seller's Standard Terms and Condition of Sale, available at seller's website.

Proposition 65: These products may contain chemicals known to the state of California to cause cancer, or birth defects, or other reproductive harm.