


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**
- > **Light weight Polycarbonate bowl**
- > **Metal bowl with prismatic liquid level indicator lens**
- > **High Corrosion resistance: Body and Metal bowl with electrophoretic paint finish**
- > **Easy to read flush mounted gauge as standard, integrated electronic pressure sensor as option**
- > **Relieving and Non-relieving options**
- >  **DoC in accordance with 2014/34/EU/ATEX**



Technical features filter/regulator

Medium:

Compressed air only

Maximum supply pressure:

Polycarbonate bowl: 10 bar (145 psi)

Metal bowl: 20 bar (290 psi)

Outlet pressure ranges:

0,3 ... 10 bar (4 ... 145 psi),

0,3 ... 4 bar (4 ... 58 psi) optional

0,7 ... 17 bar (2 ... 250 psi)

optional

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 as option

Flow:

100 dm³/s at port size: 1/2", inlet pressure 10 bar (145 psi), 6,3 bar (91 psi) set pressure and a Δp: 1 bar (14,5 psi) droop from set. Filter element: 40 µm

Diaphragm Type:

Relieving and Non-relieving

Drain:

Manual or automatic

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: > 0,35 bar (5 psi)

Bowl pressure required to open drain: ≤ 0,2 bar (2.9 psi)

Minimum air flow required to close drain: 1 dm³/s (2 scfm)

Ambient/Media temperature:

Polycarbonate bowl:

-10 ... +60°C (+14 ... +140°F)


Metal bowl:

-20 ... +65°C (-4 ... +149°F)

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

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 aluminium

Body covers: ABS

Bonnet: Acetal/ Aluminium

Valve: PP with Geolast seals
Transparent Bowl : Polycarbonate with Polypropylene Guard.

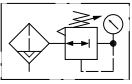
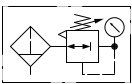
Metal Bowl: Die cast Aluminium with PA liquid level indicator lens

Filter element: sintered PP

Bowl 'o'- ring: Chloroprene

Elastomers: NBR

Technical data B84G - standard models with integrated flush mounted gauge

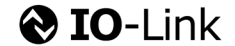
| Symbol | Port size | Drain | Pressure range (bar) | Filter element (µm) | Bowl | Weight (kg) | Model *1) |
|---|-----------|--------|----------------------|---------------------|----------------------------|-------------|------------------|
|  | G3/8 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-3GK-AP3-RMG |
| | G1/2 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-4GK-AP3-RMG |
| | G3/4 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-6GK-AP3-RMG |
| | G3/8 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-3GK-AD3-RMG |
| | G1/2 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-4GK-AD3-RMG |
| | G3/4 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-6GK-AD3-RMG |
|  | G3/8 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-3GK-QP3-RMG |
| | G1/2 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-4GK-QP3-RMG |
| | G3/4 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,73 | B84G-6GK-QP3-RMG |
| | G3/8 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-3GK-QD3-RMG |
| | G1/2 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-4GK-QD3-RMG |
| | G3/4 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 0,88 | B84G-6GK-QD3-RMG |

*1) All models shown here are supplied with brackets and 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 colour 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 ... 10 bar
(0 ... 145 psi, 0 ... 1.0 MPa)

Repeatability:

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

Accuracy:

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

Units:

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

Display:

1.44" full colour TFT LCD
Text / background colours:
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

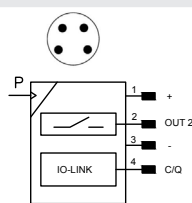
Min. cycle time:

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

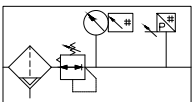
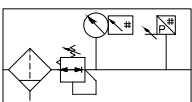
Switching output:

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 | Drain | Pressure range (bar) | Filter element (µm) | Bowl | Weight (kg) | Model *) |
|--|-----------|--------|----------------------|---------------------|----------------------------|-------------|------------------|
|  | G3/8 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-3GK-AP3-RME |
| | G1/2 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-4GK-AP3-RME |
| | G3/4 | Auto | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-6GK-AP3-RME |
| | G3/8 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-3GK-AD3-RME |
| | G1/2 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-4GK-AD3-RME |
| | G3/4 | Auto | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-6GK-AD3-RME |
|  | G3/8 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-3GK-QP3-RME |
| | G1/2 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-4GK-QP3-RME |
| | G3/4 | Manual | 0,3 ... 10 | 40 | Guarded polycarbonate | 0,93 | B84G-6GK-QP3-RME |
| | G3/8 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-3GK-QD3-RME |
| | G1/2 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-4GK-QD3-RME |
| | G3/4 | Manual | 0,3 ... 10 | 40 | Metal with level indicator | 1,08 | B84G-6GK-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 Norgren

Option selector *1)

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

B84G-★-★-★-★-★-★-★-★

| 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 (standard) | M |
| 0,7 ... 17 bar | S*2) |
| Diaphragm Type | Substitute |
| Relieving | R |
| Non-relieving | N |
| Element | Substitute |
| 40 µm (standard) | 3 |
| 5 µm | 1 |

*1) All models shown here are 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

*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.

*3) Only available with 10 or 4 bar pressure range

*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.

Excelon Plus adheres to the following harmonised standard and technical specifications:

2014/34/EU Equipment and protective systems intended for use in potentially explosive atmospheres.

The following harmonised standards and technical specifications have been applied ISO 4414:2010 – Pneumatic fluid power – General rules and safety requirements for systems and their components; ISO 80079-36:2016 – Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements; ISO 80079-37:2016 – Explosive atmospheres Part 37: Non-electrical equipment for explosive atmospheres – Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k".

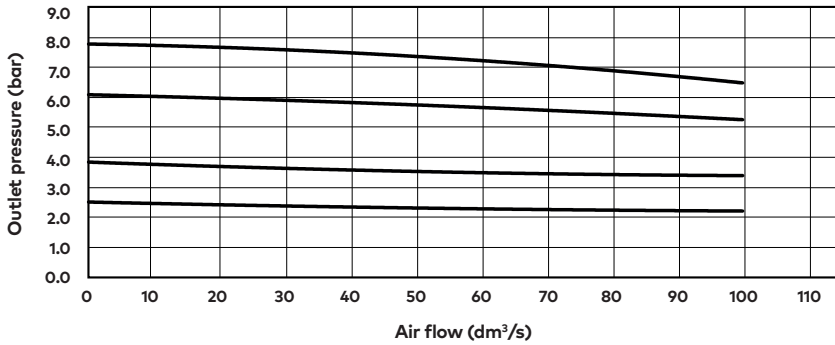

II 2 GD

Ex h IIC T6 Gb
Ex h IIIC T85°C Db
ATEX Certification No.: NORGREN 18.0001X

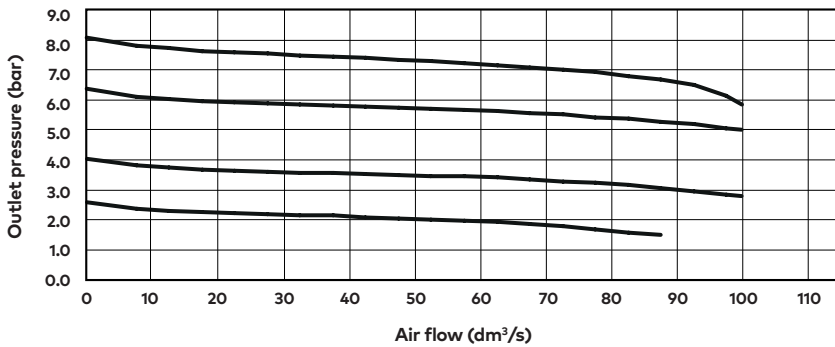
For a copy of the Declaration of Conformity (DoC) please use the link http://cdn.norgren.com/pdf/IM_Excelon_Plus_EN_final.pdf

Flow characteristics

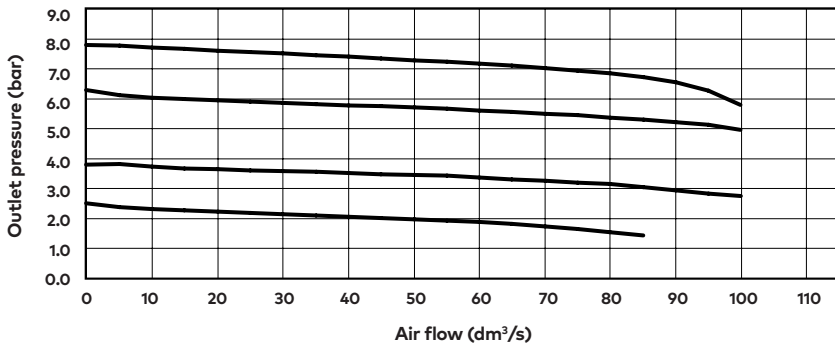
Inlet pressure: 10 bar (145 psi)
 Port size: 1/2", 40 µm element



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



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



Accessories
Quikclamp®

Page 9

840014-51KIT

Quikclamp® with bracket assembled

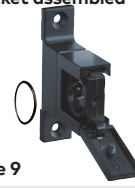
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840014-52KIT

Hybrid Quikclamp® *1

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840014-61

Hybrid Quikclamp® with bracket assembled *1

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840014-62

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

Neck mounting bracket and plastic panel nut

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840068-51KIT

Plastic panel mounting nut

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840048-89KIT

Neck mounting bracket and metal panel nut

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840068-50KIT

Metal panel mounting nut

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840048-01KIT

Mounting bracket

Page 10

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) G1/4

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Pressure sensing block 1/4 PTF

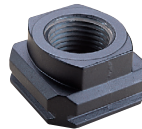
Page 10

840016-50KIT

Pressure sensing block G1/4

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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 |

Padlock


840055-01KIT

Lockout device


840055-02KIT

**Pressure switch 18D
(0,5 ... 8bar) *1**

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0881300

**Digital pressure switch
51D (-1 ... 10 bar) *2**

Page 11

0860810

**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 |
| M8 female to free end | 5,0 | NC-084FS-124MS-5 |
| | 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 stand alone 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
(for full technical specification see datasheet 8.900.900)**


| Pressure range (bar)*3) | (psi) | (MPa) | Ø | Thread size | Model |
|----------------------------|-----------|-----------|-------|----------------|------------|
| 0 ... 6 | 0 ... 0,6 | 0 ... 84 | 40 mm | R1/8 | 18-015-885 |
| 0 ... 10 | 0 ... 1 | 0 ... 145 | 40 mm | R1/8 | 18-015-989 |
| 0 ... 25 | 0 ... 2,5 | 0 ... 362 | 40 mm | R1/8 | 18-015-908 |

*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,
relieving**


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

**R84 / B84
Elastomer kit,
Non-relieving**


FRLB84-NR-KIT

**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

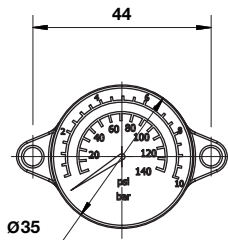
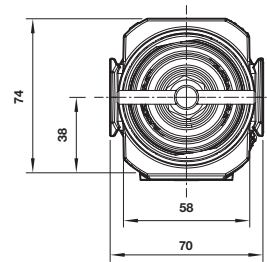
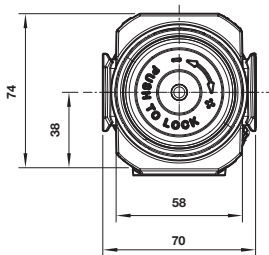
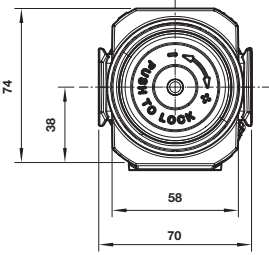
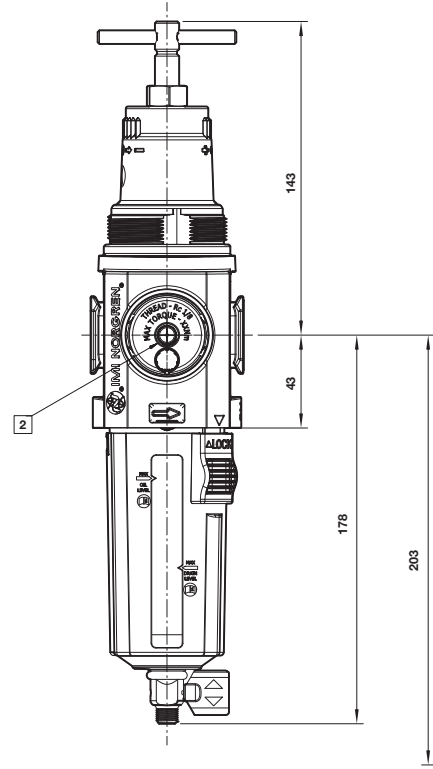
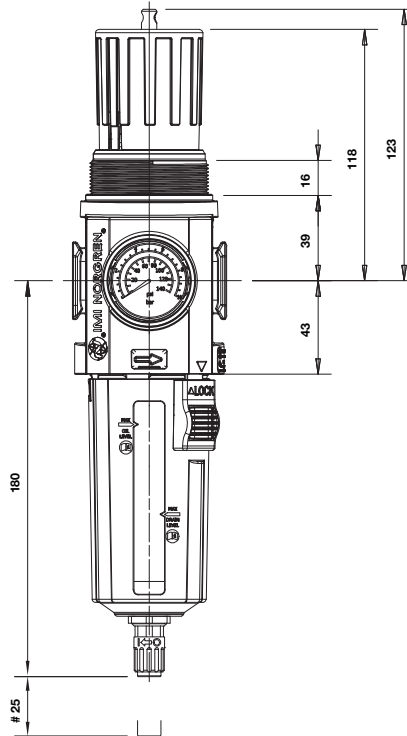
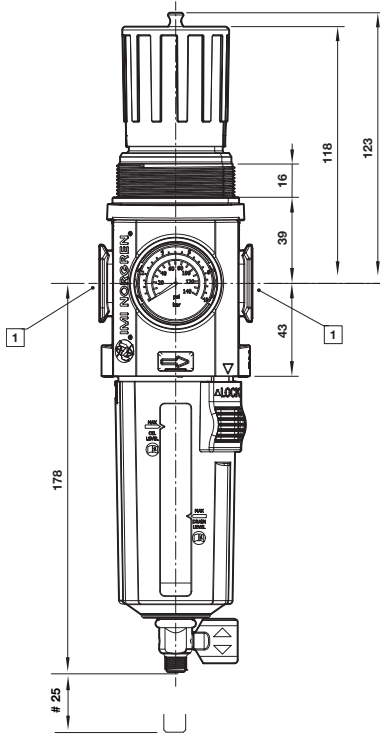
1/4 Turn Manual Drain

With knob

Automatic Drain

1/4 Turn Manual Drain
With T-bar

Dimensions in mm
Projection/First angle



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

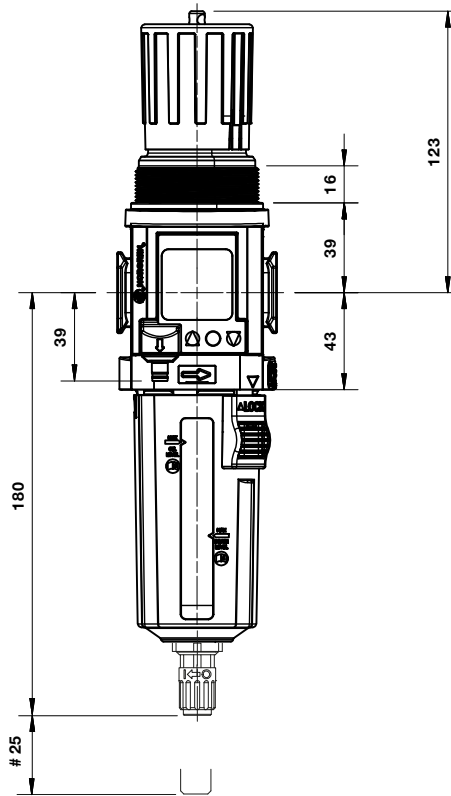
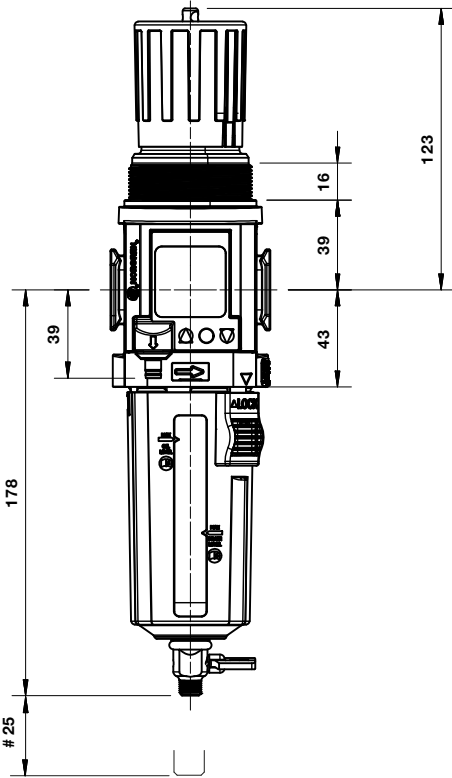
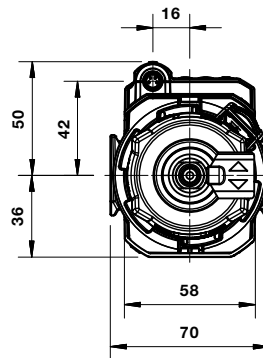
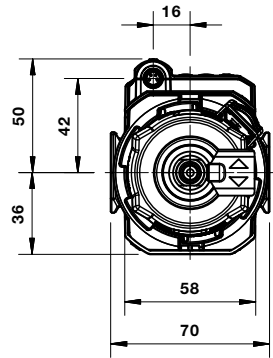
Dimensions B84G- General Purpose Filter Regulator

1/4 Turn Manual Drain

With knob

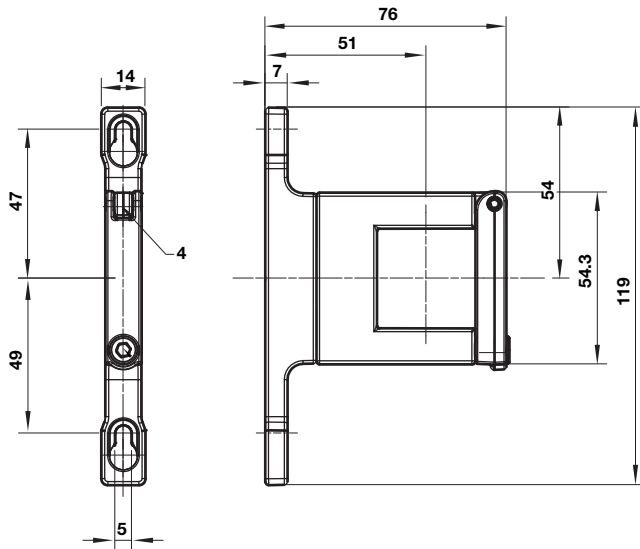
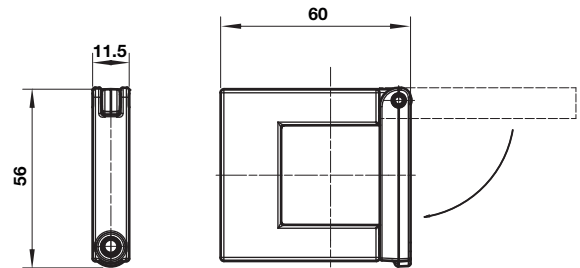
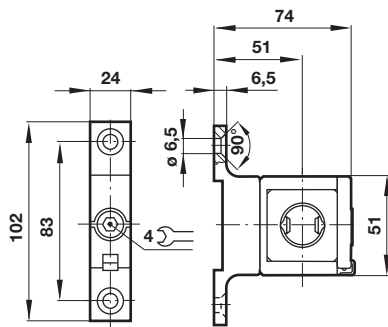
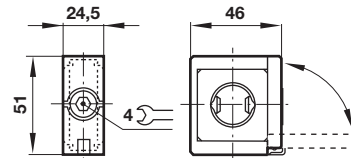
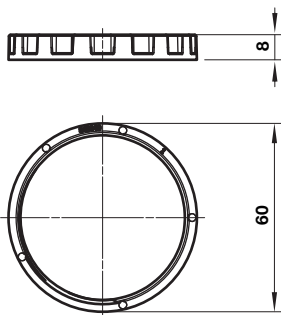
Automatic Drain

Dimensions in mm
Projection/First angle

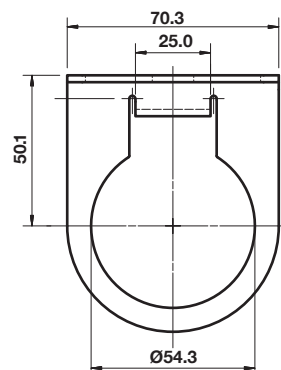
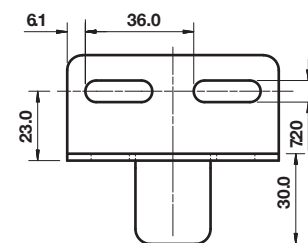


Accessories

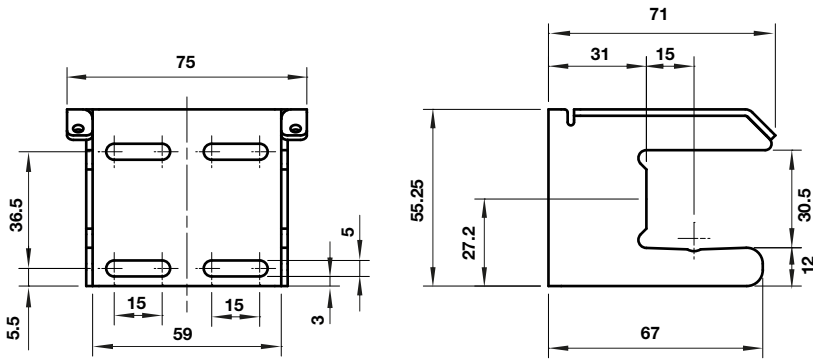
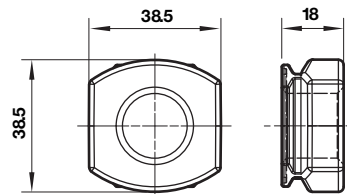
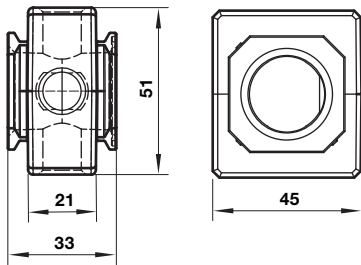
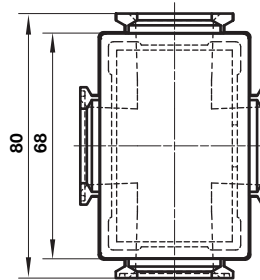
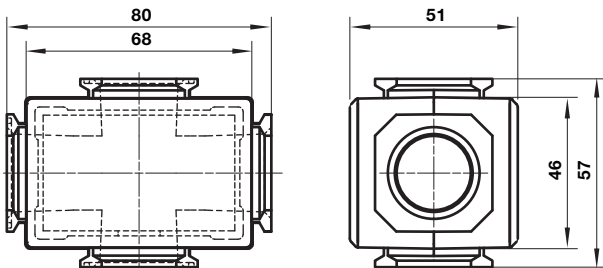
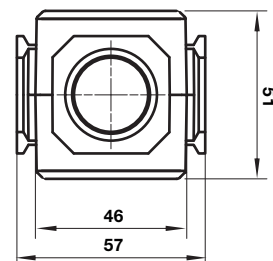
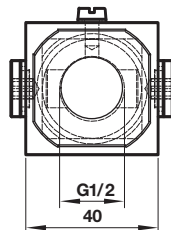
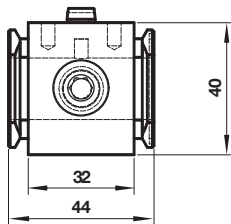
 Dimensions in mm
 Projection/First angle

Quikclamp® with wall bracket

Quikclamp®

Hybrid-Quikclamp® with wall bracket

Hybrid-Quikclamp®

Panel mounting nut


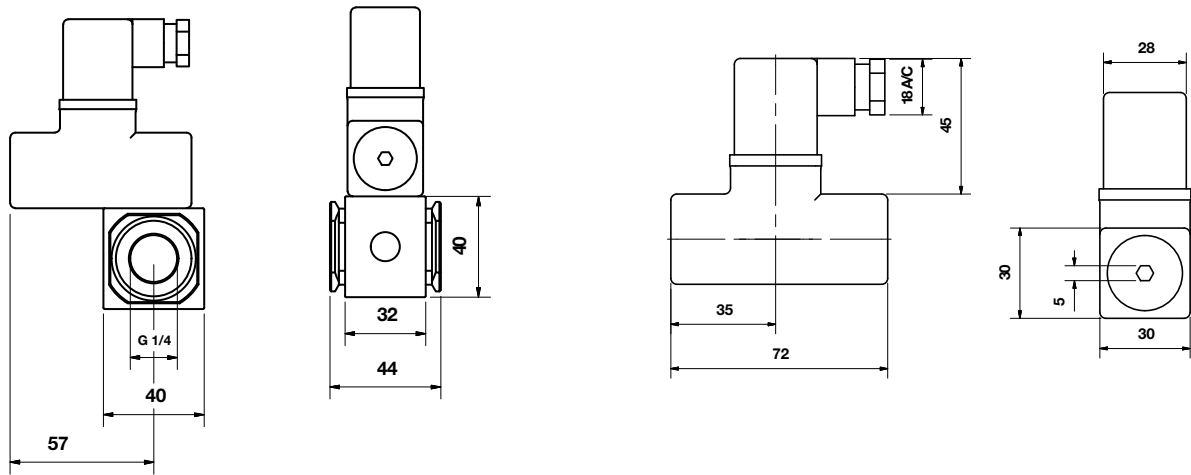
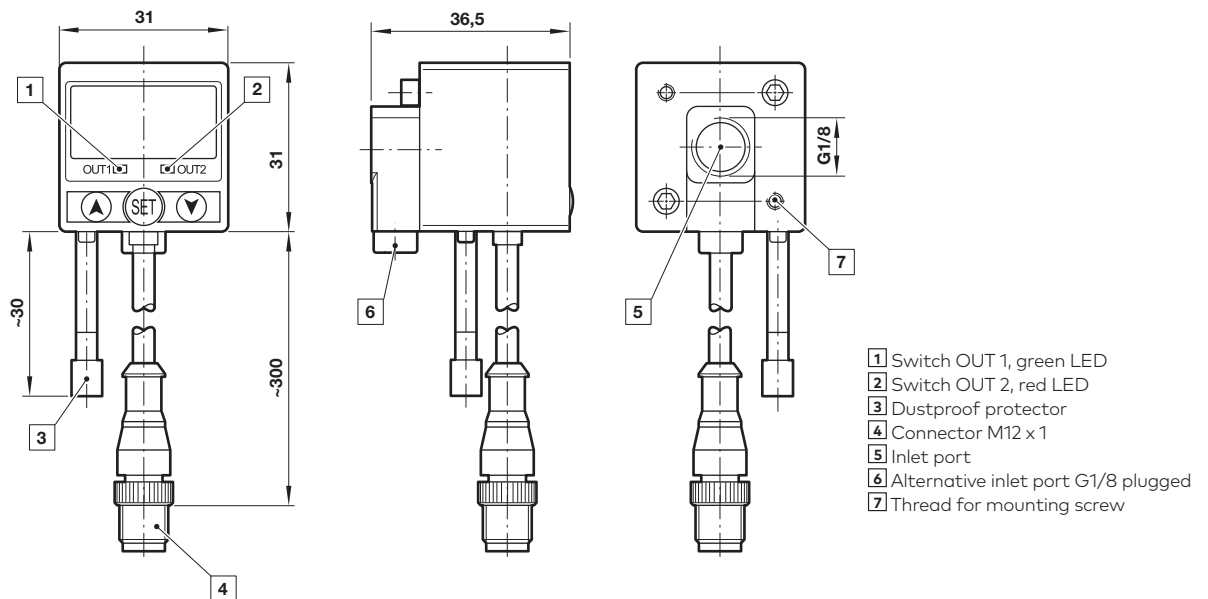
Recommended panel hole size:
 ø 55 mm ... 57 mm
 Panel thickness:
 2 ... 6 mm

Neck mounting bracket


Mounting bracket

 Dimensions in mm
 Projection/First 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 mm
Projection/First angle

51D Pressure switch - digital

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.