R84G - Pressure regulators
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
> Push to lock adjusting knob with built in tamper resistant feature
> Easy to read flush mounted gauge as standard, integrated electronic pressure sensor as option

Technical features pressure regulator

Medium:
Compressed air only
Maximum supply pressure:
290 psi (20 bar)
Outlet pressure ranges:
5 ... 145 psi (0.3 ... 10 bar), 5 ... 58 psi (0.3 ... 4 bar) optional, 10 ... 247 psi (0.7 ... 17 bar) optional
Gauge:
Integrated as standard, gauge port 1/8, or electronic pressure sensor as option

Port size:
G3/8, G1/2, G3/4, 3/8 PTF, 1/2 PTF, 3/4 PTF
Diaphragm type:
Relieving
Flow:
265 scfm (125 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.

Ambient/Media temperature:
-4 ... +149°F (-20 ... +65°C)
Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).

Atex:
Regulators R84 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: POM/Aluminum
Valve: PP
Elastomers: NBR

Technical data R84G - standard models with integrated flush mounted gauge

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size (PTF)</th>
<th>Pressure range psi (bar)</th>
<th>Adjustment</th>
<th>Integrated gauge psi (bar)</th>
<th>Weight lbs (kg)</th>
<th>Model*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>5 ... 145 (0.3 ... 10)</td>
<td>Knob</td>
<td>0 ... 145 (0 ... 10)</td>
<td>1.30 (0.59)</td>
<td>R84G-3AK-RMG</td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>5 ... 145 (0.3 ... 10)</td>
<td>Knob</td>
<td>0 ... 145 (0 ... 10)</td>
<td>1.30 (0.59)</td>
<td>R84G-4AK-RMG</td>
<td></td>
</tr>
<tr>
<td>3/4</td>
<td>5 ... 145 (0.3 ... 10)</td>
<td>Knob</td>
<td>0 ... 145 (0 ... 10)</td>
<td>1.30 (0.59)</td>
<td>R84G-6AK-RMG</td>
<td></td>
</tr>
</tbody>
</table>

*) 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 IMI Norgren

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R84G - Pressure regulators 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 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 (0 ... +50°C, +32 ... +122°F) |

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

Electrical connection M8 x 1

<table>
<thead>
<tr>
<th>Pin-No.</th>
<th>Signal</th>
<th>Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L+ (24V)</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Out 2 (switching)</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>L- (0V)</td>
<td>blue</td>
</tr>
<tr>
<td>4</td>
<td>C/Q (IO-Link)</td>
<td>black</td>
</tr>
</tbody>
</table>

Electrical connection:
- M8 x 1
- Power supply: 18 ... 30 V d.c.
- Current consumption: 20 mA
- Electromagnetic compatibility: According to EN 61000-6-Z; EN 61000-6-3
- Switching output: Configurable NPN / PNP / Push-Pull / NO / NC / hi-Z
- Load current: 100mA with short circuit protection

Technical data R84G - standard models

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Pressure range psi (bar)</th>
<th>Adjustment</th>
<th>Integrated gauge psi (bar)</th>
<th>Weight lbs (kg)</th>
<th>Model*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>5 ... 145 (0.3 ... 10)</td>
<td>Knob</td>
<td>0 ... 145 (0 ... 10)</td>
<td>1.74 (0.79)</td>
<td>R84G-3AK-RME</td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>5 ... 145 (0 ... 10)</td>
<td>Knob</td>
<td>0 ... 145 (0 ... 10)</td>
<td>1.74 (0.79)</td>
<td>R84G-4AK-RME</td>
<td></td>
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</tbody>
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*) 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

For a 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
Option selector *1)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>3</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>4</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thread form</th>
<th>Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTF</td>
<td>A</td>
</tr>
<tr>
<td>ISO G parallel</td>
<td>G</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knob</td>
<td>K</td>
</tr>
<tr>
<td>T-bar</td>
<td>T*2</td>
</tr>
</tbody>
</table>

R84G-★★★-R★★

Gauge Substitute

| With integrated digital pressure sensor *3) | E |
| With fitted integrated gauge | G |
| Without integrated gauge but with gauge port 1/8" | N |

Pressure range *4)

| 4 ... 58 psi (0.3 ... 4 bar) | F |
| 4 ... 145 psi (0.3 ... 10 bar) (standard) | M |
| 10 ... 247 psi (0.7 ... 17 bar) | S*2 |

*3) Only available with 145 or 58 psi 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.

Flow characteristics

Inlet pressure: 101 psi (7 bar)
Port size: 1/2"

Inlet pressure: 145 psi (10 bar)
Port size: 1/2"

Inlet pressure: 145 psi (10 bar)
Port size: 3/8"
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Pressure switch 18D (0.5 ... 8 bar) *1

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

Electronic Pressure Sensor – stand alone version *3

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0891300

0860810

Q84G

*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 [link](http://s.norgren.com/digital-gauge-iod) 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)

<table>
<thead>
<tr>
<th>Pressure range (bar)*3</th>
<th>(MPa)</th>
<th>ø</th>
<th>Thread size</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 6</td>
<td>0 ... 0.6</td>
<td>0 ... 84</td>
<td>40 mm</td>
<td>R1/8</td>
</tr>
<tr>
<td>0 ... 10</td>
<td>0 ... 1</td>
<td>0 ... 145</td>
<td>40 mm</td>
<td>R1/8</td>
</tr>
<tr>
<td>0 ... 25</td>
<td>0 ... 2.5</td>
<td>0 ... 362</td>
<td>40 mm</td>
<td>R1/8</td>
</tr>
</tbody>
</table>

*3) primary scale

**Center back connection, black face**

<table>
<thead>
<tr>
<th>Pressure range (psi)*3</th>
<th>(bar)</th>
<th>ø</th>
<th>Thread size</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 60</td>
<td>0 ... 4</td>
<td>0 ... 0.4</td>
<td>2&quot;</td>
<td>1/8&quot; NPT</td>
</tr>
<tr>
<td>0 ... 160</td>
<td>0 ... 11</td>
<td>0 ... 1.1</td>
<td>2&quot;</td>
<td>1/8&quot; NPT</td>
</tr>
<tr>
<td>0 ... 300</td>
<td>0 ... 20</td>
<td>0 ... 2.1</td>
<td>2&quot;</td>
<td>1/8&quot; NPT</td>
</tr>
</tbody>
</table>

*3) primary scale

**IO-Link cables**

Connection cable M8x1 for integrated electronic pressure sensor

<table>
<thead>
<tr>
<th>Description</th>
<th>Cable length (m)</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 female to M12 male</td>
<td>0.6</td>
<td>NC-084FS-124MS-A</td>
</tr>
<tr>
<td>1.0</td>
<td>NC-084FS-124MS-1</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>NC-084FS-124MS-2</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>NC-084FS-124MS-5</td>
<td></td>
</tr>
<tr>
<td>M8 female to free end</td>
<td>3.0</td>
<td>NC-084FS-00000-3</td>
</tr>
</tbody>
</table>

**Gauges**

(For regulators with gauge port instead of integrated port)

**Center back connection, white face**

(For full technical specification see datasheet 8.900.900)

<table>
<thead>
<tr>
<th>Pressure range (bar)*3</th>
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<td>0 ... 1</td>
<td>0 ... 145</td>
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<td>R1/8</td>
</tr>
<tr>
<td>0 ... 25</td>
<td>0 ... 2.5</td>
<td>0 ... 362</td>
<td>40 mm</td>
<td>R1/8</td>
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*3) primary scale

**Center back connection, black face**

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<tr>
<th>Pressure range (psi)*3</th>
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<td>0 ... 20</td>
<td>0 ... 2.1</td>
<td>2&quot;</td>
<td>1/8&quot; NPT</td>
</tr>
</tbody>
</table>

*3) primary scale

**R84 / B84 Elastomer Kit**

FRLB84-KIT
Main ports 3/8", 1/2" or 3/4"
(ISO G/PTF)

Gauge Port Rc 1/8 for ISO G and
1/8 PTF for PTF main parts
Dimensions

R84G-
General Purpose Regulator

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Accessories

Quikclamp® with wall bracket

Hybrid-Quikclamp® with wall bracket

Panel mounting nut

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

Quikclamp®

Hybrid-Quikclamp®

Neck mounting bracket

Dimensions in inches (mm)
Projection/Third angle

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Mounting bracket

Pressure sensing block

Pipe adapter

Full flow porting block horizontal

Full flow porting block vertical

Porting block for 18D pressure switch

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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.