



FR Series

Filter Regulator



All innovation
on driving your valve automation

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Valve air unit essential to provide clean and dry supply air to valve positioners, solenoid valves and pneumatic actuators

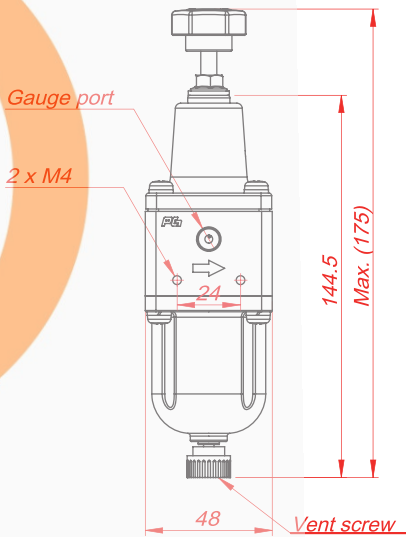
Features

- ▶ Rugged aluminum die-cast housing
- ▶ Optional stainless steel 316 housing
- ▶ Stable setting pressure
- ▶ High capacity with 5 micron filter
- ▶ Self-relief function to balance output and setting pressures
- ▶ High flow capacity

Specifications

Model	FR-10	FR-11
Port Size	PT(Rc) 1/4 or NPT 1/4	NPT 1/4
Fluid	Air	
Output Pressure Range	0 - 4 bar (60 psi) / 0 - 8 bar (120 psi)	
Max. Supply Pressure	15 bar (225 psi)	
Operating and Fluid Temperature	-20 °C to +70 °C	
Supply Air	Filtered compressed, dry and non oiled air (up to 5 micron)	
Gauge Port Size	PT(Rc) 1/8	
Filtration	5 micron	
Housing Material	Aluminum die-cast	Stainless steel 316
Pressure Gauge Material	Stainless steel	
Weight	0.5 kg	1 kg

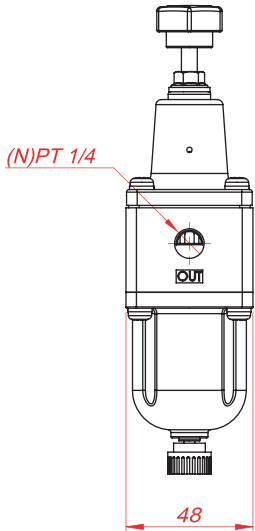
Dimensions



How to Order

FR Body Material - Port Size Output Pressure Range

Description	Code
Body Material	10 : Aluminum die-cast 11 : Stainless steel 316
Port Size	R : PT(Rc) 1/4 N : NPT 1/4
Output Pressure Range	1 : 0 - 4 bar (60 psi) 2 : 0 - 8 bar (120 psi)





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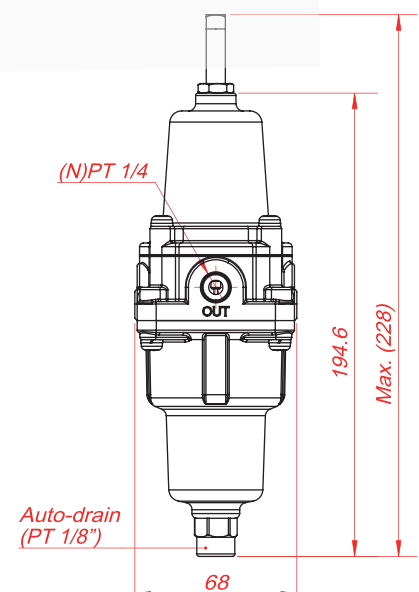
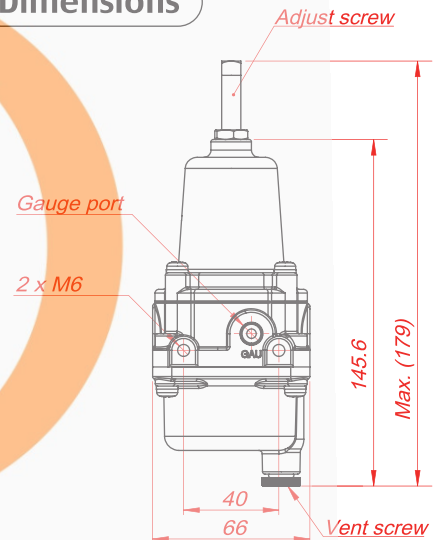
Features

- Rugged aluminum die-cast or stainless steel 316 housing
- Excellent stability and repeatability
- Outstanding sensitivity with precise setting
- High capacity with 5 micron filter
- Self-relief function to balance output and setting pressures
- High flow capacity
- Optional auto-drain (float type)

Specifications

Model	FR-20	FR-21
Port Size	PT(Rc) 1/4 or NPT 1/4	NPT 1/4
Fluid	Air	
Output Pressure Range	0 - 4 bar (60 psi) / 0 - 8 bar (120 psi)	
Max. Supply Pressure	15 bar (225 psi)	
Operating and Fluid Temperature	-20 °C to +70 °C	
Supply Air	Filtered compressed, dry and non oiled air (up to 5 micron)	
Gauge Port Size	PT(Rc) 1/8	
Filtration	5 micron	
Housing Material	Aluminum die-cast	Stainless steel 316
Pressure Gauge Material	Stainless steel	
Weight	0.65 kg	1.4 kg

Dimensions



How to Order

FR Body Material - Port Size Output Pressure Range Operating Temp. - Options

Description	Code	
Body Material	20 : Aluminum die-cast 21 : Stainless steel 316	
Port Size	R : PT(Rc) 1/4	N : NPT 1/4
Output Pressure Range	1 : 0 - 4 bar (60 psi)	2 : 0 - 8 bar (120 psi)
Operating Temperature	0 : -20 - +70 °C 2 : -40 - +80 °C	1 : -20 - +120 °C
Options	M : Manual drain	A : Auto drain



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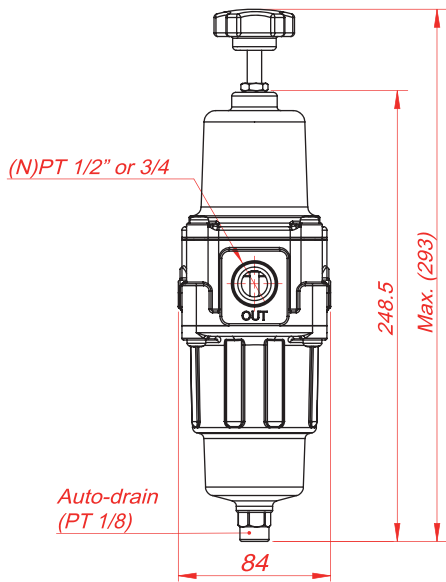
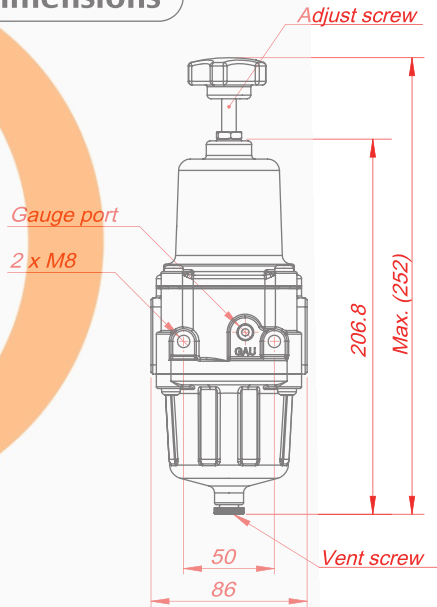
Features

- Rugged aluminum die-cast or stainless steel 316 housing
- Excellent stability and repeatability
- Outstanding sensitivity with precise setting
- High capacity with 5 micron filter
- Self-relief function to balance output and setting pressures
- High flow capacity
- Optional auto-drain (float type)

Specifications

Model	FR-30	FR-31
Port Size	PT(Rc) 1/2, NPT 1/2 PT(Rc) 3/4, NPT 3/4	NPT 1/2 NPT 3/4
Fluid	Air	
Output Pressure Range	0 - 4 bar (60 psi) / 0 - 8 bar (120 psi)	
Max. Supply Pressure	15 bar (225 psi)	
Operating Temperature	-20°C to +70°C	
Supply Air	Filtered compressed, dry and non oiled air (up to 5 micron)	
Gauge Port Size	PT(Rc) 1/8	
Filtration	5 micron	
Housing Material	Aluminum die-cast	Stainless steel 316
Pressure Gauge Material	Stainless steel	
Weight	1.6 kg	3.4 kg

Dimensions



How to Order

FR	Body Material	-	Port Size	Output Pressure Range	Operating Temp.	-	Options
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Description	Code	
Body Material	30 : Aluminum die-cast 31 : Stainless steel 316	
Port Size	1 : PT (Rc) 1/2 3 : PT (Rc) 3/4	2 : NPT 1/2 4 : NPT 3/4
Output Pressure Range	1 : 0 - 4 bar (60 psi)	2 : 0 - 8 bar (120 psi)
Operating Temperature	0 : -20 - +70°C 2 : -40 - +80°C	1 : -20 - +120°C
Options	M : Manual drain	A : Auto drain

Instruction and Operating Manual

Air Filter Regulator

FR30/31 Series



Power-Genex Ltd.



INNOBIZ

1. Introduction

1.1 General Information

This instruction and operating manual contains important notices the user should observe for a personal safety as well as for prevention against damage to property. Notices concerning a personal safety are highlighted by a safety symbol (⚠)

1.2 General safety instructions

This product was delivered out from the factory without any safety problems after a strict quality management process. In order to maintain this status and ensure a safe operation of this product, please be sure to read all safety instructions carefully described in this manual and observe safety information and symbols without exception.

1.3 Correct usage

- ① This product can be used only for purposes specified in these instructions. If any are not definitely stated in these instructions, the user is fully responsible for all charges and retrofits to this product.

1.4 Range and Responsibilities of personnel.

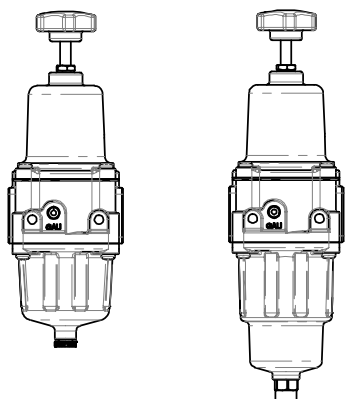
- ① Qualified personnel should be trained, instructed or authorized in operating and maintaining products and systems according to the safety regulations for electrical circuits, high pressures and hazardous atmosphere.
- ② They should be trained or instructed in maintenance and use of proper safety equipment according to the safety instructions.
- ③ They should have a good experience to identify risks and avoid potential hazards when working with these products and systems.

1.5 Transportation and Storage

Make sure that damages during delivery are prevented through proper packing.

Products and replacement parts should be returned in their original packing. If the original packing is no longer available, please ensure that they should be packaged to provide sufficient protection against transport.

2. Overview



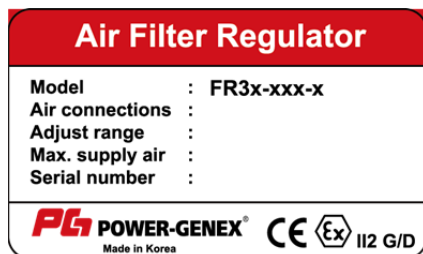
The FR30/31 air filter regulator is used to maintain a set air pressure and protect a pneumatic device by filtering water and particles.

Optionally, the SS316 housing and an auto-drain function are available.

3. Specifications

Model	FR30	FR31
Pneumatic connections	PT(Rc) 1/2 or NPT 1/2 PT(Rc) 3/4 or NPT 3/4	NPT 1/2 NPT 3/4
Supply air / Fluid	Air (dry and non-oiled)	
Max. supply pressure	15 bar (225psi)	
Max. output pressure	8 bar (120psi)	
Operating temp. range	-20 ... +70°C	
Gauge port size	PT(Rc) 1/8	
Filtration	5 micron	
Housing material	Aluminum die-cast	Stainless steel 316
Pressure gauge material	Stainless steel	
Weight	1.6 kg	3.4 kg

4. Part Numbering System and Nameplate



< FR30/31 nameplate >

	FR3	x	-	x	x	x	-	x
Body material	Aluminum Die-casting Stainless steel 316	0 1						
Port Size	PT (Rc) 1/2 NPT 1/2 PT (Rc) 3/4 NPT 3/4"			1 2 3 4				
Output pressure range	0...4 bar (90 psi) 0...8 bar (150 psi)				1 2			
Operating temperature	-20 ... +70 °C -20 ... +120 °C -40 ... +80 °C					0 1 2		
Options	Manual drain Auto drain							M A

5. How to Set

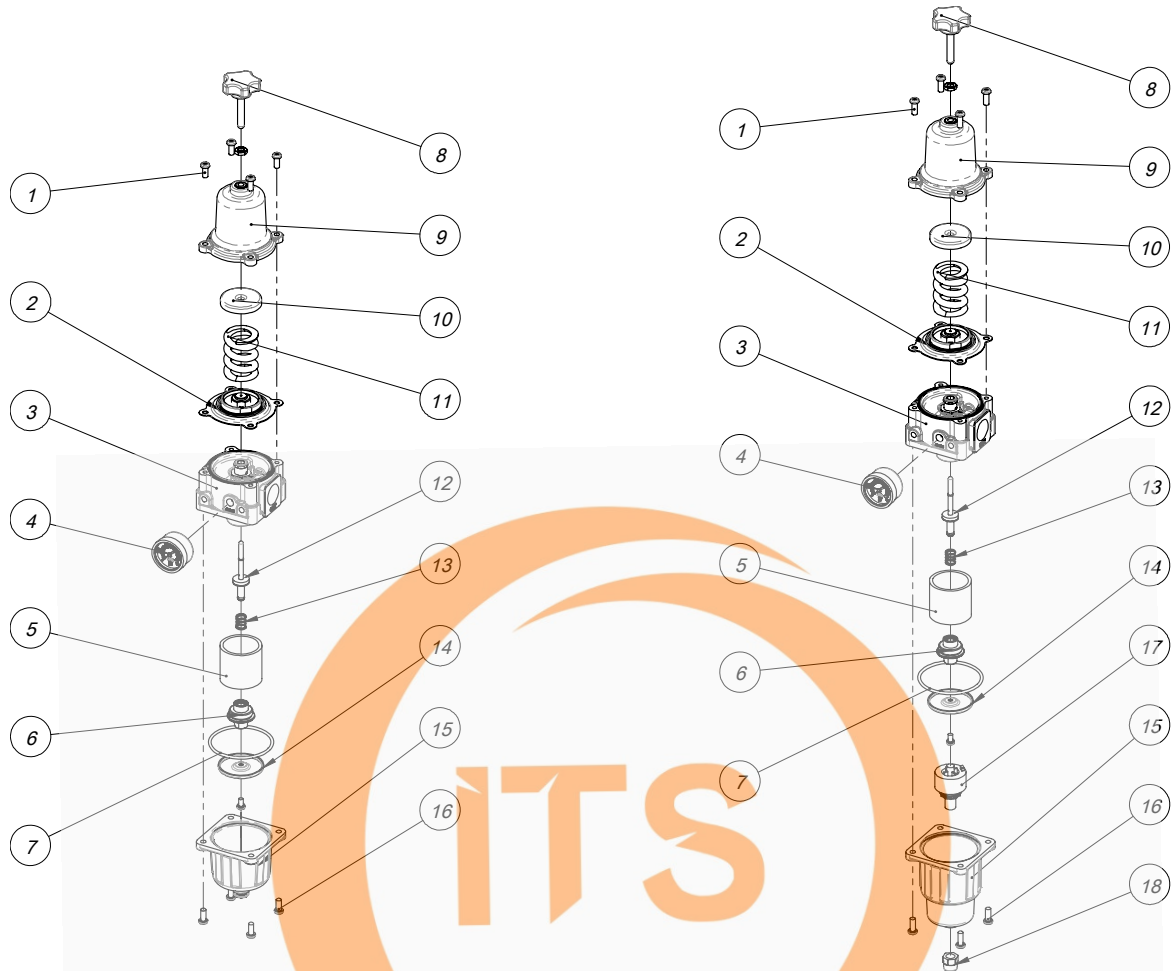
- ① Install an enclosed pressure gauge onto the 1/8" gauge port.
- ② Connect the "In" port to an air line from the air compressor. And connect the "Out" port to an air line or port from a pneumatic device (positioner or solenoid valve).
- ③ Supply air into the "In" port. Air will be transferred to a pneumatic device through the "Out" port.
- ④ Turn the "Adjust screw" on the top until the scale on the pressure gauge indicates a desired air pressure. Turn the Adjust screw clockwise, an air pressure will be increased. Turn the Adjust screw counter-clockwise, an air pressure will be decreased.
- ⑤ After setting an air pressure, fasten the "Locking nut" tightly.



- 1) Note that a supply should not contain any oil.
- 2) Make sure of air connection with "In" and "Out". Otherwise, an air will come out of the "Spring Case" and the air filter regulator may not work properly.

ITS

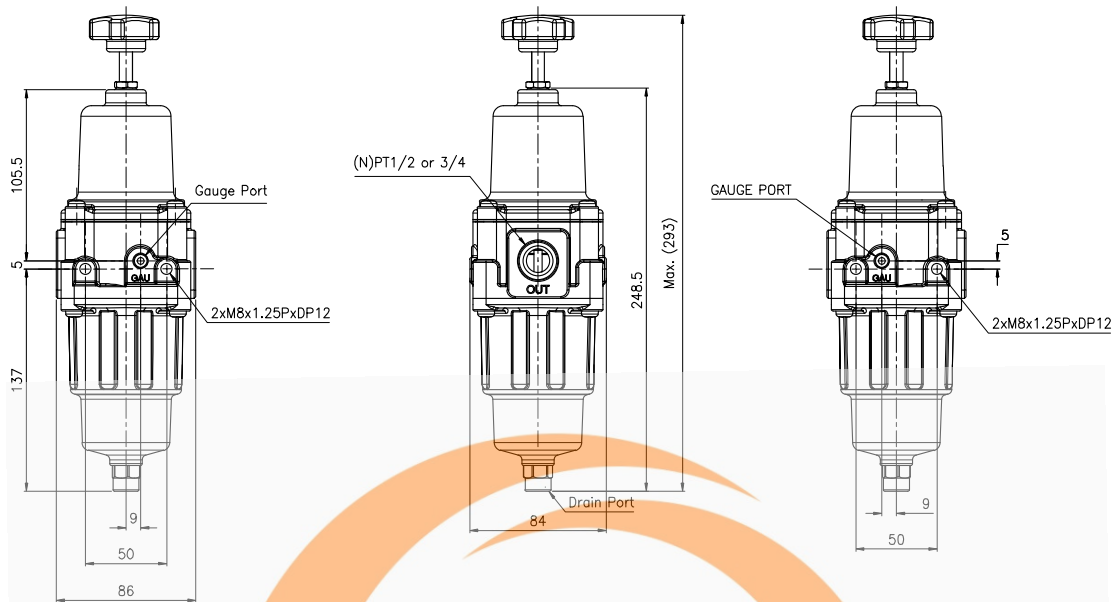
6. Spare Parts



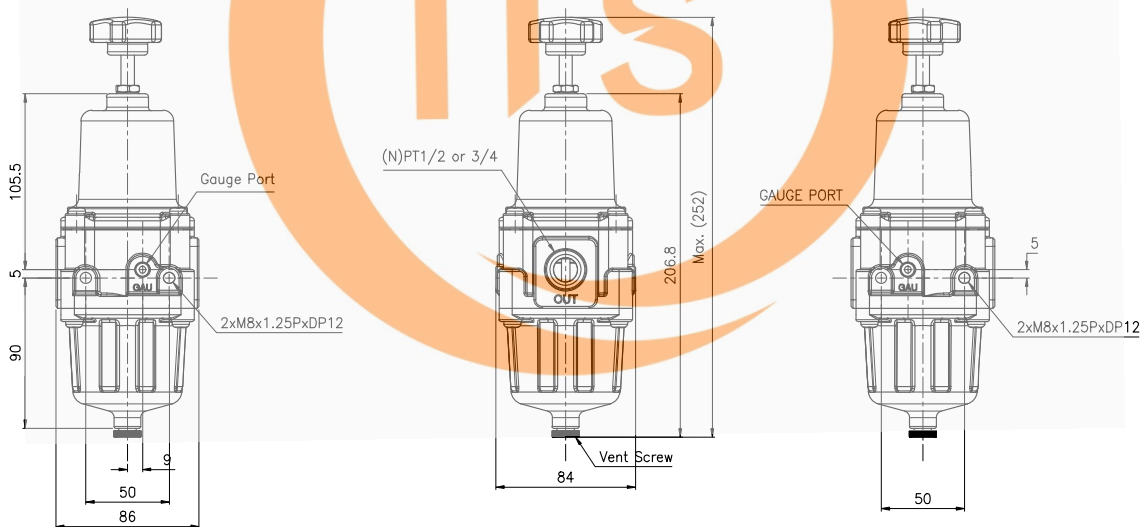
No.	Description	No.	Description
1	Bolt	10	Spring press seat
2	Diaphragm set	11	Spring
3	FR30 Main body	12	Inlet valve
4	Gauge	13	Inlet valve spring
5	5 micron filter	14	Filter seat
6	Spring seat	15	Filter case / Auto drain case
7	O-ring	16	Bolt
8	Adjust screw	17	Auto drain set
9	Spring case	18	Auto drain nut

7. Dimensions

7.1 Auto-drain type



7.2 Manual-drain type



Warranty

1. The warranty period of the product is 1.5 years after the product is shipped from Power-Genex in Korea.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. If a problem happens with the following reasons, please note that the reasonable repairing costs will be charged even during a warranty period.
 - In case that customers retro-fit the products improperly without any instructions from Power-Genex
 - In case that the products are damaged by a bad delivery, storage or handling beyond design conditions
 - In case that the products are used beyond specifications
 - In case that the products are damaged by an improper installation
 - In case that the products are damaged by fire, earthquake, storm, flood, thunder, lightning, other natural disasters, riot, war, exposure to radioactivity
4. If maintenance is required, please contact distributors or Power-Genex directly. A proper and satisfactory customer service will be provided.

