

Instruction and Operating Manual

AIR FILTER REGULATOR FR20 series



Power-Genex Ltd.



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.

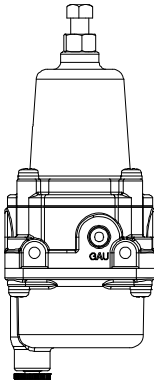
- ① Qualified personnel should be trained, instructed or authorized in operating and maintaining products and systems according to the safety regulations for electrical circuits, high pressures and hazardous atmosphere.
- ② They should be trained or instructed in maintenance and use of proper safety 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



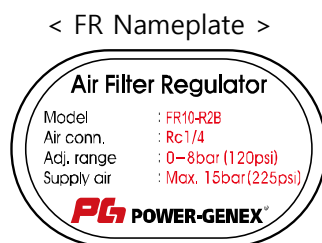
Using the Air filter regulator is to maintain certain air pressure and protect the main equipment from the inflow of debris.

Aluminum or 316SS body material helps its solidity and anti-corrosive characteristic.

3. Specifications

	FR20	FR21
Pneumatic connections	PT(Rc) 1/4 or NPT 1/4	NPT1/4
Fluid	Air (Moisture and oil free)	
Max. supply pressure	10 bar (150psi)	
Max. output pressure	8 bar (120psi)	
Operating Temp. range	-20 ... +70°C	
Insert connections	PT(Rc) 1/8	
Filter	5 micron	
Body material	Aluminum Die casting	316SS
Gauge material	Stainless steel	
Weight	0.65 kg	1.4 kg

4. Part Numbering System and Nameplate Description



		FR2	x	-	x	x	x	-	x
Material	Aluminum Die-casting	0							
	Stainless steel 316	1							
Port Size	PT(Rc) 1/4			R					
	NPT 1/4			N					
Output Pressure	0...4 bar (90psi)				1				
	0...8 bar (150psi)				2				
Operating Temperature	-20 ... 70 °C					0			
	-20 ... 120 °C					1			
	-40 ... 80 °C					2			
Drain Type	Manual drain								M
	Auto drain								A

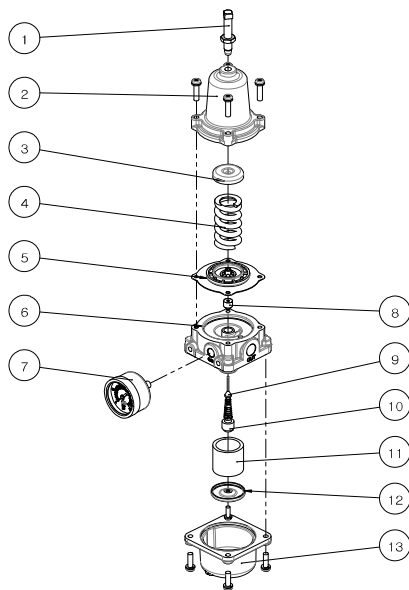
5. Principle of Operation

- 5.1 Screw your own gauge or 1/8 blocking bolt to the gauge port of the regulator body.
- 5.2 Supplying air should get into "In" port. Then output air pressure from "Out" port will directly flow into your equipment which you are planning to use.
- 5.3 After assembling is done, you need to adjust the ideal air pressure of what you prefer with handling "Adjust Screw". Clockwise turn for the air pressure value-up, and Counter-clockwise turn for the air pressure value-down.
- 5.4 When the adjusting is done, strongly fasten the "Locking Nut" to definitely hold the position of the "Adjust Screw" that you fixed.



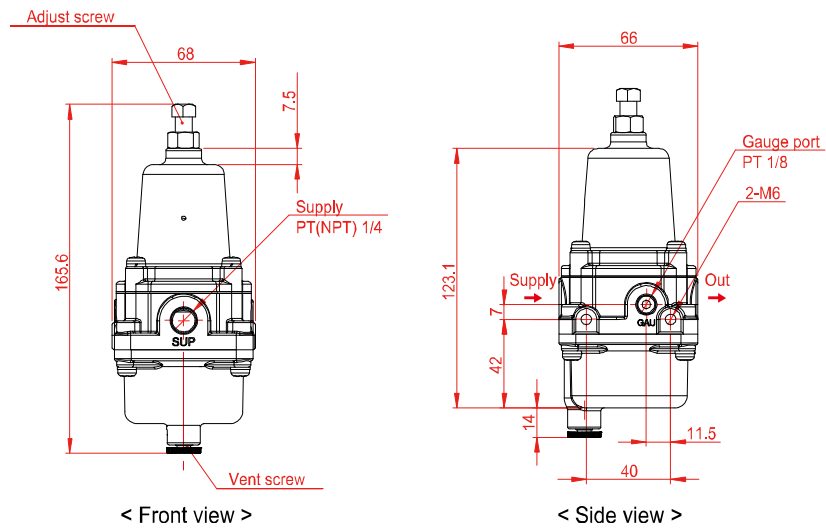
- 1) **Supplying air with a lot of moisture and oil may cause bad work to the main equipment.**
Therefore, you will occasionally need to open a "Drain plug" to discharge the moisture and oil.
- 2) **Make sure of the connection to "In" and "Out" properly, otherwise the air will come out from a "Spring Case" and the air filter regulator may not work properly**

6. Spare Parts



No.	Description	No.	Description
1	Adjust Screw	8	Nozzle Seat
2	Spring Case	9	Nozzle
3	Adjust Spring Holder	10	Nozzle Holder
4	Adjust Spring	11	Filter
5	Diaphragm	12	Filter Holder
6	Regulator Body	13	Filter Case
7	Gauge		

7. Dimensions



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