7C.555-E
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CE Ex II 2 G D

FR Series
Air Filter Regulators

Descrizioni

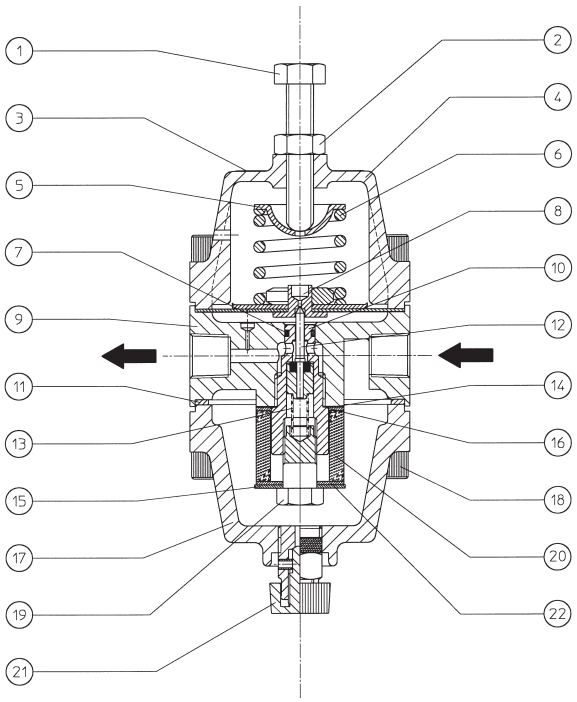
The FR series air filter-regulator is used to supply with filtered compressed air at constant pressure pneumatic instruments such as controllers, transmitters, pilot positioners and to supply compressed air and other not corrosive gases at small flow rate and constant pressure to bubblers for purging or measuring systems, etc.
The efficient filter inbuilt in the pressure regulator ensures the necessary degree of air purity.
A large capacity bowl and a draincock will allow collection and drain of condensate.
The operating principle of FR regulators is free from chattering or vibrations at any load.
A pressure gauge can be installed for the reduced pressure indication giving improved setting operation.
The models with connection for air exhaust recovery are in accordance with ISO 15848-1 for fugitive emissions.

General specifications

Use destination		The filter, in accordance with 2014/34/EU Directive (ATEX), is designed for use in potentially explosive atmospheres II 2 GD		
Application		Instrument supply air pressure control		
Types, reduced pressure ranges and codes for order		FR - 20	0.2 ÷ 2 bar	7.863.4801.020
		FR - 35	1.5 ÷ 4 bar	7.863.4801.035
		FR - 75	3.5 ÷ 7 bar	7.863.4801.075
		FR - 20 with connection for air exhaust recovery	0.2 ÷ 2 bar	7.863.4801.120
		FR - 35 with connection for air exhaust recovery	1.5 ÷ 4 bar	7.863.4801.135
		FR - 75 with connection for air exhaust recovery	3.5 ÷ 7 bar	7.863.4801.175
Maximum inlet pressure		15 bar		
Air flow		from 2.5 to 9 m^3/h (see table)		
Maximum K_V		0.7		
Filtration		5 μm		
Materials	**Body**	Die cast aluminium		
	Inner valve	Stainless steel		
	Valve seat	Brass		
	Setting spring	Cadmium plated steel		
	Adjusting screw	Chrome plated steel		
	Diaphragm	Syntetic rubber		
	Filter cartridge	Sintered bronze		
Connections		¼" NPT for air inlet and outlet 1/8" NPT NPT for pressure gauge (plugged)		
Output pressure gauge (on request)		Ø 40 mm range	0 to 2 bar (30 psi)	7.864.1101.030
			0 to 4 bar (60 psi)	7.864.1101.060
			0 to 7 bar (100 psi)	7.864.1101.100
Enviroment temperature limits		maximum +80°C minimum -20°C		

List of parts

1	Adjusfing screw M8 x 45
2	Lucknut M8
3	Identificafion tag
4	Spring bonnet
5	Upper spring seat
6	Setting spring
7	O' ring
8	Diaphragm kit
9	Base body
10	Plug support
11	Filter bowl gasket
12	Plug
13	Plug spring
14	Filter upper gasket
15	Filter cartridge washer
16	Washer
17	Filter bowl
18	Body screws M8 x 22
19	Filter fixing screw
20	Filter cartridge
21	Drain valve
22	Filter lower gasket



Principle of operation

Reduced pressure value is set by spring (6) compression rate. Outlet regulated pressure, applied under the diaphragm, compresses the spring modifying the plug opening degree according to the air flow rate requested. Any undesired pressure increase exceeding the set value causes diaphragm to rise and bleed orifice at the center of the diaphragm plate to open thereby discharging over pressure.
The hole drilled in the spring bonnet permits the air discharge to atmosphere.

Adjustment of regulated pressure

Loose the locknut (2), and adjust the setting of the spring turning the screw (1) (see sectional view) clockwise to increase outlet pressure or counterclockwise to decrease outlet pressure. Tight again the locknut after adjustment.

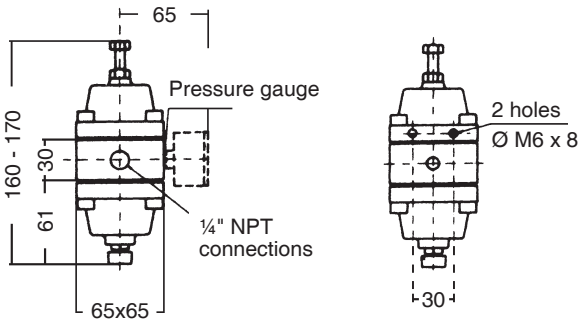
Maximum recommended air flow with 1.4 bar outlet pressure

Inlet pressure (bar)	3	5	8	10
Flow rate (m^3/h)	2.5	5	7	9

Recommended spare parts

Description	List of parts	Code number
Regulator assembly	8 - 11 - 12 - 13	3.863.4750.215
Filter assembly	11 - 20	3.863.4750.216

Dimensions (mm) - Weight 0.75 kg



Via per Cinisello, 18 - 20834 Nova Milanese (MB)
Tel.: 0362 49 17.1 - Fax 0362 49 17 307