

Installation / Operating / Maintenance Instructions

Filter Regulator Combination

Prod. No. 408881, 408882, 408883, 408884, 408885
Specifications

Model	AFRM18 AFRM14	AFRI38 AFRI14	AFRS12
Port size	1/8, 1/4, 3/8, 1/2		
Pressure gauge port size	1/8		
Max. supply pressure	140 psi (10 bar)		
Set pressure	Refer product nameplate		
Installation	Vertical (as shown)		
Medium	Compressed air - Filtered		
Ambient / media temperature	5° - 60° C (41° - 140° F)		
Bowl material	Polycarbonate		

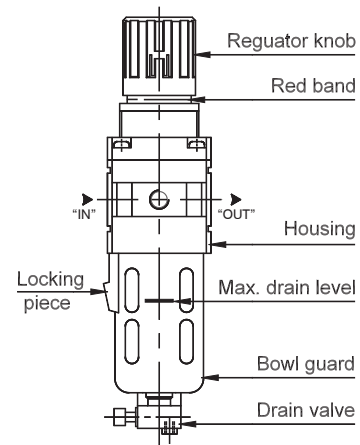


fig. 1

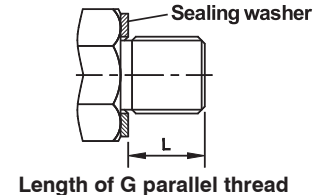
Important

Since this equipment is used in compressed air line, proper precautions are to be taken for safety.

Installation Instructions

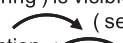

1. Install in a clean / acid free environment.
2. Before installation of the unit, check whether the unit is as per the specification - especially the port size and the corresponding fittings to be used on the unit.
3. Flush the piping for dirt, dust, rust and other foreign particles.
4. Connect the supply pressure to **IN** port and take the outlet from **OUT** port. (If the unit is connected in the reverse direction the air will continuously flow through the bonnet and the setting of the pressure is not possible.)
5. Use proper thread seals for (R) taper thread nipple, or face washer for (G) parallel thread nipple.
6. Set the pressure in the regulator within the specified set pressure. Otherwise the spring may break.
7. Tighten the piping / nipples to the housing ports using proper tools. Do not over torque when tightening.
8. When using (G) parallel thread nipples, check the length of the thread.

Thread Size	Tightening torque, Lb / in (Nm)	Length (L) of thread
G1/4	106 - 125 (12 - 14)	8mm Max.
G3/8	195 - 215 (22 - 24)	9mm Max.
G1/2	250 - 270 (28 - 30)	12mm Max.



9. Ensure foreign particles / tape etc. do not enter the valve during assembly.

Operating Instructions

1. To set the Regulator, pull the regulating knob till " Red band " (Indicator ring) is visible (refer to figure 1).
2. To increase the pressure, turn the regulating knob in clockwise direction  (see the marking on the knob).
3. To reduce the pressure, turn the regulating knob in counter clockwise direction .
4. Always set the pressure in an ascending manner.
5. It is advisable to drain the bowl every day. The frequency of draining can be decided based on the condensate collection. However, take care that the condensate level does not cross the " Max. level " marked on the bowl guard.

Maintenance Instructions

- a. Before dismantling the unit for maintenance: 1. Check for any leaks. 2. Check for any restricted flow. 3. Check if the drain works properly. 4. Check that the set pressure has changed. 5. Completely exhaust the air in the line.
- b. Dismantle and clean all the components in kerosene and blow with compressed air to clean the filter element (19) / bowl (21.1.1) Removing the bowl guard (21.3): **(For models AFRI38, AFRI14, AFRS12)** Lift the bowl guard (21.3) upwards, pull down the locking piece, turn the bowl guard 45° and pull down.
(For models AFRM18 and AFRM14) Screw out the threaded bowl guard (21.3).

Clean the bowl only with soap water or neutral detergent. Do not use thinner, kerosene, petrol, synthetic oil, trichloroethylene or other aromatic hydrocarbons.

(Polycarbonate bowl may get damaged and possibly fail if exposed to these solvents)

- c. Check for damages in the 'O' rings and at sealing areas in the valvecone rubber, spherical seating, seating area of the housing etc., Replace if needed (or) clean and reassemble.
- d. For assembly of the unit: apply NLGI Grade 2 grease on the 'O' rings and on the surface of the housing (11) where the 'O' ring enters the housing and on the cylindrical surface of the valve cone (13.1), on threads of the adjusting screw (7), and on the bearing washer (6). Reassemble all the components.

Assembling the bowl guard: **(For models AFRI38, AFRI14, AFRS12)** Position the projected lug portion of the bowl guard to the corresponding slot of the housing. Push the bowl guard fully. Turn the bowl guard 45° until the locking piece enters into the housing slot fully.
(For models AFRM18 and AFRM14) Screw in the threaded bowl guard.

Assembly / Spare Parts List

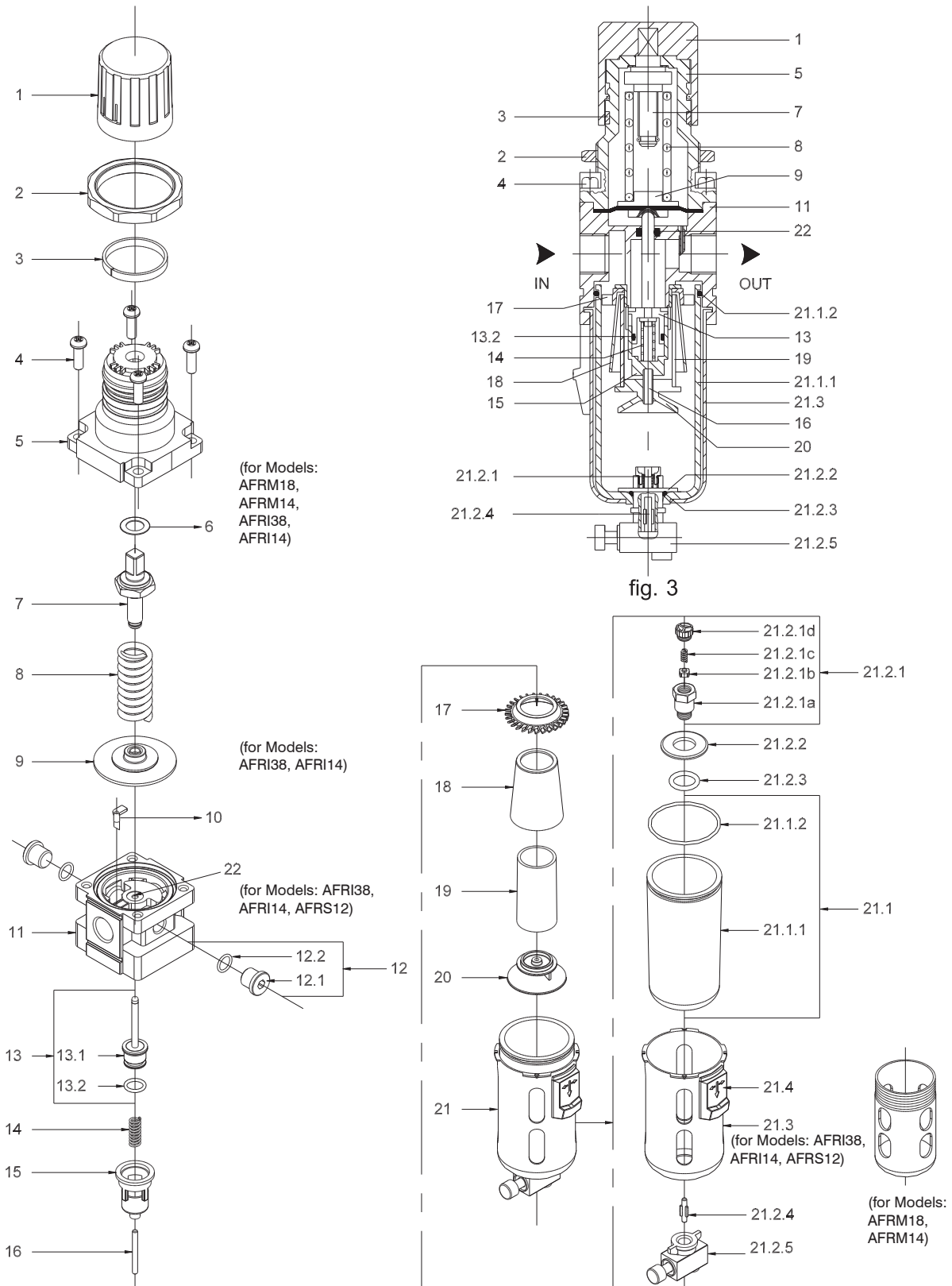


fig. 2

Spare Parts List Filter Regulator Combination

Ref. No.	No. off.	Part name	Ordering No. for		
			AFRM18 / AFRM14	AFRI38 / AFRI14	AFRS12
1	1	Knob	-	-	-
2	1	Locknut	-	-	-
3	1	Indicator ring	-	-	-
4	4	Philip head screw	-	-	-
5	1	Bonnet	-	-	-
6	1	Bearing washer	-	-	NIL
7	1	Adjusting screw assembly	LA2200	LA2201	LA2202
8	1	Main spring	*	*	*
*	-	0.2 - 2 bar	062025	062031	062061
*	-	0.2 - 4 bar	062026	062032	062062
*	-	0.5 - 7 bar	062027	062033	062063
*	-	0.5 - 10 bar	062028	062030	062060
9	1	Diaphragm assembly	SA2200	SA2201	SA2202
10	1	Venturi tube	NIL	-	-
11	1	Housing	-	-	-
12	2	Port plug assembly	LA2203	LA2203	LA2203
12.1	2	Port plug	312004	312004	312004
12.2	2	'O' ring	651004	651004	650007
13	1	Valve cone assembly	SA2602	SA2600	SA2601
13.1	1	Valve cone	312013	610003	312013
13.2	1	'O' ring	650002	650007	650103
14	1	Bottom spring	-	-	-
15	1	Spring seat	-	-	-
16	1	Stud	-	-	-
		Internal Plastic Spares			
17	1	Separator	782000	782008	782002
18	1	Shield	762000	762011	762020
19	1	Filter element **	**	**	**
**	-	Filter element - 1 micron	582006	582030	582047
**	-	Filter element - 5 microns	582000	582026	582040
**	-	Filter element - 25 microns	582001	582027	582041
**	-	Filter element - 40 microns	582002	582025	582042
**	-	Filter element - 50 microns	582003	582028	582043
**	-	Filter element - 100 microns	582004	582029	582044
20	1	Filter holder	712001	712002	712003
21	1	Bowl & Bowl guard assembly	-	-	-
21.1	1	Bowl assembly	LA2000	LA2001	LA2002
21.1.1	1	Bowl	-	-	-
21.1.2	1	'O' ring	650015	650108	650110
21.2	1	Drain valve assembly *	SC2004	SC2004	SC2004
21.2.1	1	Gland assembly	SA2009	SA2009	SA2009
21.2.1a	1	Gland	-	-	-
21.2.1b	1	Valve seat	-	-	-
21.2.1c	1	Spring	-	-	-
21.2.1d	1	Spring guide nut	-	-	-
21.2.2	1	Sealing washer	-	-	-
21.2.3	1	'O' ring	650121	650121	650121
21.2.4	1	Actuator	722001	722001	722001
21.2.5	1	Stem housing assembly	SA2002	SA2002	SA2002
21.3	1	Bowl guard	-	-	-
21.4	1	Locking piece	-	-	-
22	1	'O' ring	-	650100	650100

Denotes for ordering items. For example, **Drain valve assembly (21.2)** will be supplied as kit, consisting of Gland assembly (21.2.1), Sealing washer (21.2.2), 'O' ring (21.2.3), Actuator (21.2.4) and Stem housing assembly (21.2.5) accordingly.

* (21.2 - Drain valve assembly) - Serviceable type

Trouble shooting

Trouble	Cause	Solution
1. Continuous leak / flow through the knob (1)	Wrong port connection	Change port connection
2. Continuous leak through the knob (1)	1. Diaphragm (9) damaged. 2. Damaged seating of the valve cone (13). 3. Dirt found in between the seating and the valve cone (13).	1. Replace diaphragm assembly (9) 2. Replace valve cone assembly (13) 3. Clean and reassemble
3. Setting pressure goes on increasing slowly	1. Damaged seating area of valve cone (13) 2. Seating area in the housing damaged 3. Dirt found in between the seating and the valve cone (13)	1. Replace the valve cone assembly (13) 2. Clean the seating area 3. Clean and reassemble
4. After frequent use of adjustment , the pressure setting becomes not possible	Wearing out of the adjusting screw (7)	Replace after applying general purpose grease on threads and bearing washer (6).
5. Supply pressure directly connected to Outlet port and pressure setting not possible	1. Valve cone (13) got stuck	1. Dismantle the valve cone. Clean using Kerosene and airjet. Reassemble after applying general purpose grease on 'O' rings (13.2) and (22) [as applicable to the model] and on the valve cone cylindrical portion.
6. Restricted air flow	Filter element (19) clogged	Clean the filter element or replace.
7. Water level not visible	Dirt on the inner surface of the bowl	Clean the bowl (21.1.1).
8. Air leaks at housing(11) and bowlguard (21.3).	'O'ring (21.1.2) damaged	Replace.
9. Air leaks at the bottom of the bowl.	'O' ring (21.2.3) damaged	Replace.
10. Air leaks continuously through the drain valve (21.2)	Valve seat damaged	Replace the drain valve assembly (21.2).
11. The knob of drain valve does not return	Valve components get stuck	Pull the knob and operate. If the valve gets stuck again - Replace.
<p>Remarks: When the unit is installed in a salty environment, there is a good chance of formation of Aluminum Oxide inside the housing. This may cause the valve cone to get stuck. In this case dismantle the components and clean them using kerosene and air. During reassembly apply general purpose grease on all the inside surfaces of the housing as protection against corrosion. Also apply grease on the 'O' rings and cylindrical portion of the valve cone.</p>		

How to order spare parts:

Mention the spare parts and model numbers as given in the tables.

Example: 'O' ring 650108 for AFRM18

Subject to change

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