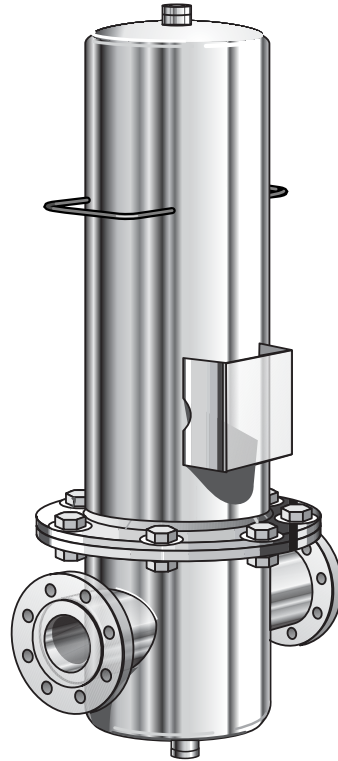


Armstrong ASF - Single & Multiple Operation Manual



**ASF
Single**



**ASF
Multiple**

**Please read and save
these instructions**

Table of Contents

Explanation of the symbols 3

Exploded views (FIG. 1 / FIG. 2) 4-5

For Your Safety 6

Start Up / Maintenance 7-9

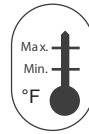
Technical Data 10-11

Limited Warranty and Remedy 12

Explanation of the Symbols



Direct Safety Risk



Min. / Max. Operating Temperature



Hot Surfaces



Filter Element



Wear Eye Protection



Dimensions



Release Pressure



Max. Operating Pressure

Max.



Use Suitable Gloves



Weight



Pressure Accessories



Maintenance Instructions



**Waste must be disposed
of in accordance with local
regulations**



Installation Instructions

ASF - Single

ASF - Single Functional elements

- A Plug
- B Gasket
- C Screw locking ring
- D Upper housing bowl
- E Filter element(s)
- F Sealing ring
- G Lower housing bowl

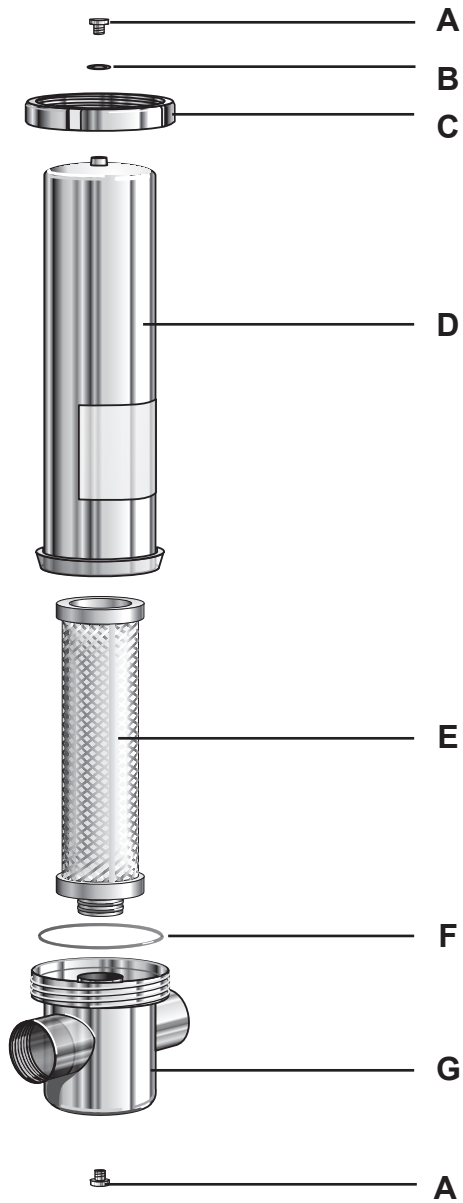


Figure 1

ASF - Multiple

ASF - Multiple Functional elements

- A Plug
- C Screw locking ring
- D Upper housing bowl
- E Filter element(s)
- F Sealing ring
- G Lower housing bowl
- H Hexagonal screw
- I Tension nut
- J Spring
- K Bracket plate
- L Tie rod
- M Gasket
- N Hexagonal nut
- O Washer

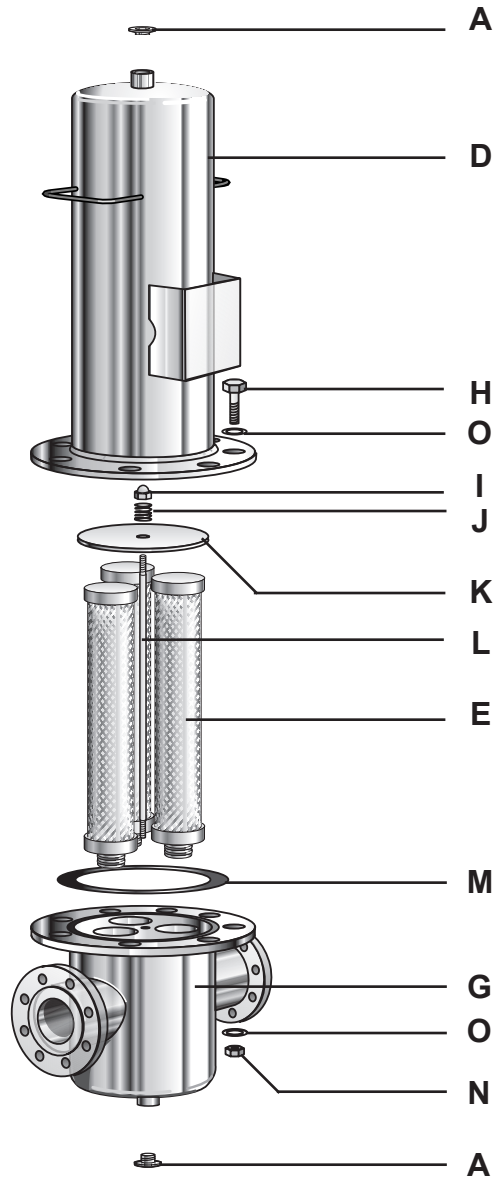


Figure 2

For Your Safety



The relevant safety at work and accident prevention regulations, plus the operating instructions, shall apply for operation of the pressure vessel. The pressure vessel has been constructed in accordance with the generally recognized rules of engineering.

The relevant applicable national regulations in force at the place of installation concerning the operation and routine testing of pressure vessels must be complied with.

You as operator / user of the unit should make yourself familiar with the function, installation and start-up of the unit through these operating instructions.

It is essential that you follow these safety notes and this information in order to ensure trouble-free operation of the unit.

All safety information is intended to ensure your personal safety!

- ❑ The max. working pressure and the max. permissible working temperature of the pressure vessel are detailed on the type plate.

The permissible working temperatures for filter elements are given under “**Technical Data**” in these instructions.

- ❑ Ensure that the permitted operational temperatures are complied with, regardless of the ambient temperatures prevailing at the place of installation.
- ❑ It is necessary to ensure that the unit is equipped with the corresponding safety and test devices to prevent the permissible operating parameters from being exceeded.
- ❑ The pressure vessel must be at a safe distance (a minimum of 15 ft.) to prevent heating up in the event of a fire.
- ❑ The pressure vessel has been designed for a primarily static pressure loading with a maximum of 1000 cycles to and from the full load. Rapid changes of load with more than 10% of the maximum working pressure are not allowed.

- ❑ Ensure that the pressure vessel is not subjected to vibrations that could cause fatigue fractures.
- ❑ The pressure vessel is not to be subjected to stresses arising from traffic, wind and earthquakes.
- ❑ The medium used may not have any corrosive components that could attack the materials of the pressure vessel in a way that is not permitted.
- ❑ All installation and maintenance work on the pressure vessel may only be carried out by trained and experienced specialists.
- ❑ It is forbidden to carry out any kind of work on the pressure vessel and piping, which includes welding and constructional changes, etc. Breaking this rule means extreme danger for you and your colleagues.
- ❑ Attention! If the pressure vessel is operated at temperatures over 140°F, suitable protection to prevent contact must be provided.
- ❑ A pressure gauge that shows the operational pressure must be installed in the unit.
- ❑ Depressurize the system before carrying out any work on the pressure vessel.
- ❑ Clean the piping before carrying out the installation work.
- ❑ The unit must be installed vertically in the piping.
- ❑ Ensure that the pressure vessel is installed without any stresses.
- ❑ Disconnect the power supply when carrying out electrical work.

Appropriate use:

The equipment may only be used for its intended purpose.

The equipment has been built exclusively for the filtration of saturated steam.

Any use or one beyond those listed above shall be considered inappropriate. We shall have no liability whatsoever for any damage incurred as a result.

Starting up:

PICTURES 1 - 10 (single), page 8

PICTURES 1 - 10 (multiple), page 9



Before initial commissioning

- The filter elements do not come installed in the filter housing.
- All the threaded connections of the pressure vessel must be tightened to the max. torque value.
- Visually inspect the housing for any external damage.
- Check the housing for leaks.

Initial commissioning

- Slowly** apply pressure to the system by first opening the upstream valve (9).

Maintenance information:



PICTURES 11 - 16 (single), page 8

PICTURES 11 - 17 (multiple), page 9

- Before starting any maintenance work, ensure that the pressure vessel has been depressurized and has cooled down, and cannot be put back into operation during the maintenance work.
- The filter elements must be changed at regular intervals. At the latest, once the permissible differential pressure has been reached.

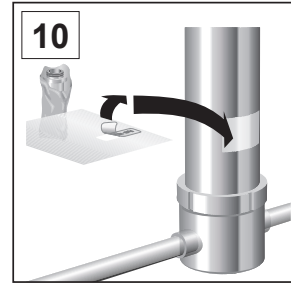
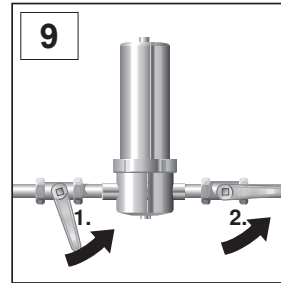
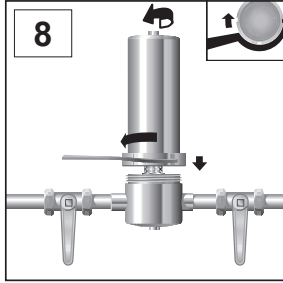
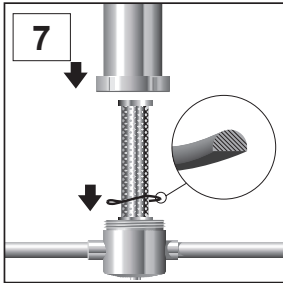
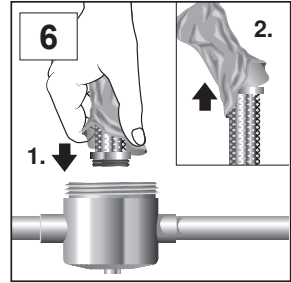
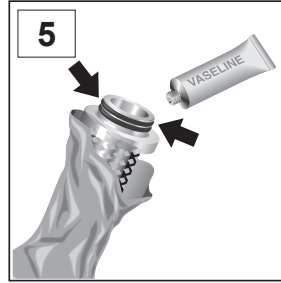
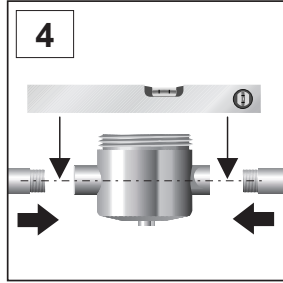
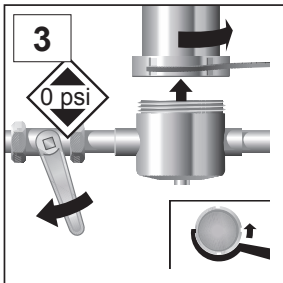
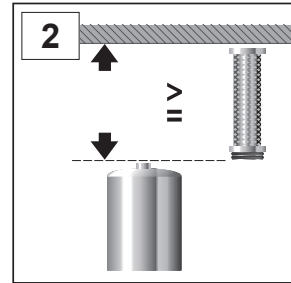
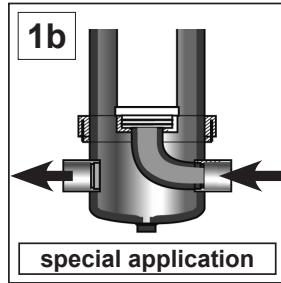
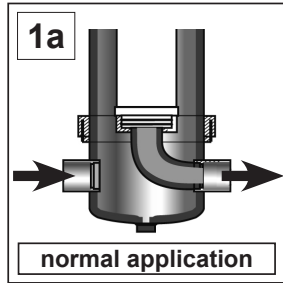
The following recommendations apply:
Annual maintenance depending on wear.

- Damaged components should be replaced by new ones. If damage is found, the entire vessel is to be replaced.
- The pressure vessel has been designed for a life of 10 years.
- The housing seal should be changed when servicing the filter element (14).
- Check for leaks once the maintenance work is complete!

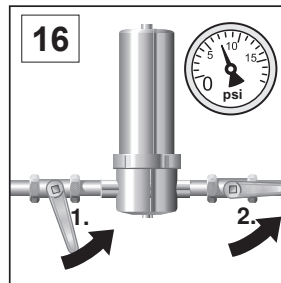
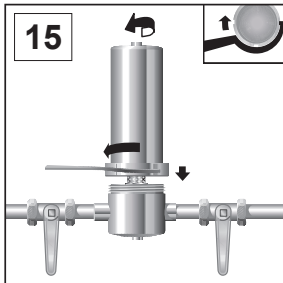
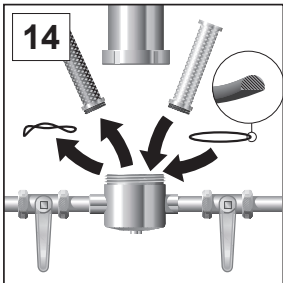
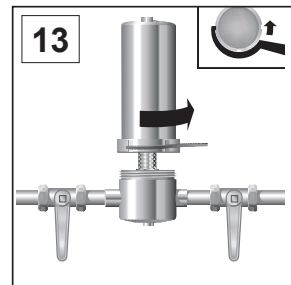
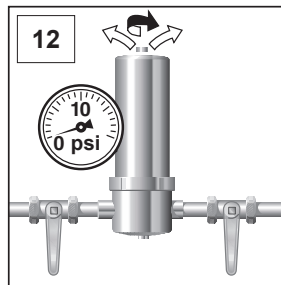
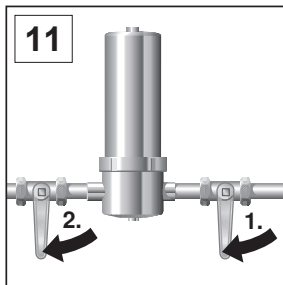
ASF - Single



ASF
(Single)



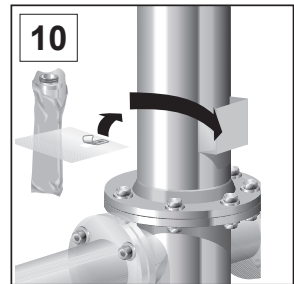
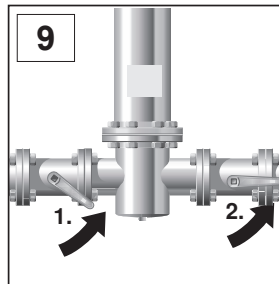
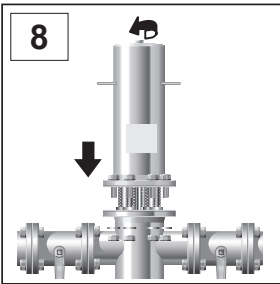
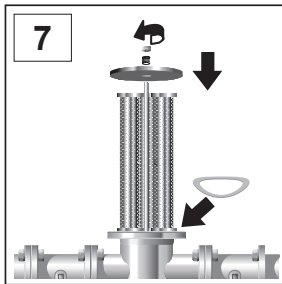
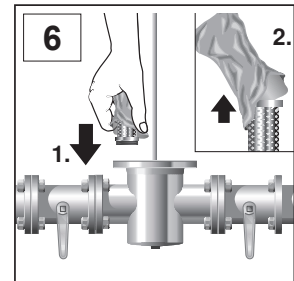
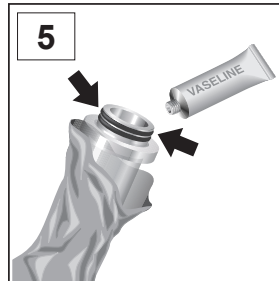
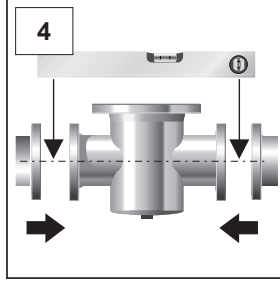
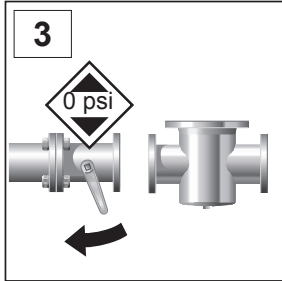
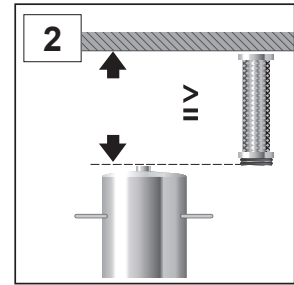
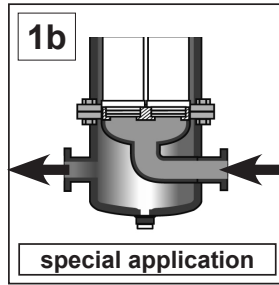
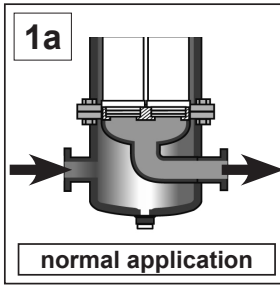
ASF
(Single)



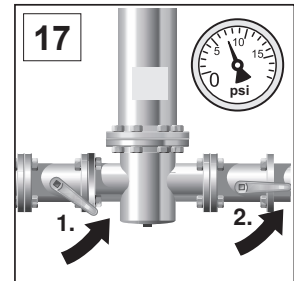
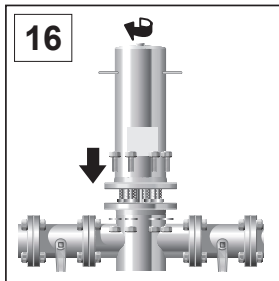
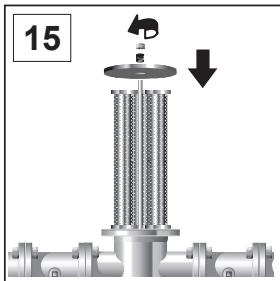
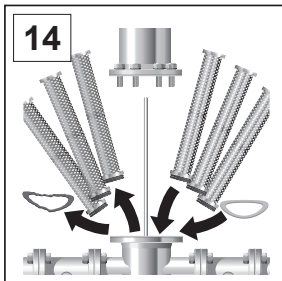
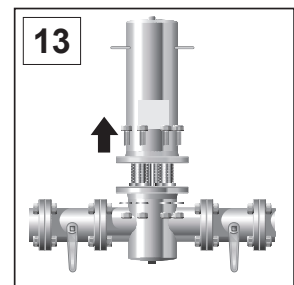
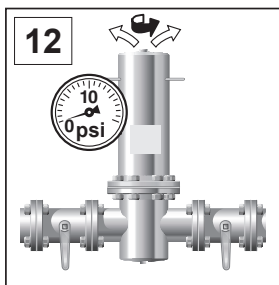
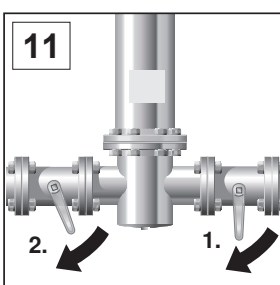
ASF - Multiple




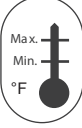
ASF
(Multiple)



ASF
(Multiple)




Technical Data

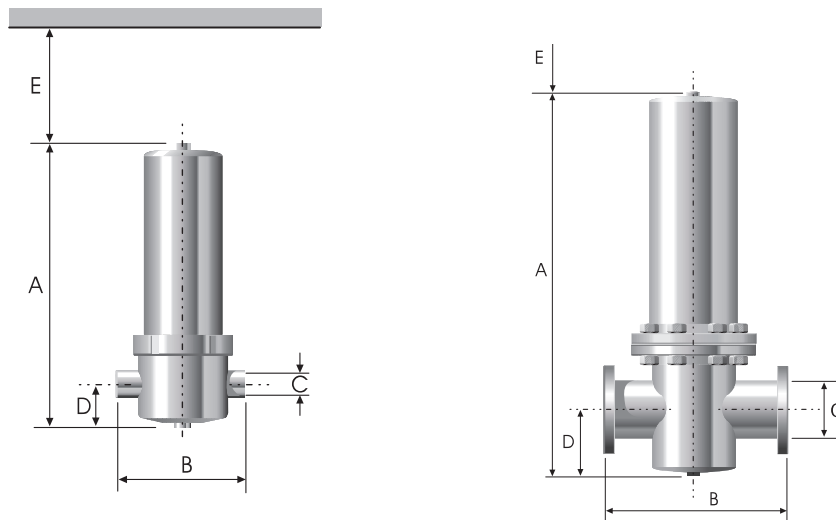
ASF	Max. Operating Pressure (and Temperature)	Min. / Max. Design Temperature	Filter Element	
	 Max. psig	 °F	Qty Per Housing	Size
ASF-H4 1/4NPT	200 @ 392°F	-60°F to 392°F	1	03/10
ASF-H4 3/8NPT	200 @ 392°F	-60°F to 392°F	1	04/10
ASF-H4 1/2NPT	200 @ 392°F	-60°F to 392°F	1	04/20
ASF-H4 3/4NPT	200 @ 392°F	-60°F to 392°F	1	05/20
ASF-H4 1NPT	200 @ 392°F	-60°F to 392°F	1	05/25
ASF-H4 1-1/4NPT	200 @ 392°F	-60°F to 392°F	1	07/25
ASF-H4 1-1/2NPT	200 @ 392°F	-60°F to 392°F	1	07/30
ASF-H4 2NPT L	200 @ 392°F	-60°F to 392°F	1	10/30
ASF-H4 2NPT H	200 @ 392°F	-60°F to 392°F	1	15/30
ASF-H4 2-1/2NPT	200 @ 392°F	-60°F to 392°F	1	20/30
ASF-H4 3NPT L	200 @ 392°F	-60°F to 392°F	1	30/30
ASF-H4 3NPT H	174 @ 392°F	-60°F to 392°F	1	30/50
ASF-H4 4L	150 @ 392°F	-60°F to 392°F	3	20/30
ASF-H4 4H	150 @ 392°F	-60°F to 392°F	3	30/30
ASF-H4 6L	150 @ 392°F	-60°F to 392°F	4	30/30
ASF-H4 6H	150 @ 392°F	-60°F to 392°F	6	30/30
ASF-H4 8L	150 @ 392°F	-60°F to 392°F	8	30/30
ASF-H4 8 H	150 @ 392°F	-60°F to 392°F	10	30/30

Pressure temperatures above 130 psig/356°F require Flouraz housing gasket and element O-rings. Please consult factory.

Technical Data

Type	 Dimensions					Weight*	
	Height (A)	Width (B) (± 0.125)	Connection (C)		Connection Height (D)		Clearance (E)
ASF	inch	inch	FNPT	Flange 150 lb	inch	inch	lb.
ASF-H4 1/4NPT	8.2	4.10	1/4"	---	2.0	4.0	4
ASF-H4 3/8NPT	9.5	4.25	3/8"	---	2.0	5.0	4
ASF-H4 1/2NPT	9.5	4.25	1/2"	---	2.0	5.0	4
ASF-H4 3/4NPT	10.5	4.90	3/4"	---	2.3	6.0	4
ASF-H4 1NPT	11.5	4.90	1"	---	2.6	6.0	6
ASF-H4 1-1/4NPT	13.5	5.50	1 1/4"	---	2.6	8.0	7
ASF-H4 1-1/2NPT	15.0	6.70	1 1/2"	---	3.5	8.0	9
ASF-H4 2NPT L	18.0	6.70	2"	---	3.5	11.0	11
ASF-H4 2NPT H	23.0	6.70	2"	---	3.5	18.0	12
ASF-H4 2-1/2NPT	29.0	8.50	2 1/2"	---	4.5	23.0	20
ASF-H4 3NPT L	39.0	8.50	3"	---	4.5	33.0	24
ASF-H4 3NPT H	40.0	9.50	3"	---	4.5	33.0	36
ASF-H4 4L	36.7	16.14	---	4"	7.3	23.0	140
ASF-H4 4H	47.0	16.14	---	4"	7.3	33.0	183
ASF-H4 6L	51.3	18.90	---	6"	8.2	33.0	225
ASF-H4 6H	54.8	21.26	---	6"	8.8	33.0	338
ASF-H4 8L	58.8	26.00	---	8"	12.3	33.0	628
ASF-H4 8 H	58.8	26.00	---	8"	12.3	33.0	628

* Housing weight without element.



Limited Warranty and Remedy

Armstrong International, Inc. or the Armstrong division that sold the product (“Armstrong”) warrants to the original user of those products supplied by it and used in the service and in the manner for which they are intended, that such products shall be free from defects in material and workmanship for a period of one (1) year from the date of installation, but not longer than 15 months from the date of shipment from the factory, [unless a Special Warranty Period applies, as listed below]. This warranty does not extend to any product that has been subject to misuse, neglect or alteration after shipment from the Armstrong factory. Except as may be expressly provided in a written agreement between Armstrong and the user, which is signed by both parties, Armstrong **DOES NOT MAKE ANY OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

The sole and exclusive remedy with respect to the above limited warranty or with respect to any other claim relating to the products or to defects or any condition or use of the products supplied by Armstrong, however caused, and whether such claim is based upon warranty, contract, negligence, strict liability, or any other basis or theory, is limited to Armstrong’s repair or replacement of the part or product, excluding any labor or any other cost to remove or install said part or product, or at Armstrong’s option, to repayment of the purchase price. As a condition of enforcing any rights or remedies relating to Armstrong products, notice of any warranty or other claim relating to the products must be given in writing to Armstrong: (i) within 30 days of last day of the applicable warranty period, or (ii) within 30 days of the date of the manifestation of the condition or occurrence giving rise to the claim, whichever is earlier. **IN NO EVENT SHALL ARMSTRONG BE LIABLE FOR SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE OR PROFITS OR INTERRUPTION OF BUSINESS.** The Limited Warranty and Remedy terms herein apply notwithstanding any contrary terms in any purchase order or form submitted or issued by any user, purchaser, or third party and all such contrary terms shall be deemed rejected by Armstrong.

*Designs, materials, weights and performance ratings are approximate and subject to change without notice.
Visit armstronginternational.com for up-to-date information.*



Armstrong International
North America • Latin America • India • Europe / Middle East / Africa • China • Pacific Rim
armstronginternational.com