



INSTALLATION & SERVICE MANUAL

AMFLOW® SIMPLEX FILTER LP Low Pressure



SIMPLEX FILTER – LP
with OPTIONAL
DIFFERENTIAL
PRESSURE
POP-UP ASSEMBLY



SIMPLEX FILTER –LP
with OPTIONAL
ATEX SWITCH
ASSEMBLY

Part Number: 00001080-0501



NOTE:

Reference the “As Built” data sheet supplied with order for specific filter configuration.

Explanation of Graphic Symbols



DANGER AND/OR WARNING

The exclamation point within an equilateral triangle surrounded by red is intended to alert the user to the presence of important operating and maintenance instructions that may cause personal injury or harm to the system.



CAUTION AND/OR IMPORTANT

The exclamation point within an equilateral triangle that is solid yellow with an exclamation point is intended to alert the user to use caution or contains important information.

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END OF SECTION

SECTION 1: INFORMATION

1.01 DESCRIPTION

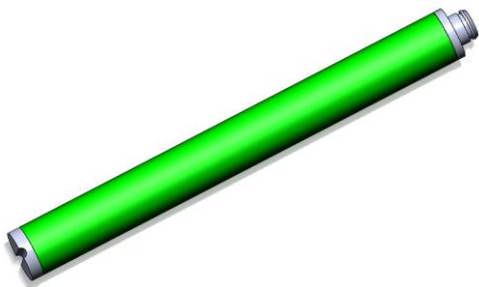
The **Amflow®** SIMPLEX FILTER LP is a low pressure filter assembly for pressures up to 414-bar (6,000 PSI) and incorporates a large, reusable filter element that can be back flushed for cleaning purposes. Filter elements are available from 2.5 to 100 microns.

1.02 DESIGN FEATURES

- Filter Construction: 316L Stainless Steel
- Operating Pressure: 414-bar (6,000 PSI)
- Operating Temperature: -15°C (5°F) to 200°C (392°F)
- Standard Inlet & Outlet Ports: 1/2" BSPP
- Weight: 24 lbs (10.8 kg)
- Multiple Configurations
- Reusable Filter Elements
- Provision for Back-Flushing
- Ease of Operation
- Variety of Micron Element Sizes

1.03 FILTER ELEMENTS

1. FILTER ELEMENT	Outside to Inside	Flow-through with Back-flush	
1.01 Maximum Differential Pressure	35 bar	10 bar	
2. CONSTRUCTION MATERIALS	Standard	Special Order	
2.01 Element Parts	Five Layered, Dutch Weave, Sintered Stainless Steel	Contact Manufacturer	
PARTICLES SIZE			
3. MEETS ISO 4406 1999 CODE	>4µm	>6µm	>14µm
2.01 2.5 Micron	20	18	8
2.01 5.0 Micron	20	19	13
2.02 10 Micron	20	19	14
4. FILTER ELEMENT SIZE(S)	Standard Sizes	Custom Order Sizes	
	2.5 Micron, 5.0 Micron, 10 Micron, & 50 Micron	20 Micron, 30 Micron, 75 Micron, & 100 Micron	



Filters can be configured with one of eight elements (each sold separately).

STANDARD SIZES

00001071-0501-000	2.5	Micron
00001071-0501-001	5.0	Micron
00001071-0501-002	10	Micron
00001071-0501-005	50	Micron

CUSTOM ORDER SIZES

00001071-0501-003	20	Micron
00001071-0501-004	30	Micron
00001071-0501-006	75	Micron
00001071-0501-007	100	Micron

1.04 SAFETY INFORMATION **SAFETY INFORMATION****Usage**

- Use filter only within range of pressure and temperature conditions indicated on product data sheet.
- Do not use with chemicals which are incompatible with 316L or seal materials.
- Equipment is certified for Group 2 Category II.
- Equipment should not be used in systems requiring a higher level of certification.

Faults and Damage

The safety features and integrity of filter may be compromised by any of the following:

- External damage to body.
- Exposure to pressure loads in excess of maximum rated pressure.
- Maintenance performed by improperly trained personnel.

Protection from Pressure Releases

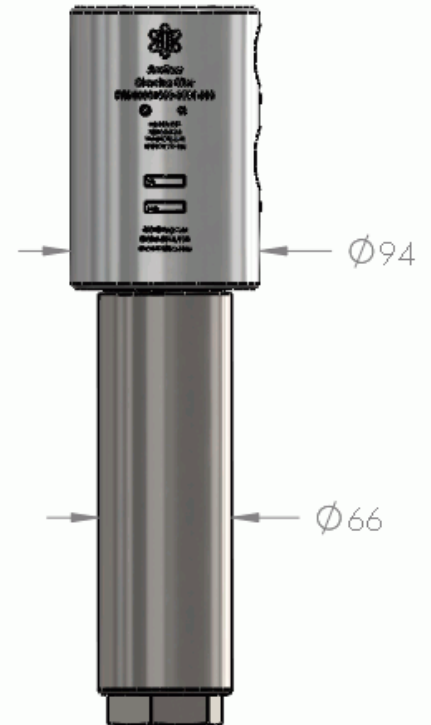
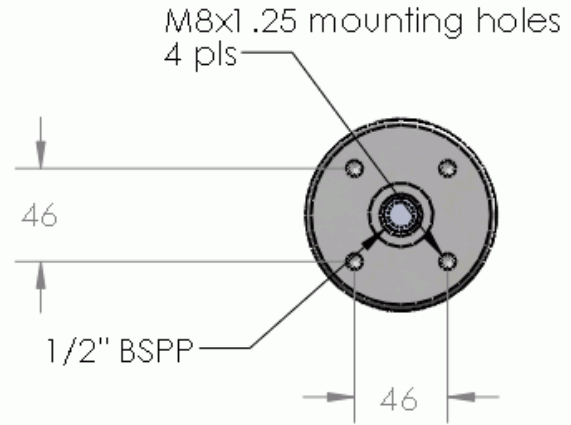
- To avoid injury due to release of high pressure, use only adaptors and fittings rated to withstand appropriate pressure.
- Confirm that all adaptors and fittings are securely connected.
- To avoid a violent release of pressure, slowly bleed off pressure before attaching or removal from pressure line.

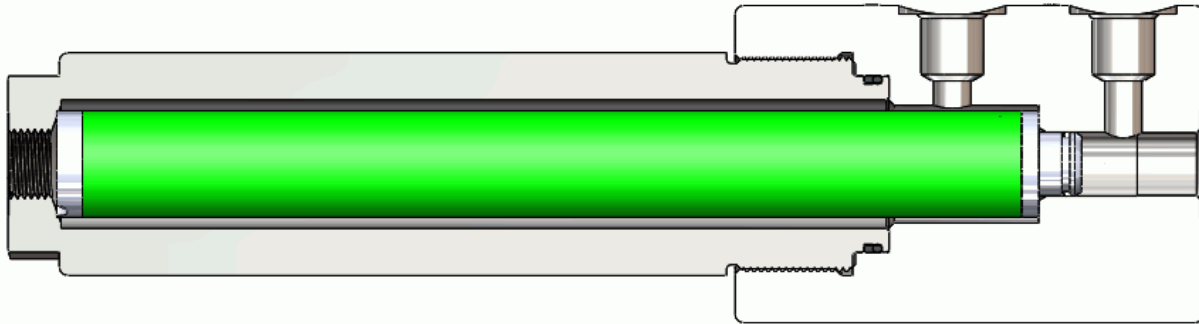
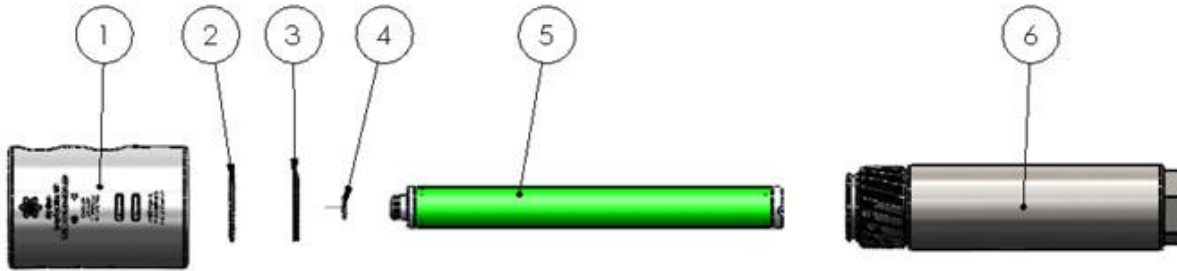
Avoid Mechanical Damage

- Do not damage any threaded components during maintenance procedure. Damage could compromise the pressure safety factor of filter.
- Use care when replacing seals to avoid damage to sealing surfaces. Damage could lead to a sudden release of pressure during operation.

END OF SECTION

1.05 GA DRAWING: Simplex Filter LP



1.06a CUT-AWAY VIEW: Simplex Filter LP

1.05b EXPLODED VIEW: Simplex Filter LP

1.05c BOM: Simplex Filter LP

ITEM	PART	DESCRIPTION	QTY
1	00001080-0301-000	Simplex LP Body	1
2	00001555-2134-103	Body O'Ring	1
3	00001555-8134-003	Body Back-Up Ring	1
4	00001555-2016-103	Filter Element O'Ring	1
5	00001071-0501-000*	Filter Element	1
6	00001082-0301-001	Simplex LP Cup	1

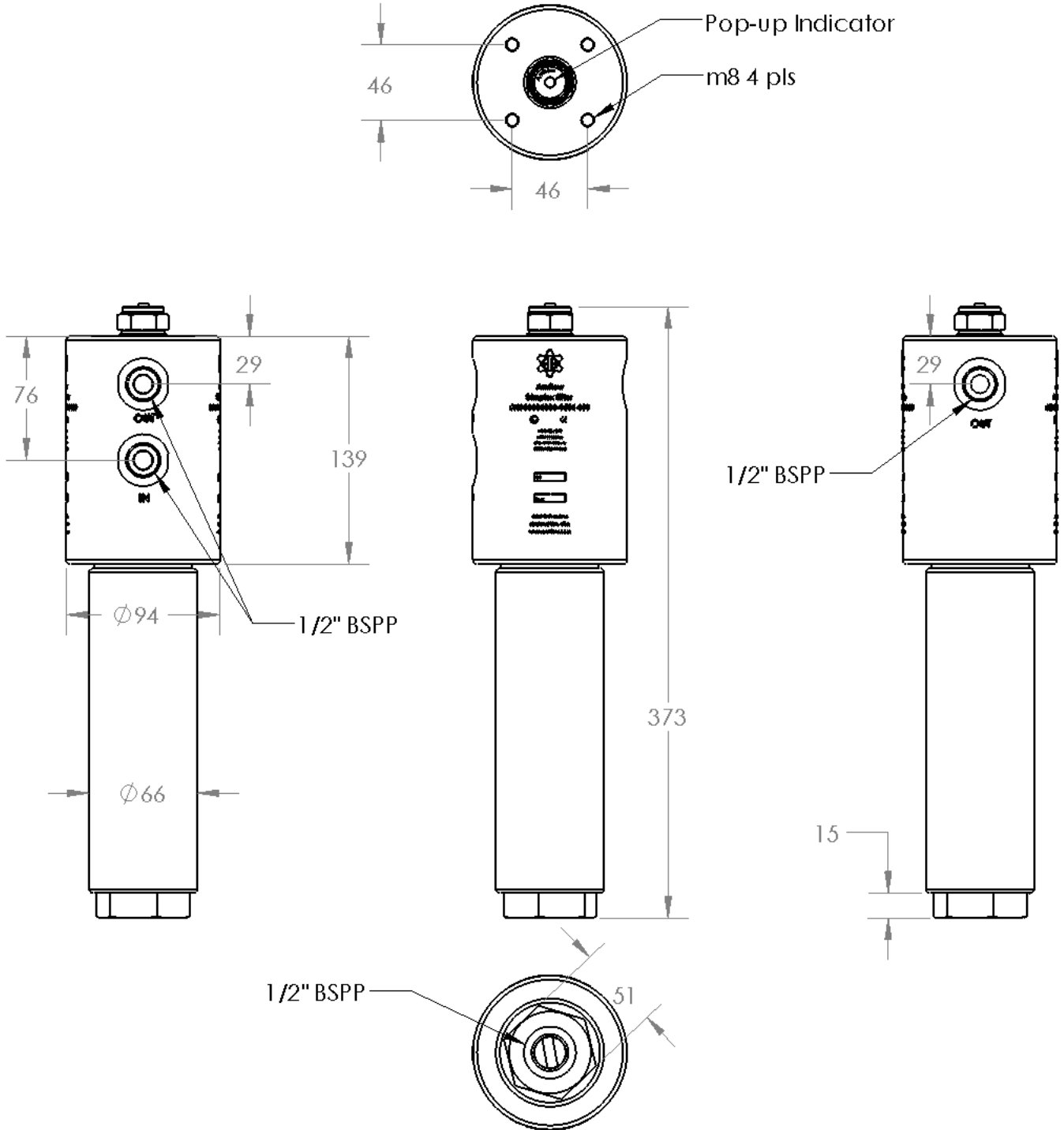
*Item 5

Last three digits indicate size of filter element to be ordered

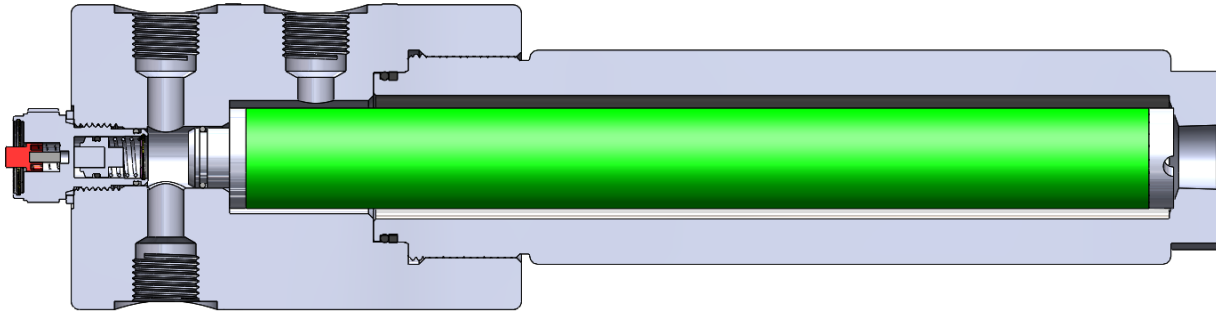


INFORMATION

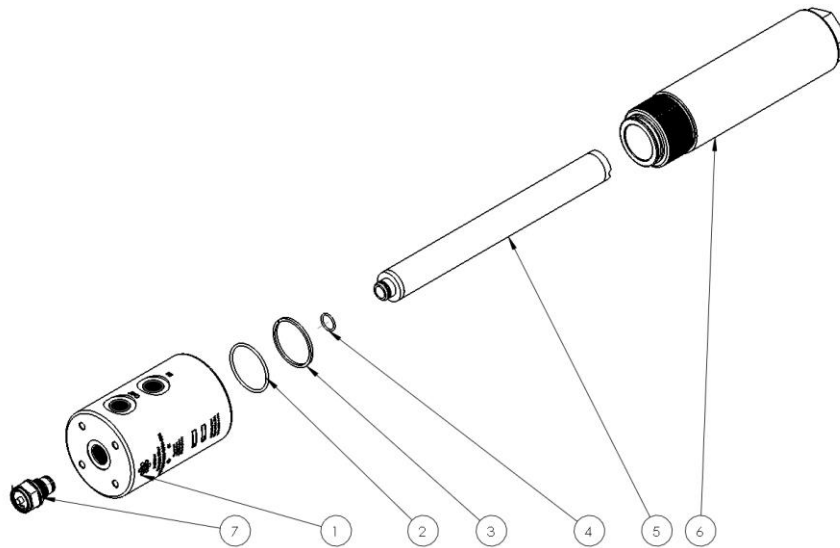
1.06 GA DRAWING: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly



1.06a CUT-AWAY VIEW: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly



1.06b EXPLODED VIEW: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly



1.06c BOM: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly

ITEM	PART	DESCRIPTION	QTY
1	00001081-0301-201	Simplex LP Body	1
2	00001555-2134-103	Body O'Ring	1
3	00001555-8134-003	Body Back-Up Ring	1
4	00001555-2016-103	Filter Element O'Ring	1
5	00001071-0501-000*	Filter Element	1
6	00001082-0301-001	Simplex LP Cup	1
7	00002071-0401-201	Pop-Up Assy	1

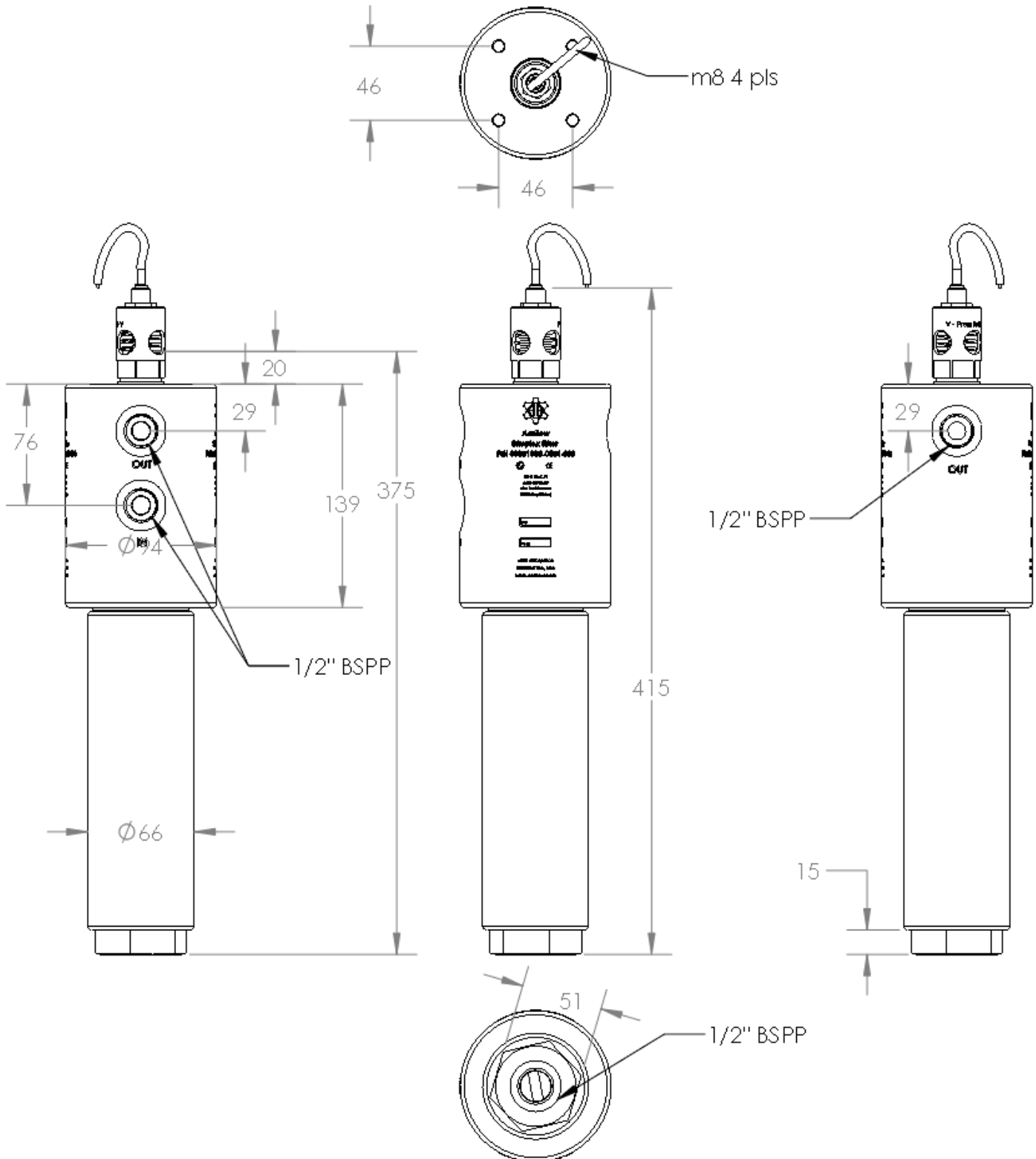
*Item 5

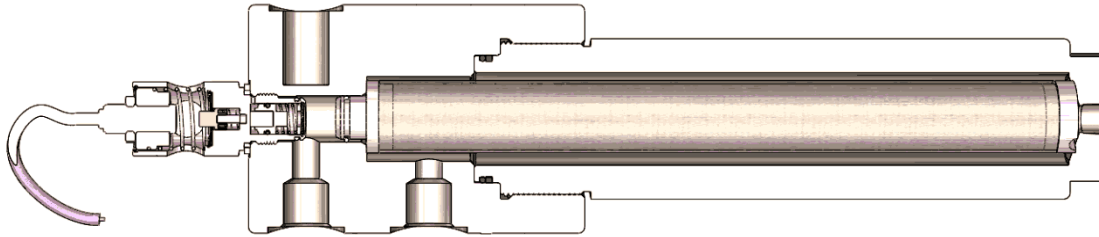
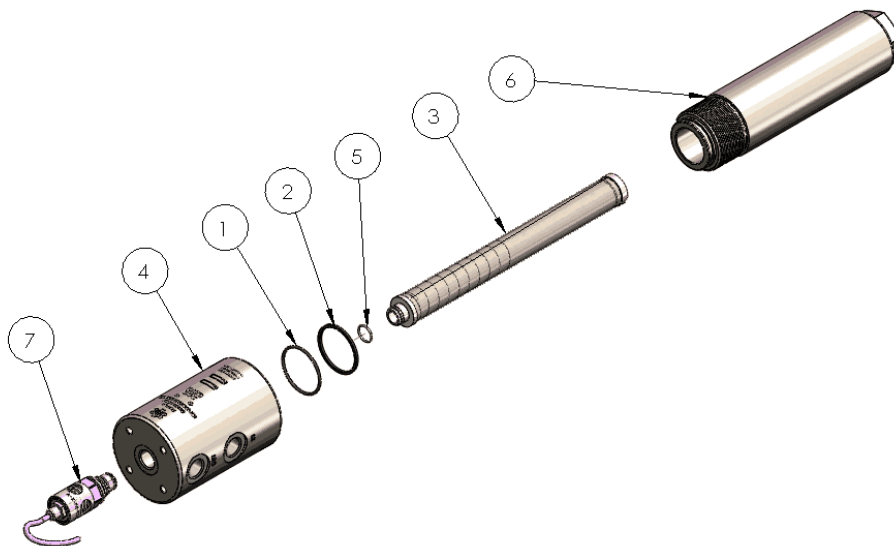
Last three digits indicate size of filter element to be ordered



INFORMATION

1.07 GA DRAWING: Simplex Filter LP with Optional Differential Pressure Pop-Up & Atex Switch



1.07a CUT-AWAY VIEW: Simplex Filter LP with Optional Differential Pressure Pop-Up & Atex Switch

1.07b EXPLODED VIEW: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly

1.07c BOM: Simplex Filter LP with Optional Differential Pressure Pop-Up Assembly

ITEM	PART	DESCRIPTION	QTY
1	00001081-0301-201	Simplex LP Body	1
2	00001555-2134-103	Body O'Ring	1
3	00001555-8134-003	Body Back-Up Ring	1
4	00001555-2016-103	Filter Element O'Ring	1
5	00001071-0501-000*	Filter Element	1
6	00001082-0301-001	Simplex LP Cup	1
7	00002071-0401-001	Atex Switch Assy	1

*Item 5
 Last three digits indicate size of filter element to be ordered

END OF SECTION

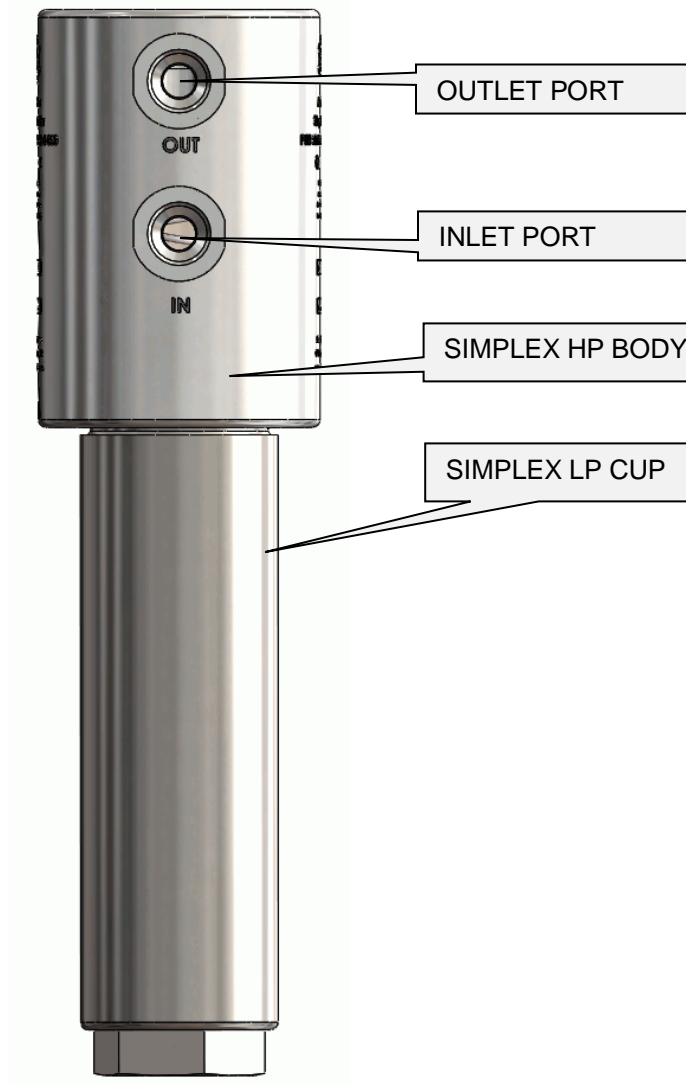
INSTALLATION

SECTION 2: INSTALLATION

2.01 INSTALLATION PROCEDURE: Simplex Filter LP

- Installation of the **Amflow**® Simplex Filter System should be in a vertical position only. This orientation will allow safe maintenance of filter elements.
- Position drain valve so vent is directed away from operator.
- Vent tubes are 6mm and can be connected to an extension using standard tube fittings.

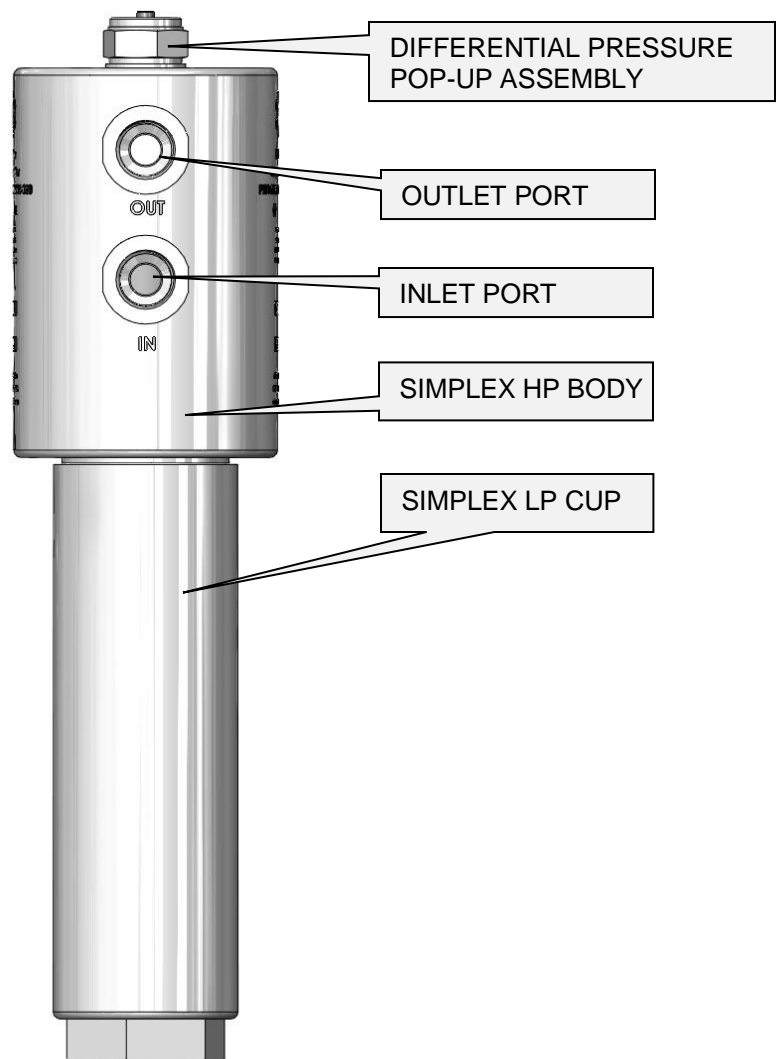
Amflow® Simplex Filter System Vertical Position



INSTALLATION

2.02 INSTALLATION PROCEDURE: SIMPLEX FILTER LP with Optional Differential Pressure Pop-Up

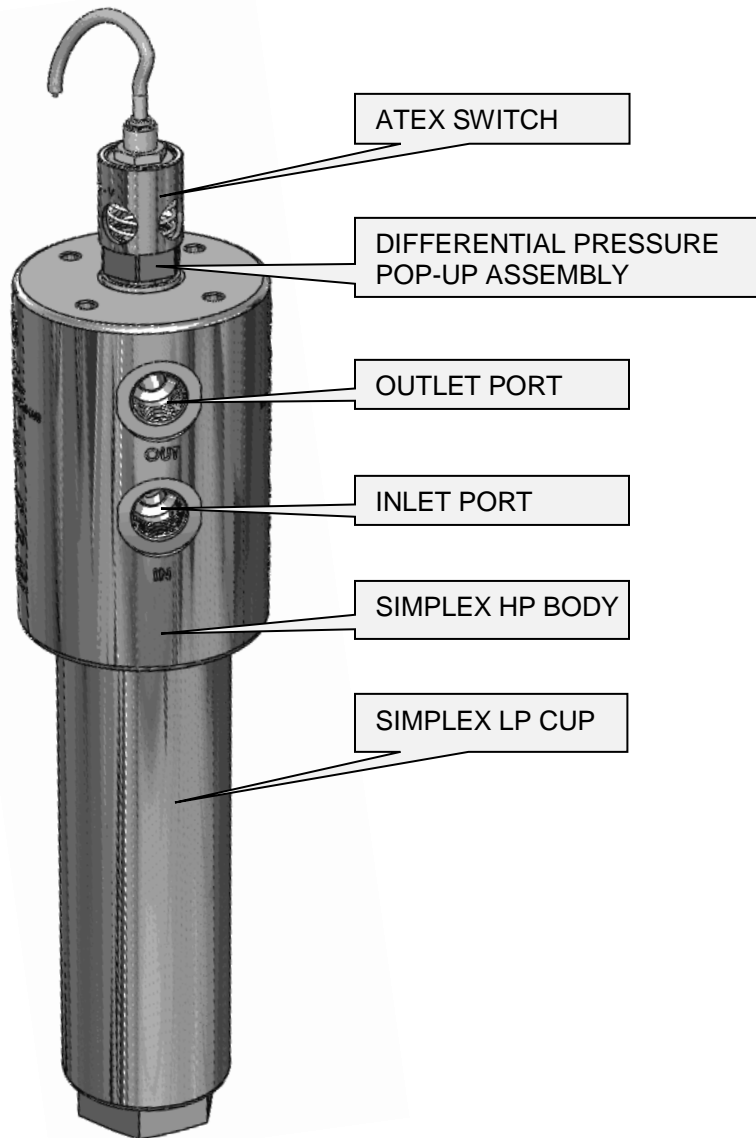
- Installation of the **Amflow**® Simplex Filter System should be in a vertical position only. This orientation will allow safe maintenance of filter elements.
- Position drain valve so vent is directed away from operator.
- Vent tubes are 6mm and can be connected to an extension using standard tube fittings.



INSTALLATION

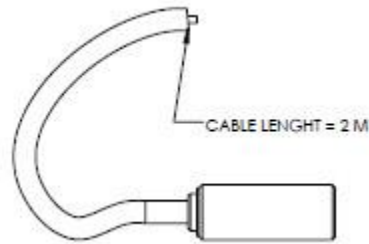
2.03 INSTALLATION PROCEDURE: SIMPLEX FILTER LP with Optional Differential Pressure Pop-Up & ATEX Switch

- Installation of the **Amflow**® Simplex Filter System should be in a vertical position only. This orientation will allow safe maintenance of filter elements.
- Position drain valve so vent is directed away from operator.
- Vent tubes are 6mm and can be connected to an extension using standard tube fittings.



INSTALLATION

2.03 INSTALLATION PROCEDURE: SIMPLEX FILTER LP with Optional Differential Pressure Pop-Up & Atex Switch, continued



ATEX DEVICE CATEGORY:	1G and 2G
OUTPUT ACCORDING TO:	DIN EN 60947-5-6
CATEGORY 1G AND 2G:	for zones 0 and 1 provides protection in explosive areas
OUTPUT ACCORDING TO:	DIN EN 60947-5-6
SWITCHING FREQUENCY:	1,500 Hz
OUTPUT TYPE:	NAMUR
OUTPUT FUNCTION:	NC
ENCLOSURE RATING:	IP 67 1)
CONNECTION TYPE:	Cable, 2-wire, 2 m

Supply Voltage:	7.5 V DC ... 25 V DC 1)
Power Consumption:	≤ 30 mA 2)
Current Consumption, sensor is activated:	≤ 1 mA
Current Consumption, sensor is not activated:	≥ 2.2 mA
Hysteresis:	1 % ... 15 %
Temperature Drift (of Sr):	± 10 %
EMC: According To	EN 60947-5-6
Cable Material:	PVC
Conductor Cross-Section:	0.34 mm ²
Cable Diameter:	4.9 mm
Shock/Vibration:	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient Operating Temperature:	-20 °C ... 70 °C
EC Approval Certificate:	PTB 03 ATEX 2037
Hazardous Area Category:	1G, 2G
Input Voltage U_i Max.:	15 V 3)
Input Power P_i Max.:	120 mW 4)
Input Current I_i Max.:	50 mA 5)
Internal Capacitance C_i Max.:	140 nF 6)
Internal Inductance L_i Max.:	130 µH 7)
Nominal Voltage:	8.2 V DC
ATEX Marking:	II 1 G Ex ia IIB T6 Ta: -20 °C ... +55 °C, II 2 G Ex ia IIC T6 Ta: -20 °C ... +70 °C
Cable Resistance:	50 Ω

END OF SECTION

SECTION 3: OPERATION**3.01 OPERATION PROCEDURE**

- Ensure all fittings are tight.
- Open drain valve slowly.
- Maximum Differential Pressure: 35-bar.
- In flow-through direction with back-flush: 10 bar.
- Maximum Operating Temperature: 200° Celsius (392° Fahrenheit).

The system design should take into consideration that materials which come into contact with the injected media should not contribute to foreign matter entering into the system. Meaning it is unwise to use material that can be easily corroded, such as mild steels.

3.02  INSTALLATION & OPERATION PRECAUTIONS

The design of this filter system allows for online servicing of the filter elements, therefore in order to avoid personal injury the operator should be properly trained.

Before carrying out any maintenance activities insure that proper personal protective equipment is used.

END OF SECTION



SECTION 4: MAINTENANCE

Step 1

- Strongly recommended that a drip pan be installed below assembly so any fluid that may escape during servicing of filter elements is collected in a safe and environmentally friendly manner.

 **WARNING**

Proper safety gear (PPE) should be worn at all times during maintenance.

- In particular, eye and hand protection.

Step 2

- To change or service filter elements, drain fluid from cylinder housing using drain valve.
 - Unscrew cylinder housing and remove filter element.

END OF SECTION

STANDARDS

A&H Enterprises designs its products to meet the applicable **ASME**, and **API** standards for valve design and pressure vessels.

Products are also **CE** marked and **ATEX** approved for Hazardous area installations.

MEMBERSHIPS



CERTIFICATIONS

ATEX DIRECTIVE (94/9/EC)

In the interest of safety and quality, A & H Enterprises, Inc. has certified its **Amflow®** series of filters for use in potentially explosive atmospheres as defined by the ATEX Directive (94/9/EC) as Category 2G.

ATEX
CE Ex II 2 G Ex d IIC T3

To ensure the safety of all parties, the filters must be regularly checked for signs of fluid leaks. Only genuine **Amflow®** parts must be installed in accordance with supplied instructions, good engineering, and construction practices. The filter bodies are constructed from 316L and, therefore, must not be used with chemicals which are incompatible with 316L or with the seal materials used. The filters must not be modified in any way from the original purchased filters. The filters must only be operated in the range of pressure and temperature conditions indicated on product data sheet. This equipment is certified for Group 2 Category II. Equipment should not be used in systems requiring a higher level of certification.

LIMITED WARRANTY

Each **Amflow®** product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is three (3) years and begins on the date of original purchase. This warranty extends only to the original buyer and does not apply to any product which, in A & H Enterprises' opinion, has been misused, altered, neglected, contaminated, damaged by accident or abnormal conditions of operation or handling.

At A & H Enterprises' option, the A & H Enterprises' warranty obligation is limited to the replacement or repair of a defective product that is returned to A & H Enterprises within the warranty period. Merchandise returned to A & H Enterprises within the warranty period which, in A & H Enterprises' opinion, is defective by accident, improper operation or improper handling shall be subject to a charge for repair. Merchandise, free from defects, returned to A & H Enterprises shall be subjected to a 20% restocking fee within thirty (30) days of the purchase date. Written authorization is required for all merchandise returned to A & H Enterprises.

To obtain warranty service, contact A & H Enterprises to obtain return authorization information. Then send the product to A & H Enterprises with a description of the difficulty, transportation and insurance prepaid. A & H Enterprises assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation and insurance prepaid. If A & H Enterprises determines that failure was caused by neglect, misuse, contamination, alteration, accident, or abnormal condition of operation or handling, A & H Enterprises will provide an estimate of repair costs and obtain authorization before commencing the work. Following repair, the product will be returned to the Buyer, transportation and insurance prepaid, and the Buyer will be billed for the repairs and the return transportation and insurance charges.

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. A & H ENTERPRISES SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY.

Since some countries or states do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any provision of the Warranty is held invalid or unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

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