AR–316 SERIES Stainless Steel Regulator

The Versa Type AR-316 series of stainless steel regulators and filter regulators are designed to stand up to the harshest environments while providing highly accurate pressure regulation.

Proven 316 stainless steel housing and filter assemblies along with fluorocarbon diaphragm construction make the AR-316 compatible with sour gas and adaptable to off shore environments.

This quality instrument is economical to buy as well as operate, and provides extremely stable and repeatable control of gas pressure. Over ported internal flow paths helps the unit achieve high flow rates with minimal pressure drop.

The ARFA stainless steel construction is ideal for sour gas and/or corrosive environments and is NACE Compliant meeting sulfide stress cracking material requirements for NACE Standard MR0175. The ARFB model, only the wetted parts are NACE compliant.
AR–316 SERIES Specifications

Port Size:
- Inlet / Outlet: ¼", ½", and 1" NPT
- Gauge Ports (2): ¼" NPT
- Vent: ¼" NPT
- AutoDrain (optional): ¼" NPT

Pressure Supply Max:
- Output Ranges:
  - 290 psig (20.0 bar)*
  - 3-30 psig (0-2.1 bar)
  - 6-60 psig (0-4.1 bar)
  - 10-100 psig (0-6.9 bar)
  - 15-150 psig (0-10.3 bar)

Exhaust Capacity:
- 1.0 SCFM (1.7 m³/hr) at down stream pressure of 10 psig (0.7 bar) above set point

Filter Options:
- Filter: 25 micron (5 & 40 optional)
- Coalescing filter (optional)

Media:
- Pneumatic only

Temperature:
- 5°F to 180°F (-15°C to 82°C) std
- -60°F to 300°F (-51°C to 149°C) -EP
- -20°F to 200°F (-29°C to 93°C) -44

Materials:
- Body, bonnet, filter, diaphragm, seals: 316 Stainless Steel
- Valve spring: Inconel
- Adjusting spring: Inconel (ARFA) Stainless Steel (ARFB)
- Name plate: 316 Stainless Steel
- Filter: 316 Stainless Steel (washable)

AR–316 SERIES Ordering Information

<table>
<thead>
<tr>
<th>Size</th>
<th>Pressure</th>
<th>ARFA*</th>
<th>ARNA</th>
<th>ANFA*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Filter Regulator, Relieving Type**</td>
<td>Regulator Only, Relieving Type**</td>
<td>Filter Only</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>15-150</td>
<td>ARFA-3111-316-†</td>
<td>ARFB-3111-316-†</td>
<td>ARNA-3011-316-†</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>15-150</td>
<td>ARFA-5111-316-†</td>
<td>ARFB-5111-316-†</td>
<td>ARNA-5011-316-†</td>
</tr>
<tr>
<td></td>
<td>6-60</td>
<td>ARFA-3113-316-†</td>
<td>ARFB-3113-316-†</td>
<td>ARNA-3013-316-†</td>
</tr>
<tr>
<td></td>
<td>3-30</td>
<td>ARFA-3114-316-†</td>
<td>ARFB-3114-316-†</td>
<td>ARNA-3014-316-†</td>
</tr>
<tr>
<td>1&quot;</td>
<td>15-150</td>
<td>ARFA-7111-316-†</td>
<td>ARFB-7111-316-†</td>
<td>ARNA-7011-316-†</td>
</tr>
<tr>
<td></td>
<td>10-100</td>
<td>ARFA-7112-316-†</td>
<td>ARFB-7112-316-†</td>
<td>ARNA-7012-316-†</td>
</tr>
</tbody>
</table>

† Suffix option(s) added here as required. See Suffix table on opposite page for options. All models supplied with (2) 1/4" NPT gauge ports. 2 plugs supplied loose. For factory installed plugs add suffix –RPB.

* Filtration: Standard filter is 25 micron. For 5 micron filter change 6th character from 1 to 2. For 40 micron filter change from 1 to 3. For example change ARFA-3111-316 to ARFA-3211-316. Coalescing filter available on ¼" & ½" "Filter Only” units (ANFA’s). Change 1 to 4. For example ANFA-3400-316.

* Drain: Standard filter supplied with manual drain. For AutoDrain change 3rd character from F to D. Example change ARFA-3111-316 to ARFA-31D1-316. AutoDrain supplied with 1/4" npt drain connection. 150 psi maximum.

* * Regulator Type: Standard regulator is relieving type. For non-relieving type change 7th character from 1 to 2. For example change ARFA-3111-316 to ARFA-3211-316. AutoDrain supplied with 1/4" npt drain connection. 150 psi maximum.

* * * NACE 1 ARFA/ARNA/ANFA items are fully NACE compliant. NACE 2 ARFB/ARNB units, only wetted parts are NACE compliant, adjusting spring is 316 stainless steel.

AR–316 SERIES Options/Repair Kits

<table>
<thead>
<tr>
<th>Options (Suffix Details)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-125B</td>
<td>Adjusting Knob. ¼&quot; &amp; ½&quot; only</td>
</tr>
<tr>
<td>-EP</td>
<td>Low Temperature service, Ethylene Propylene</td>
</tr>
<tr>
<td>-44</td>
<td>Low Temperature service, low temp Buna</td>
</tr>
<tr>
<td>-AB</td>
<td>Mounting kit, bracket and nut ¼&quot; &amp; ½&quot; only</td>
</tr>
<tr>
<td>-APN</td>
<td>Panel mount nut ¼&quot; &amp; ½&quot; only</td>
</tr>
<tr>
<td>-GA</td>
<td>Gauge, 2.5&quot; Diameter*</td>
</tr>
<tr>
<td>-APL</td>
<td>Bonnet with integral mounting hubs</td>
</tr>
<tr>
<td>-GAG</td>
<td>Gauge, 2.5&quot; Diameter, Liquid Filled*</td>
</tr>
<tr>
<td>-GB</td>
<td>Gauge, 2.0&quot; Diameter*</td>
</tr>
<tr>
<td>-GBG</td>
<td>Gauge, 2.0&quot; Diameter, Liquid Filled*</td>
</tr>
<tr>
<td>-RPB</td>
<td>Gauge ports plugged at factory</td>
</tr>
<tr>
<td>-RPL</td>
<td>Gauge mounted at factory, inlet on left</td>
</tr>
<tr>
<td>-RPR</td>
<td>Gauge mounted at factory, inlet on right</td>
</tr>
<tr>
<td>-APT</td>
<td>Stainless steel tamper-proof cap</td>
</tr>
</tbody>
</table>

* When gauge is specified it is shipped loose along with a plug. For factory installed gauge see options above.

<table>
<thead>
<tr>
<th>Repair Kits</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR-RR-1</td>
<td>AR-7RR-1</td>
<td>Regulator Kit, Relieving</td>
</tr>
<tr>
<td>AR-RR-2</td>
<td>AR-7RR-2</td>
<td>Regulator Kit, Non-Relieving</td>
</tr>
<tr>
<td>AR-FK-05</td>
<td>AR-FK-05</td>
<td>Filter Kit, 5 micron</td>
</tr>
<tr>
<td>AR-FK-25</td>
<td>AR-FK-25</td>
<td>Filter Kit, 25 micron</td>
</tr>
<tr>
<td>AR-FK-40</td>
<td>AR-FK-40</td>
<td>Filter Kit, 40 micron</td>
</tr>
<tr>
<td>ARD-RR-1</td>
<td>ARD-7RR-1</td>
<td>AutoDrain Kit, Relieving</td>
</tr>
<tr>
<td>ARD-RR-2</td>
<td>ARD-7RR-2</td>
<td>AutoDrain Kit, Non-Relieving</td>
</tr>
</tbody>
</table>

www.versa-valves.com
High Pressure Stainless Steel Components

ARH–316 High Pressure Regulator

Versa’s single stage, high pressure regulator is designed to accept up to 6000 psi input and reduce it to a working range of 10 to 500 psi. Making the ARH ideal for first cut Natural Gas high pressure regulator.

The Type ARH-316 Series of stainless steel regulators are designed to stand up to the harshest environments while providing highly accurate pressure regulation. Proven 316L stainless steel housing assembly and stainless steel diaphragm make the ARH-316 ideal for challenging applications such as pipelines, offshore platforms and sour gas media.

This quality instrument is economical to buy as well as operate. The ARH-316 provides extremely stable and repeatable control of gas pressure.

The all 316L stainless steel construction is ideal for sour gas and/or corrosive environments and is NACE Compliant, meeting sulfide stress cracking material requirements for NACE Standard MR0175.

The combined characteristics of high flow and minimal air consumption mean efficient economical operation.

ARHB-3221-316
(side ported model shown)

VMAP Capable
High Pressure Stainless Steel Components

ARH–316 High Pressure Regulator

Filter: 40 mesh
Port Size:
   Inlet / Outlet
   Gauge (2)
   ¼" NPT
   ¼" NPT
Media:
Pneumatic/Natural Gas
Flow rate:
0.14 Cv
Pressure Supply Max:
   6000 psig (414 bar)
Output Ranges:
   10-70 psig (0.69-5.2 bar)
   50-150 psig (3.4-10.3 bar)
   100-250 psig (6.9-17.2 bar)
   200-500 psig (13.8-34.5 bar)

Temperature:
   5°F to 180°F (-15°C to 82°C) std
   -65°F to 300°F (-51°C to 149°C) -EP
   -20°F to 200°F (-29°C to 93°C) -44
Materials:
   Body: 316L Stainless Steel
   Diaphragm: Stainless Steel
   Seals: FKM (fluorocarbon) (standard)
   Ethylene Propylene (-EP) (optional)
   Nitrile (-44) (optional)
Valve spring: Stainless Steel or Inconel (NACE)
Name plate: 316 Stainless Steel

AFH–316 High Pressure Filter

Versa’s AFH-316 Series high pressure filter is designed to accept up to 6000 psi input and is available in three configurations, 1/4” NPT inline mounting, 1/4” NPT inline mounting with additional outlet port in the cap and manifold mount.

Proven 316L stainless steel housing assembly with two types of filter elements, polyethylene or 316 stainless steel, make the AFH-316 ideal for challenging applications such as pipelines, offshore platforms and sour gas media.

AFH–316 SERIES Ordering Information

ARH–316 SERIES Options/Repair Kits

ARH–316 SERIES Options (Suffix Details)

Suffix detail Description
-AB Mounting kit, bracket and nut
-APN Panel mount nut
-2B G thread
-125B Plastic adjusting knob (black)
-EP Low Temperature service, Ethylene Propylene
-44 Low Temperature service, low temp Buna
-VA Regulator for VMAP installation

Repair Kits

Part Number Description
ARH-RK Regulator Kit, ¼”
ARH-FK-40 Filter Kit, ¼” 40 mesh

AFH–316 High Pressure Filter

Media: Pneumatic/Natural Gas
Filter Microns:
   Polyethylene: 10 or 25
   316 Stainless Steel: 3, 10 or 25
Port Size:
   Inlet/Outlet: ¼" NPT
Flow rate: 0.73 Cv
Maximum Differential Pressure:
   Polyethylene: 20 psid
   316 Stainless: 200 psid
Pressure
   Supply Max:
   0-6000 psig (0-414 bar)
   0-4000 psig (0-275 bar) with purge valve
   0-1600 psig (0-110 bar) option -VA
   Filter Temperature:
   Polyethylene: -4°F to 180°F (-20°C to 82°C) std
   -40°F to 180°F (-40°C to 82°C) -44 & -EP
   316 Stainless: -4°F to 250°F (-20°C to 120°C) std
   -65°F to 250°F (-53°C to 120°C) -44 & -EP
Volume: 0.25 oz condensate capacity
Materials:
   Body: 316 Stainless Steel
   Seals: FKM (fluorocarbon) (standard)
   Ethylene Propylene (-EP) (optional)
   Nitrile (-44) (optional)
Filter Element: Polyethylene

## AR-316 GAUGES

### Pressure Range

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>Standard</th>
<th>Glycerine Filled</th>
<th>Standard</th>
<th>Glycerine Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-60 psi (4.1 bar)</td>
<td>ARGB-060</td>
<td>ARGB-060G</td>
<td>ARG-060</td>
<td>ARG-060G</td>
</tr>
<tr>
<td>0-100 psi (6.9 bar)</td>
<td>ARGB-100</td>
<td>ARGB-100G</td>
<td>ARG-100</td>
<td>ARG-100G</td>
</tr>
<tr>
<td>0-160 psi (11 bar)</td>
<td>ARGB-160</td>
<td>ARGB-160G</td>
<td>ARG-160</td>
<td>ARG-160G</td>
</tr>
<tr>
<td>0-200 psi (13.8 bar)</td>
<td>ARGB-200</td>
<td>ARGB-200G</td>
<td>ARG-200</td>
<td>ARG-200G</td>
</tr>
<tr>
<td>0-400 psi (27.6 bar)</td>
<td>ARGB-400</td>
<td>ARGB-400G</td>
<td>ARG-400</td>
<td>ARG-400G</td>
</tr>
<tr>
<td>0-1000 psi (69.9 bar)</td>
<td>ARGB-1000</td>
<td>ARGB-1000G</td>
<td>ARG-1000</td>
<td>ARG-1000G</td>
</tr>
</tbody>
</table>

*Nominal size, consult factory for dimensions

### Dimensions

#### AR-316 SERIES

#### Mounting ¼” & ½” Units

#### Mounting Holes 1” Units

#### Pressure Gauge

Stainless steel case. ¼”NPT connection (male thread) center back.

Temperature range: Dry: -40°F to 200°F (-40°C to 93°C)  
Filled: -4°F to 150°F (-20°C to 66°C)

---

If no bracket is supplied with the ¼” or ½” regulator can be mounted in a 1.36” (35 mm) diameter hole. Maximum thickness is 0.25” (6 mm). See options for panel nut.

---

www.versa-valves.com
**WARNING.** Non-Relieving regulators should have a pressure relief valve installed downstream of regulator on dead-ended services. This device will prevent excessive build up of pressure protecting systems and components downstream of regulator.

### ARHB Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>Port Size</th>
<th>Weight</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARHB</td>
<td>¼&quot; NPT</td>
<td>8</td>
<td>6.03</td>
<td>153</td>
<td>4.14</td>
<td>105.2</td>
</tr>
</tbody>
</table>

### AFHA Dimensions

**Flow Schematic**

**Mounting Bracket (WMFA)**

**WARNING.** Allow at least 3” clearance from bottom of filter for element replacement.

### Ordering Information

<table>
<thead>
<tr>
<th>Series</th>
<th>Port Type</th>
<th>Filter Elements</th>
<th>Drain Options</th>
<th>Material</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; Side Port</td>
<td>AFHA</td>
<td>Polyethylene</td>
<td>Stainless Steel</td>
<td></td>
<td>-316</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = 10 Micron</td>
<td>3 = 3 Micron</td>
<td></td>
<td>-EP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = 25 Micron</td>
<td>4 = 10 Micron</td>
<td></td>
<td>-2B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = 25 Micron</td>
<td></td>
<td>-44</td>
</tr>
<tr>
<td>1/4&quot; Side &amp; Top Port</td>
<td>AFHA</td>
<td></td>
<td>0 = Drain Plugged</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Drain Valve</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Typical Part Number** A F H A - 3 0 2 0 - 3 1 6 - 4 4

www.versa-valves.com
WARNINGS REGARDING THE DESIGN APPLICATION, INSTALLATION AND SERVICE OF VERSA PRODUCTS

The warnings below must be read and reviewed before designing a system utilizing, installing, servicing, or removing a Versa product. Improper use, installation or servicing of a Versa product could create a hazard to personnel and property.

DESIGN APPLICATION WARNINGS
Versa products are intended for use where compressed air or industrial hydraulic fluids are present. For use with media other than specified or for non-industrial applications or other applications not within published specifications, consult Versa.

Versa products are not inherently dangerous. They are only a component of a larger system. The system in which a Versa product is used must include adequate safeguards to prevent injury or damage in the event of system or product failure, whether this failure be of switches, regulators, cylinders, valves or any other system component. System designers must provide adequate warnings for each system in which a Versa product is utilized. These warnings, including those set forth herein, should be provided by the designer to those who will come in contact with the system.

Where questions exist regarding the applicability of a Versa product to a given use, inquiries should be addressed directly to the manufacturer. Confirmation should be obtained directly from the manufacturer regarding any questioned application prior to proceeding.

INSTALLATION, OPERATION AND SERVICE WARNINGS
Do not install or service any Versa product on a system or machine without first depressurizing the system and turning off any air, fluid, or electricity to the system or machine. All applicable electrical, mechanical, and safety codes, as well as applicable governmental regulations and laws must be complied with when installing or servicing a Versa product.

Versa products should only be installed or serviced by qualified, knowledgeable personnel who understand how these specific products are to be installed and operated. The individual must be familiar with the particular specifications, including specifications for temperature, pressure, lubrication, environment and filtration for the Versa product which is being installed or serviced. Specifications may be obtained upon request directly from Versa. If damages should occur to a Versa product, do not Operate the system containing the Versa product. Consult Versa for technical information.

VERSACO BV
Prins Willem Alexanderlaan
1427
7321 GB Apeldoorn
The Netherlands
Phone: 01131-55-368-1900
Fax: 01131-55-368-1909

www.versa-valves.com
email: sales@versa-valves.com