

**Vacuum Valves and Hoses** 

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# DISHAA INTERNATIONAL LLC

COMPLETE FACTORY SET-UP TURNKEY SOLUTIONS

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# **Section Guide**

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**Section Guide** 

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# **Data Sheet**

# AIRTECH VACUUM TEST UNIT

### DESCRIPTION

The Airtech Vacuum Test Unit is used to test the vacuum integrity of all Airtech vacuum hoses and valves as well as the quick disconnect couplings attached to these hoses and valves. Simply connect the Airtech Vacuum Test Unit to a vacuum source and use the isolation valve and the vacuum gauges to perform a vacuum drop test on the attached components to be tested.

The Airtech Vacuum Test Unit is a compact, lightweight, and easy-to-use device which can be used to test in-service equipment or to check equipment which has undergone maintenance like seal replacements on vacuum valves or end fitting replacements on vacuum hoses.

#### BENEFITS

- · Save time loading autoclaves with prechecked hoses.
- Avoid scrap and part rework due to vacuum loss from leaky hoses.
- · Pretest your vacuum valves and reduce time spent leak checking.

## TECHNICAL DATA

Hose connection 2 x quick disconnect plugs included

Vacuum valve tester 1 x vacuum diaphragm

Vacuum control 2 x valve for circuit isolation under vacuum

Measuring device 2 x Airtech Vac Gauge 30 installed as standard

Vacuum gauge connection 1/4 inch NPT

Housing material Steel

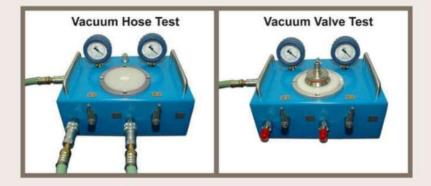
#### VACUUM LEAKAGE TEST METHOD

#### **Vaccuum Hose Test**

- Attach both ends of hose equipped with a female quick disconnect to the plugs.
- Apply vacuum with an external source then isolate with valve on left side of the device.
- Vacuum drop on gauge installed on the left side of the device shows leakage in the vacuum hose.

#### **Vacuum Valve Test**

- · Place vacuum valve onto seal diaphragm within the base plate.
- · Apply vacuum with an external source then isolate with valve on right side of the device.
- Vacuum drop on gauge installed on the right side of the device shows leakage in the vacuum valve.



### NOTES

- All end fittings are 100% vacuum tested after assembly.
- · Instructions included with shipment.
- Vacuum test unit can be fitted with either Vac Gauge 30 or Vac Gauge 40D, please specify at time of order.
- · Watch a demo video of Airtech Vacuum Test Unit in the "Media Center" of our website.

Last updated: 2018-10-01





# **Data Sheet**

# **VAC VALVE BBV**

# Self cutting vacuum valve

## DESCRIPTION

Vac Valve BBV is a 2 piece vacuum valve which perforates the bagging film when the top piece is inserted and threaded into the base plate. The specific design of the threaded connection eliminates the need to cut the bagging film prior to inserting the top piece. Vac Valve BBV will operate for vacuum bagging applications from room temperature up to 500°F (260°C).

#### BENEFITS

- · Small diameter allows for use in space constrained areas.
- Simple economical design keeps plumbing costs under control.
- Beaded base plate provides extra seal pressure and vacuum seal safety.

# TECHNICAL DATA

Construction 2 pieces: base plate, threaded top piece

Material type Aluminum base plate carbon steel upper detail

Material type of gasket Silicone

Screw thread 1/4 inch male NPT Assembly style Screw down

Service temperature 500°F (260°C)

## SIZES

Product Reference	Base Plate Shape	Base Plate Diameter
Vac Valve BBV	Round	1.9 inches (48 mm)



#### DIRECTIONS FOR USE

- · Insert the base under the vacuum bag.
- Screw the top piece into the base plate. Unscrew and remove the bag film chad.
- Screw the top piece all the way down into the base sealing onto the bag film.

Last updated: 2016-08-09





# **Data Sheet**

# **VAC VALVE 399**

# Inexpensive machined aluminum twist valve

## DESCRIPTION

Vac Valve 399 is a machined aluminum, economically priced valve that is inserted through the vacuum bag. It has a black, high temperature silicone seal that will operate to 500°F (260°C). Vac Valve 399 is designed to work with our AQD 500TF quick disconnect or our Airlock 450 TF.

## BENEFITS

- · Flat base and twist lock design is easy to install.
- · High quality components ensure good seals and safe vacuum bags.
- · Simple, economical design keeps plumbing costs under control.

### TECHNICAL DATA

Construction 2 pieces: base plate, top piece Material type Machined aluminum

Material type of gasket Silicone

Screw thread 1/4 inch male NPT
Assembly style Twisted lock
Service temperature 500°F (260°C)

# SIZES

Product Reference	Base Plate Diameter
Vac Valve 399	2.50 inches (63 mm)



## DIRECTIONS FOR USE

- · Insert the base plate under the vacuum bag.
- · A small cut is made in the vacuum bag in the area of the round opening in the base plate.
- The top piece of the valve is inserted through the vacuum bag into the hole in the base plate.
- The top piece is then twisted to provide a positive seal.

Last updated: 2016-02-03





# **Data Sheet**

# **VAC VALVE 400 & 400SS**

Twist valve with a positive seal

## DESCRIPTION

Vac Valve 400 is a twist valve that mechanically seals before vacuum is drawn. The valve provides a chamber that helps prevent seal off. The Vac Valve 400 has a threaded core allowing the operator to turn until completely tight against the seal. Two metal sealing rings are present in the seal area on the bottom part of the vac valve to ensure a positive seal.

#### BENEFITS

- · Flat base and twist lock design is easy to install.
- High quality components ensure good seals and safe vacuum bags.
- Twist and screw down design provides extra vacuum seal safety.

# TECHNICAL DATA

Construction 2 pieces: base plate, top piece

Vac Valve 400: Machined aluminum

Material type Vac Valve 400SS: Stainless steel

Material type of gasket Silicone

Screw thread 1/4 inch male NPT
Assembly style Twisted lock
Service temperature 500°F (260°C)

## SIZES

Product Reference	Base Plate Diameter
Vac Valve 400	2.50 inches (63 mm)
Vac Valve 400SS	2.50 inches (63 mm)

· Other thread sizes available. Contact Airtech for more details.



#### DIRECTIONS FOR USE

- Position base plate over breather.
- · Apply vacuum bag film over the base plate, cut a hole into the bagging.
- Insert top of Vac Valve 400 through film and twis clockwise until tight.
- Be sure center piece is fully extended before you tighten clockwise.

Last updated: 2016-02-03



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**Data Sheet** 

# VAC VALVE 401, 401A, & 401C

# Make vacuum bag connections positive and fast

### DESCRIPTION

Vac Valve 401 series is a twist lock through bag connector designed to work with our AQD 500 TF quick disconnects found in this section of our catalog. In combination with our AQD 500 guick disconnects, these vac valves have been used successfully at major aircraft companies holding full vacuum and pressure up to 15 bars at temperatures up to 500°F (260°C).

#### BENEFITS

- · Flat base and twist lock designs is easy to install.
- High quality components ensure good seals and safe vacuum bags.
- Simple, economical design keeps plumbing costs under control.

#### TECHNICAL DATA

2 pieces: base plate and locking top piece Construction

VV401: Machined aluminum / VV401A: Machined aluminum/ Material type

VV401C: Cast aluminum

Material type of gasket Silicone

Screw thread 1/4 inch male NPT Assembly style Twisted lock Service temperature 500°F (260°C)

### SIZES

Product Reference	Base Plate Diameter	
Vac Valve 401	2.50 inches (63 mm)	
Vac Valve 401A	1.25 inches (width) x 3.5 inches (length) (31.75 mm x 88.9 mm)	
Vac Valve 401C	2.50 inches (63 mm)	

· Other thread sizes available. Contact Airtech for more details.



#### DIRECTIONS FOR USE

- · Insert the base plate under the vacuum bag.
- A small cut is made in the vacuum bag in the area of the round opening in the base plate.
  The top piece of the valve is inserted through the vacuum bag into the hole in the base plate.
- The top piece of the valve is inscribed to provide a positive seal.
   The top piece is then twisted to provide a positive seal.
   Last updated: 2016-02-03





**Data Sheet** 

# **VAC VALVE 402, 402A, & 402SS**

# Three piece threaded vacuum valve with locking ring

### DESCRIPTION

The design of the Vac Valve 402 series allows for a tighter connection with an increase in autoclave pressure. This is achieved by using a threaded locking ring creating a tight mechanical seal, and a pressure plate that increases the surface area providing a superior seal.

## BENEFITS

- · Screw down seal design provides extra vacuum seal safety.
- High quality components ensure good seals and safe vacuum bags.
- Bag film is clamped under clamping ring reducing wrinkle leak risk.

### TECHNICAL DATA

Construction 3 pieces: base plate, pressure plate, locking ring

VV402: Carbon steel VV402A: Aluminium VV402SS: Stainless steel

Material type of gasket Silicone

Screw thread 1/4 inch male NPT
Assembly style Screw down
Service temperature 500°F (260°C)

## SIZES

Material type

Product Reference	Base Plate Diameter
Vac Valve 402	2.50 inches (63 mm)
Vac Valve 402A	2.50 inches (63 mm)
Vac Valve 402SS	2.50 inches (63 mm)

· Other thread sizes available. Contact Airtech for more details.



### DIRECTIONS FOR USE

- Insert the base plate and the silicone gasket under the vacuum bag.
- Cut a small opening in the vacuum bag and push the stem through the opening.
- Apply the pressure plate on the outside of the vacuum bag and screw down the locking ring.

#### NOTES

· Watch a video of Vac Valves in the "Media Center" on our website.

Last updated: 2016-02-03





# **Data Sheet**

# **VAC VALVE 406 TF**

# Threaded base valve with a positive pressure seal

### DESCRIPTION

Vac Valve 406 TF is a machined stainless steel valve with a threaded base plate. The top piece is inserted through the vacuum bag and is easily threaded into the base plate. The base also has a machined raised ring that provides an additional sealing mechanism. Vac Valve 406 TF is designed to work with our AQD 500TF quick disconnect. The rubber seal in this unit is fabricated from high temperature silicone that will operate to  $500^{\circ}$ F ( $260^{\circ}$ C).

## BENEFITS

- · Flat base is easy to install under bag film.
- High quality components ensure good seals and safe vacuum bags.
- Screw down seal provides extra seal pressure & vacuum seal safety.

#### TECHNICAL DATA

Construction 2 pieces: base plate, threaded top piece

Material type Stainless steel

Material type of gasket Silicone

Screw thread 1/4 inch male NPT
Assembly style Screw down
Service temperature 500°F (260°C)

## SIZES

Product Reference	Base Plate Diameter
Vac Valve 406 TF	2.50 inches (63 mm)
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#### DIRECTIONS FOR USE

- · Insert the base under the vacuum bag.
- · A small cut is made in the vacuum bag in the area for the round opening in the base plate.
- The top piece of the valve is inserted through the vacuum bag and threaded into the base.
- A wrench can be used to apply additional pressure.

#### NOTES

· Watch a video of Vac Valves in the "Media Center" on our website.

Last updated: 2016-02-03





P. 8

# **Data Sheet**

# **VAC VALVE 200**

# Two piece vacuum valve for reusable vacuum bag applications

### DESCRIPTION

Vac Valve 200 is a simple machined aluminum design that makes for a tightly bonded seal with a reusable bag surface. It is designed to fit permanently in the bag, and can be used with silicone, latex, or any other reusable vacuum bag surface. Vac Valve 200 is compatible with our AQD 500TF quick disconnect.

## BENEFITS

- · Small and light weight to reduce stress on rubber bags.
- · Simple design can be used with all types of rubber materials.
- Inexpensive to reduce overall costs of reusable bag tooling.

### TECHNICAL DATA

Construction 2 pieces: base plate, top ring

Material type Aluminum

Screw thread 1/4 inch male NPT
Assembly style Screw down

Service temperature 450°F (232°C)

# SIZES

Product Reference	Base Plate Diameter
Vac Valve 200	1.70 inches (43 mm)



### DIRECTIONS FOR USE

- Cut or bore a hole in the reusable bag sheet the same size diameter as the base thread.
- Insert base plate under the sheet and up through the hole.
- The top ring of the vac valve is then placed over the male pipe end and threaded into the base plate.
- For best results, the vac valve can be bonded to the material using a compatible adhesive.
- An AQD 500TF quick disconnect may then be screwed on to the top of the vac valve.

Last updated: 2016-02-03





# **Data Sheet**

# **VAC VALVE 409 SS HTR**

Stainless steel vacuum valve for cures up to 900°F (482°C)

## DESCRIPTION

Vac Valve 409 SS HTR was designed for high temperature cures where valves with silicone rubber seals breakdown. The Vac Valve 409 SS HTR utilizes the bagging film along with mechanical pressure to create an air tight seal. The bagging film is clamped between the ridged base plate and the holding ring with contra shape.

## BENEFITS

- · Screw down seal design provides extra vacuum seal safety.
- High quality components ensure good seals and safe vacuum bags.
- Clamping ring design eliminates gasket, allowing higher temperature usage.

### TECHNICAL DATA

Construction 3 pieces: base plate, pressure plate, locking ring

Material type Stainless steel
Screw thread 1/4 inch male NPT
Assembly style Screw down
Service temperature 900°F (482°C)

# SIZES

Product Reference	Base Plate Diameter
Vac Valve 409 SS HTR	2.50 inches (63 mm)



## DIRECTIONS FOR USE

- · Insert the base plate under the vacuum bag.
- Cut a small opening in the vacuum bag and push the stem through the opening.
- Apply the pressure plate on the outside of the vacuum bag and screw down the locking ring.

#### NOTES

 This vacuum valve can be used with our AHTC-1000 QTD high temperature quick disconnect and our Airflow 800 high temperature autoclave hoses.

Last updated: 2016-08-18





# **Data Sheet**

# **VAC VALVE 429 SS HTR**

Stainless steel vacuum valve with graphite seal, usable up to 900°F (482°C)

### DESCRIPTION

Vac Valve 429 SS HTR was designed for high temperature cures where standard valves with silicone rubber seals breakdown. Vac Valve 429 SS HTR is to be used for direct connection to vacuum hoses instead of complex and expensive coupling system. Vac Valve 429 SS HTR is usable up to 900°F (482°C) in combination with new high performance graphite seals. This valve can be directly screwed to our Airflow 800 or BBH1080 which provide a safe connection for high temperature processes, such as thermoplastics. Graphite seals and thread sealing products for high temperature use are easy to replace and can be ordered separately.

### BENEFITS

- Design reduces threaded plug connection and risk of vacuum leakage for high temperature process.
- Optimized solution which provides an easy and low space connection to vacuum hoses.
- Economical solution for high temperature process.

## TECHNICAL DATA

Construction 4 pieces (base plate, top piece, vac hose connector, locking screw)

Material type Stainless steel

Material type of gasket High performance graphite

Screw thread 1/4 inch male NPT
Assembly style Screw down
Service temperature 900°F (482°C)

# SIZES

Product Reference	Base Plate Diameter
Vac Valve 429 SS HTR	2.40 inches (61 mm)

#### DIRECTIONS FOR USE

- · Insert the base under the vacuum bag.
- A small cut is made in the vacuum bag in the area for the round opening in the base plate.
- Apply a graphite seal on the bottom and on top of the thread connector piece and place it on the vacuum bag with the base plate under.
- The top piece of the vacuum hose is screwed on the thread connector piece of the vac valve until fixation.

#### NOTES

- This vacuum valve can be used with our Airflow 800 or BBH 1080 high temperature autoclave hoses.
- Graphite seals and thread seal materials can be ordered separately.

Last updated: 2019-01-31





**Data Sheet** 

# VAC VALVE PAD A241 MFD & A22C

# Prevents seal off in vacuum bag lay-ups

# DESCRIPTION

A241MFD is a multi-layer fiberglass vac valve pad with a wire mesh to prevent airflow seal off.

**A22C** vac valve pad is a multi-layer fiberglass construction to prevent seal off and resin flow into the vacuum connectors.

#### BENEFITS

- Avoid part defects due to breather crush and lost vacuum.
- · Protect from bag failures under valves and lost bags.
- · Prevent tool damage under the vac valve.

# SIZES

Thickness	Width	Length
0.25 inch (6.35 mm)	2 inches (5.08 cm)	2 inches (5.08 cm)
0.25 inch (6.35 mm)	3 inches (7.62 cm)	3 inches (7.62 cm)
0.25 inch (6.35 mm)	4 inches (10.16 cm)	4 inches (10.16 cm)



Last updated: 2016-02-03





# **Data Sheet**

# **PREMIUM MULTI-VALVE 407**

Vacuum bag connector with leak free solid body

# DESCRIPTION

The solid body design of the Premium Multi-Valve 407 combines the male quick disconnect and thru-bag connector, eliminating threaded connections and potential leak paths. Robust stainless steel construction ensures corrosion resistance and long life. High temperature O-ring and platinum cured silicone gasket give a long service. It is fully compatible with ¼" ISO-B "Hansen" style quick-disconnects. The valve mechanism and O-ring seals can easily be replaced to extend life.

# BENEFITS

- Design eliminates threaded plug connection and all risk of vacuum leakage.
- Seals and valve parts can be easily replaced to extend life.
- Stainless steel construction means no coating breakdown at high temperature.

#### TECHNICAL DATA

Construction 2 pieces: base plate, top piece

Material type Stainless steel
Material type of gasket Silicone
Coupling size 1/4 inch

Assembly style Screw down
Service temperature 500°F (260°C)

# SIZES

Product Reference	Base Plate Diameter
Premium Multi-Valve 407	2.38 inches (60 mm)

#### DIRECTIONS FOR USE

- · Insert the base under the vacuum bag.
- A small cut is made in the vacuum bag in the area for the round opening in the base plate.
- The top piece of the valve is inserted through the vacuum bag and threaded into the base.
- Maintenance seals removable through base.
- Seal and spare parts available See Premium Multi-Valve 407 Seal and Replacement Parts data sheet.

#### NOTES

· Watch a video of Vac Valves in the "Media Center" on our website.

Last updated: 2016-02-03





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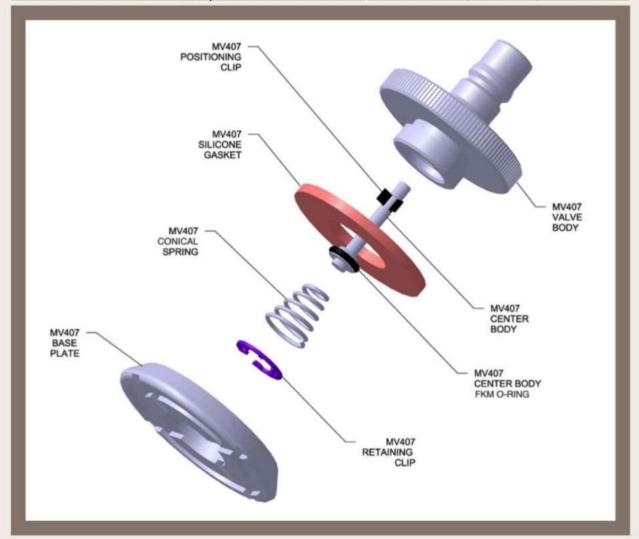
# **Data Sheet**

### PREMIUM MULTI-VALVE 407 SEAL AND REPLACEMENT PARTS

# DESCRIPTION

Using pliers remove retaining clip on the underside of MV 407. The valve mechanism can easily be removed through the base. Inspect and replace worn items and then re-assemble using the reverse process.

Individually Available Spares	Package Size
MV407 Silicone gasket	10
MV407 Center body FKM O-ring	25
MV407 Positioning clip	4
MV407 Retaining clip	25
MV407 Conical spring	4
MV407 Center body	4
MV407 Base plate	1 (Not stocked)



Last updated: 2016-02-03





**Data Sheet** 

# **PREMIUM MULTI-VALVE 408**

Vacuum bag connector with leak free solid body

### DESCRIPTION

The solid body design of the Premium Multi-Valve 408 combines the male quick disconnect and thru-bag connector, eliminating threaded connections and potential leak paths. Robust stainless steel construction ensures corrosion resistance and long life. High temperature O-ring and platinum cured silicone gasket give a long service. It is interface compatible with Parker Snap-Tite 1/4" style quick disconnect. The valve mechanism and O-ring seals can easily be replaced to extend life.

# BENEFITS

Service temperature

- Design eliminates threaded plug connection and all risk of vacuum leakage.
- Seals and valve parts can be easily replaced to extend life.
- Stainless steel construction means no coating breakdown at high temperature.

#### ■ TECHNICAL DATA

Construction 2 pieces: base plate, top piece

Material type Stainless steel
Material type of gasket Silicone
Coupling size 1/4 inch
Assembly style Threaded

Product Reference Base Plate Diameter
Premium Multi-Valve 408 2.38 inches (60 mm)

500°F (260°C)



#### DIRECTIONS FOR USE

- · Insert the base under the vacuum bag.
- A small cut is made in the vacuum bag in the area for the round opening in the base plate.
- The top piece of the valve is inserted through the vacuum bag and threaded into the base.
- Maintenance seals removable through base.
- Use same seal and spare parts as Premium Multi-Valve 407.
- For seal and spare parts See Premium Multi-Valve 407 Seal and Replacement Parts data sheet.

#### NOTES

Compatible Parker Snap-Tite connectors are available from Airtech.

Last updated: 2018-10-01





**Data Sheet** 

# STANDARD HOSE ASSEMBLIES

Service range from 275°F (135°C) to 900°F (482°C)

### DESCRIPTION

Airtech has hose assemblies for use in the workshop oven or autoclave. The hose materials and connectors have been designed to work with the different service temperatures and shop conditions. See table below for details.

## SIZES

Product Reference	Socket Type	Service Temperature	Available Length
ECONOFLOW 59R	Female threaded (AQD 500TF)	275°F (135°C)	up to 100 feet (30 m)
AIRFLOW 65R	Female threaded (AQD 500TF)	400°F (232°C)	up to 100 feet (30 m)
AIRFLOW 100	Female threaded (AQD 500TF/ Airlock 550TF)	500°F (260°C)	up to 100 feet (30 m)
AIRFLOW 100S	Female threaded (AQD 500TF/ Airlock 550TF)	500°F (260°C)	up to 32 feet (9 m)
AIRFLOW 100 ARMOR SLEEVE	Female threaded (AQD 500TF/ Airlock 550TF)	500°F (260°C)	up to 75 feet (22 m)
AIRFLOW 100R	Female threaded (AQD 500TF/ Airlock 550TF)	500°F (260°C)	up to 100 feet (30 m)
AIRFLOW 800*	Female threaded (AHTC 1000QTD)	900°F (482°C)	up to 25 feet (8 m)
BBH 1080*	Female threaded (AHTC 1000QTD)	900°F (482°C)	up to 75 feet (22 m)

 Though standard sizes are 10 feet (3 meters), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.



### NOTES

- Airflow hoses are available with quick disconnects upon request.
- All hoses come standard with 1/4 inch NPT male fittings.
- \*The AQD 500TF and Airlock 450 socket types may be used when processing at lower temperatures.

Last updated: 2016-06-03





**Data Sheet** 

# PREMIUM BLANKING CAP 500

# Blocks unused vacuum connections

# DESCRIPTION

Use the Blanking Cap 500 on unused quick disconnect plugs to avoid vacuum loss from your system. It has a domed end which fits in the palm of the hand making it easier to push into place on plugs.

## BENEFITS

- Cap unused connections in the autoclave to stop air pressure leakage into the vacuum system.
- Protect vacuum valve connections during tool transit.
- Prevent vacuum valve leakage during vacuum drop tests.

# **TECHNICAL DATA**

Construction Material type Material type of O ring seals Service temperature Coupling style Coupling size Max autoclave pressure

Single piece solid body

Stainless steel FKM elastomer 475°F (246°C) Hansen ISO-B 1/4 inch 145 psi (10 bar)



Last updated: 2016-02-03





**Data Sheet** 

# **ECONOFLOW 59R**

# Economical vacuum hose for non-autoclave applications

## DESCRIPTION

Econoflow 59R is a vacuum hose designed for marine, transportation, recreational and other F.R.P. industries where cost cutting is a primary concern. It can be used for low temperature oven or room temperature use and has an interlocking steel tube to prevent collapse while remaining flexible. The rubber jacket protects the vacuum bag. The bell shaped ferrules prevent hose lacerations at the fitting ends, extending hose life.

#### BENEFITS

- Inexpensive hose keeps cost under control where high performance is not required.
- Same basic design as high performance hoses ensure safe vacuum.
- Can be made up to 100 feet (30 m) long for large mold tool applications.

# TECHNICAL DATA

Material type of inner tube Material type of hose Hose color End fitting Service temperature Interlocking steel tube Rubber Translucent white 1/4 inch male NPT 275°F (135°C)

# SIZES

Product Reference	Nominal Outer Hose Diameter	Available Length
ECONOFLOW 59R	3/4 inch (19 mm)	up to 100 feet (30 m)

 Though standard sizes are 10 feet (3 meters), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.



Last updated : 2019-07-30





# **Data Sheet**

# **AIRFLOW 65R**

# The all purpose hose for composites, bonding and tool shops

### DESCRIPTION

Airflow 65R can be used as an autoclave or oven hose. The outer ply is silicone rubber that encases a flexible steel tube that prevents collapse and hose separation. The bell-shaped ferrule helps hose lacerations at fitting ends extending hose life.

## BENEFITS

- · Safer vacuum for part curing with heavy duty hose construction.
- · Flexibility make loading ovens and autoclaves easy and fast.
- Straight and elbow end fittings help reduce strain on hose and vacuum bags.

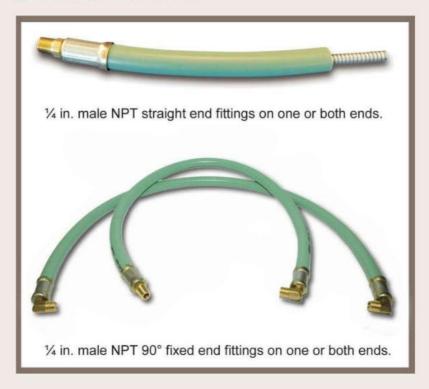
# TECHNICAL DATA

Material type of inner tube Material type of hose Hose color End fitting Service temperature Max autoclave pressure Interlocking steel tube Silicone rubber Green 1/4 inch male NPT 450°F (232°C) 130 psi (9 bar)

## SIZES

Product Reference	Nominal Outer Hose Diameter	Available Length
AIRFLOW 65R	3/4 inch (19 mm)	up to 100 feet (30 m)

•Though standard sizes are 10 feet (3 m), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.



Last updated: 2019-07-30





**Data Sheet** 

# **AIRFLOW 800**

# Very high temperature autoclave vacuum hose

## DESCRIPTION

Airflow 800 is a vacuum hose designed for extremely high temperatures up to 900°F (482°C), in continuous operation. The solid steel construction maintains superior durability yet remains flexible. We recommend for use with our AHTC 1000 QTD quick disconnects and our Vac Valve 409 SS HTR. Optional outer steel sleeve can be ordered to provide additional durability. This product is an outstanding alternative for lower temperature use where longer hose life is desired.

### BENEFITS

- Safer vacuum for part curing with heavy duty metal hose construction.
- More temperature resistance for high end applications.
- Highly durable construction for long in-service life.

## ■ TECHNICAL DATA

Material type of hose Material type of outer protection End fitting Service temperature Max autoclave pressure Steel Steel sleeve 1/4 inch male NPT 900°F (482°C) 319 psi (22 bar)

## SIZES

Product Reference	Nominal Outer Hose Diameter	Available Length
AIRFLOW 800	1/2 inch (12.7 mm)	up to 25 feet (8 m)

- Though standard sizes are 10 feet (3 meters), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.
- Other hose diameters and end fittings are available.



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# **Data Sheet**

# **BBH 1080**

# High temperature autoclave/oven hose

## DESCRIPTION

BBH 1080 is a durable high temperature and high pressure autoclave hose. The hose construction consists of an inner flexible stainless steel conduit over-wrapped with a stainless steel braid. A stainless steel armor jacket covers the hose and protects it from the harsh autoclave and production environment. The unique design provides durability, flexibility, and reliability.

#### BENEFITS

- Safer vacuum for part curing with heavy duty metal hose construction.
- · More temperature resistance and longer in service life.
- Outer steel armor jacket provides durability and hose protection.

# TECHNICAL DATA

Material type of inner tube
Material type of outer braid
Material type of outer protection
End fitting
Service temperature
Max autoclave pressure

Stainless steel Stainless steel Flexible stainless steel 1/4 inch male NPT 900°F (482°C) 320 psi (22 bar)

## SIZES

Product Reference	Nominal Outer Hose Diameter	Available Length
BBH 1080	7/16 inch (11.1 mm)	up to 75 feet (22 m)

- Though standard sizes are 10 feet (3 meters), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.
- Other hose diameters and end fittings are available.



Last updated: 2019-07-30





**Data Sheet** 

# **AIRFLOW 100, 100S, 100R, 100 ARMOR SLEEVE**

# High temperature autoclave/oven hoses

### DESCRIPTION

**Airflow 100** is a durable high temperature and high pressure autoclave hose. The hose construction consists of a braided steel outer covering a PTFE inner tube supported with a flexible steel spring conduit. Its unique design prevents collapse from vacuum or autoclave pressures.

**Airflow 100S** has the same construction as the Airflow 100 with the addition of a steel outer protection coil. **Airflow 100R** has the same construction as the Airflow 100 with the addition of a silicone rubber outer protective sleeve.

Airflow 100 Armor Sleeve has the same construction as the Airflow 100 with an outer steel armor jacket.

### BENEFITS

- Safer vacuum for part curing with heavy duty metal hose construction.
- More temperature resistance and longer in service life.
- Different outer jackets for different use conditions.

# ■ TECHNICAL DATA

Material type of inner tube PTFE

Material type of inner conduit Flexible steel

Material type of outer braid Steel

Material type of outer protection Flexible steel (100S) / Silicone rubber (100R)

End fitting 1/4 inch male NPT Service temperature 500°F (260°C) Max autoclave pressure 320 psi (22 bar)

### SIZES

Product Reference	Nominal Outer Hose Diameter	Available Length
AIRFLOW 100	7/16 inch (11.1 mm)	up to 100 feet (30 m)
AIRFLOW 100 S	7/16 inch (11.1 mm)	up to 32 feet (9 m)
AIRFLOW 100 ARMOR SLEEVE	5/8 inch (15.8 mm)	up to 75 feet (22 m)
AIRFLOW 100 R	5/8 inch (15.8 mm)	up to 100 feet (30 m)

- Though standard sizes are 10 feet (3 meters), hose lengths can be customized to meet your specific requirements, contact Airtech for more information.
- Other hose diameters and end fittings are available.



Last updated: 2019-07-30



**Data Sheet** 



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# AQD 500TF

# Two piece quick disconnect

## DESCRIPTION

The AQD 500TF quick disconnect couplings are made of high carbon steel that have been plated to halt oxidation. The couplings have internal valves so when disconnected the airflow is shut off in both plug and socket. This means your vacuum bag holds vacuum even after the vacuum hose has been disconnected. The AQD 500TF are rugged dependable disconnects that can be installed in minutes when used with Airtech Vac Valves. The AQD 500TF comes with a threaded female fitting designed to receive our Airflow autoclave and oven hoses. Use our AQD 500BF (barbed fitting) when attaching to rubber vacuum lines.

### **BENEFITS**

- Standard design compatible with Vac Valves and Hoses.
- Quick disconnect feature for fast loading/unloading of ovens and autoclaves.
- Shut off valves prevent vacuum loss after disconnect.

## **TECHNICAL DATA**

Material type Material type of O ring seals Connection to hose Screw thread Coupling size Service temperature

Carbon steel FKM elastomer Threaded 1/4 inch female NPT 1/4 inch 500°F (260°C)



## NOTES

- AQD 500TF on the autoclave wall that are not being used for hose connections should be protected with BC500 Blanking caps to avoid vacuum leakage. Otherwise autoclave pressure will compress the spring seal and open the valve resulting in lost vacuum and pressure.
- Sockets and plugs may be sold separately.
- Other thread sizes available upon request.

Last updated: 2016-02-19





**Data Sheet** 

# **AIRLOCK 450TF & 550TF**

# Quick disconnect for autoclave operation

## DESCRIPTION

The Airlock 450TF and Airlock 550TF are specifically designed for use in the autoclave environment. Its sturdy design performs well in higher temperature and pressure cure cycles. Both quick disconnects are made with FKM O-rings that are not attacked by epoxies.

## BENEFITS

- · Standard design compatible with Vac Valves and Hoses.
- · Quick disconnect feature for fast loading/unloading of ovens and autoclaves.
- · Shut off valves prevent vacuum loss after disconnect.

# TECHNICAL DATA

Material type

Material type of O ring seals Connection to hose

Screw thread

Coupling size

Service temperature

Airlock 450TF: Brass

Airlock 550TF: Stainless steel

FKM elastomer

Threaded

1/4 inch female NPT

1/4 inch

Airlock 450TF: 450°F (232°C) Airlock 550TF: 550°F (287°C)

# SIZES

Socket Type	Product Reference
Female threaded	Airlock 450TF
Female threaded	Airlock 550TF

· Other thread sizes available upon request.



Last updated: 2016-02-03





# **Data Sheet**

# AHTC-1000 QTD

# High temperature, all metallic, quick turn disconnect

## DESCRIPTION

The AHTC-1000 QTD Quick Turn Disconnect is designed for use up to 1000°F (538°C). The ferrule expands to create a seal at elevated temperatures. There are no organic materials to break down under high temperature applications. The end fittings are female NPT style and work well with our Vac Valve 409 SS HTR, Airflow 800, and BBH 1080 autoclave hoses.

#### BENEFITS

- · Standard thread design compatible with Vac Valves and Hoses.
- Highest temperature and pressure resistance for high end applications.
- · Highly durable construction for long in-service life.

# TECHNICAL DATA

Material type Connection to hose Screw thread Service temperature Max autoclave pressure All metallic Threaded 1/2 or 1/4 inch female NPT 1000°F (538°C) 1000 psi (69 bar)

## SIZES

Socket Type	Product Reference
Female threaded	AHTC-1000 QTD



## NOTES

· Available upon request only. Minimum order may apply.

Last updated: 2016-02-03





# **Data Sheet**

# **VAC-GAUGE 30**

# Inexpensive vacuum gauge

### DESCRIPTION

Vac-Gauge 30 is our durable, inexpensive vacuum gauge to determine how much vacuum is under your vacuum bag. A heavy ridged blue rubber jacket protects the gauge from damage in normal shop use. The Vac-Gauge 30 stem is a 1/4 inch male NPT fitting that fits easily into our Airlock 450TF & 550TF and AQD quick disconnects.

Note: Vac-Gauge 30 is an inexpensive reference gauge for shop use only.

### BENEFITS

- Simple gauge provides indication of vacuum level and highlights any leaks present.
- Portable gauge can be transported easily around the workshop.
- Rubber jacket protects against bumps and knocks to keep gauge working.

## TECHNICAL DATA

Screw thread 1/4 inch male NPT

Assembly style Screwed

Range 0 - 30 in. Hg (0 - 100 kPA)

Graduations 0.5 in. Hg (2 kPA) Figure interval 5 in. Hg (20 kPa)



### DIRECTIONS FOR USE

Vacuum drop / Vacuum leak check:

- Attach Vac-Gauge 30 to through bag connector and attach vacuum source.
- Allow vacuum source to draw out air and apply increasing vacuum force, this will be indicated on the Vac-Gauge 30.
- Check and fix potential leakage areas until a stable and satisfactory reading is shown on the gauge.
- Disconnect vacuum source and monitor vacuum reading over period of time. Any drop in vacuum reading highlights a leakage.

Last updated: 2016-08-01





# **Data Sheet**

# **VAC-GAUGE 40D**

# Digital Vacuum Gauge

## DESCRIPTION

Vac-Gauge 40D is a versatile digital vacuum gauge used for leak detection and vacuum determinations under your vacuum bag. The gauge offers vacuum readings in four selectable units: mBar, mmHg, inHg, and KPa. A heavy duty rubber jacket protects the gauge from damage in normal shop use. The Vac-Gauge 40D connection stem is a 1/4-18 inch NPT fitting that fits easily into our Airlock 450TF & 550TF and AQD quick disconnects.

#### BENEFITS

- · Digital device allows for quick and easy viewing.
- Includes time selectable auto-off function.
- · Offers four unit LCD display.

# TECHNICAL DATA

Screw thread 1/4-18 inch NPT bottom made from nickel coated copper

Units inHg, mBar, mmHg, KPa

Accuracy +/- 2.5 %

Power 4.5V DC replaceable battery

Accessories Rubber boot

Pressure Range:

Unit	Vacuum Pressure Range
inHg	0 to (-29)
mBar	0 to (-990)



#### DIRECTIONS FOR USE

Vacuum Drop / Vacuum Leak Check:

- Attach Vac-Gauge 40D to through bag connector and attach vacuum source.
- Allow vacuum source to draw out air and apply increasing vacuum force, which will be indicated on the device.
- Check and fix potential leakage areas until a stable and satisfactory reading is shown on gauge.
- Disconnect vacuum source and monitor vacuum reading over period of time. Any drop in reading highlights a leakage.

#### NOTES

- Use a wrench when attaching the quick disconnect. Do not twist on using the plastic body of the gauge.
- Gauge can be calibrated. Airtech does not provide calibration services, contact local service provider.

Last updated: 2018-10-01





# **Data Sheet**

# **VAC-GAUGE THA**

# Liquid filled vacuum gauge

## DESCRIPTION

Vac-Gauge THA is a shock resistant, liquid filled vacuum gauge designed as a reference in determining vacuum integrity. Technicians can easily detect if a vacuum bag or mold is leaking in addition to establishing the rate of vacuum decay. Vac-Gauge THA has a 1/4 inch male NPT fitting that easily attaches to our AQD 500TF, Airlock 450TF & 550TF quick disconnect couplings.

Note: Vac-Gauge THA is an inexpensive reference gauge for shop use only.

## BENEFITS

- Simple gauge provides indication of vacuum level and highlights any leaks present.
- Portable gauge can be transported easily around the workshop.
- Liquid fill provides added shock protection to keep gauge working.

# TECHNICAL DATA

Screw thread 1/4 inch male NPT

Assembly style Screwed

Range 0 - 30 in. Hg (0 - 100 kPa)

Graduations 0.5 in. Hg (2 kPa) Figure interval 5 in. Hg (20 kPa)



### DIRECTIONS FOR USE

Vacuum drop / Vacuum leak check:

- Attach Vac-Gauge THA to through bag connector and attach vacuum source.
- Allow vacuum source to draw out air and apply increasing vacuum force, this will be indicated on the Vac-Gauge THA.
- Check and fix potential leakage areas until a stable and satisfactory reading is shown on the gauge.
- Disconnect vacuum source and monitor vacuum reading over period of time. Any drop in vacuum reading highlights a leakage.

Last updated: 2016-02-03



AIRVAC 22

# **Data Sheet**

# Venturi style vacuum source used with pressurized air lines

### DESCRIPTION

The Airvac 22 is a venturi block with a self contained silencer that uses compressed shop air lines to create vacuum without the use of a vacuum pump. Airvac 22 will quietly draw up to 25.5 in. Hg (86.4 kPA). The maximum vacuum is achieved at a positive air pressure of 80 psi (5.5 bar). Going above or below this input pressure will decrease the Venturi vacuum potential.

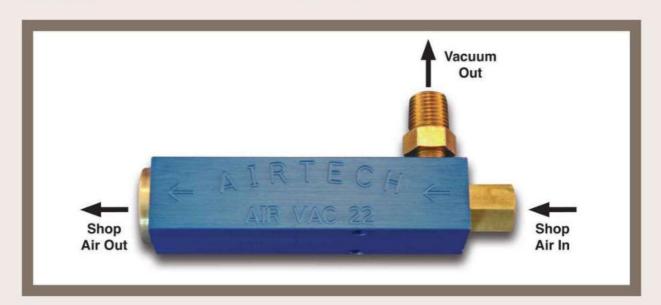
#### BENEFITS

- · Lowest cost vacuum source for workshops.
- Small and portable, the Airvac 22 can be easily carried in tool bags.
- · Perfect solution for field repair work.

### TECHNICAL DATA

Screw thread Assembly style 1/4 inch male NPT (Vacuum) 1/8 inch female NPT (Air)

Screw down



## DIRECTIONS FOR USE

- Connect the Airvac 22 unit with your compressed air line in your shop.
- Adjust air in pressure at 80 psi (5.5 bar).
- Connect vacuum line with AQD 500TF.

Last updated: 2016-02-03



Data Sheet



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# VAC-REG

# Vacuum regulator

# DESCRIPTION

Vac-Reg has been designed to provide accurate, controlled vacuum for parts that use honeycomb core. Vac-Reg is a small in-line unit that is easy to use. Each part in the shop can be independently regulated using Vac-Reg. It uses standard 1/4 inch male NPT fittings and will accept AQD 500TF, Airlock 450TF & 550TF quick disconnect fittings.

Core movement is a serious problem in the manufacture of composite parts. Full vacuum, removing all the air in the core cells after the lay-up is a part of the problem. The larger the pressure difference between the air in the core and the outside atmosphere, the greater the chance of core movement. Controlling the amount of vacuum inside the core cells is key to preventing core movement. Major aerospace companies limit the vacuum over core assemblies to 10 in.Hg (34 kPa), prior to cure. This helps eliminate core movement and core crush. Vac-Reg can also be used as a means of regulating vacuum in the resin infusion application where full vacuum is not desirable with some resin systems such as polyesters.

Note: Vac-Reg is an inexpensive reference gauge for shop use only.

#### BENEFITS

Dial in the right vacuum level for your application.

Small and portable, Vac-Reg can be easily carried in tool bags.

Simple gauge provides indication of vacuum level and highlights any leaks present.

## **TECHNICAL DATA**

Screw thread 1/4 inch male NPT

0 - (-30) in. Hg (0 - (-100) kPa) Range

0.5 in. Hg (2 kPa) Graduations

Accuracy +/-1.6 %

Figure interval -5 in. Hg (-20 kPa)



# **DIRECTIONS FOR USE**

- Attach quick disconnect couplings.
- Connect vacuum hose.
- Loosen locking ring and adjust thumb knob.
- Tighten locking ring at the desired vacuum setting.
- Attach coupling opposite the gauge to the vacuum bag.
- Vac-Reg comes supplied above with the Vac-Gauge THA liquid filled vacuum gauge.

Last updated: 2016-06-27



**Data Sheet** 



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# **VAC VIEW 10**

# Vacuum leak indicator

## DESCRIPTION

The Vac View 10 leak indicator allows the instant detection of both high and low level leakages within a vacuum bag. Airflow through the Vac View causes the internal ball to oscillate and float inside the acrylic body, displaying a definite airflow reading which can be read off against the scale. This allows the size of the leak to be easily quantified.

#### BENEFITS

- · Check vacuum bags for leaks more quickly than vacuum drop testing.
- See leak rate reduce as leaks are found and sealed off by hand.
- Simple low cost tool for use in and around the workshop.

# **TECHNICAL DATA**

Construction Acrylic body with carbon steel connections Range 0 to 10 SCFH (0 to 4.7 litres / minute)

Graduations 0.5 SCFH 2

Figure interval Quick disconnect plug 1/4 inch Ouick disconnect socket 1/4 inch



#### NOTES

- Push coupling of the Vac View 10 onto the through bag connector plug on tool.
- Allow collar to retract fully ensuring a vacuum tight connection.
- Connect vacuum source to plug on Vac View 10 and pull vacuum.
- Any airflow will be indicated as internal ball floats and registers reading on scale.
- Check bag for leaks until no airflow apparent.

Last updated: 2018-10-01





# **Data Sheet**

# **VAC SAVER HT**

One way valve

## DESCRIPTION

Vac Saver HT is a one way check valve used to protect vacuum bagged parts against vacuum loss. Vac Saver HT protects against back pressure when multiple lines are connected to a single vacuum source. In case of a vacuum loss in a part which is connected to the same vacuum source, the Vac Saver HT closes automatically and protects parts against vacuum loss. Vac Saver HT can be used in combination with our quick disconnectors like AQD 500TF, Airlock 450TF or 550TF and our Airflow vacuum hoses.

### BENEFITS

- Safer vacuum bagging process due to strong reduction of vacuum level changes for the vacuum bagged parts connected to one vacuum source.
- Reduce risk of part lost and scrap if one or more parts are connected to the same vacuum line.

# TECHNICAL DATA

Material type Material type seals Screw thread Service temperature Anodized aluminium Fluorocarbon 1/4 inch male NPT 392°F (200°C)



• Direction of airflow is engraved on Vac Saver HT body to avoid incorrect installation.

#### NOTES

In case of use in autoclave applications, the quick disconnections on the autoclave wall that are not being used for hose connections should be protected with BC500 Blanking caps to avoid vacuum leakage. Otherwise, autoclave pressure will compress the spring seal and open the valve resulting in lost vacuum and pressure.

Last updated: 2019-04-09