

SECTION GUIDE

VACUUM VALVES AND HOSES

Name	Description	Service temperature	Page
Airtech Vacuum Test Unit	-		1
Vac Valve 399	Inexpensive machined aluminum twist valve	260°C	2
Vac Valve 401 & 401C	Make vacuum bag connections positive and fast	260°C	3
Vac Valve 402 & 402A	Three piece threaded vacuum valve with locking ring	260°C	4
Vac Valve 509 and 519	Two piece vacuum valves	260°C	5
Vac Valve 406 TF	Threaded base valve with a positive pressure seal	260°C	6
Vac Valve 200	Two piece vacuum valve for reusable vacuum bag applications	232°C	7
Vac Valve 409 SS HTR	Stainless steel vacuum valve for cures to 482°C	482°C	8
Vac Valve Pad A241 MFD & A22C	Prevents seal off in vacuum bag layups	-	9
Premium Multi-Valve 407	Vacuum bag connector with leak free solid body	260°C	10
Premium Multi-Valve 407 Seal and Replacement Parts	-	260°C	11
Standard hose assemblies	Service range from 135°C to 482°C	-	12
Premium Blanking Cap 500	Blocks unused vacuum connections	246°C	13
VH 210	VH 210 is an economical vacuum hose for use in ovens and autoclaves	210°C	14
VH 210R	Reinforced vacuum hose for oven & autoclave	232°C	15
VH 230	Flexible vacuum hose for oven & autoclave	232°C	16
Econoflow 59R	Economical vacuum hose for non-autoclave applications	135°C	17
Airflow 65R	The all purpose hose for composites, bonding and tool shops	232°C	18
Airflow 100, 100S, 100R, 100 Armor Sleeve	High temperature autoclave / oven hoses	260°C	19
BBH 1080	High temperature autoclave / oven hoses	482°C	20
Airflow 800	Very high temperature autoclave vacuum hose	482°C	21
AQD 500TF	Two piece quick disconnect	260°C	22
Airlock 450TF & 550TF	Quick disconnect for autoclave operation	Airlock 450TF: 232°C Airlock 550TF: 287°C	23
AHTC-1000 QTD	High temperature, all metallic, quick turn disconnect	538°C	24
Vac-Gauge 30	Inexpensive vacuum gauge	-	25
Vac-Gauge 40D	Digital Vacuum Gauge	-	26
Vac-Gauge THA	Liquid filled vacuum gauge	-	27
Airvac 22	Venturi style vacuum source used with pressurized air lines	-	28
Vac-Reg	Vacuum regulator	-	29
Vac View 10	Vacuum leak indicator	-	30

Catalogue position : [Vacuum valves and hoses](#)

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 plug
Vacuum valve connection	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

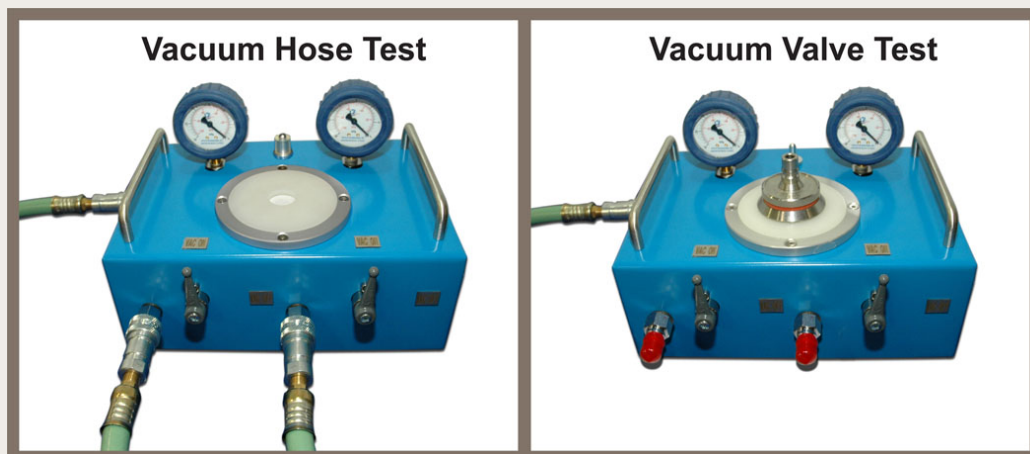
■ VACUUM LEAKAGE TEST METHOD

Vacuum 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 fitting 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 : 2016-05-03

Catalogue position : **Vacuum valves and hoses**

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 260°C. Vac Valve 399 is designed to work with our AQD 500TF quick disconnect or our Airlock 450TF.

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 aluminium
Material type of gasket	Silicone
Screw thread	1/4 inch male NPT
Assembly style	Twisted lock
Service temperature	260°C

SIZES

Product reference	Base plate dimensions
Vac Valve 399	Ø 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 : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VAC VALVE 401 & 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 500TF quick disconnects found in this section of our catalog. In combination with our AQD 500 quick 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 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

Construction	2 pieces: base plate and locking top piece
Material type	Machined aluminium (VV401) / Cast aluminium (VV401C)
Material type of gasket	Silicone
Screw thread	1/4 inch male NPT
Assembly style	Twisted lock
Service temperature	260°C

SIZES

Product reference	Base Plate Diameter
Vac Valve 401	Ø 63 mm
Vac Valve 401C	Ø 63 mm

- Other thread sizes available. Contact Tygavac for more details.



Vac Valve 401



Vac Valve 401C

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 : 2016-02-15

Catalogue position : Vacuum valves and hoses

Data Sheet

VAC VALVE 402 & 402A

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.

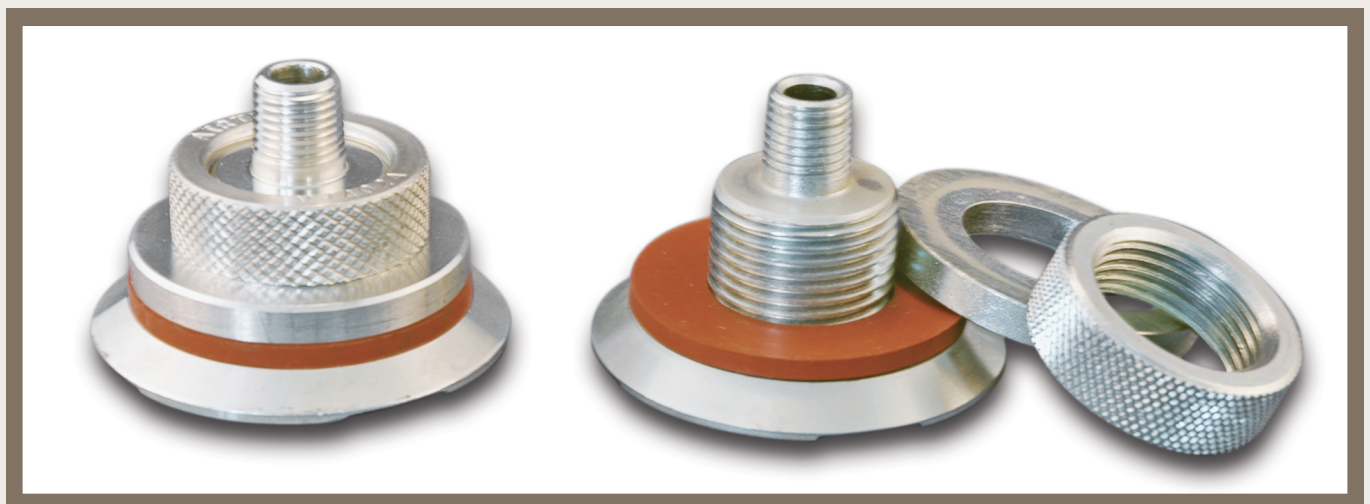
TECHNICAL DATA

Construction	3 pieces: base plate, pressure plate, locking ring
Material type	Carbon steel (VV402) / Light weight aluminium (VV402A)
Material type of gasket	Silicone
Screw thread	1/4 inch male NPT
Assembly style	Screwed
Service temperature	260°C

SIZES

Product reference	Base plate dimensions
Vac Valve 402	Ø 63 mm
Vac Valve 402A	Ø 63 mm

- Other thread sizes available. Contact Tygavac 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 : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VAC VALVE 509 AND 519

Two piece vacuum valves

DESCRIPTION

Vac Valve 509 and 519 are 2 piece vacuum valves which perforate 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 509 and 519 will operate for vacuum bagging applications from room temperature up to 260°C.

BENEFITS

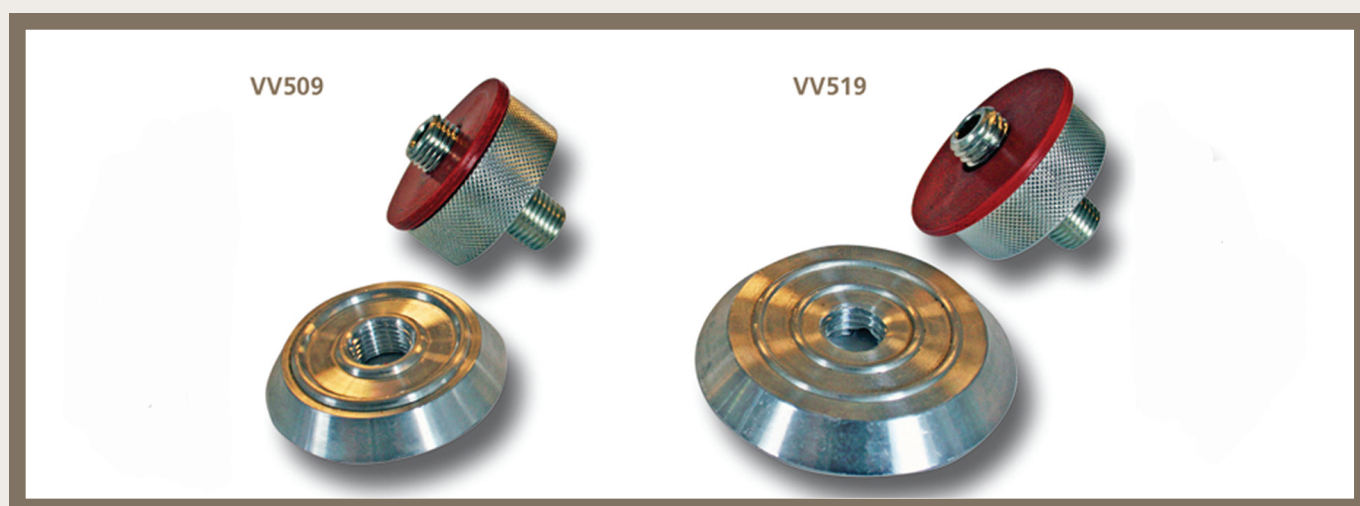
- Flat base is easy to install under the bag film.
- Simple economical design keeps plumbing costs under control.
- Screw down seal provides extra seal pressure and vacuum seal safety.

TECHNICAL DATA

Construction	2 pieces: base plate, threaded top piece
Material type	Aluminium base plate and carbon steel top piece
Material type of gasket	Silicone
Screw thread	1/4 inch male NPT
Assembly style	Screw down
Service temperature	260°C

SIZES

Product reference	Base Plate Diameter
Vac Valve 509	Ø 50 mm
Vac Valve 519	Ø 64 mm



DIRECTIONS FOR USE

- Insert the base plate under the vacuum bag.
- Screw the top piece into the base plate. The screwing will create an opening in the bag.
- Screw the top piece all the way down into the base sealing into the bag film.

NOTES

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

Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

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 260°C.

BENEFITS

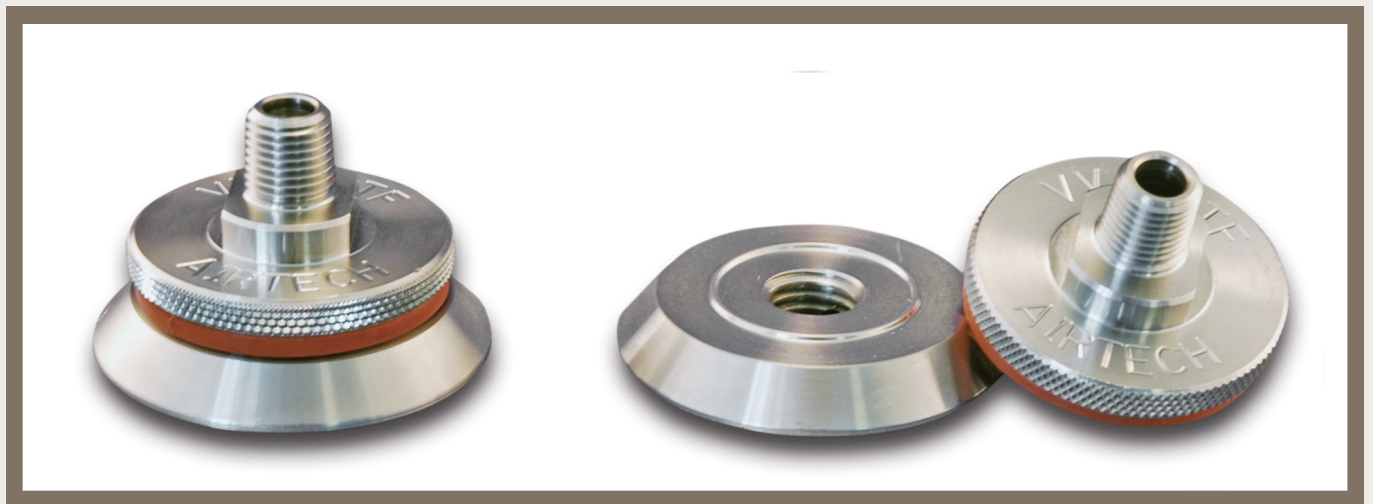
- Flat base is easy to install under bag film.
- High quality components ensure good seals and safe vacuum bags.
- Screw down seal provides extra seal pressure & vacuum seal safety.

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	260°C

SIZES

Product reference	Base Plate Diameter
Vac Valve 406TF	Ø 63 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.
- 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 : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

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	Screwed
Service temperature	232°C

SIZES

Product reference	Base Plate Diameter
Vac Valve 200	Ø 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 : 2016-02-15

Catalogue position : Vacuum valves and hoses

Data Sheet

VAC VALVE 409 SS HTR

Stainless steel vacuum valve for cures to 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

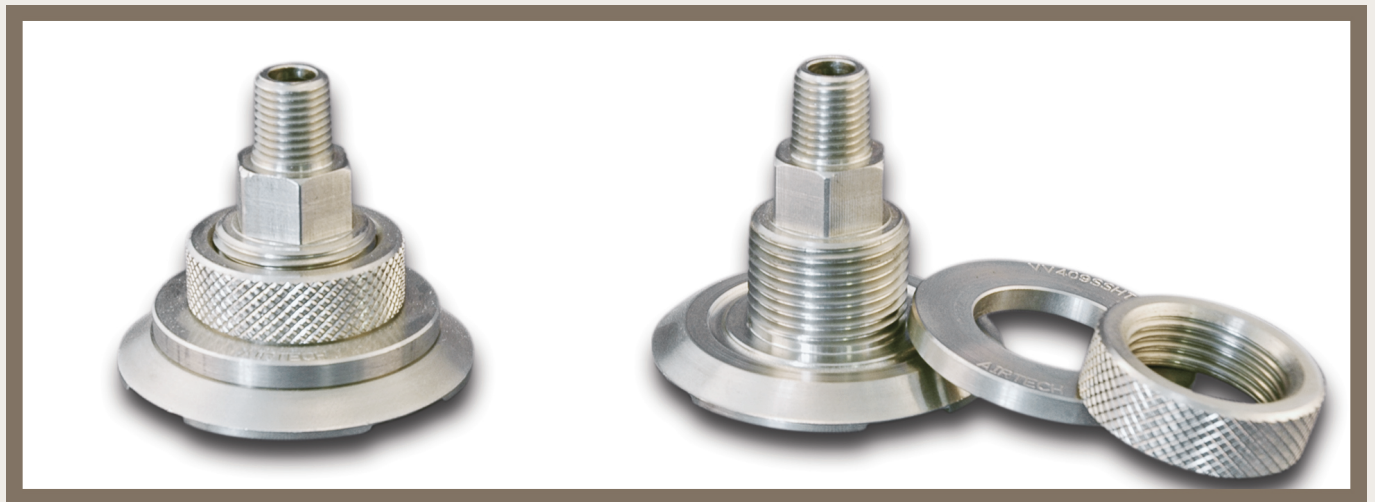
- Screw down seal design provides extra vacuum seal safety.
- High quality components ensure good seals and safe vacuum bags.
- Clamping ring design eliminates gasket allowing higher temperature usage.

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	482°C

SIZES

Product reference	Base Plate Diameter
Vac Valve 409 SS HTR	Ø 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 : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VAC VALVE PAD A241 MFD & A22C

Prevents seal off in vacuum bag layups

■ DESCRIPTION

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

A22C vac valve pad is a multi-layer fibreglass 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
6.35 mm	5.08 cm	5.08 cm
6.35 mm	7.62 cm	7.62 cm
6.35 mm	10.16 cm	10.16 cm



Last updated : 2016-02-15

Catalogue position : Vacuum valves and hoses

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 1/4" ISO-B "Hansen" style quick-disconnects. The valve mechanism and O-ring seals can easily be replaced to extend life.

BENEFITS

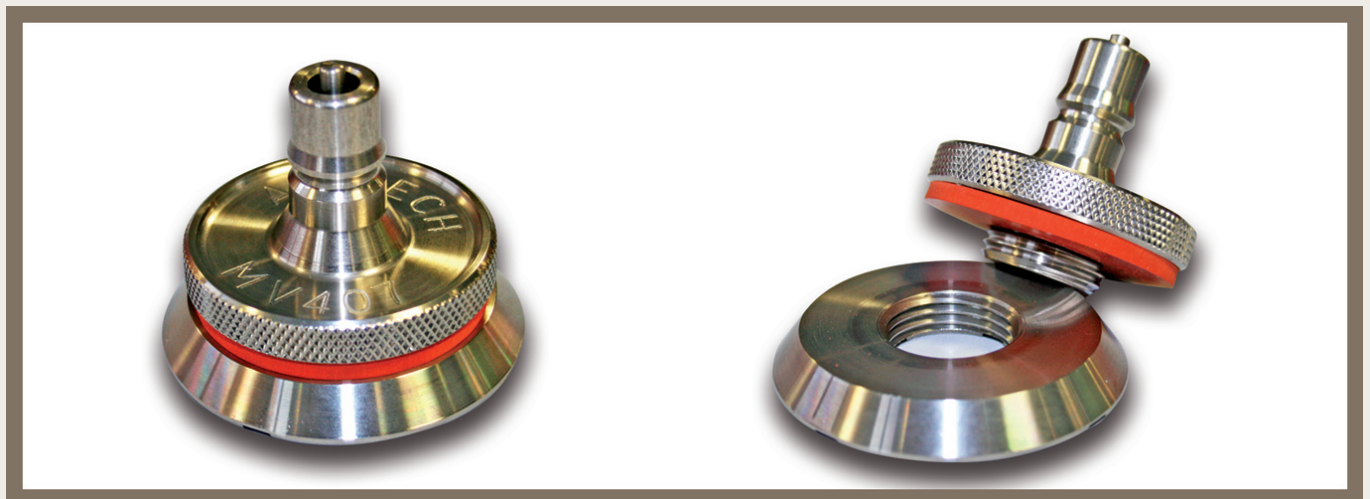
- Design eliminates threaded plug connection and all risk of vacuum leakage.
- Seals and valve parts can be easily replaced to extend life.
- Stainless steel construction means no coating breakdown at high temperature.

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	260°C

SIZES

Product reference	Base Plate Diameter
Premium Multi-Valve 407	Ø 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 MV407 Seal and Replacement Parts data sheet.

NOTES

- Watch a video of Vac Valves in the "Media Center" on our website. Last updated : 2016-02-15

Catalogue position : Vacuum valves and hoses

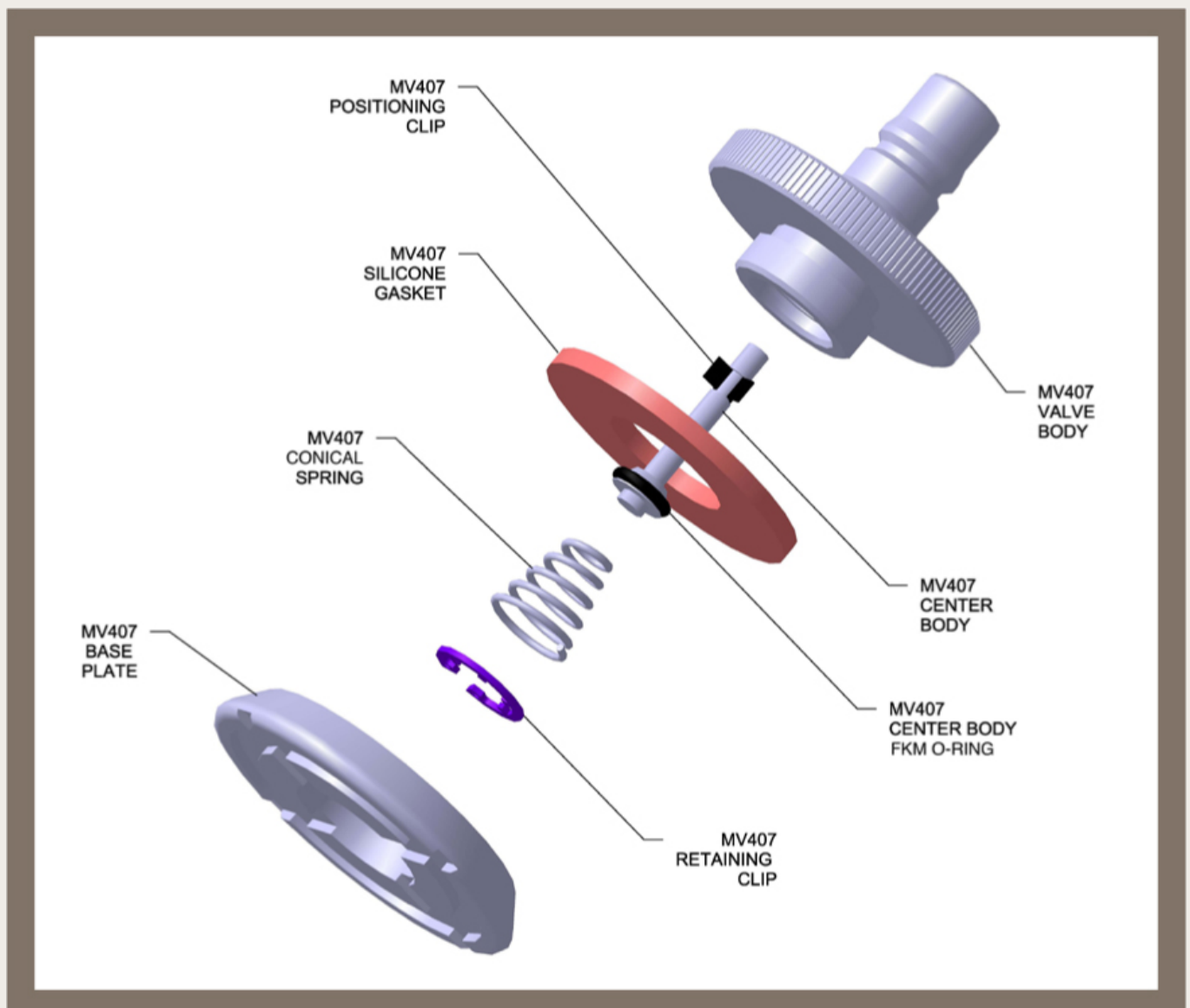
Data Sheet

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.

Product reference	Package size
MV407 Silicone gasket	10
MV407 Center body Viton® O-ring	25
MV407 Positioning clip	4
MV407 Retaining clip	25
MV407 Conic spring	4
MV407 Center body	4
MV407 Base plate	1 (Not stocked)



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

STANDARD HOSE ASSEMBLIES

Service range from 135°C to 482°C

DESCRIPTION

Tygavac 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)	135°C	up to 30 m
AIRFLOW 65R	Female threaded (AQD 500TF)	232°C	up to 30 m
AIRFLOW 100	Female threaded (AQD 500TF/ Airlock 550TF)	260°C	up to 30 m
AIRFLOW 100S	Female threaded (AQD 500TF/ Airlock 550TF)	260°C	up to 9 m
AIRFLOW 100 ARMOR SLEEVE	Female threaded (AQD 500TF/ Airlock 550TF)	260°C	up to 22 m
AIRFLOW 100R	Female threaded (AQD 500TF/ Airlock 550TF)	260°C	up to 30 m
AIRFLOW 800*	Female threaded (AHTC 1000QTD)	482°C	up to 8 m
BBH 1080*	Female threaded (AHTC 1000QTD)	482°C	up to 22 m

- Though standard sizes are 3 meters, hose lengths can be customized to meet your specific requirements, contact Tygavac 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

Catalogue position : [Vacuum valves and hoses](#)

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	Single piece solid body
Material type	Stainless steel
Material type of O ring seals	FKM elastomer
Service temperature	246°C
Coupling style	Hansen ISO-B
Coupling size	1/4 inch
Max autoclave pressure	10 bar



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VH 210

VH 210 is an economical vacuum hose for use in ovens and autoclaves

DESCRIPTION

Tygavac VH 210 hoses are an economical, strong, silicone tube supported internally by a steel spring that can come supplied in any length up to 10 m.

BENEFITS

- Economical hose keeps costs down for oven & autoclave applications.
- 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	Galvanised steel
Material type of hose	Silicone rubber
Hose colour	Green
End fitting	1/4 inch male BSP threaded
Nominal bore	9.5 mm
Service temperature	210°C
Max autoclave pressure	7 bar

SIZES

Product reference	Internal hose diameter	Outer hose diameter	Standard length
VH 210	9.5 mm	17 mm	1 - 10 m



NOTES

- Pairs well with Tygavac sockets for ready to use hoses.

Last updated : 2017-11-21

Catalogue position : Vacuum valves and hoses

Data Sheet

VH 210R

Reinforced vacuum hose for oven & autoclave

■ DESCRIPTION

Tygavac VH 210R vacuum hose is a robust and durable fibre reinforced version of VH 210.

■ BENEFITS

- Economical and durable hose for longer life in demanding workshops.
- 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	Galvanised steel
Material type of hose	Reinforced silicone rubber
Hose colour	Blue
End fitting	1/4 inch male BSP threaded
Nominal bore	9.5 mm
Service temperature	232°C
Max autoclave pressure	9 bar

■ SIZES

Product reference	Internal hose diameter	Outer hose diameter	Standard length
VH 210R	10 mm	19 mm	1 - 10 m



■ NOTES

- Pairs well with Tygavac sockets for ready to use hoses.

Last updated : 2017-11-21

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VH 230

Flexible vacuum hose for oven & autoclave

DESCRIPTION

Tygavac VH 230 is a highly flexible vacuum hose constructed with high quality silicone.

BENEFITS

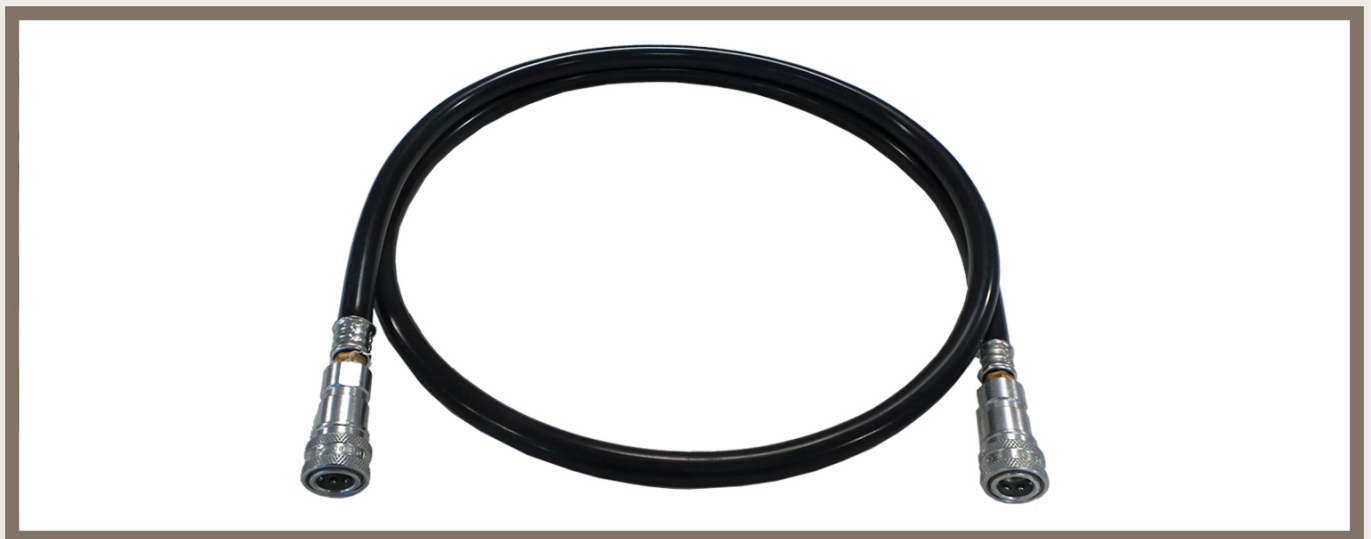
- High temperature resistance for longer service life.
- Flexibility make loading ovens and autoclaves easy and fast.
- Straight and elbow end fittings help reduce strain on hose and vacuum bags.

TECHNICAL DATA

Material type of inner tube	Galvanised steel
Material type of hose	Silicone rubber
Hose colour	Black
End fitting	1/4 inch male BSP threaded
Nominal bore	9.5 mm
Service temperature	232°C
Max autoclave pressure	7 bar

SIZES

Product reference	Internal hose diameter	Outer hose diameter	Standard length
VH 230	9.5 mm	17 mm	1 - 10 m



NOTES

- Pairs well with Tygavac sockets for ready to use hoses.

Last updated : 2017-11-21

Catalogue position : [Vacuum valves and hoses](#)

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 30 m long for large mold tool applications.

TECHNICAL DATA

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

SIZES

Product Reference	Nominal Internal Hose Diameter	Nominal Outer Hose Diameter	Available Length
ECONOFLOW 59R	9.5 mm	19 mm	up to 30 m

- Though standard sizes are 3 meters, hose lengths can be customized to meet your specific requirements, contact Tygavac for more information.



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

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.

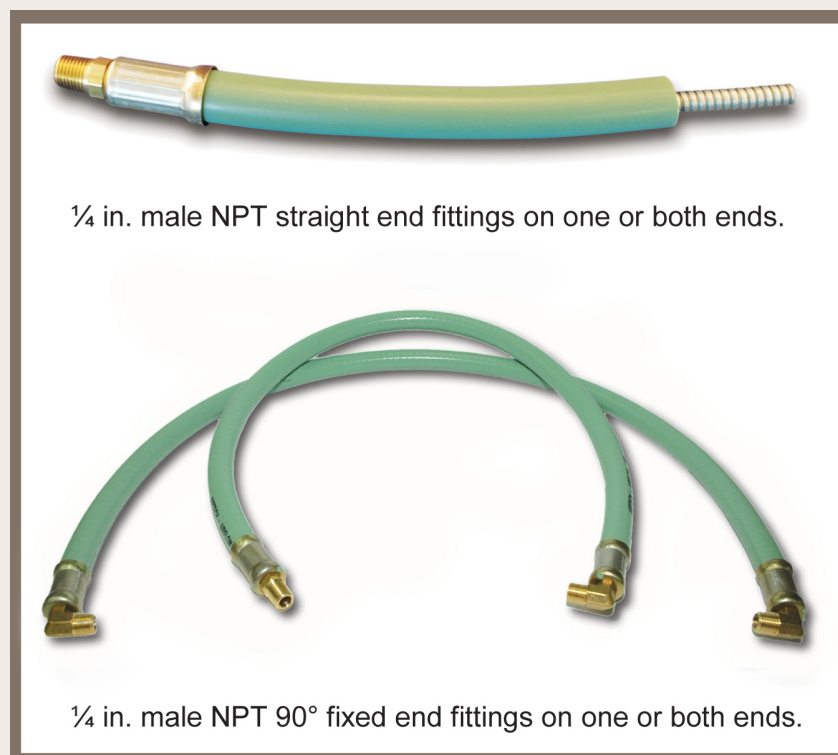
TECHNICAL DATA

Material type of inner tube	Interlocking steel tube
Material type of hose	Silicone rubber
Hose colour	Green
End fitting	1/4 inch male NPT
Service temperature	232°C
Max autoclave pressure	9 bar

SIZES

Product Reference	Nominal Internal Hose Diameter	Nominal Outer Hose Diameter	Available Length
AIRFLOW 65R	9.5 mm	19 mm	up to 30 m

- Though standard sizes are 3m, hose lengths can be customized to meet your specific requirements, contact Tygavac for more information.



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

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	260°C
Max autoclave pressure	320 psi (22 bar)

SIZES

Product Reference	Nominal Internal Hose Diameter	Nominal Outer Hose Diameter	Available Length
AIRFLOW 100	9.5 mm	11.1 mm	up to 30 m
AIRFLOW 100 S	9.5 mm	11.1 mm	up to 9 m
AIRFLOW 100 ARMOR SLEEVE	9.5 mm	15.8 mm	up to 22 m
AIRFLOW 100 R	9.5 mm	15.8 mm	up to 30 m

- Though standard sizes are 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.
- BSP sockets can be fitted using a 1/4" NPT to BSP adapter.



Last updated : 2016-10-11

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

BBH 1080

High temperature autoclave/ oven hoses

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 armour 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 armour jacket provides durability and hose protection.

TECHNICAL DATA

Material type of inner tube	Stainless steel
Material type of outer braid	Stainless steel
Material type of outer protection	Flexible stainless steel
End fitting	1/4 inch male NPT
Service temperature	482°C
Max autoclave pressure	22 bar

SIZES

Product Reference	Nominal Internal Hose Diameter	Nominal Outer Hose Diameter	Available Length
BBH 1080	9.5 mm	11.1 mm	up to 22 m

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



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

AIRFLOW 800

Very high temperature autoclave vacuum hose

■ DESCRIPTION

Airflow 800 is a vacuum hose designed for extremely high temperatures up to 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	Steel
Material type of outer protection	Steel sleeve
End fitting	1/4 inch male NPT
Service temperature	482°C
Max autoclave pressure	22 bar

■ SIZES

Product Reference	Nominal Internal Hose Diameter	Nominal Outer Hose Diameter	Available Length
AIRFLOW 800	9.5 mm	12.7 mm	up to 8 m

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



Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

AQD 500TF

Two piece quick disconnect

■ DESCRIPTION

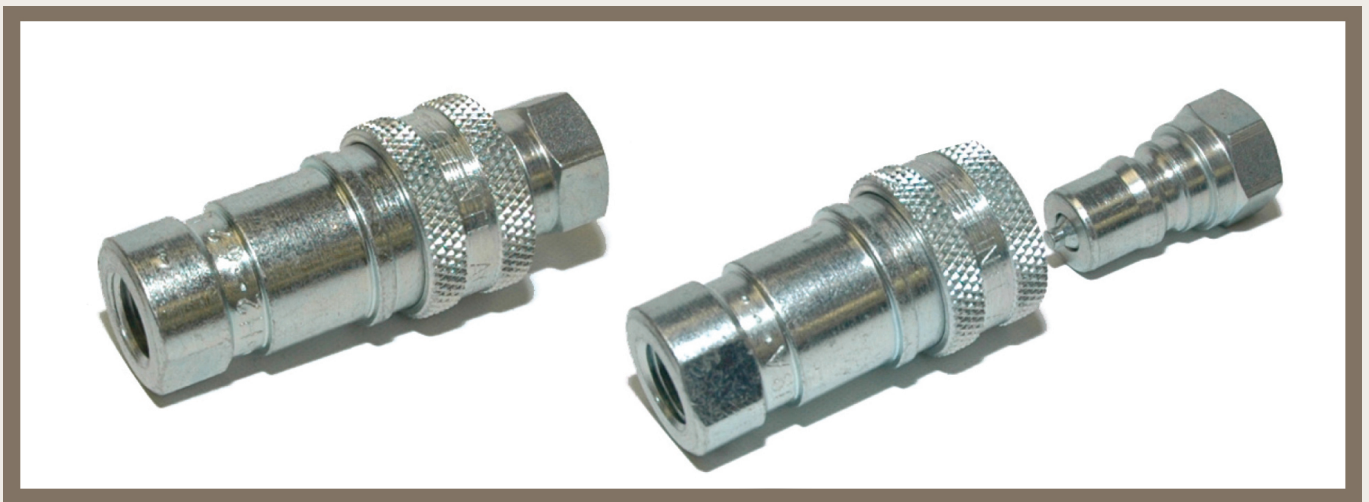
The AQD 500TF quick disconnect couplings are made of high carbon steel that have been plated to halt oxidation. The couplings have internal valves so when disconnected the airflow is shut off in both plug and socket. This means your vacuum bag holds vacuum even after the vacuum hose has been disconnected. The AQD 500TF are rugged dependable disconnects that can be installed in minutes when used with Tygavac 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	Carbon steel
Material type of O ring seals	FKM elastomer
Connection to hose	Threaded
Screw thread	1/4 inch female NPT
Coupling size	1/4 inch
Service temperature	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

Catalogue position : Vacuum valves and hoses

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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.

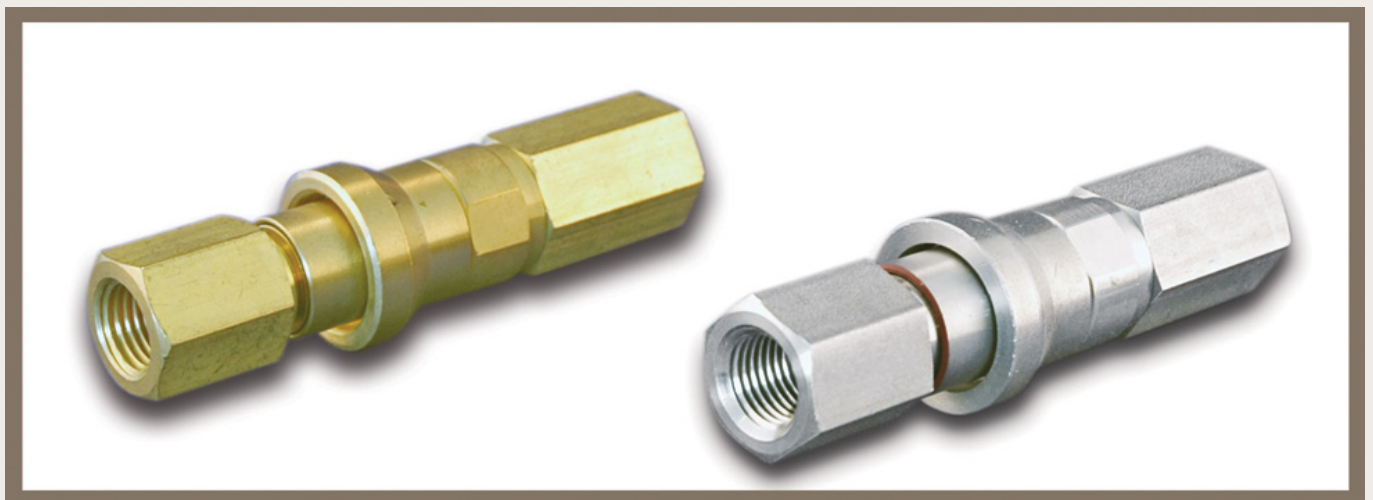
TECHNICAL DATA

Material type	Airlock 450TF: Brass Airlock 550TF: Stainless steel
Material type of O ring seals	FKM elastomer
Connection to hose	Threaded
Screw thread	1/4 inch female NPT
Coupling size	1/4 inch
Service temperature	Airlock 450TF: 232°C Airlock 550TF: 287°C

SIZES

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

- Other thread sizes available upon request.



Last updated : 2016-02-15

Catalogue position : Vacuum valves and hoses

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 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

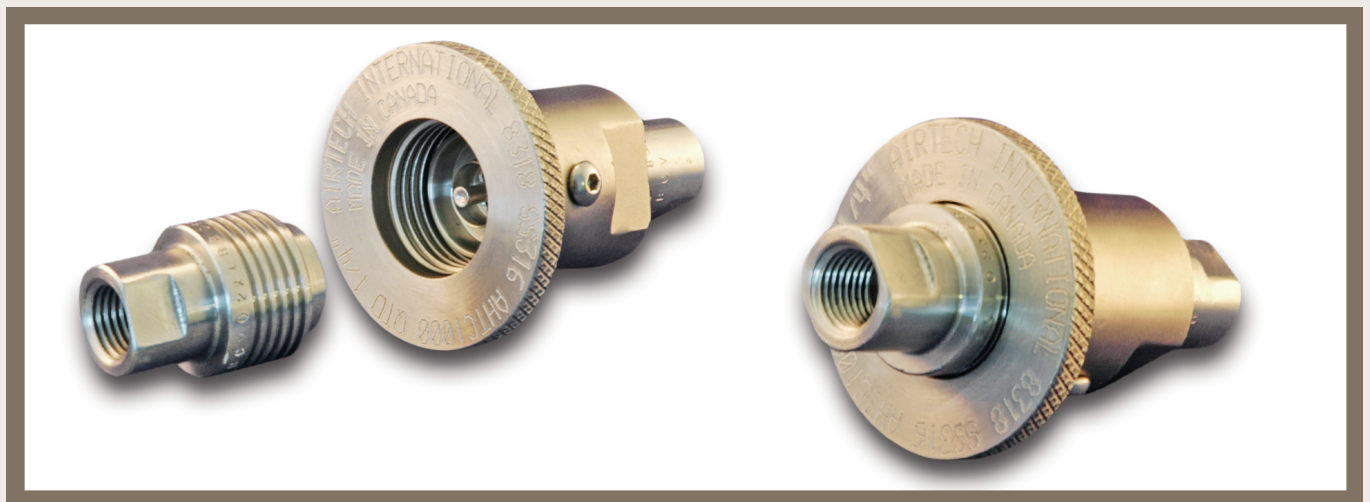
- Standard thread design compatible with Vac Valves and Hoses.
- Highest temperature and pressure resistance for high end applications.
- Highly durable construction for long in-service life.

TECHNICAL DATA

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

SIZES

Socket Type	Product Reference
Female threaded	AHTC-1000 QTD



NOTES

- Available upon request only. Minimum order may apply.

Last updated : 2016-02-15

Catalogue position : Vacuum valves and hoses

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 (2 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.

■ NOTES

- Also available with Metric Units of Measure. Range 0 to -1 Bar with Graduations of -0.02 Bar.

Last updated : 2016-08-05

Catalogue position : [Vacuum valves and hoses](#)

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 thread 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	4.5 DC replaceable battery
Accessories	Rubber boot

Pressure Range:

Unit	For Minus Pressure
mBar	0 to (-990)
mmHg	0 to (-740)



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. Tygavac does not provide calibration services, contact local service provider.

Last updated : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

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 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 - (-1) bar
Graduations	-0.02 bar
Figure interval	-0.2 bar



■ 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 : 2016-02-15

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

AIRVAC 22

Venturi style vacuum source used with pressurized air lines

■ DESCRIPTION

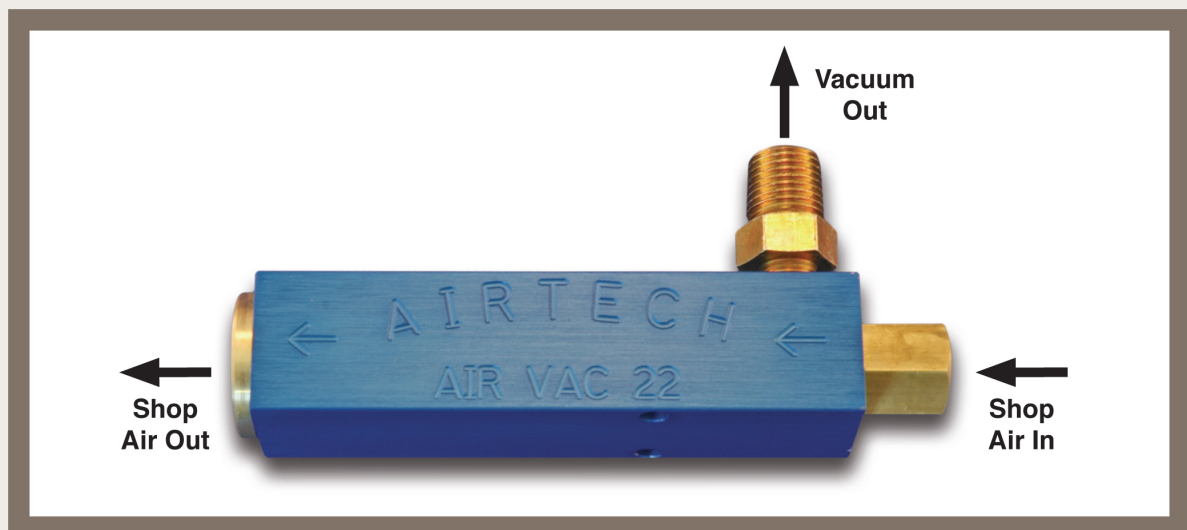
The Airvac 22 is a venturi block with a self contained silencer that uses compressed shop air lines to create vacuum without the use of a vacuum pump. Airvac 22 will quietly draw up to 25.5 in. Hg (86.4 kPa). The maximum vacuum is achieved at a positive air pressure of 80 psi (5.5 bar). Going above or 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	1/4 inch male NPT (Vacuum) 1/8 inch female NPT (Air)
Assembly style	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.

Data Sheet

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 6.35mm 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 0.34 bar, 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.

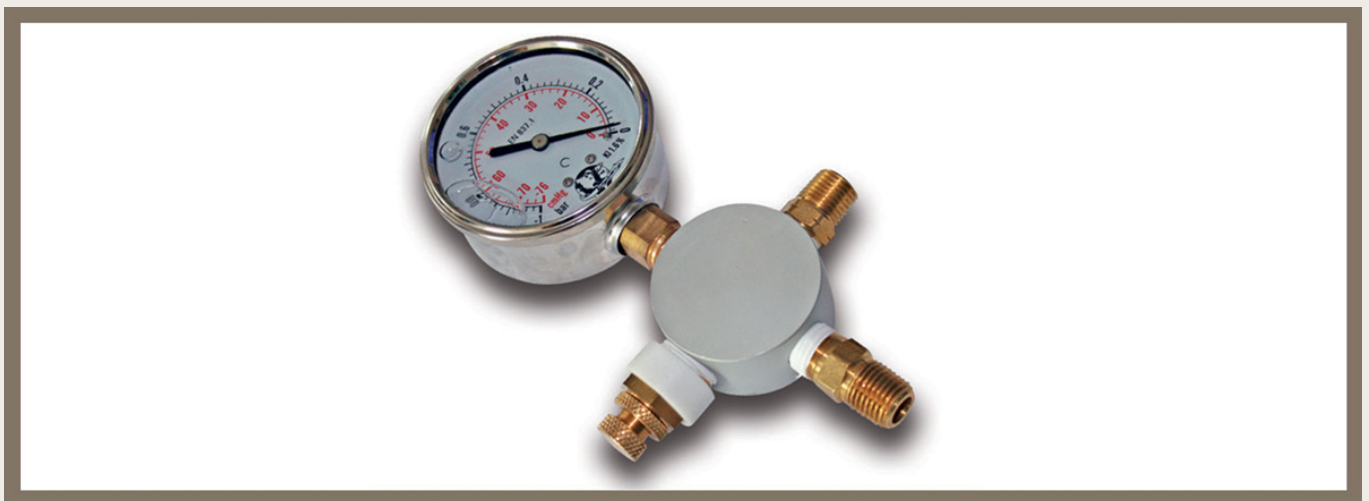
Note: Vac-Reg is an inexpensive reference gauge for shop use only.

■ 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
Range	0 - (- 1) bar
Graduations	- 0.02 bar
Accuracy	+/-1.6 %
Figure interval	-0.2 bar



■ 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

Catalogue position : [Vacuum valves and hoses](#)

Data Sheet

VAC VIEW 10

Vacuum leak indicator

■ DESCRIPTION

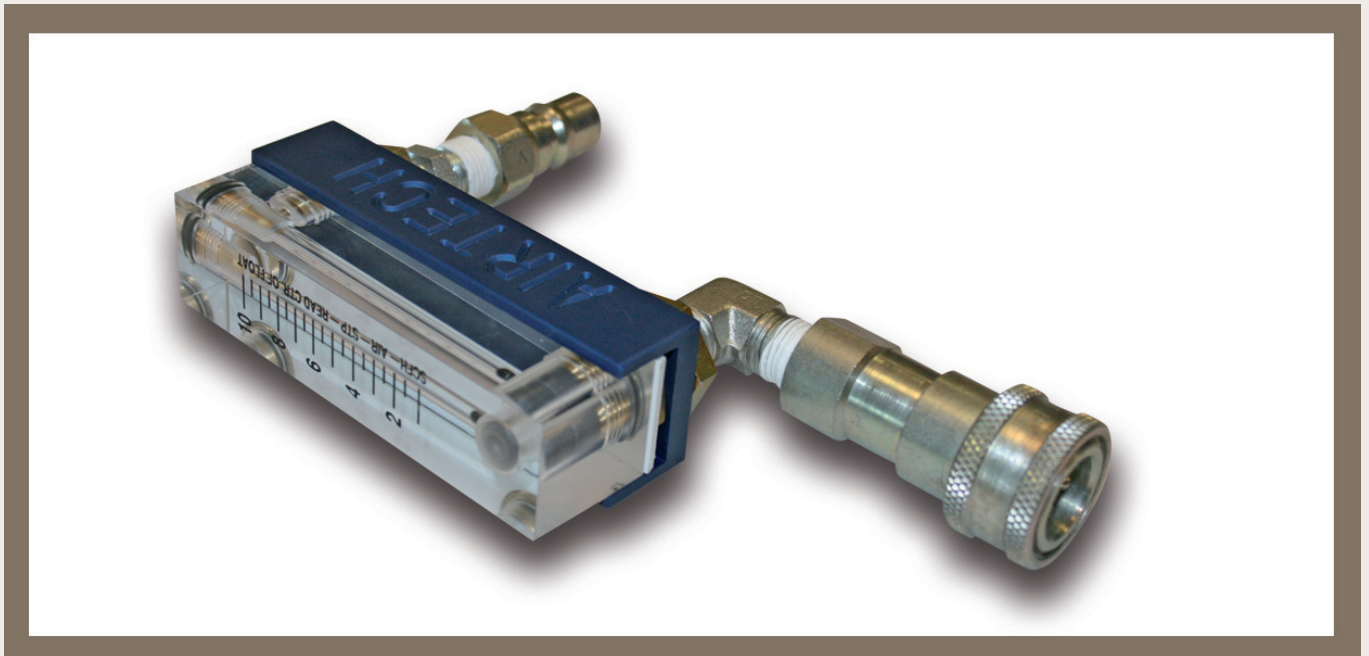
The Vac View 10 leak indicator allows the instant detection of both high and low level leakages within a vacuum bag. Airflow through the Vac View causes the internal ball to oscillate and float inside the acrylic body, displaying a definite airflow reading which can be read off against the scale. This 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 4.7 litres / minute
Graduations	0.5 SCFH
Figure interval	2
Quick disconnect plug	1/4 inch
Quick 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 : 2016-04-15

Catalogue position : Vacuum valves and hoses