GTP

EQUIPMENT FOR HANDLING AND TESTING AVIATION FUELS

INCORPORATED 1960

DISTRIBUTORS WORLDWIDE

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Introduction:

There are very few firms in business today with nearly 100% orientation in aviation fuel handling technology. This is our business at Gammon Technical Products, Inc. we are specialists.

Founded in 1960 on experience dating back to 1951, we have gradually built our business through a continuous program of product development. Distribution of our products is world-wide through technically qualified distributors and agents. We are very proud of the fact that there is probably no airport in the free world that does not have at least one of our products in service.

SAFETY is the only word that has meaning when you are handling aviation fuels. It is not that aviation fuel is more or less dangerous than other fuels. Clearly, it is a matter of **SAFETY** of the aircraft and its passengers. Our business is in improving that **MARGIN OF SAFETY** with better products to filter, sample, test and put fuel aboard the aircraft.

As you go through this catalog, we hope that you will ask the same question over and over again, “Is this product **SAFE** for aviation fuel handling?” We want you to do this because this is the way that you will recognize the care that has been taken in the design of our products. We value your comments.

Jim Gammon
President

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NOTE: Bulletins are in numerical order within this catalog. Some bulletins have been removed due to obsolescence.

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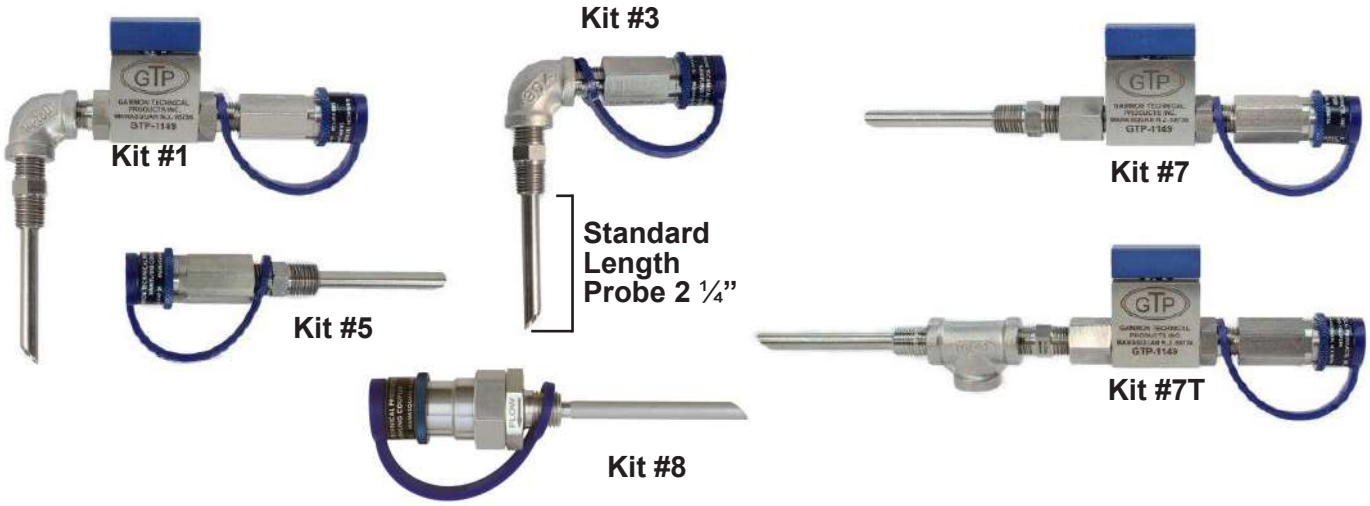
FUEL SAMPLING KITS

BULLETIN 3 (03-20)

FUEL SAMPLING KITS



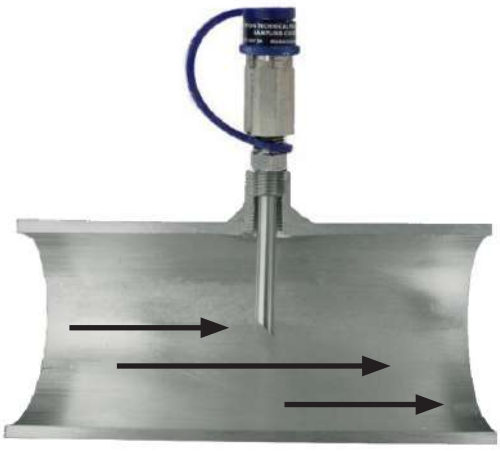
Our fuel sampling kits have become standard in the industry for obtaining test samples of jet fuel. With more than a million in service, they have proved to pay for themselves by saving countless hours of downtime because accurate contamination test results are obtained the first time.

In the past, thousands of work hours have been wasted and fueling facilities have been shut down simply because the sampling tap was contributing dirt during the sampling period. Rusty pipe threads, steel gate valves and collections of reducing bushings that never are subjected to fuel flow, except when a contamination test is to be run, have been found to be a prime cause of poor color results when tests are performed to ASTM D2276. Flushing does not clean normally stagnant steel fittings.

The probe penetrates through the pipe coupling that is welded to the pipe. There is no possibility of rust and dirt, that usually collects in stagnant pockets (such as welded couplings), reaching the test membrane.

Non-ferrous materials are used in our kits, All passages are small (¼" pipe size) to insure that there will be enough velocity during the flushing cycle to carry away any sediment that may have collected.

Kit No. 7T allows pressure sensing and sampling independently through one pipe connection. Probe penetrates all the way through the tee. Sample never contacts the tee. Branch on tee is for pressure gauge connection; it senses pressure on the outside of probe tube.



Kit No. 8 features our Self-Flushing QD, which eliminates the need to flush the connection before every test. It will only allow fuel from the center of the pipe to read the QD. This reduces the amount of time spent and the volume of fuel that has to be handled. For panel mounting, Kit No. 8RM includes Kit 8 plus a remote mount (standard probe sizes only).

The GTP-144 Probe is made to reach the center of a 4" pipe but can be used in any pipe of 2" or more. The threads on the probe are both ¼" NPT male (use reducing bushing to come down to this size). We can also supply special probes of any specified length.

STAINLESS STEEL BALL VALVES MAXIMUM PRESSURE 300 PSI

TWO-WAY

GTP-1149-4F	¼" Female
GTP-1149-4M	¼" Male
GTP-1149-4MF	¼" Male x Female

THREE-WAY:
GTP-2305
¼" NPT

QUICK DISCONNECT COUPLER

GTP-992-2FA	⅛" Female NPT Aluminum
GTP-992-2FS	⅛" Female NPT Stainless Steel
GTP-992-4FA	¼" Female NPT Aluminum
GTP-992-4FS	¼" Female NPT Stainless Steel
GTP-992-2MA	⅛" Male NPT Aluminum
GTP-992-2MS	⅛" Male NPT Stainless Steel
GTP-992-4MA	¼" Male NPT Aluminum
GTP-992-4MS	¼" Male NPT Stainless Steel

ACTUATOR NIPPLES

Stainless Steel

GTP-722	¼" Female NPT
GTP-722-2	⅛" Female NPT

GTP-150-15 Dust Plug for quick disconnect coupler.

GTP-1232
Dust Cap
for actuator
nipple, AL.

GTP-144	Sampling Probe, ¼" Male NPT, Stainless Steel, standard 2 ¼" long tube.
GTP-144-X	Same as above, indicate desired TUBE length at "X," up to 6"

INSTRUCTIONS FOR SAMPLING PROBE KITS

1. INSTALLATION

1. Screw the GTP-144 probe in a ¼" NPT female thread using 1½ wraps of PTFE pipe thread sealant as a sealant and thread lube. Use reducing bushings if necessary. Wrap the tape tightly, so that it forms itself into the male thread. Do not let the tape extend beyond the open end of the fitting or fragments of the tape will get into the flow stream. *NEVER* screw stainless steel threads together without PTFE tape - they will gall.
2. Adjust the position of the probe by tightening until the arrow on the flat of the hex is pointing downstream - in the direction of flow in the pipe.
3. Install other components of the kit using PTFE pipe thread dope for each connection. Be certain that sample flow is in the direction of the arrow shaped handle of the ball valve.
4. The sampling coupler is supplied with a dust plug that has a ball chain for attachment. Place the ring on the ball chain over the threaded end of the coupler before assembling.

2. FLUSHING - A new sampling connection requires extensive flushing. For best results, use the GTP-1110 Bonding and Grounding Hose (see Bull. #8) to obtain high velocity in the passages of the sampling kit components.

3. CONTAMINATION TESTING - Use Gammon MiniMonitor® Kit model GTP-172. Follow detailed instructions for best results. The sampling coupler can be connected without the risk of spraying fuel, if this procedure is followed:

1. Slide the collar of the coupler as far as it will go toward its threaded end. Remember, the collar does not open the internal valve.
2. Insert the connecting nipple in the open port of the coupler as far as it will go without depressing the internal valve, but continue to hold the collar.
3. Then quickly press the nipple straight in with a force of about 25 lbs. and pull the collar back to its original position. This 25 lb. force causes the internal valve to open.
4. A dry disconnection can be made simply by depressing the collar.

See also: GamGram #6.

STAINLESS STEEL PIPE FITTINGS

ELBOW

E-4	¼" NPT
E-6	⅜" NPT
E-8	½" NPT

STREET ELBOW

SE-4	¼" NPT
SE-6	⅜" NPT
SE-8	½" NPT

TEE

T-4	¼" NPT
T-6	⅜" NPT
T-8	½" NPT

COUPLING

C-2	⅛" NPT
C-4	¼" NPT
C-6	⅜" NPT
C-8	½" NPT

HEX NIPPLE

HN-2	⅛" NPT
HN-4	¼" NPT
HN-6	⅜" NPT
HN-8	½" NPT

REDUCING BUSHING

RB4-2	¼ to ⅛ NPT
RB6-4	⅜ to ¼ NPT
RB8-4	½ to ¼ NPT
RB12-4	¾ to ¼ NPT

REDUCING COUPLING

RC4-2	¼ to ⅛ NPT
RC6-4	⅜ to ¼ NPT
RC8-4	½ to ¼ NPT

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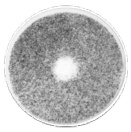
MINIMONITOR® & MULTI MINIMONITOR® KITS

BULLETIN 8 (08-19)

MINIMONITOR KIT® - MARK II

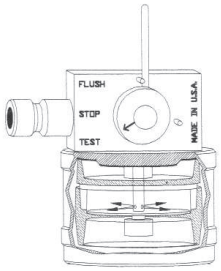
The Mark II version has the unique advantage of eliminating the "white spot." This photograph of a filter membrane shows how all previously manufactured test kits, regardless of the brand, make a white spot in the center if the inlet pressure is high and the fuel sample is contaminated. The jet effect causes the white spot.



In the new Mark II design, the inlet fuel to the plastic monitor is dispersed laterally to ensure a more uniform distribution of particles over the entire surface.

The MiniMonitor® Kit is used to test aviation fuel for particulate contamination using the procedures described in ASTM D2276/IP216. A measured volume of fuel is passed from a flowing pipe directly through a 0.8 micrometer membrane. The plastic monitor holding the membrane is placed in an aluminum housing. Dirt particles are caught on the membrane which can be visually color rated or weighed for a gravimetric rating.

The Mark II's lateral distribution is created by a unique discharge tube that enters the plastic monitor, as shown in this drawing. The large area of the four holes ensures that the flow rate is not affected.



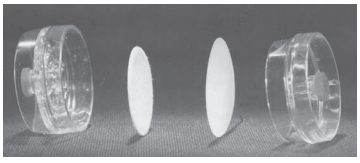
The MiniMonitor® Kit was developed by Gammon Technical Products, Inc. specifically for aircraft fuel testing with standard field monitors. This kit, including the carry case, weights only 4 pounds.

The new style of carrying case provides a cavity which accepts the assembled kit, eliminating the need to disassemble each time the apparatus is stored.

HOW TO ORDER

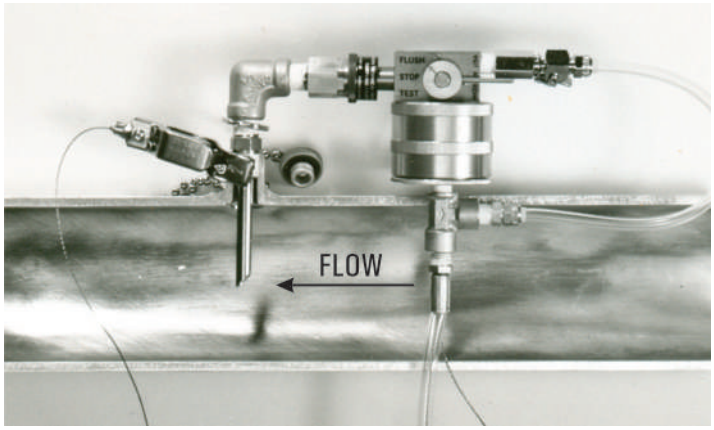
GTP-172 Mark II: Complete Test Kit
Includes: carrying case, MiniMonitor® assembly, syringe, sampling kit #5, tweezers, color rating book, six plastic monitors, fifteen mini envelopes, and a monitor opening key

GTP-172-H: MiniMonitor® Assembly Only
Includes: flushing head valve, monitor body, bonding and grounding hose assembly, bypass tee, and a set of replacement o-rings



MiniMonitor equipment uses standard plastic monitors listed by ASTM for Method D2276/IP-216.

The MiniMonitor® housing includes a flushing valve located on top of the monitor with a bypass hose and fittings. Before flushing the sample connection, move the arrow located on the flushing valve handle to the STOP position. Check the connections of the bypass nose for firm seating. After the connections have been checked, move the arrow to the FLUSH position and allow one gallon (or specified volume) to collect in a measuring container. Then turn the valve to the TEST position to direct flow through the filter membrane. This test volume may be from 1 to 5 gallons depending upon contract provisions. The membrane is then rated as to its color using the color rating booklet included in the kit. The darker the membrane, the dirtier the fuel. Some contracts require the weight of the contaminant to be determined. The same apparatus can be used but arrangements must be made with a laboratory.



Electrical bonding is a safety requirement of ASTM Method D2276/IP216. Our Bonding and Grounding Hose Assembly clips to the metal container (not shown) and also to the pipe fitting as shown in the photo.

GTP-1110: BONDING & GROUNDING HOSE ASSEMBLY

Static charges are developed at a very high rate when aviation turbine fuel is passed through a filter membrane. These charges develop at an even higher rate when the fuel contains anti-static additive, but they are easily carried away by electrically bonding and grounding. Our model GTP-1110 is specially designed for this purpose.

CABLE DATA: Type 304 stainless steel, 1/32” (0.79mm) diameter, 21 strands
CABLE LENGTH: 10 feet (3.0 meters)
TUBING LENGTH: 6 feet (1.8 meters)

SPECIAL ACCESSORIES DESIGNED FOR THE U.S. MILITARY

STAINLESS STEEL HOLDER FOR AQUA-GLO® WATER DETECTOR PADS

GTP-3326 25mm Water Detector Pads (Army)

GTP-3850 37mm Water Detector Pads (Air Force)

With holders, the Aqua-Glo® test can be performed using the MiniMonitor® housing.

GTP-5808: FLEXIBLE EXTENSION TUBE

This tube was made especially for the U.S. Air Force and for customers who have sampling connections in difficult places to reach. The overall length is 10” (250mm). The quick disconnect at the left end connects to the actuator at the inlet of the MiniMonitor® housing. The actuator at the other end has the same dimensions as the one on the MiniMonitor®. The PTFE tubing is covered by stainless steel wire braid.

MULTI MINIMONITOR® TEST KIT

IT CONNECTS TO 5 DIFFERENT TYPES OF SAMPLING CONNECTIONS

This version of the test kit is made for operators who have to take samples from sampling points that are equipped with various different types of quick disconnects. See the following page for available fitting types.

Model GTP-1172 Mark II shown

CONSIDER THESE FEATURES:

- Clearly marked selector valve
- Bypass hose with quick disconnect for flushing
- Static charge bonding and grounding hose assembly
- Uses standard plastic monitors
- Improved sealing system - squeeze controlled - Viton A
- Stainless steel and anodized aluminum wetted parts throughout

THE KEY FEATURE OF THE MULTI MINIMONITOR® TEST KIT IS THE UNIQUE DOUBLE-ENDED ADAPTER

MODEL GTP-988

Our unique double-ended adapters can be inserted into the Multi MiniMonitor® Assembly by either end, allowing them to connect to several different types of samplers. See the following page for details.

HOW TO ORDER:

GTP-1172 Mark II: Complete Multi MiniMonitor® Kit
Includes: carrying case, Multi MiniMonitor assembly, syringe, sampling kit #5, tweezers, color rating book, six plastic monitors, fifteen mini envelopes, a monitor opening key, and a double-ended adapter.

GTP-1172-H: Multi MiniMonitor® Assembly Only
Includes: flushing head valve, monitor body, bonding and grounding hose assembly, bypass tee, a set of replacement o-rings, and a double-ended adapter.

NOTE: The GTP-988 double-ended adapter is the standard actuator included with the Multi MiniMonitor®.

MULTI MINIMONITOR® OPTIONAL ADAPTERS

GTP-988 Double-ended Adapter (standard)

This end connects to:
Gammon Jet Test QD®

This end connects to:
Gammon QD, Millipore,
Snap Tite, etc.

GTP-988-1 Double-ended Adapter (short)

This end connects to:
Short (S) or AH models of
the Gammon Jet Test QD®

This end connects to:
Gammon QD, Millipore,
Snap Tite, etc.

GTP-988-2 Double-ended Adapter (combination)

This end connects to:
Gammon Jet Test QD®

This end connects to:
Short (S) or AH models of
the Gammon Jet Test QD®

Sampling Adapters

GTP-1170A

¾ BSPP threads (no o-ring)

GTP-1170B

$^{13}/_{16}$-16 UN threads

GTP-1170C

¾ BSPP threads

GTP-1170E

½ BSPP threads

MINIMONITOR AND MULTI MINIMONITOR TEST KIT ADDITIONAL ACCESSORIES & REPLACEMENT COMPONENTS

		Used with MiniMonitor	Used with Multi MiniMonitor
GTP-9466	Case for MiniMonitor and Multi MiniMonitor Kits	✔	✔
GTP-1074-1	Color rating book	✔	✔
GTP-165	Syringe	✔	✔
GTP-2099	Tweezer	✔	✔
GTP-1985	Box of 48 plastic monitors	✔	✔
GTP-1983	Box of 100 membranes and support pads	✔	✔
GTP-9182	Monitor key (opener)	✔	✔
GTP-5	Sampling kit #5	✔	✔
GTP-1267	Package of 500 mini-envelopes (plastic bags)	✔	✔
GTP-172H	MiniMonitor assembly	✔	
GTP-1172-H	Multi MiniMonitor assembly		✔
GTP-172A	Flushing head valve and monitor body assembly	✔	
GTP-1110	Bonding and grounding hose assembly	✔	✔
GTP-1250	Quick disconnect and hose assembly	✔	✔
GTP-302C	Bypass tee assembly	✔	✔
GTP-190	Flushing head valve assembly for MiniMonitor	✔	
GTP-232-1	Monitor housing body	✔	✔
GTP-232-2	Monitor housing bottom cap	✔	✔

SEE ALSO:

Bulletin 3	GTP-992 series quick disconnects
Bulletin 14	Jet Test QD®

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JET TEST QD®

BULLETIN 14
(12-18)

TESTING DURING REFUELING WITH THE JET TEST QD®

A MINIATURE, PERMANENTLY-INSTALLED QUICK DISCONNECT COUPLER FOR TESTING DURING JET REFUELING OPERATIONS

Backed by 40 years of successful performance all over the world, the Jet Test QD® is a proven concept in Quick Disconnect Couplers for performing tests for dirt, water, and pressure regulation during the refueling of jet aircraft.

The Jet Test QD® is so small that it can be installed permanently on the underwing fuel nozzle. Prior to the introduction of this product, a pressure or contamination test at the nozzle could not be performed without considerable fuel spillage while a connection was fabricated at the plugged port.

USES FOR THE JET TEST QD®

Perform a contamination test with the Gammon MiniMonitor® Kit (or Millipore Test Kit). Just twist out the dust plug with a coin and insert the test apparatus. It takes only 15 seconds.

SEE BULLETIN 8

Perform a water test with the Gammon Aqua-Glo®. A complete test can easily be performed, including dust plug removal and replacement well within three minutes.

SEE BULLETIN 86

Perform a pressure test while refueling the aircraft. It takes only a few seconds. Simply twist the dust plug with a coin and pull it out, then insert the test gauge and twist to lock on the bayonet pin.

SEE BULLETIN 46

GTP-235-3/8
shown with standard dust plug (included)

GTP-235-3/8S

Coupler shown with actuator (not included)

GTP-235-3/8AH

COUPLERS

The exposed portion of the Jet Test QD® coupler is no larger than a standard hex head pipe plug, yet it contains an inner or primary seal as well as an outer secondary seal which is created by the dust plug.

See the table below to determine the appropriate coupler for your application.

The three couplers shown here are pictured with the standard knurled dust plugs.

DUST PLUGS

This is a dust plug that is also a secondary pressure seal. It is removed only when a test is to be run. GTP-235-9K is the standard plug for the GTP-235-3/8 coupler. GTP-235-9SK is the standard plug for the "AH" and "S" couplers. The standard plug is included unless otherwise specified. If the tee handle plug is desired, the customer must specify (GTP-235-9T for standard length, or GTP-235-9ST for "AH" and "S" couplers).

GTP-235-9K

GTP-235-9T

GTP-235-9SK

GTP-235-9ST

GTP-235-2

GTP-235-2AH

ACTUATORS

The actuator should be attached permanently to the test apparatus or pressure gauge. The standard actuator is GTP-235-2. A short version, GTP-235-2AH, is available to fit the "S" and "AH" couplers. Both actuators have 1/4" NPT threads.

Insert the actuator nipple, and rotate a quarter turn to lock on the bayonet pin. The internal valve automatically opens and a test can be performed.

REFUELING NOZZLE			JET TEST QD® COUPLER MODEL	
MAKE	**MODEL**	**THREAD SIZE**	**LONG STYLE**	**SHORT STYLE**
Whittaker* Carter Cla-Val	All models	3/8 NPT	GTP-235-3/8	GTP-235-3/8S (see note)
Avery Hardoll	Carter	3/8 BSP		GTP-235-3/8AH

NOTE: Avery Hardoll and Flight Refueling nozzles must use the short or AH Jet Test QD® to avoid interference, and therefore must use short actuators (GTP-235-2AH). Customers who also have other brands of nozzles should use the "short" or "S" style Jet Test QD® so that both long and short actuators will not be needed on test equipment.

ACTUATOR FOR ABOVE MODELS

GTP-235-2	GTP-235-2AH

Actuators have 1/4" NPT threads.

All metal components are 300 Series stainless steel, except the dust plug, which is aluminum. The sealing compound is Viton. We welcome an opportunity to propose on non-standard specials to meet other size, thread, material, or sealing compound specifications.

To order replacement dust plugs, specify the style shown in the photograph above. If the coupler has the suffix "AH" or "S," be sure to order the GTP-235-9SK or GTP-235-9ST dust plug.

*Formerly known as Parker, Thiem, and now Whittaker.

****CAUTION:** If the sample ports on a Carter nozzle are laterally side by side when the nozzle is viewed with the nose seal up, use only the right hand port.

GAMMON

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SUMP SEPARATOR FOR STORAGE TANKS

BULLETIN 22 (03-20)

SUMP SEPARATOR FOR STORAGE TANKS
MODEL GTP-616

GO GREEN - removes water and dirt, saves good fuel!

The Sump Separator separates water from fuel that is drained from storage tank sumps. The fuel and water mixture from the bottom of a storage tank or from the sump of a filter is discharged to the Sump Separator through a nozzle that causes a swirling action to concentrate most of the dirt in the center of the cone-shaped bottom. Water and fuel are allowed to separate by gravity.

The Gammon Sump Separator:

- Prevents fuel contamination of ground water.
- Allows for pollution control of soil and streams.
- Saves valuable fuel.
- Requires minimal maintenance.
- Eliminates the need for conventional waste or “slop” tanks.
- Features an internal epoxy white coating (stainless steel available on request).
- Has a capacity of 50 gallons standard & up to 300 gallons on special order.

CLEAN CUT

Only the Gammon Sump Separator makes possible a **CLEAN CUT**. The operator can easily see when the fuel/water interface has reached the bottom of the cone. When closing the water drain valve, the operator makes a **CLEAN CUT**, preventing any fuel from leaving with the water. Only fuel remains at the bottom of the cone.

VISUAL CERTAINTY

Direct **VISUAL** observation of the fuel/water interface is achieved by swinging the cover on its davit so that the operator sees through the fuel to the interface. This provides **VISUAL CERTAINTY** to make a **CLEAN CUT.**

Other sump separator designs on the market rely on a sight glass that the operator observes when draining off the water. Invariably, some of the fuel leaves with the water because the level in the sight glass always lags behind the level in the vessel. The operator can overcome this problem by closing the water drain valve ahead of time. The result is that some of the water is then pumped back to the storage tank.

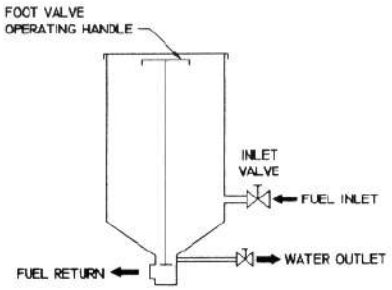
Gammon originated the sump separator in 1965 and has always used a stainless steel foot valve at the bottom of the cone as shown on page 2. All other manufacturers use common pipeline valves that cause some of the settled water to be pumped back to the storage tank.

No other manufacturer in the world can claim more than 50 years of experience in the sump separator business. In fact - we originated the name “sump separator”!

Not recommended for gasolines or other, low-flash point fuels.

FUEL RECOVERY SYSTEMS

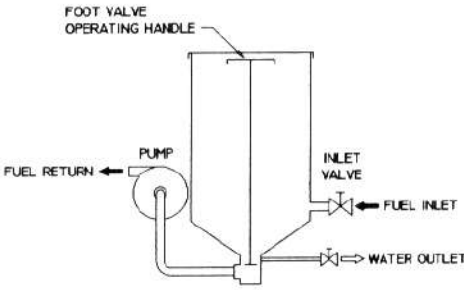
SUMP SEPARATORS



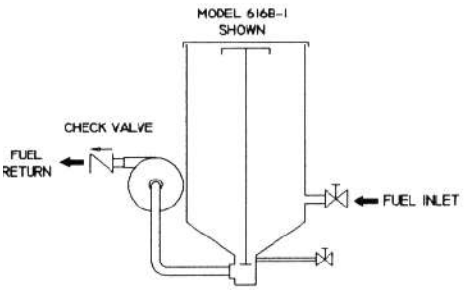
MODEL - GTP-616A
USE FOR UNDERGROUND
STORAGE TANKS

ALL MODELS INCLUDE THE FOLLOWING :

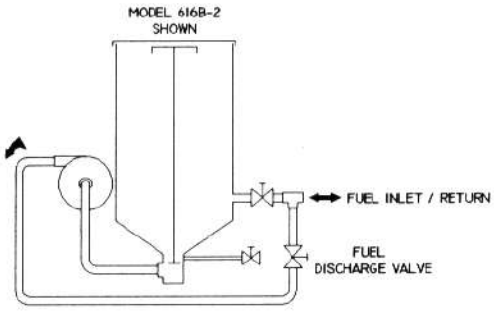
- 1 IN. BALL VALVE AT INLET
- 1/2 IN. BALL VALVE AT WATER OUTLET
- COVER WITH SWING-AWAY DAVIT STYLE MOUNT
- TWO 3/4 IN. AUXILIARY FITTINGS FOR CONNECTION OF DISCHARGE PIPING FROM AIR ELIMINATORS, PRESSURE RELEIF VALVES AND DRAINS FROM FILTER SEPARATORS.
- TWO 1/2 IN. AUXILIARY FITTINGS FOR CONNECTION OF SIGHT GLASS.



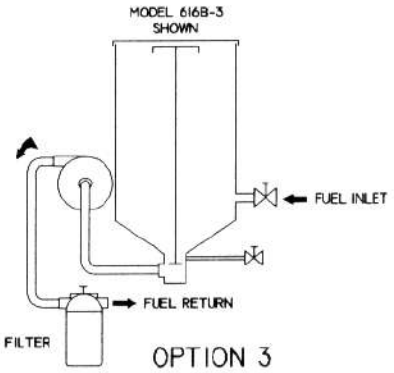
MODEL - GTP-616B
USE FOR ABOVE GROUND
STORAGE TANKS



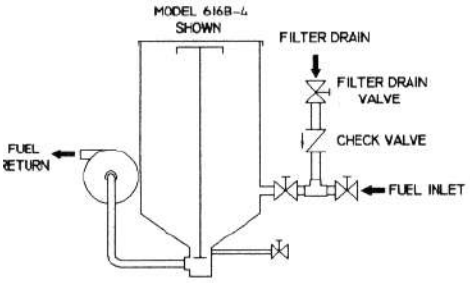
OPTION 1
ADDS CHECK VALVE



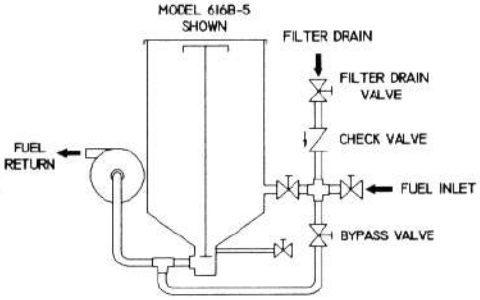
OPTION 2
ADDS RETURN TO STORAGE PIPING



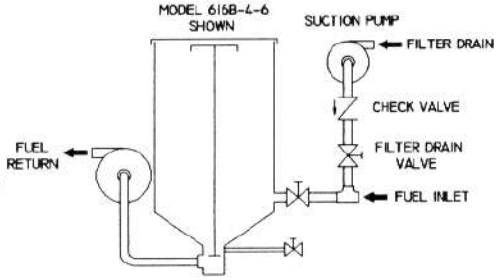
OPTION 3
ADDS FILTER WITH 1 MICRON VELCON
WATER ABSORBING ELEMENT



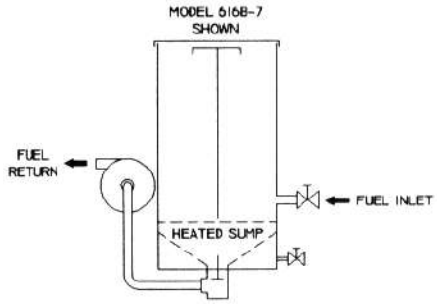
OPTION 4
ADDS CONNECTION FOR FILTER DRAIN



OPTION 5
ADDS CONNECTION FOR FILTER DRAIN
AND BYPASS AROUND SUMP SEPARATOR



OPTION 6
ADDS SUCTION PUMP ON FILTER DRAIN OF OPTION 4 OR 5.
WHEN ORDERED ON MODEL 616B PUMPS RUN INDENPENTLY.

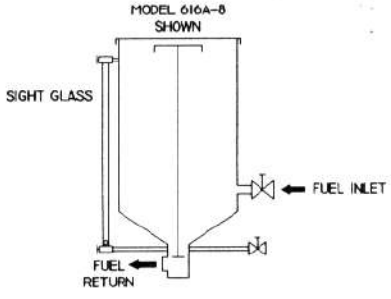


OPTION 7
ADDS HEATING SYSTEM TO CONE BOTTOM. INCLUDES
THERMOSTAT, SWITCH AND INDICATOR LIGHT
IN A EXPLOSION PROOF BOX

ALL MODELS INCLUDE THE FOLLOWING :

CONTINUED

- FOOT VALVE , O-RING SEALED ; RELEASES FUEL FOR RETURN TO STORAGE. (1 IN. N.P.T. PORT)
- PIPE AND FITTINGS: STEEL OR DUCTILE IRON. CAST IRON NOT USED. STAINLESS STEEL AVAILABLE UPON REQUEST.
- VALVES ARE BRASS BALL TYPE. STAINLESS STEEL AVAILABLE UPON REQUEST.



OPTION 8
ADDS 40 IN. SIGHT GLASS
WITH FITTING AND BALL STOP

ORDERING INFORMATION

MODEL GTP-616A Use for underground storage tanks. Fuel returns to storage by gravity when foot valve is opened.

MODEL GTP-616B Use for above-ground storage tanks that will gravity drain to the sump separator. Includes a 10 gpm, 65 foot head ductile iron centrifugal pump with explosion-proof switch, (120 volt, 60 Hz, 3/4 Hp, single phase, explosion-proof motor) to return fuel to storage.

OPTION 1 Adds discharge swing check valve.

OPTION 2 Piping connected to pump fuel back to storage through the storage tank drain line.

OPTION 3 Adds a filter rated at 1 micron, 150 psi design. Recommended only for GTP-616B.

OPTION 4 Adds connection with 1” ball valve and swing check valve. Use for draining filter tanks when elements are to be replaced.

OPTION 5 Same as Option 4, except bypass piping also included. When draining a filter tank with a capacity greater than the 50 gallon sump separator, the first 50 gallons will flush out the filter sump water and dirt. The excess can then bypass the sump separator and go directly to storage.

OPTION 6 A positive displacement pump is added to either Option 4 or 5. Pump will self-prime and draw fuel from a low filter sump, an underground storage tank sump, or from a mobile filter having a hose connection. Includes explosion-proof control box (120 volt, 60 Hz, 3/4 Hp., single phase, explosion-proof motor). When ordered on Model B, circuit arranged to prevent both pumps operating at one time.

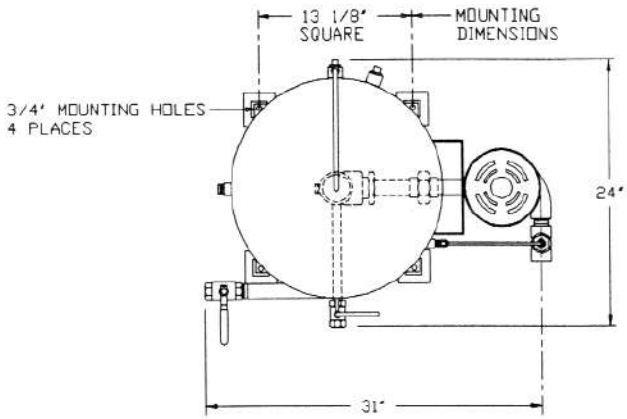
OPTION 7 Adds oil bath heating system under the cone-shaped bottom. Includes explosion-proof thermostat, switch and indicator light. 300 watts, 220 volts.

OPTION 8 Adds 40” sight glass with fittings and ball stop, to prevent flow if glass breaks. Option 8SS is stainless. Option 8B is bronze.

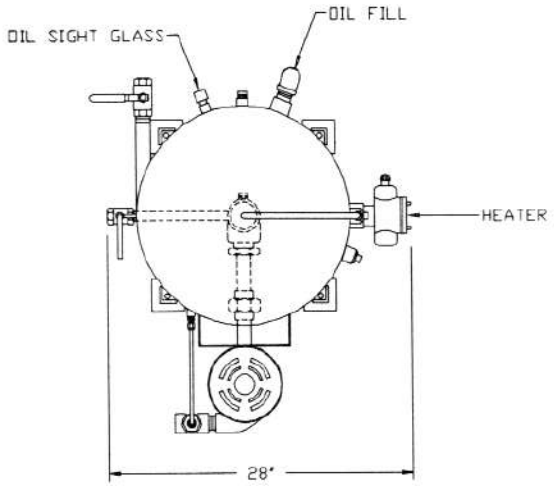
EXAMPLE: Model GTP-616A47 - This is a sump separator for use with an underground storage tank. No return pump is required because the fuel will drain by gravity back to storage. A connection has been added for taking the drained fuel from a filter and the cone bottom is equipped with a heater.

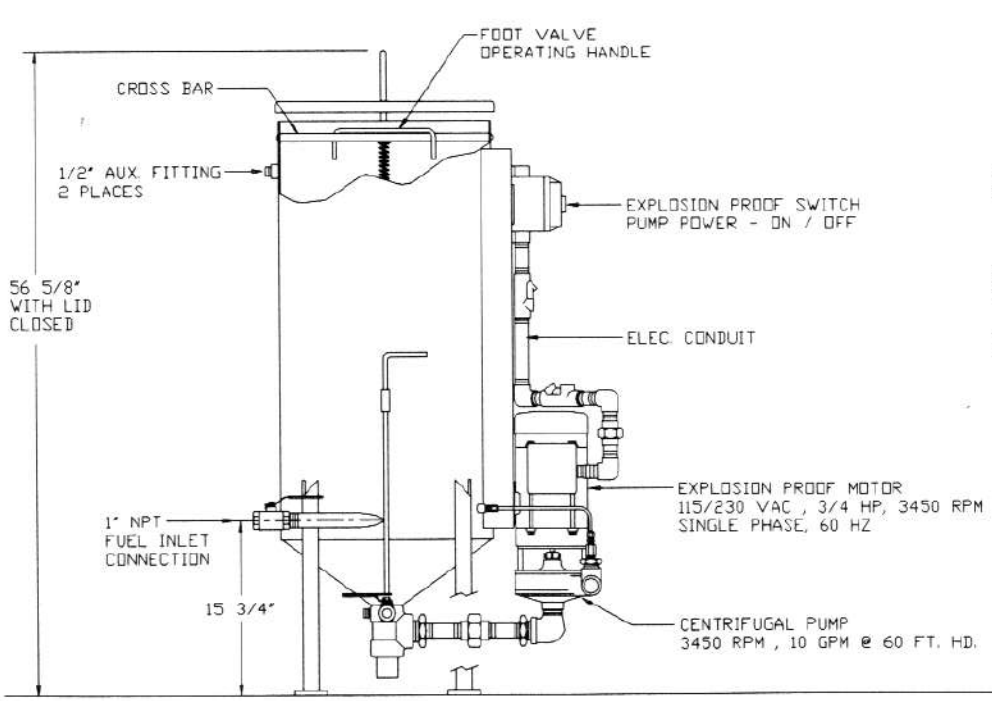
Model GTP-616B1246 - This sump separator is for use with an above-ground storage tank and is equipped with a pump, check valve, and return piping so that the fuel can be pumped back to the storage tank through the storage tank drain line. A connection has been added with a positive displacement pump for taking the drained fuel from a filter that has a sump that is lower than the sump separator.

TOP VIEW

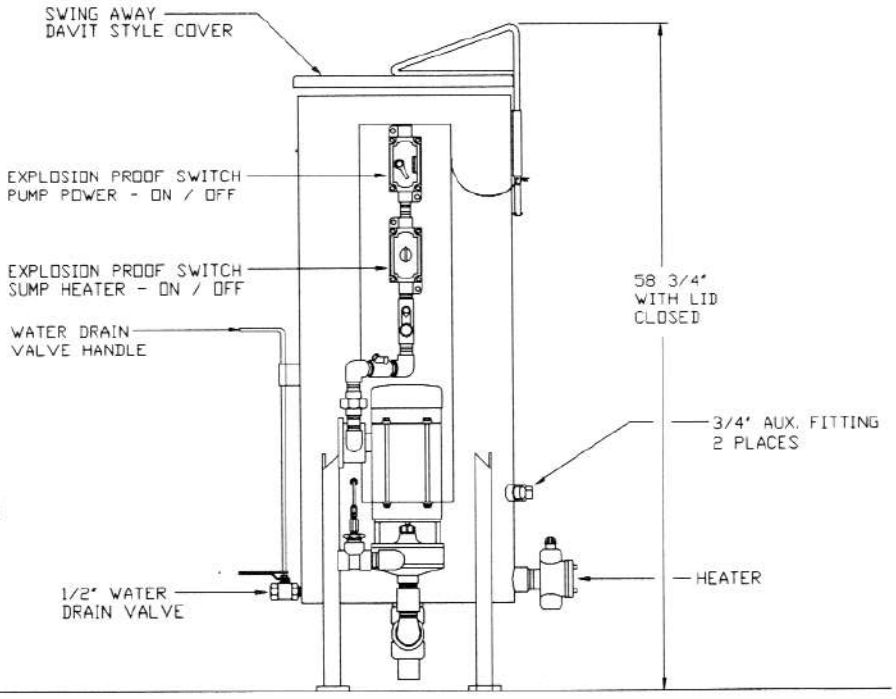


TOP VIEW





LEFT SIDE VIEW
616B
(NO OPTINS SHOWN)



FRONT VIEW
616B-7
(OPTION 7 SHOWN)
(HEATED SUMP)

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GAMMON GAUGE™

BULLETIN 25
(9-19)

GAMMON GAUGE™

Direct Reading Differential Pressure Gauge

Why settle for less when you can have the tried and true **original**?

Designed and Manufactured in the U.S.A.

GTP-534
ORIGINAL MODEL

GTP-534-PB-PH
PEAK-HOLD
With Push Button
TEST VALVE

The PEAK-HOLD feature registers the highest reading, locking the piston so the operator can see maximum differential pressure for the most recent fueling operation. Turning the large knob releases the piston so that it can return to zero.

GTP-534 PBF
PUSH BUTTON
IN FRONT
(optional button position)

GTP-8980
GAMMON GAUGE™
CONTROL SYSTEM
Meets ATA-103 and
IATA JIG Bulletin 58.

GTP-534 PB
PUSH BUTTON
3-WAY TEST VALVE

Push Button Gammon Gauge™ U.S. Patent No. 6,694,819B1

UNIQUE FEATURES

Peak-Hold Reading — The maximum differential pressure that is measured during an operation automatically locks the piston so that the operator will have that information without actually having watched the gauge at the time. After the reading has been seen, the operator releases the piston by turning a knob. It is usually impossible for the operator to see the gauge while refueling an aircraft so the highest differential pressure reading is rarely seen. This feature eliminates the problem just as in the case of an unmanned facility such as a pipeline or hydrant system. Patent applied for.

Push Button Test Valve — Hold the button in to relieve pressure under the piston. System pressure will force the piston down so the operator can observe motion. Erratic movement of the piston indicated contamination of piston and glass cylinder, requiring cleaning. **Note:** This test releases about 50ml of fuel which can be collected in a cup or directed to recovery systems.

Pressure Relief Feature — Incorporated in all Push Button models is a thermal expansion relief valve set at 300 psi to protect the gauge from excessive pressure if isolation valves have been closed.

COMMON FEATURES OF ALL MODELS OF THE GAMMON GAUGE™

- Read differential pressure directly at top of piston
- Accurate within 1/4 psi at system pressures to 300 psi
- No subtraction calculation required
- All models available in aluminum or stainless steel
- Positive and negative surge pressure will not influence calibration
- Multiple calibrations:
  - Front face: PSI and Kpa
  - Back face: Bar and KG/cm²
- Every cylinder tested at 1200 psi
- Rugged construction - suitable for vehicle or stationary use
- Built-in gauge protection filter, 10 microns
- Maximum operation pressure of 300 psi
- Fittings: 1/4” NPT female, 1/4” BSP available
- Temperature range of standard Viton GLT seals: -40°F to +400°F (-40°C to +204°C)
- Ultraviolet light protection - film face cover prevents rays from degrading fuel in the glass tube

NOTE: The GTP-279 filter is obsolete. We offer a conversion assembly GTP-9515-1 (S/S) or GTP-9515-2 (AL). This is a complete replacement for the upper flange.

SYSTEM PRESSURE GAUGES

Part Number	Range	Face Diameter
GTP-686A	0-60 psi	2”
GTP-686B	0-100 psi	2”
GTP-686C	0-160 psi	2”
GTP-686D	0-300 psi	2”

REPLACEMENT PARTS

GTP-2233	Filter element
GTP-672-1	Scale: 0-15 psi
GTP-690-1	Scale: 0-30 psi
GTP-547-1	Glass cylinder
GTP-2200-023V	Cylinder O-rings

HOW TO ORDER

GTP-534 - □ - □ - □ □ - □

BLANK	Original model
PB	Push button test valve
PBF	Front push button test valve

BLANK	No peak hold
PH	Peak hold*

*only available with PB or PBF

15	0-15psi scale*
30	0-30psi scale

*not available with PH

BLANK	Standard Viton GLT low-temperature seals
D	2 selector valves, one at each connection. The ports on each valve are labeled A and B so the gauge can be connected to measure differential pressure alternately on two different filters or on a filter having two stages.
G	Same as D but with 1/4 BSP threads

A	Aluminum
S	Stainless steel

CALIBRATION TESTING

To meet API-1581, you should have a 3-way valve. Our 3-way valve meets this requirement and is used to check calibration as well as to check free movement of the piston.

1. Establish flow in the system. The gauge should indicate a pressure drop.
2. Push the test button. The piston should travel to the bottom of the scale.
3. Release the button and stop flow in the system. The piston should return to zero.

If the piston returns to zero, you have not only calibrated the gauge, you have checked it for free moment across its entire range. If the piston moves slowly, the filter (located in the top of the gauge) may be clogged and need replacement. This calibration technique is accepted by all major oil companies, all major airlines, and military services worldwide. Gammon Gauges™ have been in service in virtually every major airport in the world for as long as 30 years and we have never heard of or seen a single gauge go out of calibration. Occasionally a piston will stick after many years in service, but hand cleaning with “Scotch Brite” plastic abrasive will make it as good as new (**Note**: Do not clean with sandpaper or steel wool). Replace the o-rings and reassemble.

CONVERSION OF EXISTING GAMMON GAUGES™

An existing Gammon Gauge™ can be converted to have the Peak-Hold and the Push Button Test Valve by replacing the lower flange of the gauge. Order as follows:

STANDARD GTP-534	ADD PUSH BUTTON	ADD PUSH BUTTON & PEAK HOLD
Aluminum	GTP-552-8PB	GTP-552-40
Aluminum with Front Push Button	GTP-552-8PBF	GTP-552-40F
Stainless Steel	GTP-552-9PB	GTP-552-40SS
Stainless Steel with Front Push Button	GTP-552-9PBF	GTP-552-40FS

Note: On Gammon Gauges™ without test buttons, a GTP-2305V 3-way ball valve can be installed.

GAMMON GAUGE™ CONTROL SYSTEMS

Protect Against Filter Element Bursting
Add a Differential Pressure Switch to the Gammon Gauge™
Sound Alarm - Stop Flow - Turn on Second Filter
Normally Open or Normally Closed, Fail Safe

If differential pressure suddenly increases or a facility is operated without personnel monitoring the differential pressure, filter element failure can occur. This new switch is unique. It adds differential pressure control at a low cost using a non-powered proximity switch. This simple double-sealed switch is ideal for use in PLC (miniature computer) and relay controlled systems. The connection box is rated NEMA 4X.

Control operations are also available if you don't plan to use an external control. We have weather-tight and explosion-proof versions.

We strongly recommend a 3-way test valve for properly testing the Gammon Gauge™ and Proximity Switch and/or system.

Any Gammon Gauge™ can be converted to include the new proximity switch.

Note: To meet IATA JIG Bulletin 58, order one of the "KS" options for key switch reset and test functions. The ATA-103 does not require this. For vehicle mounting, we recommend the weather-tight housing.

HOW TO ORDER

GTP-8980 - □ - □ - □ - □ - □
GTP-8980B - □ - □ - □ - □ - □

GAUGE TYPE (0-30 P.S.I.D. ONLY)

A	Standard gauge - aluminum
B	Standard gauge - stainless steel
C	Gauge with push button on side - aluminum
D	Gauge with push button on side - stainless steel
E	Converts any existing standard aluminum gauge
F	Converts any existing standard stainless steel gauge
G	Gauge w/push button and peak hold - aluminum
H	Gauge w/push button and peak hold - stainless steel
L	Gauge with push button in front - aluminum
M	Gauge with push button in front - stainless steel

VOLTAGE

12	VDC
24	VDC
120	VAC
220	VAC
0	None specified

VALVE

S	Solenoid valve (three-way n/o)
0	No solenoid valve

NOTE: Viton GLT o-rings are standard and rated for low temperatures.

PROXIMITY SWITCH ORIENTATIONS

RH	Switch on right side
LH	Switch on left side

ENCLOSURE

0	No enclosure, no light, no relay
B	Weather tight
X	Explosion proof
BKS	Weather tight with key lock switches

EXAMPLE

GTP-8980B-C-RH-12-B-0 is a differential pressure gauge with a normally closed switch as follows: push button aluminum gauge, 30 psi scale, switch on right side, 12 VDC, enclosure is weather tight which includes light and push to test feature, no solenoid valve, and low temperature o-rings.

GTP-8980B-C-RH-12-BKS-0 is the same as above except the enclosure has 2 key lock switches for test and reset per IATA JIG Bulletin 58.

NOTE:

1. GTP-8980 has a normally open switch. The switch closes upon high differential pressure. If the cable to the controller is cut, high differential would never be detected.
2. GTP-8980B has a normally closed switch. The switch opens upon high differential pressure. If the cable to the controller is cut, the system would go into alarm notifying the operator that something is wrong with the system.
3. If a system is purchased without the controller (no enclosure), both types of switches are still available. When a complete system is ordered with an enclosure, it is our policy to provide a GTP-8980B fail safe system unless otherwise requested. The difference is in the internal wiring and components in the controller.

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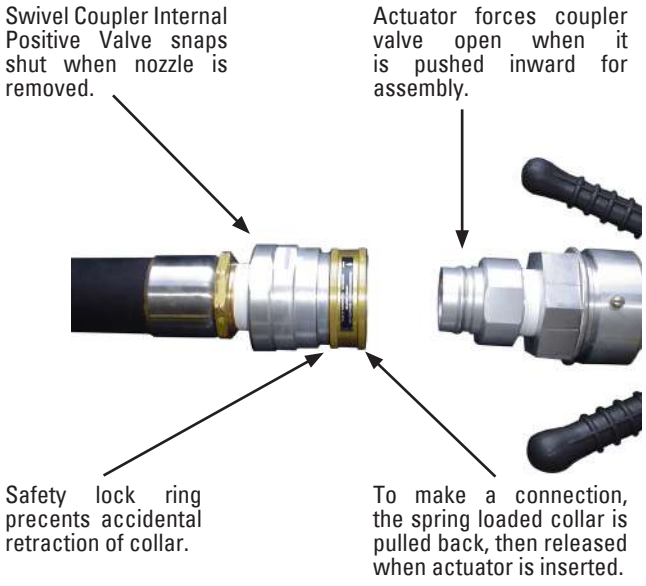
DRY BREAK QUICK DISCONNECT

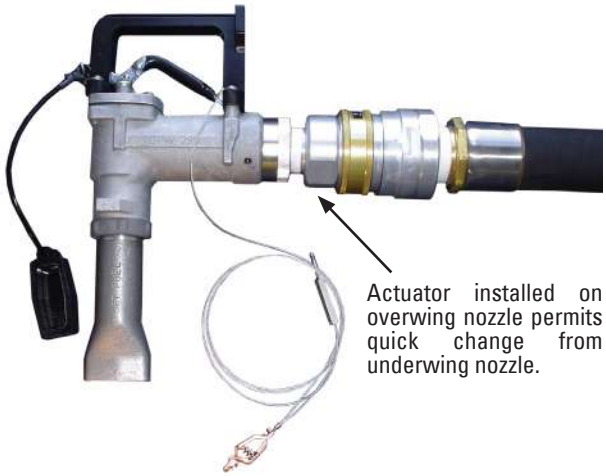
BULLETIN 31 (04-19)

HEAVY DUTY DRY BREAK QUICK DISCONNECT

WITH STAINLESS STEEL BALL RACE RING TO RESIST WEAR

Fast change from **OVERWING** to **UNDERWING** nozzle
NO SPILL FROM HOSE





FAST OPERATION
Connect or disconnect in seconds, without tools. To c on-nect, pull back the sleeve, push the connector into the cou-pler, and release the sleeve. To disconnect, pull back the sleeve coupler and connector halves separate. The valve opens automatically when the halves are connected.

DEPENDABLE OPERATION
The ball-lock mechanism is the simplest, most reliable type in use, providing positive connection under constant or surge flow - even excessive shock. Ball bearing sleeve lock permits 360° swivel action, preventing build-up of hose torque. Hardened stainless steel balls give extra long ser-vice. Stainless steel ball race resists wear for longer life.

Molded U-Packer seal provides contact over several times the normal O-ring sealing area. Its design embodies a self-energizing feature that gives a positive seal at all pres-sures. This seal is capable of sealing under side loads and will tolerate small scratches and some dirt without leakage.

TIGHT SEAL DISCONNECTED
The poppet has a metal-to-metal stop to control compres-sion on the valve O-ring seal. The seal is recessed and wedged in the couple body to keep it in place. The stop also prevents poppet blow-out.

LOW PRESSURE DROP DESIGN
1 ½” size: 2.6 psi at 50 gpm
2” size: 2.9 psi at 100 gpm

FLOW RATES
1 ½” size: maximum 60 gpm/225 lpm
2” size: maximum 100 gpm/375 lpm

All couplers and actuators are made of aluminum unless stated otherwise. They are **NOT** designed for suction ser-vice.

HOW TO ORDER

SWIVEL COUPLERS

1½" COUPLER

GTP-919-1
GTP-919BSP

GTP-1768
Dust Plug with Chain

2" COUPLER

GTP-917-1
GTP-917BSP

TL-1652
Dust Plug with Chain

ACTUATORS FOR GTP-919-1

Female
GTP-920-1 1½" NPT
GTP-920-4 1½" BSP

GTP-1428
Dust Cap with Chain

Male
GTP-920-2 1½" NPT
GTP-920-3 1½" BSP

GTP-1534
24 x 110 mesh stainless steel
Optional strainer for all 1 ½" actuators,
except GTP-920-3S

For strainer and actuator assembly,
order **GTP-1510**

Male
GTP-920-3S 1½" BSP
Stainless Steel

MALE ACTUATORS FOR GTP-917-1

GTP-918-1 1 ½" NPT
GTP-918-3 1 ½" BSP

GTP-918-2 2" NPT
GTP-918-4 2" BSP

GTP-1653
Dust Cap with Chain

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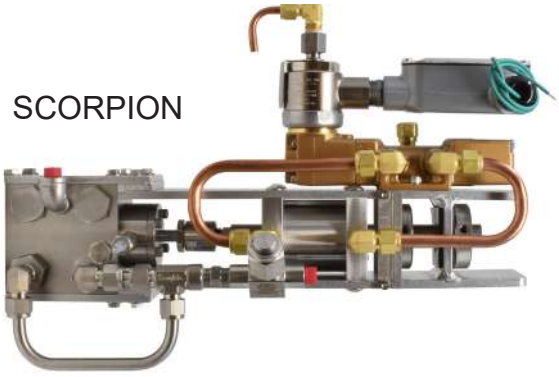
VIPER ADDITIVE INJECTION SYSTEMS

BULLETIN 36 (11-20)

VIPER PUMPS

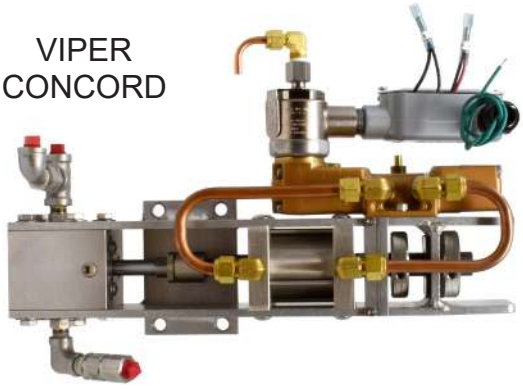
VIPER DIGITAL

SCORPION



SCORPION MINI

VIPER CONCORD



VIPER ADDITIVE INJECTORS

FOR MOST ANY ADDITIVE IN ANY FUEL

Viper Additive Injectors are designed to accurately and reliably inject a wide range of additives into a flowing stream of fuel or other hydro-carbon liquid. All fluid-wetted components are 300 series stainless steel. For maximum accuracy, temperature range, and durability, we have a wide range of custom rubber seals available.

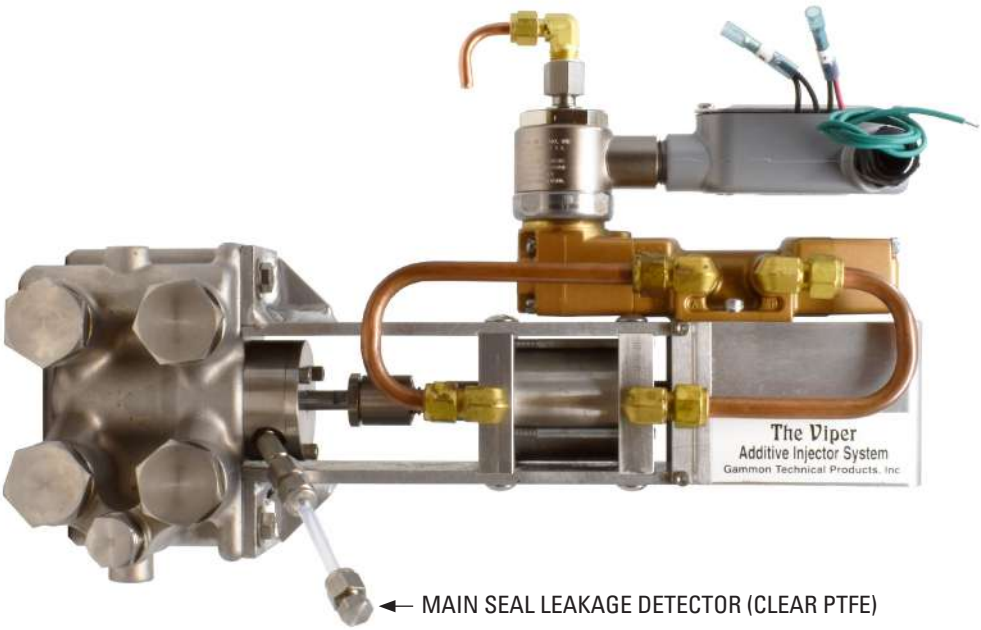
Available with or without controls, these injectors can be directly controlled by the new advanced LC, TCS, and other meter computers for simplicity and record keeping. Made in USA.

VIPER CONTROLS

VIPER DIGITAL CONTROL

VIPER ECLIPSE CONTROL & METER

VIPER PUMP



The Viper pump is a simple concept. A double-acting, positive displacement, solid stainless steel piston pump, tested to provide a long life on clean additive before seal change of 30,000,000 gallons. All rubber (check valve) and PTFE (shaft and piston) seals, for reliability and accuracy. Self-cleaning check valve design, inlet strainer and main seal leakage detector. Compressed air powered, electronically controlled.

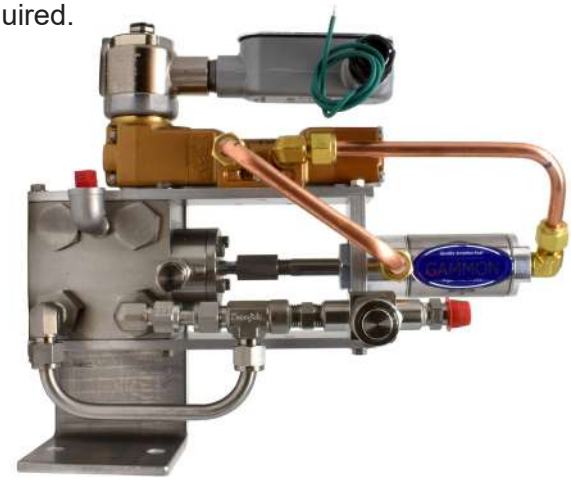
Our Heavy Duty mechanical adjuster is linear so if you change the adjuster 10%, the additive output changes 10%, unlike some competitors. Tested to -50° F. Viper pumps in service as long as 15 years have never needed adjustment, just occasionally new seals or a strainer cleaning. Checking is simple, flow volume into a test jar is the same as flow into the fuel stream.

Flow rates up to 1,200 gpm, additive rates up to 1,500 ppm. Includes a special test valve, high-visibility flow indicator, and atomizing injector nozzle.

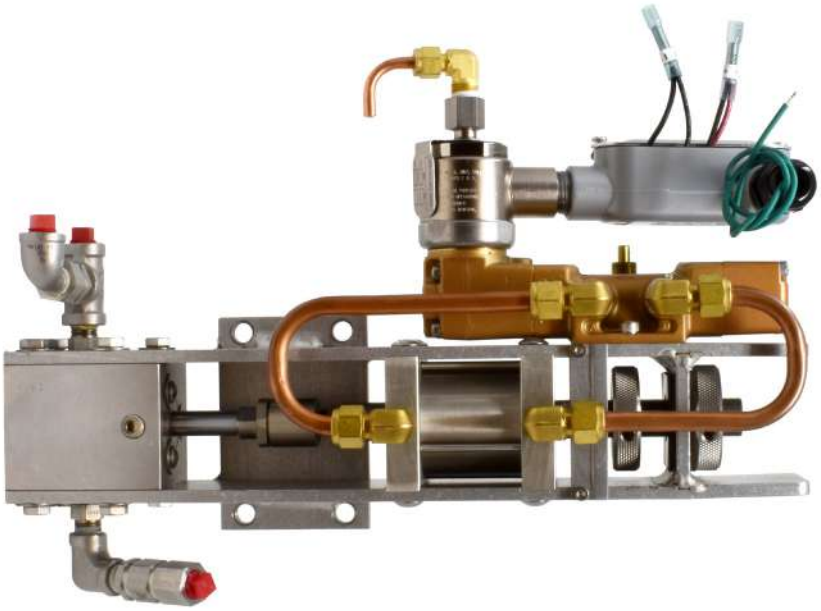
VIPER SCORPION & SCORPION MINI

The Viper Scorpion is a smaller version of the Viper. Flow rates up to 500 gpm at 100 to 1,000 ppm. Compact and less expensive, but just as accurate and reliable.

The Viper Scorpion Mini is a simplified additive injection system without mechanical adjustment. Developed for use specifically with a meter computer such as the TCS or LC system. Additive meter required.



VIPER CONCORD



The Viper Concord was developed long ago to inject CI/LI additive for the Concord SST. Designed to accurately inject additive at as low as 20 ppm at flow rates up to 1,000 gpm, the Concord was “brought out of retirement” to join the Viper line. Interestingly, the Concord has no Piston seal, utilizing a clean “return” design to prevent leakage.

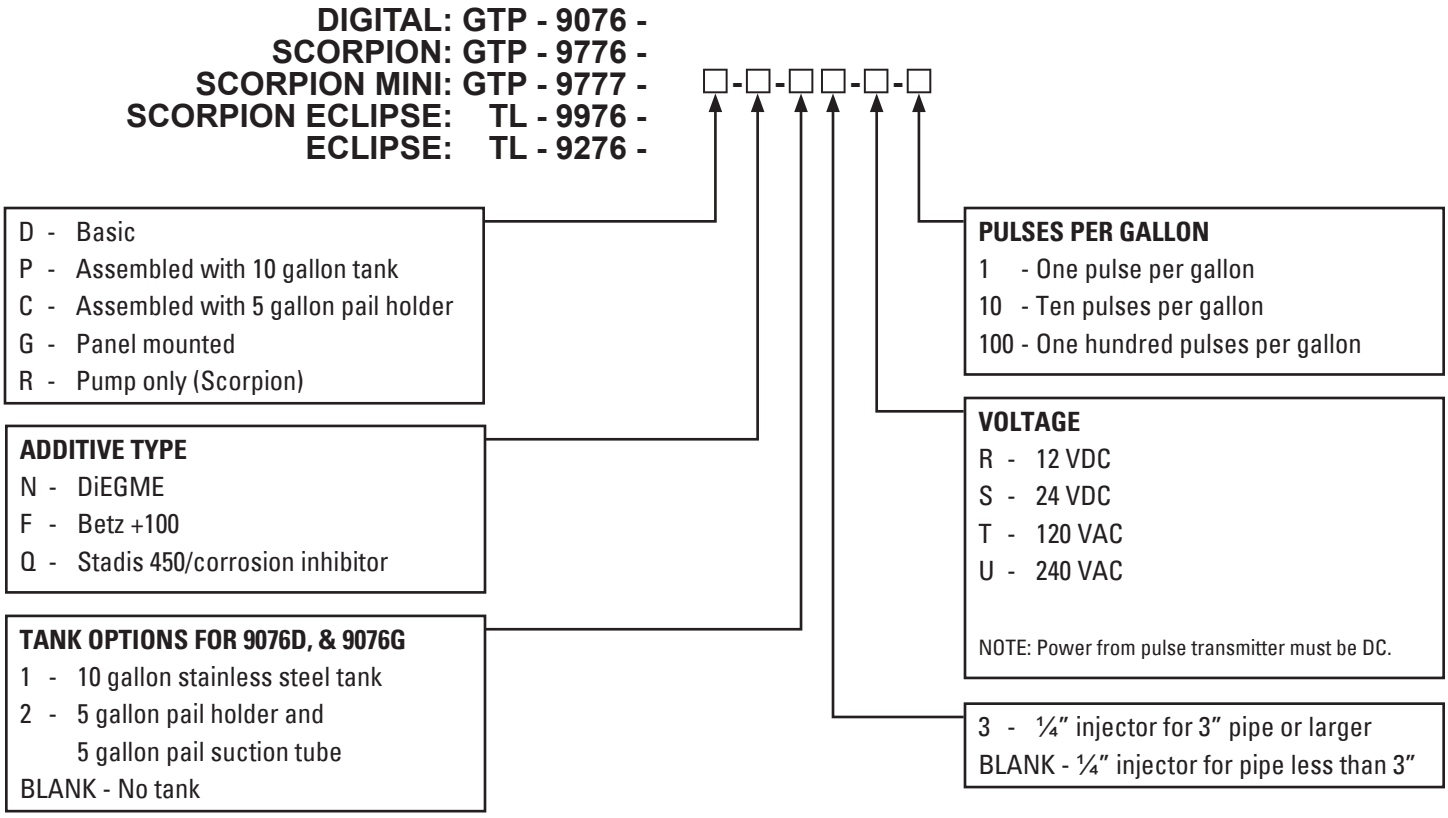
DIGITAL VIPER AND VIPER ECLIPSE CONTROL SYSTEM

The “brain” is a simple control, preset before shipment. No programming needed! The Digital Viper takes a pulse from your existing meter, and paces the additive flow rate to match the fuel flow. When interfaced with an on-board meter computer, can inject additive at different ratios for different customers, simply! A very simple system, using robust parts specifically built for this purpose.

The Viper Eclipse builds on the Digital Viper. It has a more advanced brain and a digital display. But don’t worry about programming, we do it all, no field programming needed. It has self-checking and self-adjusting ability, as well as a digital display with ppm, percent, gallons (or liters) of fuel and gallons (or liters) of additive displayed. It has warning and shutdown modes if additive concentration falls out of the set range. Includes additive meter calibration and priming modes. The Eclipse adds an additive meter and an intelligent “permissive” control system. The operator cannot dispense fuel without first telling the Viper Eclipse to inject, or not to inject additive. No more “forgetting” to turn the injector on or off. Maintaining a 1,000 operation memory of additive and fuel dispensed, date and time.

The Viper Eclipse Control System can be used with any of the Viper pumps.

HOW TO ORDER VIPERS



NOTE: Not all combinations are possible.

TO ORDER THE CONCORD:

Order the GTP-9076, with additive type Q (Stadis 450/corrosion inhibitor). Fill out all other boxes on the chart above as necessary for your application.

ACCESSORIES TO BE ORDERED SEPARATELY

GTP-3355	55 gallon drum level indicator
GTP-3355-10	55 gallon drum rack
GTP-5504	55 gallon drum suction tube
GTP-3895	55 gallon drum vent assembly
GTP-8876-6BC	5 gallon suction assembly
GTP-8776-9	5 gallon pail - empty
GTP-8776-8	Pail holder
GTP-8807	Injector (quill)
GTP-9568	Electronic flow meter (no display)
GTP-2305-2-070	3-way ball valve
GTP-9651	Air regulator/lubricator

NOTE: 55 gallon drums must be horizontal for best operation.

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NOZZLE REBUILDING PROGRAM

BULLETIN 40 (5-15)

AIRCRAFT NOZZLE REBUILDING

Meggitt/Whittaker - Underwing
OPW - Overwing

As certified distributors of both Meggitt/Whittaker and OPW nozzles, Gammon Technical Products is fully qualified to overhaul and refurbish nozzles to “like new” condition.

Our guaranteed work assures you, the customer, that your nozzle will perform in accordance with the original specifications of the manufacturer.

OUR POLICY

Our nozzle repair and rebuilding services are offered to customers who do not have a qualified Meggitt or OPW repair shop nearby.

Our service was built primarily on servicing customers in our Northeast territory but today, nozzles come to us from all over the country.

Every nozzle body and nozzle assembly is inspected and tested in complete accordance with each manufacturer’s maintenance and repair procedures.

All packings are lubricated, and all nozzles are pressure tested, serialized, and logged after every repair. All estimates are provided free of charge.

An aircraft refueling nozzle is a mechanical device and can be dangerous if incorrectly operated or maintained. We guarantee our work. If you find a malfunction within 30 days of shipment, tell us and it will be repaired at no charge.

OPW 295-SAJ
FOR JET AIRCRAFT REFUELING

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PRESSURE AND SAMPLING ADAPTERS

BULLETIN 46 (10-19)

PRESSURE AND SAMPLING ADAPTERS

The versatile **Jet Test QD**® has many uses other than those shown on Bulletin 14. This permanently installed, impact resistant, quick disconnect is unique because only its stainless steel hex is exposed.

See the reverse side of this page for components and variations of these two assemblies.

GTP-451 with PTFE sealed, stainless steel ball valve

GTP-423 with aluminum toggle valve

Standard Jet Test QD®s require the long actuator. Refueling nozzles such as those made by Avery Hardoll (now known as Meggitt) use a shorter actuator because the long version would interfere with the nozzle strainer. Short versions have suffix S or AH in the model number.

GTP-1173 consists of GTP-1174 gauge and GTP-1173 actuator, 1/8" NPT.

GTP-1173A is just the actuator (no gauge)

GTP-1174
NEW AND IMPROVED
PRESSURE GAUGE

0-100psi
Liquid filled
Center back mount
1/8" NPT male

GTP-1175 is the same as above, except the short or AH version

GTP-1175A is just the actuator (no gauge)

For stainless steel pipe fittings, quick disconnects, and standard sampling kits, see Bulletin 3.

SELECTING CORRECT ACTUATOR (CONNECTOR) FOR GTP-423 AND GTP-451 SHUT-OFF VALVES

GTP-423 (standard model) has GTP-1173A actuator for connection to GTP-235 Jet Test QD® as shown above

GTP-423-1 has GTP-722-2 commercial standard actuator

GTP-423-2 has GTP-1175A short actuator for connection to AH and S Jet Test QD®s

GTP-423-3 has GTP-1171D actuator for connection to Shell fittings

GTP-423-4 has GTP-1171C actuator for connection to Air NP/Thermal Controls fittings

GTP-451 (standard model) has GTP-235-2 actuator for connection to GTP-235 Jet Test QD® as shown above

GTP-451-1 has HN-4 adapter and GTP-722 commercial standard actuator

GTP-451-2 has GTP-235AH actuator for connection to AH and S Jet Test QD®s

GTP-451-3 has GTP-1171D actuator and RHN4-2 adapter for connection to Shell fittings.

GTP-451-4 has GTP-1171C actuator and RHN4-2 adapter for connection to Air BP/Thermal Controls fittings

Refer to Bulletin 3 and Bulletin 14 for descriptions of fittings.

GAUGE CONNECTORS

GTP-1171A fits Flight Refueling numbers 4127335 and 4127365. This is the Shell type connector.

GTP-1171B fits Flight Refueling numbers 4127320 and 4127350. This is the Air BP type connector.

GTP-1171C is the same as A except it does not include the gauge

GTP-1171D is the same as B except it does not include the gauge

COMMERICAL STANDARD ACTUATOR

GTP-722 1/4” NPT

GTP-722-2 1/8” NPT

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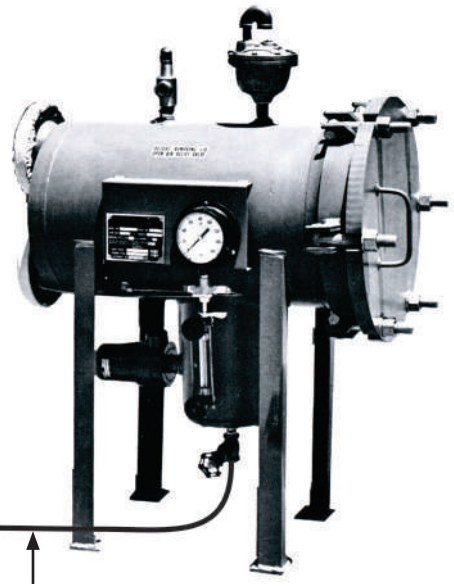
PORTABLE PUMP

BULLETIN 49 (08-98)

SERVICEMAN'S PORTABLE PUMP



Suction hose connects to a vessel to be emptied or can be lowered into underground tank to draw from the sump.

TECHNICAL DATA

Positive Displacement Pump
Suitable for Gasoline, Diesel, and Jet Fuels
12 ft. Cable - Shielded Clips

WEIGHT	45 lbs.
DUTY CYCLE	30 min. on, 30 min. off
POWER	See model numbers (explosion proof motor - Class 1, Division 1)
SUCTION HOSE	3/4" x 12'
DISCHARGE HOSE	3/4" x 12'
FLOW RATE	14 gpm

HOW TO ORDER

Model	GTP-1288-1	12 volt DC motor
	GTP-1288-2	24 volt DC motor
	GTP-1288-3	115 volt AC motor

OPTIONS: Suction strainer GTP-1289
Special length hose
Quick disconnect hose fittings

INSTRUCTIONS

Connect the suction and discharge hoses as desired. Attach cable clips to battery. Turn on the switch. Open filter vent.

NOTE: The D.C. pump has a permanent magnet motor and must be connected correctly or it will run backwards.

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FILTER SEPARATOR ACCESSORIES

BULLETIN 52
(01-21)

FILTER SEPARATOR ACCESSORIES

AIR ELIMINATORS

There is no question in our opinion: these are the most reliable air eliminators money can buy. Stainless steel float and mechanism, Viton A seal, 3/4" NPT in and out. (1/2" on special order), 1/16" air outlet orifice operates up to 208 psi. Air release rate at 150 psi is 6.04 cfm. Larger orifice sizes: 3 available on special order but operating pressures decrease. Structural pressure rating is 250 psi on all models. Repairable replacement parts are available.

GTP-21A Aluminum body
GTP-21C Cast iron body

STAINLESS STEEL MODEL - High Air Flow
Non-repairable. At 150 psi, releases air at 9.44 cfm. Maximum operation pressure 400 psi. Structural pressure rating 500 psi.

GTP-11-400

SOCKET ADAPTER FOR COALESCER ELEMENTS

Designed to fit threaded bottom coalescer elements. The socket is 1/2" square drive for torque wrenches and extensions. This adapter is needed to attach a torque wrench to coalescer elements.

GTP-1224
Socket Adapter for Parker/Velcon

GTP-1224F
Socket Adapter for Facet

CHECK VALVES - Prevents drain-back
TO BE INSTALLED ABOVE THE AIR ELIMINATOR
VITON SEAL - ALL STAINLESS STEEL

This small item offers possibly your greatest protection against *BIG TROUBLE!* It prevents entry of air to the fiter vessel through the air eliminator when main piping check valves leak or the vessel level is reduced. It actually ensures that the vessel remains full of fuel and prevents fuel pressure surging that damages elements.

Air carries micro-organisms that grow to contaminate fuel system filter and tank sumps. ALSO, without air, there can be no internal fires in filter separators. When a pump forces fuel through a coalescer into an empty filter separator, every requirement for fire is present - oxygen, fuel spray, and high energy static charges. The check valve helps to keep the vessel full of fuel.

GTP-8982	1/2” NPT	**GTP-2916-10**	3/4” NPT	**GTP-2916-21**
GTP-8982-1	1/2” BSP	**GTP-2916-11**	3/4” BSP	3/4” NPT x 3/4” BSP

PRESSURE RELIEF VALVES

Relieves excess pressure caused by thermal expansion of the fuel

BE SURE TO SPECIFY RELIEF PRESSURE SETTING

GTP-803S

Carbon steel, available settings
from 15 to 3500 psi
3/4” male x 1” female
Also available in S/S

GTP-803B-1

Bronze, available settings from
5 to 300 psi, non-certified
3/4” male x 3/4” female

GTP-1357V

Bronze, available settings from
75 to 200 psi, non-certified
3/4” male x 3/4” female

NOTE: 150 psi is our standard pressure relief valve setting. Other settings are special order and are non-refundable.

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AMETEK HUNTER SPRING STATIC BONDING REEL

BULLETIN 54 (10-19)

STATIC BONDING REELS

FEATURES

- For heavy-duty applications
- Automatic retraction
- Weather-resistant finish
- 100 amp alligator clamp termination

DESCRIPTION

Static Bonding Reels provide the automatic retraction and compact storage of 50, 75, and 100 foot cable and clamp assemblies. Designed to function under extreme environmental conditions, the 50 and 75 foot cable length models meet USAF MIL-R-83232B and U.S. Government specification A-A-50696.

A patented latching mechanism holds the cable at any desired length. A slight pull on the cable releases the mechanism causing retraction. Retraction need not be attended. The retraction speed is automatically governed by a special brake assembly designed to limit the retraction speed from two to seven feet per second. Steel components and a cantilever-type frame, which support the reel assembly, are designed to function under the most adverse conditions. Baked-on MIL spec red finish and gasketed drum construction protect operating parts from corrosion. Bearing surfaces are permanently lubricated.

SPECIFICATIONS

CABLE LENGTH

Model ML-2930-15	50 feet
Model ML-2930-14	75 feet
Model ML-3416-2	100 feet

CABLE DIAMETER
See the back of this page to review the different cable clamp options.

CABLE CLAMP
See the back of this page to review the different cable clamp options.

ELECTRICAL RESISTANCE
10 ohms maximum between clamp and mounting base on all three models

LIFE CYCLE
Tested to 5,000 cycles

CABLE RETRACTION SPEED
2-7 ft./sec.

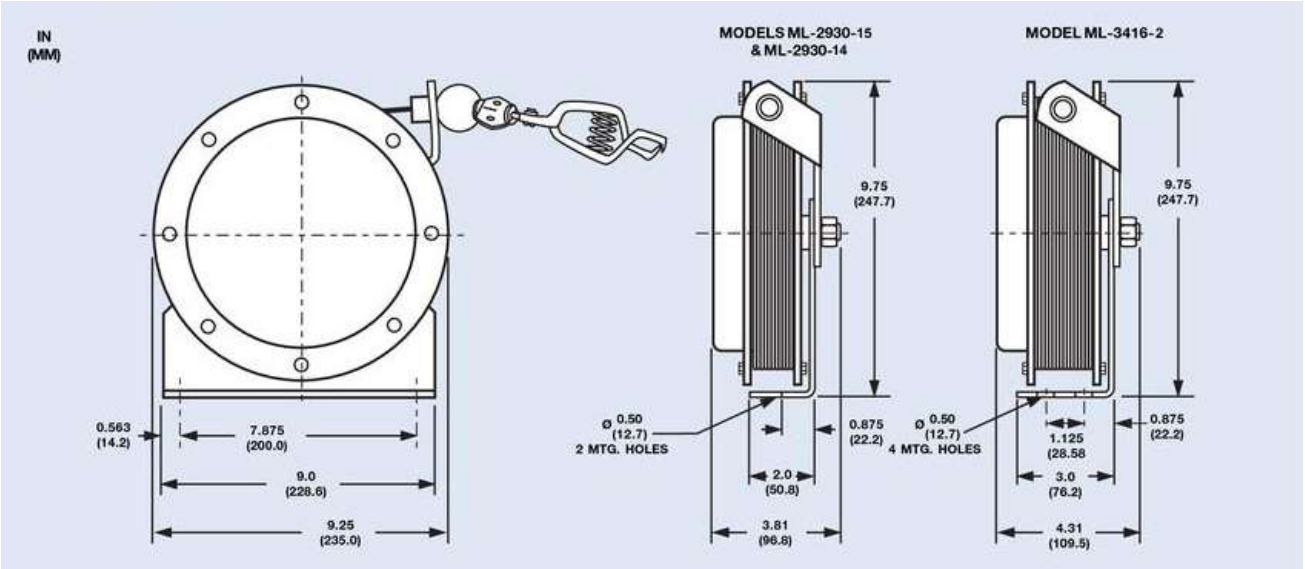
FINISH
Conforms to MIL-Std 808, red paint, Film Designation DG

PACKAGING
Conforms to MIL-P 726, Unit Pack-Level A, Shipping Pack-Level B

OPERATING TEMPERATURE RANGE:
-65° to 125° F

STORAGE TEMPERATURE RANGE:
-80° to 160° F

DIMENSIONS



COMBINED CABLE LENGTH
NOT TO EXCEED DRUM CAPACITY

DRUM CAPACITY TABLE

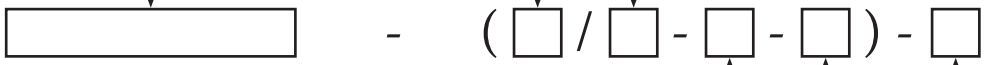
	DIAMETER	
	1/8 in.	**3/16 in.**
ML-2930-15	125 ft.	70 ft.
ML-2930-14	130 ft.	70 ft.
ML-3416-2	180 ft.	120 ft.

REEL MODEL NUMBER

ML-2930-15 (50 FEET)
ML-2930-14 (75 FEET)
ML-3416-2 (100 FEET)

LENGTH NOT TO EXCEED CAPACITY
N = NO CABLE

LENGTH "Y" NOT TO EXCEED CAPACITY
N = NO CABLE



CABLE COLOR (SEE BULLETIN 98)

C Clear plastic (only 1/8" and 3/16" diameter)
E Yellow Hytrel (only 5/32" diameter)
F Yellow vinyl (only 1/8" and 5/32" diamater)
H High visibility orange (only 1/8" and 3/16" diameter)

CABLE DIAMETER

2 1/8" diameter
3 3/16" diameter
4 5/32" diameter

CABLE END (SEE BULLETIN 55)

1B Grounding plug (brass GTP-1097B)
1S Grounding plug (stainless steel GTP-1097S-1)
2 Super clamp (GTP-1101)
3 Clip (standard GTP-1096C)
4 Gator clamp (GTP-9654)

EXAMPLE:

ML-2930-15-(65/15-C-2)-3-3
Cable length is 65 feet with a 15-foot Y branch (as shown).
Cable color is clear plastic with 1/8" diameter cable and two GTP-1096C clips.

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STATIC BONDING/ GROUNDING EQUIPMENT

BULLETIN 55 (11-20)

STATIC BONDING/GROUNDING EQUIPMENT

NEW MANUAL REEL

This is the simplest form of static bonding cable reel. Lightweight and durable. Adjustable tension. Horizontal or vertical mount. Right or left hand rewind.

SEE BULLETIN 163

AMETEK CABLE REEL

The best reel we have ever found. No whipping, no tangles, positively controlled speed with three centrifugal speed brakes. Small, lightweight, and tough.

SEE BULLETIN 54

AMETEK ROTA-REEL

The Rota-Reel static grounding reel offers a compact and lightweight solution for your grounding needs. Features include automatic retraction, pawl and ratchet locking mechanism, and weather-resistant red powder coat finish. Includes 50’ of uncoated 0.093” diameter galvanized steel cable and a 100 amp copper clip.

ORDER ML-700-50R

STATIC BONDING/GROUNDING CABLE

We offer a wide range of grounding cable. Our cable is made with 7 x 7 galvanized steel or stainless steel wire. It is coated with a tough vinyl or even tougher compounded polyester coating. It is available in **clear**, **high visibility orange**, and **kink-resistant bright yellow**. It can be bought by the foot or on 1,000’ spools.

SEE BULLETIN 98

THE GAMMON GATOR CLAMP

At Gammon Technical Products, we have sold grounding clamps and millions of feet of cable over the decades, but we have never made our own unique clamp - until now. The Gammon Gator is designed to surpass all previous clamp designs in every way. It is easier to use, inexpensive, and 100% made in the USA.

- Aluminum magnesium alloy - light, durable, highly conductive, and corrosion resistant
- Longer, more comfortable design is ergonomic and easy to use - yet light and inexpensive
- All high-grade stainless/brass fasteners and spring - includes two cable connections and our unique strain-relief cable attachment design
- Cycle tested to 100,000 cycles without measurable wear
- Salt sprays and salt water erosion tested and passed to Mil Spec
- Drag and run-over tested without breakage or failure
- Less than 1/2 lb. (0.2kg) & 6” (15.25cm) long

ORDER GTP-9654

GTP-1101: THE SUPER CLAMP

Do not go through the “motions” of grounding. Be sure the aircraft and refueler are really bonded together. This tough clamp conforms to MIL-C-83413/7.

- Torsion spring provides 30 lbs. jaw pressure on .500” diameter rod; 40 lbs. jaw pressure on .625” diameter rod.
- When clamped on grounding post, less than 5 ohms resistance from posts to ends of handles.
- Die cast aluminum alloy assures maximum strength and conductivity.

LENGTH: 4.1” **WEIGHT**: 4 oz.

BONDING/GROUNDING PLUG

Includes hex end cap to secure cable

GTP-1097S-1
Made of passivated stainless steel

GTP-1097B
Made of solid brass

GTP-9633 DRIVE-AWAY GROUNDING SOCKET

SAVE MONEY - LESS DAMAGE

Mount this stainless steel socket to your refueler vehicle and use a short grounding cable with a grounding plug on the fixed loading rack. If the driver pulls away without disconnecting - no problem! The flexible grounding socket mounts with a single screw and swings in line with the grounding cable. Eliminate the need for a grounding reel on the loading rack or using the grounding reel on the truck, resulting in the cable wrapped around the rear wheels. Shown with bonding/grounding plug (not included).

BONDING/GROUNDING CLIPS

Heavy-duty Mueller type clips
Solid copper or zinc-plated steel

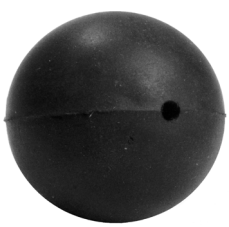
1 DOZEN MINIMUM ORDER
For example, if you order one GTP-1096C, you will receive one dozen clips.

PART No.	LENGTH
COPPER	
GTP-5891C	2 1/2”
GTP-5890C	3”
GTP-1096C	4”
GTP-1297C	6”
STEEL	
GTP-1096S	4”
GTP-1297S	6”

OVERWING BONDING/ GROUNDING ASSEMBLIES

Overwing bonding/grounding assembly, 90” long, with clip. NFPA requirement, you must bond before removing cap on aircraft GTP-1095 (as shown).

Cable, plug, and clip assembly 48” overall GTP-1094.



RUBBER STOP BALLS

For grounding reel cables, these 1 1/4” round stop balls are tough and long lasting.

GTP-1486

CABLE STOP

GTP-1487

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FLOATING SUCTION ASSEMBLIES

BULLETIN 59 (05-97)

FLOATING SUCTION ASSEMBLIES

ALUMINUM CONSTRUCTION

FLANGED CONNECTIONS

DUAL BALL-RACE SWIVEL

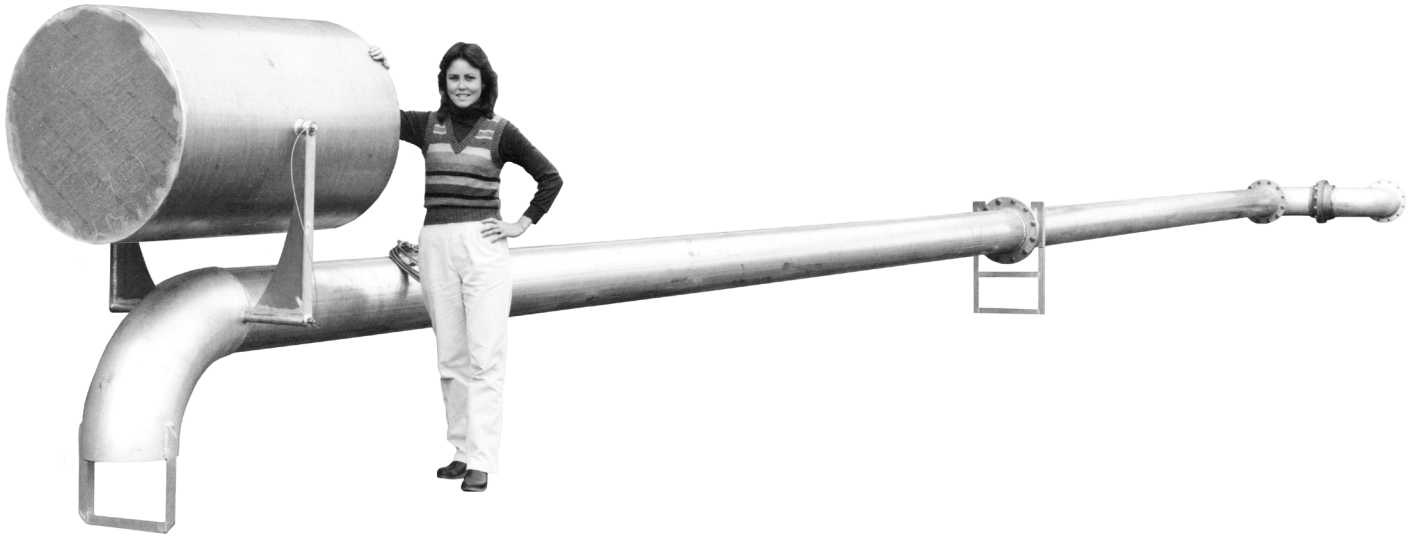
VITON SWIVEL SEALS

STAINLESS STEEL TEST CABLE

HELI-ARC WELDED FLOATS

VERTICAL OR HORIZONTAL TANK DESIGN

OPTIONAL INLET BAFFLE AND BELL HOUSING



Insures that the cleanest fuel in the tank leaves first

Swivel seal design insures against hang up

Inlet and float designed to avoid vortex induced air
- Optional inlet baffle and bell housing available

Heli-Arc welded aluminum floats tested before shipment
- Optional stainless steel floats available
- Optional foam filling available

Double row of ball-bearing swivels

Stainless steel test cable

All bolts and fasteners are stainless steel

HOW TO ORDER A FLOATING SUCTION

MODEL NO. GTP-1644-- (PIPE SIZE) - (STYLE) - (DIM. L)

PIPE SIZE: _____

STYLE: _____

TANK DIAMETER, "D" _____

MANWAY DIAMETER, "N" _____

MANWAY LENGTH, "M" _____

DIMENSION "L" (STYLES 1,2,5 AND 6): _____

DIMENSION "V" (STYLE 3V): _____

Special Note on Vertical Tanks
Dimension "L" must be determined in our Engineering Dept. if the height is more than 3/4 of the diameter.

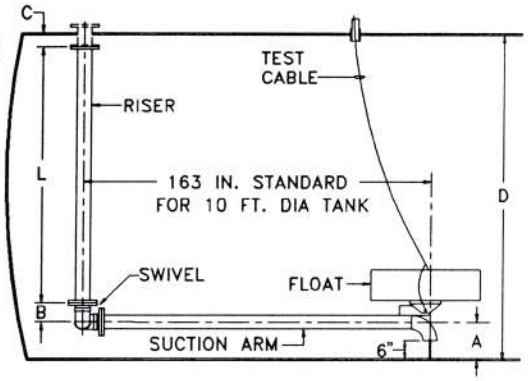
Other options available are:
Foam filled floats
External position indicator
Installation on submersible pump

See discussion on the back page regarding length L limitations for horizontal tanks.

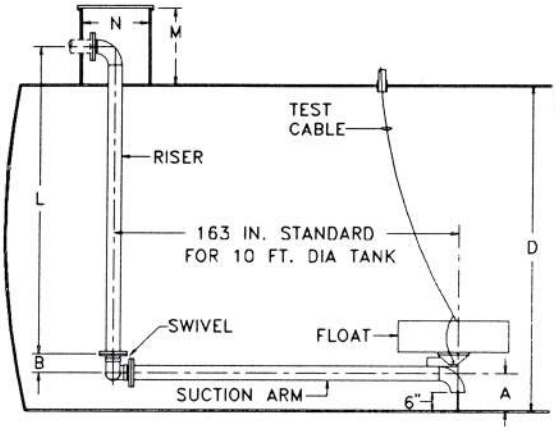
DIMENSION, INCHES

PIPE SIZE	A	B	C
2	10.2	3.9	4
3	11.7	5.0	4
4	13.2	6.1	4
6	16.2	7.8	4
8 TO 30	Quoted on Request		

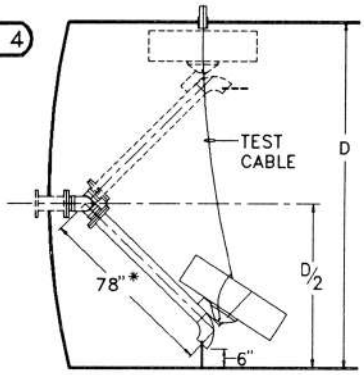
STYLE 1



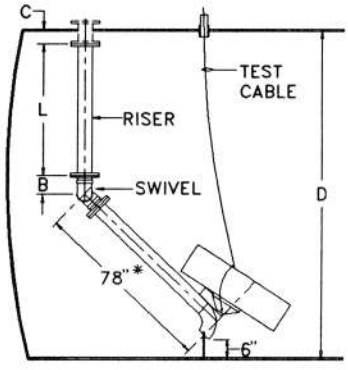
STYLE 2



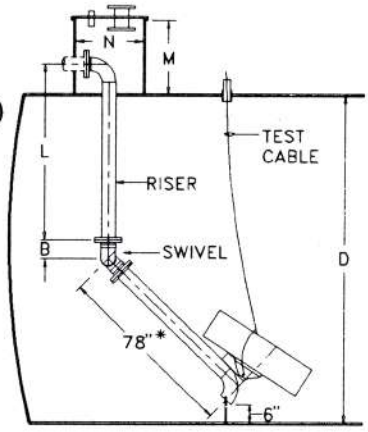
STYLE 4



STYLE 5

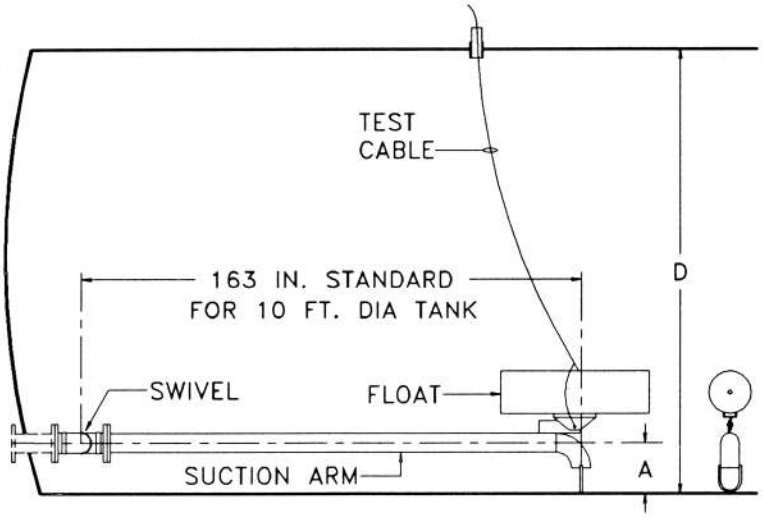


STYLE 6

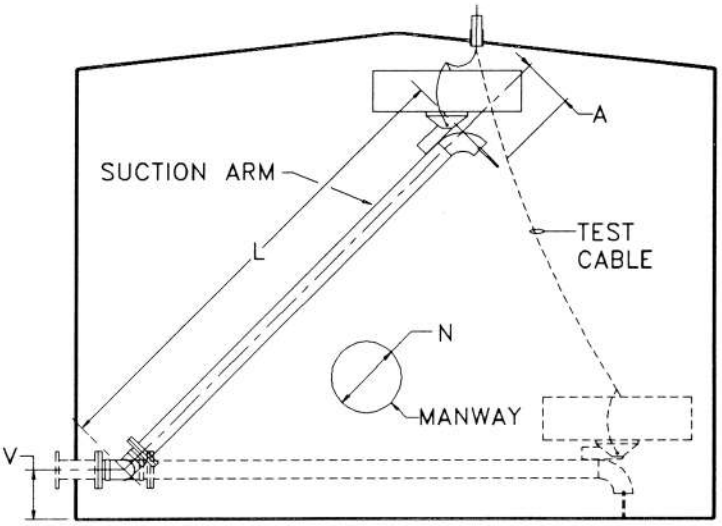


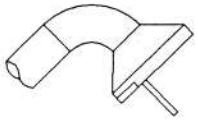
*ASSUMES TANK DIAMETER IS 10 FEET.
OTHER LENGTHS SUPPLIED TO SUIT
TANK DIAMETER

STYLE 3H



STYLE 3V

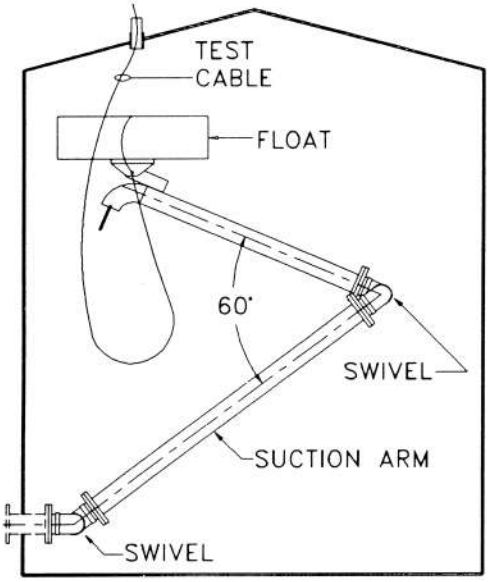


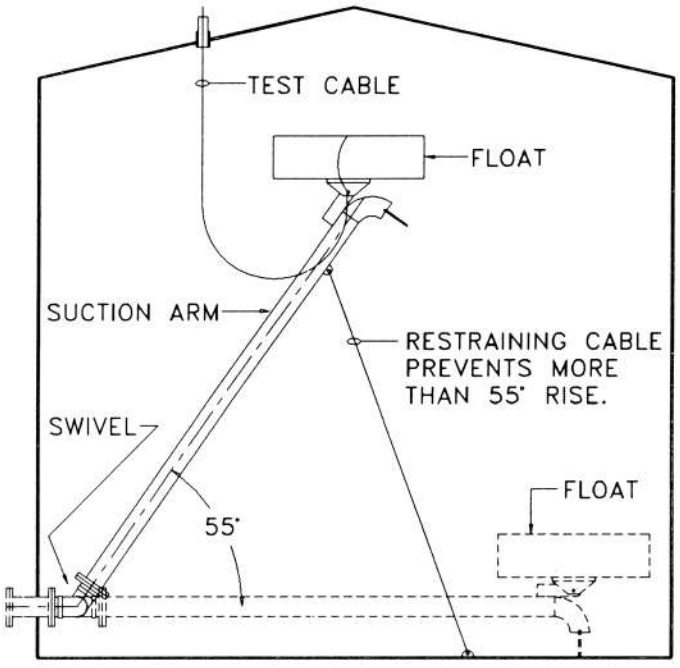


OPTIONAL INLET BAFFLE AND BELL HOUSING AVAILABLE ON ALL STYLES.

STYLE 3VR

STYLE 3VA





USE ONE OF THESE OPTIONS IF TANK IS TALLER THAN 0.75 TIMES TANK DIAMETER

INSTALLATION

CAUTION: When installing a floating suction, do not enter the tank until all fuel vapors are cleared.

HORIZONTAL TANKS
In most cases it will be necessary to remove the float assembly before installation is attempted. This simply requires removal of one stainless steel cotter pin. If an attempt is going to be made to install a floating suction without someone working inside, we recommend Style 5 with the riser flange bolted to a spool piece welded into the cover of the manway. Style 6 is another option. Assembly can be inserted through the manway until the cover comes to rest on the top of the manway. Care must be taken to insure that the swivel turns in the right direction so that the float is located above the suction arm. Also, a special provision must be made for attaching the test cable by threading it through a special port in the manway cover. The minimum manway inside diameter to permit installation of Style 5 without removing the float is shown in the following chart for each size:

PIPEWAY SIZE:	2”	3”	4”	6”
MANWAY DIAMETER:	17”	19”	21”	25”

This chart does not apply to Styles 1, 2, or 3 because the limiting factor on being able to insert these long suction arms is whether or not the arm will contact the bottom of the tank before it can pass through the manway. We have developed simple charts for each size of floating suction for a wide range of tank diameters, manway diameters, and manway lengths so that we can quickly determine the maximum suction arm length that can be inserted in your tank. This is why **you must give us the dimensions of your tank when you place an order.** It should be understood that it will be necessary in most instances to remove the float and swivel before installation if Styles 1, 2, or 3 are selected.

SUCTION ARM LENGTH for our standard designs of Styles 1, 2, and 3H is based on the assumption that the fitting in your tank is positioned so that the arm will operate freely without contacting the end of the tank. The customer is expected to inform us if he wants a non-standard suction arm length. We do not recommend allowing the arm to rise to an angle greater than 45°.

TEST CABLE INSTALLATION should be arranged so that the cable will not be bent at a sharp angle when the yardman pulls upward. Ideally, the opening through which the cable is installed should be as close as possible to the point where the center of the float contacts the top of the tank (see typical arrangement for Style 4). The cable may be attached to the lower face of a pipe cap that will close the top of the access port.

All connection flanges for all styles are 150# ANSI-RF unless otherwise specified.

VERTICAL TANKS
Floating suctions for vertical tanks must be disassembled during installation. The purchase order must specify the manway diameter so that a float can be selected that will pass through. If the arm length/ diameter ratio is very great, we add intermediate legs as necessary, especially if the outlet flange is lower than the inlet, causing the arm to remain full when the tank is empty.

If the height of the tank is greater than 75% of the diameter, the arm will rise to such a steep angle that it may hang up. One option is for us to add a restraining cable and let the fuel rise as far above the float as necessary (see Style 3VR). The other option is to add swivel joints and use multiple arms (see style 3VA); we have had to use as many as four in very tall, small-diameter tanks. Special provisions are made to guide the float and arms.

NOTE: We manufacture floating suctions for tanks having floating roofs or pans, but only if we are given drawings of the pan construction so that we can design a track for the rollers.

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HYDROMETERS, THERMOMETERS, & ACCESSORIES

BULLETIN 61 (03-21)

HYDROMETERS & THERMOMETERS TO ASTM E-100 STANDARDS

API GRAVITY RANGE	W/THERMOMETER	DIV.	LENGTH (MM)	ASTM NO.	GTP NO.
29-41	0-150° F	2°	380	S554HL	GTP-1680GB
37-49	0-150° F	2°	405	S561HL	GTP-9155GB
39-51	NO	2°	335	5H	GTP-1676
39-51	0-150° F	2°	330	S555HL	GTP-915GB
49-61	0-150° F	2°	380	S556HL	GTP-1681G
59-71	0-150° F	2°	380	S557HL	GTP-1682GB
64-76	0-150° F	2°	405	S562HL	GTP-9185GB
69-81	0-150° F	2°	380	S558HL	GTP-1683GB

METRIC DENSITY RANGE						
	650/700 kg/m³	NO	-	330	312H	GTP-1855
	650/700 kg/m³	-35 to +50° C	0.5°	380	–	GTP-1875-1
★	700/750 kg/m³	NO	-	330	313H	GTP-1856
	700/750 kg/m³	-20 to +65° C	0.5°	380	302HL	GTP-1876
	700/750 kg/m³	-35 to +50° C	0.5°	380	–	GTP-1876-1
★	750/800 kg/m³	NO	-	330	314H	GTP-1857
	750/800 kg/m³	-20 to +65° C	0.5°	380	303HL	GTP-1877
	750/800 kg/m³	-35 to +50° C	0.5°	380	–	GTP-1877-1
•	760/825 kg/m³	NO	-	330	314H/315H	GTP-5904-1
•	760/825 kg/m³	-20 to +65° C	0.5°	380	303HL/304HL	GTP-5909-1
■★	775/825 kg/m³	NO	-	330	321H	GTP-5904
•	775/825 kg/m³	-20 to +65° C	0.5°	380	303HL/304HL	GTP-5909GB
■	775/825 kg/m³	-10 to +40° C	0.5°	395	345H	GTP-5909-2
★	800/850 kg/m³	NO	-	330	315H	GTP-1858
	800/850 kg/m³	-20 to +65° C	0.5°	380	304HL	GTP-1878GB
	800/850 kg/m³	-35 to +50° C	0.5°	380	–	GTP-1878-1GB

★ These hydrometers comply with BS 718-1991 L50 specifications.

These marks (■ , •) may help you to select the hydrometers you should order. Hydrometers and thermohydrometers marked with these symbols have special ranges that avoid the need to purchase two instruments to cover the range for aviation fuels. ASTM has assigned special numbers and has officially approved them. For example, most jet fuels have an API gravity range that requires ASTM S555HL but there are some fuels that need ASTM S554HL to reach 37° API. So the new ASTM S561HL, with a range of 37-49°, covers all jet fuels. ASTM S562HL covers Avgas. Each symbol also indicates additional qualities as described below:

- ■ For metric density, ASTM 321H covers the range from 775 to 825 kg/m³, avoiding the need to purchase two hydrometers, ASTM 314H & 315H. Likewise, for a thermohydrometer, ASTM 345H handles the range from 775 to 825 kg/m³ but its thermometer is graduated in 0.2°C increments. Unfortunately, the temperature range had to be limited to -10 to +40°C.

- • For extremely hot climates, we offer instruments with a density range down to 760 kg/m³ but these do not carry official ASTM designations. Instead, they are marked as a combination of 314H/315H and 303HL/304HL.

Note the difference in the thermometers. The new, more accurate instrument is on the left.

SPECIAL HYDROMETERS AND THERMOMETERS FOR USE IN CLOSED CIRCUIT SAMPLERS, SUCH AS ALJAC BRAND

These hydrometers are thermometers have been shortened so they will fit in Aljac JM-3001 samplers when the lid is closed. Graduated spacings remain the same as ASTM instruments but the ranges have been shortened in some cases.

GTP-5904-2	Hydrometer, metric. 760-825 kg/m³, graduated in 0.5 kg/m³ increments (no ASTM)
GTP-3312-1GB	Thermometer, -20 to +60° C, graduated in 0.2° C increments (ASTM 136C)
GTP-8708	Hydrometer, API, 37 to 49, graduated in 2° F increments (no ASTM)
GTP-8709	Thermometer, -5 to +140° F, graduated in 0.5° F increments (ASTM 136F)

POUNDS PER U.S. GALLON HYDROMETERS

	RANGE, LBS./GAL.	MODEL NO.
Graduated to 0.01, 320mm length	5.70-6.95	GTP-1695-1
	6.5-7.1	GTP-1697-2

NOTE: Model GTP-1695-1 covers jet fuel and Avgas. GTP-1697-2 covers only jet fuel. No thermometers are included.

NON-MERCURY ASTM PRECISION THERMOMETERS AND THERMOHYDROMETERS PER ASTM E2995-14

For customers who prefer **non-mercury thermohydrometers**, add a suffix “B” to the part number for any instrument listed on the front page of this bulletin. Safe and easy non-hazardous clean-up in case of breakage.

SELECTING HYDROMETERS FOR YOUR FUEL

	API GRAVITY	RELATIVE DENSITY	METRIC DENSITY	LBS PER U.S. GALLON
Diesel/No. 2 Fuel Oil	25-40	0.82-0.90	825-904	6.87-7.53
Jet A - Jet A1	37-50	0.78-0.84	779-839	6.49-6.99
JP-4 - Jet B	43-64	0.72-0.81	724-810	6.03-6.75
Avgas - Motor Gasoline	64-76	0.68-0.72	682-724	5.68-6.03

ASTM SPECIFICATION E-1/E-100 COMPLIANT HYDROMETERS AND THERMOMETERS

Any of the hydrometers in this brochure may be furnished with a NIST Traceable Certificate of Calibration at extra cost, upon request. This certificate shows actual data at three test points as required by ASTM E-100 (for hydrometers) or the test points required by ASTM E-1 (for thermometers). Actual readings are resolved to 1/10 of the smallest scale division. The test methods and NIST standards that are used, as well as uncertainties of measurement and all other necessary data to maintain full traceability are provided.

This calibration is performed by an independent calibration laboratory which is accredited to the international standard ISO/IEC 17025. Copies of the laboratory’s ISO 17025 Accreditation are available upon request for your qualified vendor files. To order this certificate, add the suffix “C” to our GTP number. There is an additional charge for this service.

CALCULATORS
API Gravity and Metric Density

These circular calculators eliminate the need for books of tables for making gravity or density corrections to standard temperature. Easy to use and very fast - about half a minute. See Bulletin 100.

AVIATION FUEL API GRAVITY TEST KIT GTP-8810GB

This Jet A & Avgas quality control tool kit includes:

- GTP-1073A High-density polyurethane hydrometer jar
- GTP-1682GB Non-mercury thermohydrometer ASTM S557HL
- GTP-1683GB Non-mercury thermohydrometer ASTM S558HL
- GTP-915GB Non-mercury thermohydrometer ASTM S555HL
- GTP-3012-1A Conversion calculator
- Flash drive containing GTP catalog and GamGrams

HYDROMETER CYLINDERS & ACCESSORIES

GLASS HYDROMETER CYLINDERS
(also known as jars)

GTP-1073A

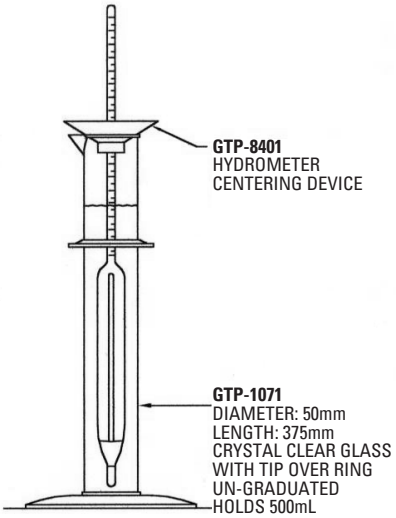
Non-breakable plastic. Take reading at top of jar - no need to see through the plastic. Overflow collector at top prevents spilling as hydrometer settles.

GTP-1071

Glass hydrometer jar with plastic tip-over ring to protect the glass (included).

COLRUD HYDROMETER CENTERING DEVICE GTP-8401

Eliminates errors caused by the hydrometer adhering to the side of the hydrometer jar. Loosely self-centering, this device dramatically reduces the time needed to obtain accurate readings, especially in outdoor conditions and for inexperience personnel. Developed with Dave Colrud, an Alaskan fuel Q.C. expert for use in all conditions. Tested by a top laboratory to confirm that it causes no error. Precision machined, fuel resistant, high-density plastic.



ASTM THERMOMETERS

Certified to ASTM E-1 Specifications

	RANGE	DIV.	LENGTH (MM)	ASTM NO.	GTP NO.	TYPE
For tank level gauging:	-30 to +120° F	1°	300	S58F	GTP-1670B	non-mercury
	-34 to +49° C	0.5°	300		GTP-1671GB	non-mercury
For density or gravity:	-5 to +215° F	0.5°	420	S12F	GTP-2600B	non-mercury
	-20 to +102° C	0.2°	420	S12C	GTP-3312GB	non-mercury

Thermometer holder with cup and lid, equipped with metal backing to dissipate static charges through wire cable. Cable not supplied; order separately, specifying length. Lid of cup is hinged to open as it is lowered into fuel.

GTP-2126 Assembly: holder with ASTM thermometer 58F
GTP-2127 Assembly: holder with ASTM thermometer 58C

GTP-2126

Rejoining Mercury and Oil Separations in Thermometers

PLEASE UNDERSTAND - A separation of mercury in your thermometer is not a defect! It is a condition, normally caused by shock in transit, which of course must be rectified before using the thermometer, or you will experience significant errors in your readings.

There are two methods that you can use. The best way is by cooling. The more difficult way is by using heat. The object of both methods is to get the broken pieces of mercury into a chamber where they can rejoin. The bulb at the bottom is large enough to hold all of the mercury in the capillary when it is cooled in dry ice. If there are pieces of mercury left in the capillary after cooling, carefully tap it vertically on a padded surface. Allow the thermometer to warm naturally (do not heat it) in a vertical position, and observe the mercury column as it ascends into the capillary to be certain it is intact.

If dry ice is not available, you must use heat. Thermometers and thermohydrometers that are offered by Gammon Technical are made with an “expansion chamber” at the top of the capillary tube. The purpose of this chamber is to provide over-range protection in case the thermometer is heated beyond its scale range. This chamber may be used to rejoin separations provided that the amount of separated mercury is very small (not more than a few scale divisions in length). The thermometer should be heated in water that is warmed only slightly higher than its maximum reading. The objective is to apply **only enough heat** to urge the broken pieces of mercury into the expansion chamber, followed by a small portion of the main (intact) column. **DO NOT USE FLAME!** Great care must be taken to not fill the expansion chamber more than halfway, because the developed pressure can break the glass. Remove the thermometer from the heat, maintain it in a vertical position, and observe the mercury column as it retreats into the capillary to be sure it is intact.

GAMMON

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STORE www.gammontechstore.com

HEATERS FOR SUMPS AND DRAINS

BULLETIN 62 (11-10)

HEATERS FOR FILTER SEPARATORS

Rated "Explosion Proof" - NEMA 7 Class 1, Groups B/C/D, Division 1

FEATURES:

- Stainless steel sheathing will not rust
- Adjustable thermostats 0-100°F
- 240 volts, 50/60 Hz, single phase*
- Watt density: 20 watts/in²
- 150 psi working pressure
- Conduit connections 1" NPT
- Made in USA

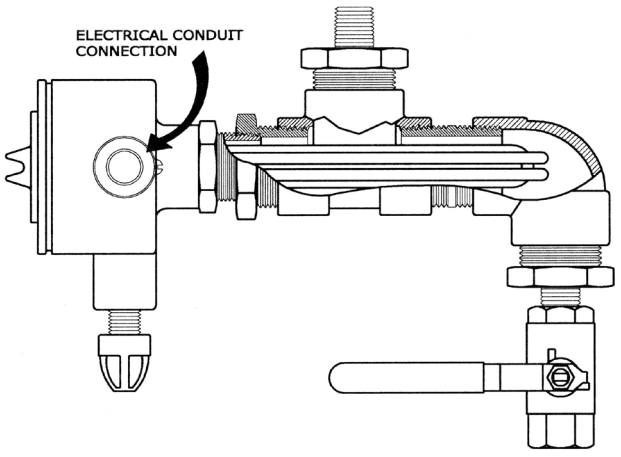
NOTE: These heaters are designed for use on gasoline, kerosene, jet fuel, diesel or No. 2 fuel oil.

CAUTION: Use only in closed, pressurized systems. Do not operate unless the filter vessel is full and the cover is secured.

WATT RATING	PROBE LENGTH (in.)	THREAD NPT (in.)	MODEL NUMBER	
			No Light	With Optional Light
300	6.0	1 ¼	GTP-1756	GTP-1756L
750	7.0	1 ¼	GTP-1757	GTP-1757L
1000	9.7	1 ¼	GTP-1758	GTP-1758L
1500	12.5	1 ¼	GTP-1759	GTP-1759L
300	12.5	1	GTP-1760	GTP-1760L
750	18.5	1	GTP-1761	GTP-1761L
1000	24.7	1	GTP-1762	GTP-1762L
15000	38.5	1	GTP-1763	GTP-1763L

* GTP-1756 is also available in a 120 VAC version. Add "120" to the end of the part number to order.

Shown at right is the typical pipe and fitting arrangement for a 300 watt heater installation in a drain system. The nipple at the upper left screws into the sump drain valve at the bottom. The optional indicator light is in the foreground. The electrical conduit enters on the opposite side of heater.



GENERAL DISCUSSION

Our heaters are made specially for us by a highly qualified manufacturer with many years of experience. The purpose of a heater in a filter separator is to prevent the formation of ice in the water drain system. This makes it possible to drain water that has collected. Attempts have been made in the past to heat the entire filter separator by applying insulation but this has been found to be impractical because there are too many ways that heat can be lost. Furthermore, when insulation has been soaked in rain water, which is nearly impossible to prevent, heat loss is increased and severe corrosion develops.

The usual approach is to have one heater for the sump and a second one for the drain piping. The sump heater should be carefully located so that it is as close as possible to the surface on which water collects. However, it should also cross over the drain port and under the float if a float operated pilot valve is used. If the vessel is exceptionally large, a second sump heater may be installed in the drain piping only.

Most of the heaters covered in this bulletin are used as replacements for heaters that have failed. If you intend to install a heater in a filter separator that was not designed with a proper fitting, be advised that the welding must be done by an ASME qualified shop if the vessel was originally built to Section VII of the ASME code.

The most common failure of a heater is rusting of the steel sheaths. The frequent result of such a failure is that fuel will leak into the electrical housing and it sometimes will fill up the electrical conduit that carries power to the heater. When replacing a heater under such circumstances, we recommend that the conduit be thoroughly dried and new wires installed. The reason for this is that ignition could occur from the arcing of the thermostat. Although a fire in the conduit is “safe,” shorting could occur because of burned insulation.

CAUTION: Heaters must be turned off before a filter separator is drained in preparation for changing elements. The reason for this is that a heater in air will become much hotter than in fuel before the thermostat senses the rise in temperature. This is not only dangerous, but the heater may be damaged beyond repair.

NOTES:

1. When installing one of our heaters, the thermostat must be adjusted. Remove the cover and note a black dial knob that is calibrated from 0-100°F. Turn this knob until the preferred temperature is set next to the indicating button. We recommend 35°F.

2. You can easily check the thermostat for accuracy at any time if you know the temperature of the contents of the filter. Turn off the power first. Then turn the knob slowly from a higher setting. You will note an audible “click” when you read the temperature that causes the thermostat to engage the circuit. If you now turn the knob in the other direction, there will be another “click” when the thermostat disengages. The temperature spread is about 5°F.

GAMMON

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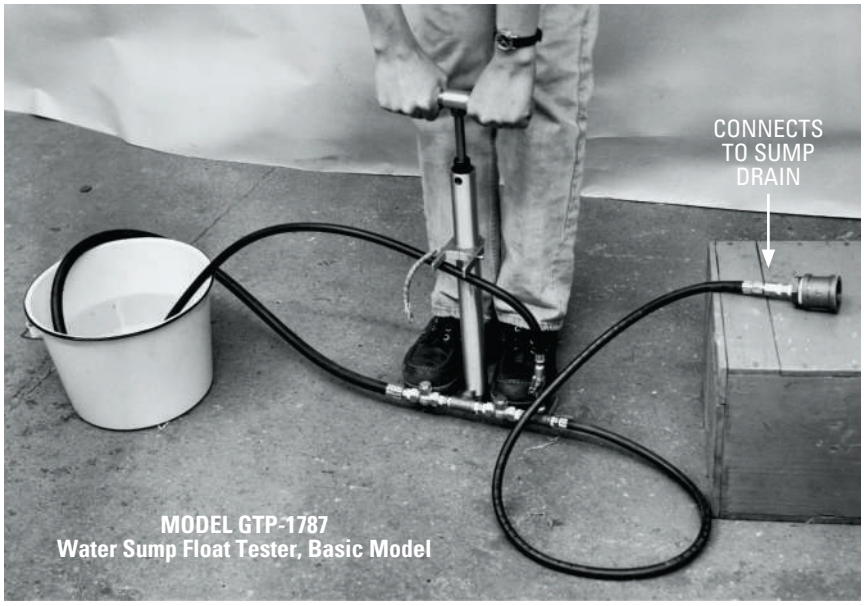
WATER SUMP FLOAT TESTER

BULLETIN 63 (12-02)

WATER SUMP FLOAT TESTERS

FOR TESTING THE EMERGENCY SHUT-DOWN SYSTEM ON AIRCRAFT REFUELING SYSTEMS

A controlled volume of water is slowly pumped by hand into the filter separator sump. If the emergency shut-down system is operating correctly, fuel flow will stop automatically when the level of water in the sump reaches the sensors. This test is performed while the fuel system is operating.



MODEL GTP-1787
Water Sump Float Tester, Basic Model

When the test has been completed, and while there is still pressure in the fuel system, the operator opens a drain valve that directs the liquid from the filter separator sump to the bucket (Model GTP-1787) or to the transparent measuring container (Model GTP-1799). Any fuel that is drained will float on the water. The operator can then confirm that all of the water that was injected into the sump has been removed.

MODEL GTP-1799: Tester with 2-wheeled Cart

A transparent measuring container at the top has an adjustable level indicator so that the operator can see that all of the water that was pumped into the filter separator sump has been recovered. The water filling port is at the top - see the chained plug. An overflow pipe carries excess fuel to a 5-gallon slop collector on the lower platform. See the drain valve for emptying slop collector.

Constructed with materials that will not rust or corrode in water, this specially-designed apparatus can be stored for long periods with clean water inside without danger of malfunction. Stainless steel and brass are the primary materials. The hoses are pressure rated for 250 psi, five times higher than is expected in a fueling system. Buna-N is used in the hose tube while Hypalon® is the cover material.


GTP-1799

Hypalon is a registered trademark of DuPont.

GENERAL DISCUSSION

Testing of water sump controls has been a controversial subject for many years (refer to GamGram Number 1). Some operators are afraid to pump water into the sump to test the system because they fear “human failure,” resulting in water getting into an aircraft. However, if these systems do not perform correctly, the filter separator cannot do its job of preventing water from getting into the aircraft. In a typical 600 gpm filter separator, the separator elements will be underwater if 5 gallons are collected - any additional water goes into the aircraft.

Some operators rely on the procedure of checking the sump drain for the presence of water after each refueling operation. This is surely a good practice but it is subject to “human error.” Other operators use float testers to check the operation of the control circuit. This good practice checks everything except the float. Periodically, the float must be tested to ensure that it will float on a fuel/water interface.

From the above comments, the conclusion is that periodic injection of water to test the entire system offers the greatest reliability.

TESTING PROCEDURE

1. Place a measured volume of clean water in a bucket or graduated container. Mark the level of water on the container. See note under Step 4, below.

2. Attach the swivel coupler to the water drain outlet of the filter separator.

3. Start fuel flow through the system. A refueller truck can be recirculated. A hydrant cart must dispense to tankage.

4. When normal flow rate and pressure have been established. open the water drain valve and pump water into the filter separator sump.

   NOTE: The volume of water required to activate the float or sensor in the filter separator depends on the design of the sump. The volume must be determined by a test for each piece of equipment. To insure against contaminating the flow system, the operator must not inject more than this amount of water.

   If the emergency shut-down system operates properly, fuel flow will stop automatically. If it does not stop fuel flow, the system must be repaired before the aircraft can be refueled.

5. To remove water from the sump after the test, open the small toggle valve with the return hose in the water container. Allow some fuel to flow into the container to be sure that all of the injected water has been returned. Close the toggle valve. When the water has settled to the bottom of the container, the water level should be at the original mark as created in Step 1.

6. Close the water drain valve and remove the swivel coupling.

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METER MONITOR

BULLETIN 65 (10-19)

CLOSED CIRCUIT TESTING WITH THE METER MONITOR

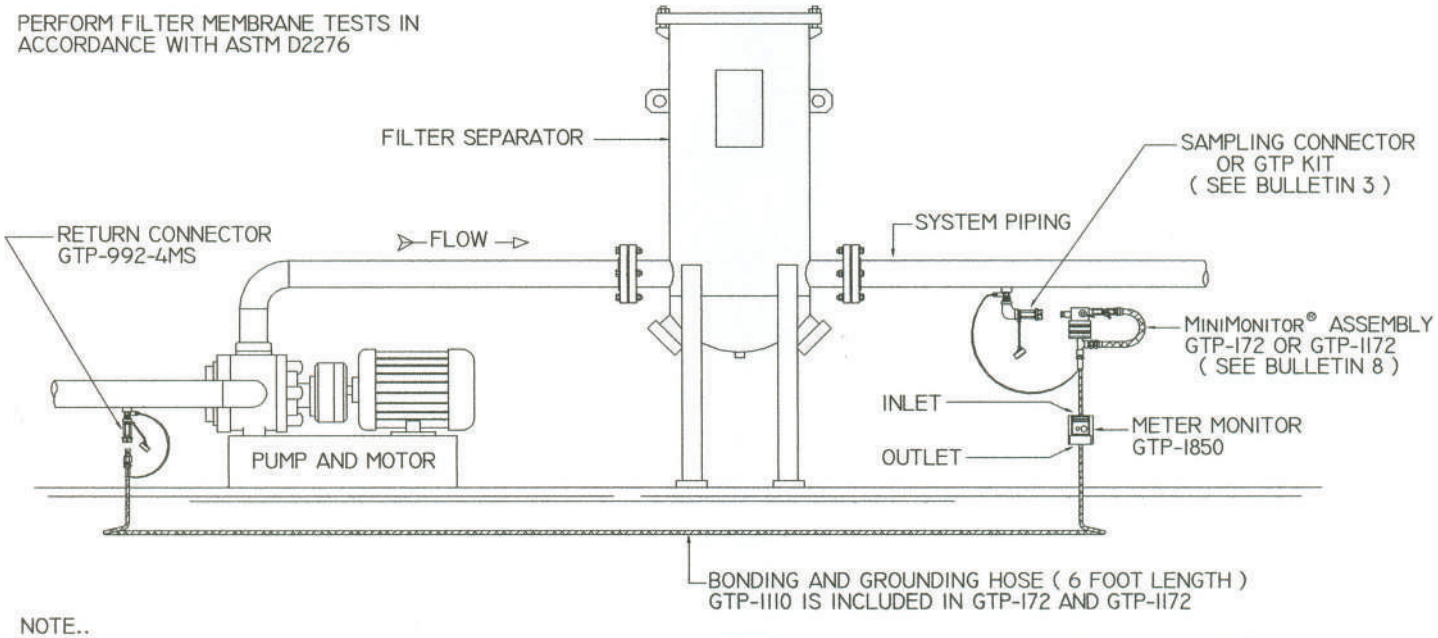
AVOIDS THE NEED FOR A MEASURING BUCKET

AVOIDS THE NEED TO DISPOSE OF FUEL

When performing filter membrane tests, the difficult part of the task is disposing of the test fuel. The Meter Monitor solves that problem completely. The flush and the test fuel are both returned to the fuel system and are never exposed to air, rain, or other contaminant sources. No buckets, funnels, or fuel spills. The Meter Monitor has two 1/8” NPT connections.

Available with gallon or liter calibration.

NOTE: The standard model is made for petroleum service (jet fuel). An optional version for metering anti-icing additive (diEGME) is also available with specially-designed seals.



TESTING PROCEDURE

1. Install a return connector at the inlet of the system pump (Model GTP-992-4MS).
2. Using a MiniMonitor® housing that you may already own, insert a plastic monitor (See Bulletin 8).
3. Install the Meter Monitor between the MiniMonitor® assembly and grounding hose (GTP-1110) which comes with the MiniMonitor® kit.
4. Turn the MiniMonitor® valve to the stop position.
5. Start flow in fuel system and read the meter position, for example 000089.23
6. Connect the MiniMonitor® inlet to the sampling connector and connect the outlet of the hose to the return connector.

   NOTE: The six numerals to the left of the decimal point read whole gallons. The right hand window reads tenths (0.1) of gallons. The dial reads hundredths (0.01) and can be estimated to 0.002. This is a non-reset type meter.
7. Turn the MiniMonitor® valve to the flush position. If you plan to flush one gallon, stop the flushing after one gallon. In this example, stop at a reading of 000090.23.
8. Turn the MiniMonitor® valve to the test position. Then turn the valve off when the correct number of test gallons has passed. Disconnect the return connection, then the sample connection.

NO MUSS - NO FUSS - NO MESS - THE TEST IS FINISHED

CAUTION: During the initial start-up procedure, air passing through the meter can cause uncontrolled and damaging rotating speed. On initial start-up, open the inlet valve very slightly until air has been displaced.

NOTE: The return line may also be connected anywhere that the pressure is reasonably less than the sampling pressure - to the storage tank, the truck tank, even a venturi throat. For operating at pressures over 125 psi, contact the factory or your distributor.

Connections: 1/4” NPT, inlet and outlet. We install bushings to 1/8” NPT.

HOW TO ORDER

GTP-1850	US gallon calibration
GTP-1850A-1	Same as GTP-1850 but with special seals for FSII, diEGME, etc.
GTP-1850A-3	Metric (liter) calibration
GTP-1850A-4	Same as GTP-1850A-3 but with special seals for FSII, diEGME, etc.

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DEADMAN
AND WATER
CONTROLS

BULLETIN 67
(12-20)

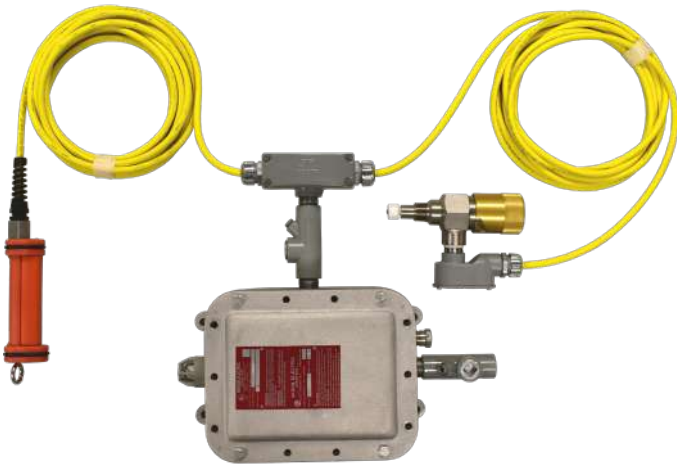
DEADMAN AND WATER CONTROL SYSTEMS

DEADMAN HANDLE AND CORD

DEADMAN CONTROL SYSTEM

WATER CONTROL SYSTEM

COMBINATION DEADMAN AND WATER CONTROL SYSTEM



MINI-DEADMAN™

- Made in USA
- Material: urethane
- Dimensions: 4” x 1¾”
- Weight: 6 oz.
- Durable
- Compact
- Inexpensive
- Easy to repair
- Wear resistant
- Stainless steel trigger
- Good from -55° to 180°F
- Low operating force required
- Easy to assemble/disassemble
- Can be hung on trigger for storage
- Designed for the aviation environment
- Compatible with any deadman system
- Body screws are recessed to prevent damage

HOW TO ORDER

GTP-8392B	Electric Mini-Deadman Handle
GTP-8676	Pneumatic Mini-Deadman Handle
GTP-8676-H	Hydraulic Mini-Deadman Handle

NOTE: These handles are not suitable for AC applications unless an intrinsically safe barrier/relay is used.

The heart of any deadman is the switch. The switch in this deadman has a built-in rolling diaphragm seal, aluminum body (not glass, rubber, or plastic), and an 8 amp contact rating. It is hermetically sealed, yet is easily replaceable, incorporating “push on” type electrical connections, eliminating troubles with wire nuts or soldering. In addition, the housing is o-ring sealed and has an anodized aluminum switch carrier and cable base fitting. The strain relief is a spiral type with a watertight seal.

HOW TO ORDER CABLE FOR ANY ELECTRIC DEADMAN HANDLE

Suffix number for the handle you want	-	“X” is for straight cable	-	length in feet (up to 500 ft)
		“Z” is for coil cable	-	length in feet (25 ft or 50 ft)

Example: If you want a Mini Deadman handle with 50’ of straight cable, you order a GTP-8392-X-50.

DURA-DEADMAN HANDLE

Solid, super durable, cold molded, and virtually unbreakable, this handle is made of pure polyurethane. This new Dura-Deadman handle is the strongest and most reliable deadman we offer. It was tested for over half a million cycles, we’ve driven over it with trucks, and it’s been dragged on pavement - all without failure. It features replaceable polyurethane drag bosses for even longer life. Made in USA.

ELECTRIC

GTP-9720-E	Handle only - no cable
GTP-9720-11E	Replacement switch
GTP-9720-21	Replacement pair of drag bosses

These handles are weather-tight sealed. They are not suitable for AC applications unless an intrinsically safe barrier/relay is used.

Switch data: SPDT (normally open or normally closed)

PNEUMATIC/HYDRAULIC

GTP-9720-A	Pneumatic 3-way valves
GTP-9720-H	Hydraulic 2-way valves
GTP-9720-21	Replacement pair of drag bosses

These handles each contain two valves to provide fast reaction time. Seals are Buna/Nitrile.

SPRING REWIND HOSE AND CABLE REELS

Hannay’s Series N600 and SCR700 reels are spring retractable, industrial grade, and long lasting. A heavy-duty spring motor provides self-contained rewind power. A non-sparking ratchet assembly locks the reel when the desired length of hose has been played out.

Please contact us for more information or to order reels.

GAMMON ONE-CC™ WATER PROBE - MEETS EI-1596

DETECTS WATER IN FILTER SEPARATOR SUMPS
ALLOWS PERIODIC TESTING REQUIRING ONLY 1cc OF WATER, EVEN DURING REFUELING
THOUSANDS IN SERVICE WORLD-WIDE

The problem with water detector probes has always been that others are impossible to test periodically without stopping flow, dismantling, or injecting water into the vessel. People are afraid that too much water may be injected. The One-CC Probe solves this simply. First, it has a patented design that only needs 1 ml (1cc) of water for a complete test. Second, it has a built-in water pump, and this pump is only capable of injecting 1 ml (1 cc) of water.

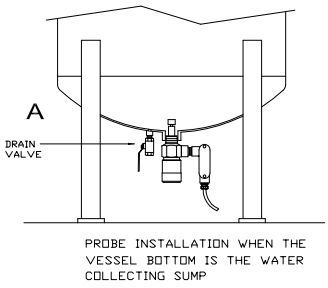
The One-CC™ Water Detector Probe is designed for use in any intrinsically safe electronic control system sensitive enough to detect water by conductivity/resistance. This new probe can therefore replace existing probes in Meggitt/ Whittaker equipment if they utilize our replacement controls.

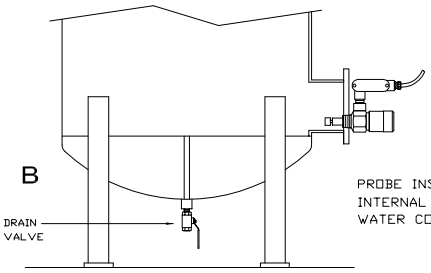
We offer electronic controls in DC, AC, weather tight and explosion proof versions.

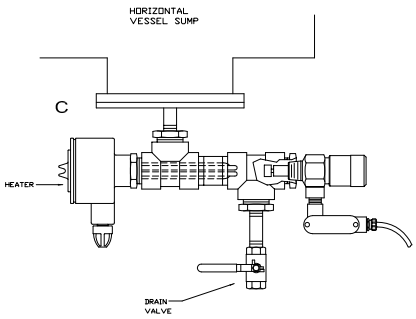
- Pressures to 300 psi
- Stainless Steel Construction
- Available with 3/4" NPT or 1 1/2" NPT male connection
- Manual available on our website with test procedure
- US Patent No. 7523645

HOW TO ORDER

GTP-9330-1 3/4" NPT
GTP-9330-1A 1 1/2" NPT







BASIC WATER PROBE

LOWER PRICE - INCLUDES CIRCUIT TESTER

For those who prefer a smaller and less expensive water probe. All-stainless construction. Push button circuit tester. Special drain line design can allow true water testing. 3/4" NPT or BSPT connections.

GTP-9734-N 3/4" NPT GTP-9734-B 3/4" BSPT

DEADMAN HOSE: BOTH HOSES HAVE NEOPRENE CONSTRUCTION, BUNA-N TUBES

Manufactured to Gammon Technical Products, Inc. specifications, this hose is superior to any available air Deadman hose on the market. It is suitable for all refueling operations.

The tubes are made out of Buna-N (nitrile rubber) to resist fuel from cross-leakage in the control system. The braided, reinforced tubes have neoprene covers to resist oils that contaminate ramp areas. A special additive is included to give the cover superior resistance to cracking.

Order model GTP-1202. Available in cut lengths or reels, with or without fittings. For more information, see Bulletin 78.

Operating pressure: 200 psi
Burst pressure: over 800 psi

CONFIGURATION

1- DEADMAN SYSTEM ONLY
2- DUAL DEADMAN SYSTEM ONLY
3- DEADMAN AND WATER SYSTEM -1 STAGE
4- DEADMAN AND WATER SYSTEM -2 STAGE
5- WATER SYSTEM ONLY -1 STAGE
6- WATER SYSTEM ONLY -2 STAGE

EXAMPLE

GTP-1750 -3-1-2-1-1-2-3-5-25. THIS MODEL NUMBER DESCRIBES A SINGLE STAGE WATER DETECTION SYSTEM WITH A DEADMAN HANDLE. THE FOLLOWING FEATURES APPLY: 120 VAC, EXPLOSION PROOF, UL LISTED, AND HAS A MINI DEADMAN HANDLE WITH STRAIGHT CORD, NO REEL; WATER DETECTION PROBE IS STANDARD One-CC WITH 3/4 IN. NPT THREADS AND DEADMAN CORD LENGTH OF 25 FT.

VOLTAGE

1- 120 VAC
2- 220 VAC
3- 12 VDC
4- 24 VDC

HOUSING

1- WEATHER TIGHT
2- EXPLOSION PROOF
3- COMBINATION OF ABOVE

CODE

1- TO UL (USA)
2- TO CSA (CANADA)
3- TO UL / C UL US

HANDLE TYPE

1- MINI
2- DURA
3- NO HANDLE
4- GROUND CLAMP

CORD TYPE

1- COIL
2- STRAIGHT
3- NO CORD

REEL

1- STANDARD
2- HEAVY DUTY
3- NO REEL
4- OTHER REEL

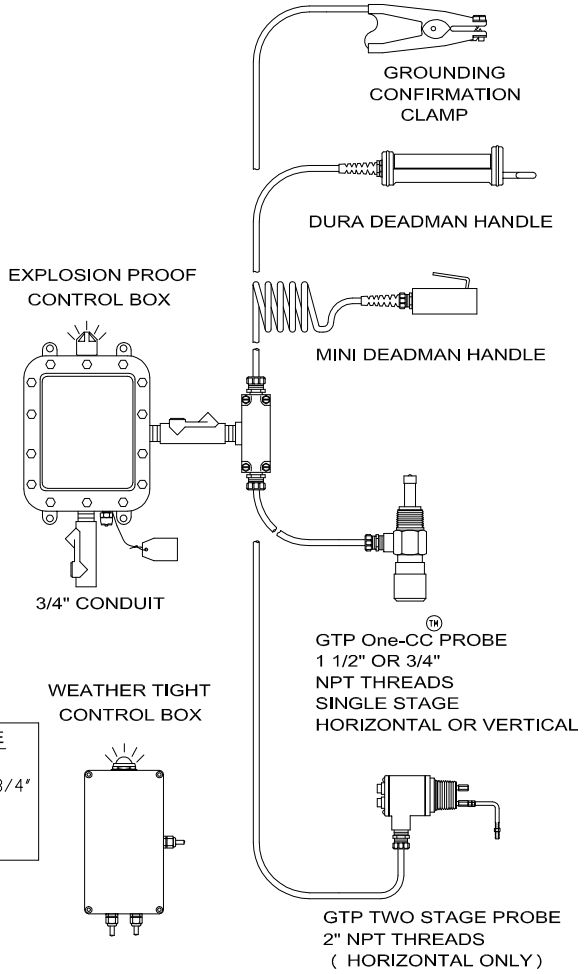
WATER DETECTION PROBE

0- TWO STAGE PROBE
1- SHORT GTP One-CC™ PROBE 3/4"
3- NO PROBE
5- GTP One-CC™ PROBE 3/4"
6- GTP One-CC™ PROBE 1 1/2"

DEADMAN CORD LENGTH IN FEET

0- NO CORD

GTP-1750 -[X]-[X]-[X]-[X]-[X]-[X]-[X]-[X]-[X]



NOTES:

1- WATER PROBE VERSIONS COME WITH RED INDICATOR LIGHT. LABELED (WATER IN SUMP)

2- WHEN GROUNDING CLAMP IS ORDERED, SYSTEM COMES WITH RED AND GREEN INDICATOR LIGHTS.

3- NOT ALL COMBINATIONS ARE AVAILABLE

CRITICALLY IMPORTANT SAFETY INFORMATION
RE: ALL GTP-1750 SERIES WATER DETECTOR SYSTEMS

IT IS IMPORTANT THAT THESE DEVICES NOT BE USED ON JET FUEL CONTAINING ANTI-ICING ADDITIVE (AKA "PRIST", DiEGME - DIETHYLENE GLYCOL MONOMETHYL ETHER) UNLESS SPECIAL CARE IS TAKEN TO ENSURE THAT ALL WATER IS REGULARLY (DAILY) DRAINED FROM ALL TANK AND FILTER SUMPS AND LOW POINTS (IF APPLICABLE).

WHILE SUCH DAILY DRAININGS ARE CONSIDERED REQUIRED STANDARD PRACTICE IN THIS INDUSTRY, WITH CONDUCTIVITY TYPE-PROBES AND ANTI-ICING ADDITIVE IT BECOMES MORE IMPORTANT TO DRAIN SUMPS REGULARLY.

A POOL OF WATER LYING IN THE SYSTEM WILL RAPIDLY DRAW ADDITIVE FROM THE FUEL. SOME RESEARCH INDICATES THAT SO MUCH ADDITIVE WILL GO INTO THE WATER THAT THE RESULTING LIQUID CAN BE 25% ADDITIVE AND ONLY 75% WATER AFTER LESS THAN A WEEK. ADDITIVE CONTENT WILL CONTINUE TO RISE AND WHEN THE CONCENTRATION EXCEEDS ABOUT 40%-50% (DEPENDS ON CONDITIONS) THE PROBE WILL NO LONGER BE ABLE TO DETECT THIS MIXTURE OF WATER AND ADDITIVE.

THIS IS A WATER PROBE, AND IS NOT DESIGNED TO DETECT WATER MIXED WITH SUCH HIGH CONCENTRATIONS OF ADDITIVE.

IF YOU ARE USING FUELS THAT CONTAIN THE ADDITIVE AND ARE NOT 100% CONFIDENT IN YOUR PERSONNEL SUMPING ALL WATER ON A DAILY BASIS, WE SUGGEST YOU USE EITHER A MASS SENSOR OR A FLOAT TYPE DETECTOR.

GAMMON

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AIR SYSTEM ACCESSORIES

BULLETIN 70 (11-19)

AIR SYSTEM ACCESSORIES

TAMPER-PROOF AIR PRESSURE REGULATOR

With the “key” removed from the knob, it is impossible to tamper with the air pressure adjustment. This unique feature makes this regulator superbly suited for use on airport refuelers for adjusting air reference pressures. An internal relief valve makes it self-relieving to prevent “creep” of the outlet pressure. Will control pressure with great accuracy between 10 and 200 psi. Price includes side-mounting hardware.

- Connections are 1/2” FNPT
- Maximum inlet pressure is 300 psig
- Outlet pressure adjustable to 125 psig
- Zinc body
- Nitrile seals

HOW TO ORDER

	Side Mount	Panel Mount
Aluminum knob	GTP-1121A	GTP-1121-2A
Plastic knob	GTP-1121P	GTP-1121-2P

NOTE: add -G to include pressure gauge

OPTIONAL ACCESSORIES

GTP-1121-1
Key

GTP-2954C
Pressure gauge, 0-160 psi

AIR FILTER WITH AUTOMATIC WATER DRAIN

Designed to remove dirt and water from truck air systems, this filter will automatically drain collected water. The polyethylene filter element is rated at 5 microns. Steel shatter guard and manual drain cock included.

- Connections are 1/4” FNPT
- Maximum inlet pressure is 150 psi
- Minimum inlet pressure is 15 psi
- Polycarbonate plastic bowl
- Internal automatic drain

GTP-1923

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MISCELLANEOUS SUPPLIES

BULLETIN 71
(01-21)

MISCELLANEOUS SUPPLIES

McCABE WATER FINDING PASTE

To find the level of water in a tank, wipe a thin film of paste on a gauging stick and lower it to the bottom of the tank. When you remove the stick, the green paste will change color where it is contacted by water. The water level will show in red.

WATER FINDING PASTE (3 oz. jar - 85 g.)

GTP-982-1	WATER PASTE - 1 JAR
GTP-982-12	WATER PASTE - 12 JARS
GTP-982-144	WATER PASTE - 144 JARS

KOLOR KUT FUEL INDICATING PASTE

Fuel Indicating Paste shows fuel level in a tank. Wipe a thin film of paste on a gauging stick and lower it to the bottom of the tank. When you remove the stick, the lavender-colored paste will change color where it is contacted by fuel. The fuel level will show as red.

FUEL INDICATING PASTE (2.25 oz. jar - 62 g.)

GTP-1322K-1	FUEL PASTE - 1 JAR
GTP-1322K-12	FUEL PASTE - 12 JARS
GTP-1322K-144	FUEL PASTE - 144 JARS

WATER FINDING PASTE 3 oz. TUBES

Changes from golden brown to red.

GTP-3908-1	1 TUBE
GTP-3908-12	12 TUBES
GTP-3908-144	144 TUBES

MODIFIED WATER FINDING PASTE (MIL-W83779)

For fuel with anti-icing additive - 2.5oz TUBES

Changes from dark brown to red.

GTP-3908M-1	1 TUBE
GTP-3908M-12	12 TUBES
GTP-3908M-144	144 OZ TUBES

SYRINGES FOR SHELL WATER DETECTOR TEST

We offer two sizes of high-quality syringes for performinging Shell water detector testing.

JM-3765A-10 10mL

JM-3765A-5 5mL

SAFETY WIRE

Quality stainless steel safety wire. Annealed (softened) for easy use. Dispenses neatly from top of 1 lb. box.

GTP-1924	.032”
GTP-8124	.025”

AUTOMATIC SAFETY WIRE TWISTING TOOL

GTP-1924-2

DUMMY MONITOR ELEMENTS

When reducing the number of elements, a “dummy” or non-functional element can be used to fill unnecessary element mounts. Our “dummy” elements are carefully machined from high grade aluminum and designed to replace any brand of 2” outside diameter element in any vessel. The seal is a Viton o-ring. Includes an adjustable center “rest” to allow easy installation in vessels with element aligning guides. Needs no additional hardware, works with cover interlocks.

GTP 8697-10	10 inches
GTP-8697-20	20 inches
GTP-8697-30	30 inches

SPECIAL LUBRICANTS

GTP-9188: AVIATION-GRADE SWIVEL & SEAL LUBE

Gammon Technical has packed this industry-accepted, FDA food-grade (CFR 172.880) petrolatum in handy 14.5 oz tubes, designed to fit standard grease guns, but can also be used on the bench.

NOTE: Be careful when using a grease gun to lubricate a swivel. It is critical that excessive lubricant **NOT** be injected. Excess lube can find its way into the fuel, and this is not good. We strongly suggest all hose reel swivels and similar items be equipped with not only a grease fitting, but a relief as well. This prevents grease pressure from building up inside, and possibly allowing grease to enter the fuel. **DO NOT** apply excessive grease. Rotate the swivel as you grease it for best results.

TL-9653: STATICLUBE

StaticLube is a lubricant specifically designed to conduct electricity. It is made with a high-quality synthetic lubricant and filled with super-fine silver for electrical conductivity. It is not silicone based. It is highly thermally conductive to help protect bearings. It blocks corrosion and protects bearing surfaces from water.

StaticLube can also be used on electrical connections and is especially helpful when bonding a static reel to steel framework-creating a long-lasting electrical bond virtually immune to corrosion and weather.

StaticLube comes in 1cc syringes, which will lubricate up to three static reels. Made in the USA.

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MATCHED-WEIGHT AND COLOR RATING MEMBRANES

BULLETIN 73 (09-20)

COLOR RATING MEMBRANES & MATCHED-WEIGHT MEMBRANES

APPROVED FOR TESTING JET FUEL PER ASTM METHODS D2276/IP216 AND D5452

Our 37mm, 0.8µm (micrometer) membranes are produced in exact accordance with ASTM Research Report D1012, under which they have been granted approval for use in methods D2276/IP216 as well as Ip216. We manufacture our own plastic monitors using clear Tenite. Our monitors are made to fit all recognized brands of holders including the Gammon MiniMonitor® Kit and the Millipore® Corp. XX64-037-30.

Refill membranes are packaged with a blue paper separator between each one to aid in separation.

Matched-weight refill membranes are packaged with each pair in a glassine envelope. Each pair is matched in weight within 100µg (micrograms) in a closely controlled atmosphere.

Support pads are 34mm in diameter so as to fit into the recess of the plastic monitor beneath the membrane.

Matched-weight monitors have yellow plastic plugs in the inlet port and a red plug in the outlet. Single membrane monitors, used for color rating tests, have blue plugs in the inlet and red plugs in the outlet.

TYPE	MODEL NUMBER	INTERCHANGEABLE WITH MILLIPORE P/N	DESCRIPTION (ALL MEMBRANES 0.8 MICRON)
SINGLE MEMBRANE MONITORS	GTP-1985	MAWP-037-PO	48 PLASTIC MONITORS, EACH WITH A MEMBRANE AND SUPPORT PAD
MATCHED-WEIGHT MONITORS	GTP-1986	MAWP-037-PM	48 PLASTIC MONITORS, EACH WITH A PAIR OF MEMBRANES AND A SUPPORT PAD
EMPTY MONITORS	GTP-1987	NONE	48 EMPTY PLASTIC MONITORS
SINGLE MEMBRANE REFILLS	GTP-1983	AAWP-037-PO	100 MEMBRANES AND 100 SUPPORT PADS
MATCHED-WEIGHT REFILLS	GTP-1984	AAWP-037-PM	50 MATCHED-WEIGHT PAIRS OF MEMBRANES AND 50 SUPPORT PADS

See GamGram No. 25 for filter membrane testing and rating.

MEMBRANE FILING NOTEBOOK AND PAGES

Black 3-ring leatherette notebook holds membrane filling pages. Pages made of heavy-duty plastic, each with space to hold 15 mini-envelopes. Filing pages come in a packet of ten (10) sheets, which is the minimum order.

GTP-1400	Notebook
GTP-1331	Filing pages

MINI-ENVELOPES

These mini-envelopes are zip-lock clear polyfilm bags made to ensure protection and preservation of filter membranes. They feature a specially prepared white panel for writing data regarding the test such as date, rating, location, etc. Mini-envelopes come in a package of five hundred.

GTP-1267	Mini-envelopes

TWEEZERS

Our tweezers have blunt points and a slip-lock device. They grip and hold membranes without needing to be held tight in your hand.

GTP-2099	Tweezers

47mm MEMBRANES

We have these filter membranes in stock. They are intended for testing jet fuel for particulate content in accordance with ASTM Method D5452. The membranes are white and will fit all brands and models of filter holders that accept 47mm membranes.

TL-3777	Package of 100 membranes, 0.65µm
TL-3777-1	Package of 100 membranes, 0.8µm

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DECALS

BULLETIN 74
(11-19)

GAMMON DECALS

We offer a wide range of fuel system handling decals. These decals are all printed on top quality 3M® decal stock for long life and ease of use. See the last page for specifications. Cheap decals fade and peel, but these decals will last for many years when properly applied. All decals are shown to scale.

IDENTIFICATION DECALS are large and provide clear marking for refueling vehicles, fuel farms, and tanks. They are color coded for all fuels.

GTP-2135-5
JET A - White letters on black, 5x16”

GTP-2135-7
JET A-1 - White letters on black, 5x16”

GTP-2135-2
AVGAS 80 - White letters on red, 4x16”

GTP-2135-18
AVGAS 100LL - White letters on red with blue stripe, 5x16”

DOT-STYLE MARKERS FOR CLASS 3 FLAMMABLE LIQUIDS
Red and black on white, 11x11”

GTP-2135-8	1203 marker for gasoline and kerosene
GTP-2135-12	1993 marker for fuel oil and diesel
GTP-2135-13	1863 marker for jet fuel only

GTP-2135-30
DiEGME ONLY
Black letters on white, 3x5”

GTP-2135-26
NOZZLE PRESSURE 50 PSI MAX
Red letters on white, 2x4”

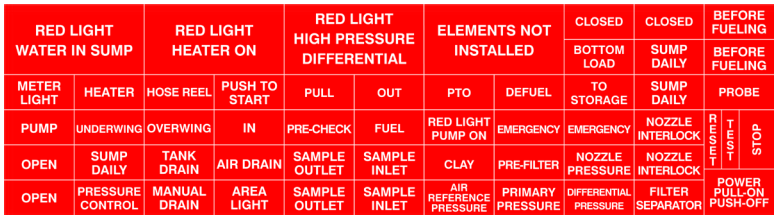
GTP-8262
SUMP DAILY
White letters on red, 3.75x2.5”

EMERGENCY STOP and **EMERGENCY FUEL SHUTOFF** decals are intended to be used in accordance with the NFPA 407 specification for fixed and vehicle emergency stop controls. The specification calls out 2” high letters and the words “push,” “pull,” or an arrow to indicate operation of the emergency stop switch. As you can see, we have included these instructions on two separate decals. Choose the style you prefer.

GTP-834-29
Emergency stop decal - white letters on red, 6x20”

GTP-834-32
Emergency fuel shutoff decal - white letters on red, 8.5x20”

The **LABEL DECAL**, as you can see, has over 50 labels which can be cut with a pair of scissors and used as necessary. The advantage is fourfold: low cost per label, easy installation, long life and durability, and easy replacement when necessary. Even if you only use a quarter of the sheet, you come out ahead. Labels can be cut out and used differently than shown. For example, the “SUMP DAILY” decal can be cut in half and combined with the “BEFORE FUELING” decal to read “SUMP BEFORE FUELING.”



GTP-834-28
Label decal - white letters on red, 6x22”

MISCELLANEOUS DECALS

GTP-2135-22
Diesel, red letters on white - 5x16”

GTP-2135-21
Mogas, red letters on white - 5x16”

GTP-2135-15
In-cab brake override - Black letters on white, 2.5x15.5”

GTP-2135-27
JP-8, black with white letters - 2x15””

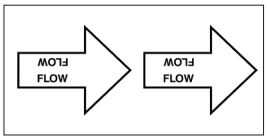
GTP-2135-23
Fire extinguisher - Red letters on white, 1.5x13.5”

PIPE BAND KITS are made to provide colored bands for marking pipes to API-1542. These kits use 4” wide solid color bands long enough to mark pipes up in 6” in diameter. Forget the paintbrushes, these bands are neat, affordable, and easy!

GTP-3588-1	Pipe band kit for JET A fuel - one black band
GTP-3588-2	Pipe band kit for JET A1 fuel - two black bands
GTP-3588-4	Pipe band kit for AVGAS 100LL - one blue band
GTP-3588-5	Pipe band kit for AVGAS 80 fuel - one red band

PIPE IDENTIFICATION and flow direction decal sets allow for easy marking. They are color coded for all fuels, and are 5x16”. The identification decal is as shown on the first page of this bulletin, and in this set it comes with arrow decals that can be cut apart with scissors and placed to indicate the direction of flow. GTP-3255-A is shown. Additional arrow decals are available as GTP-2135-106.

GTP-3255-A	Flow and identification decals for Jet A fuel - white letters on black
GTP-3255-A1	Flow and identification decals for Jet A-1 fuel - white letter on black
GTP-3255-LL	Flow and identification decals for Avgas 100LL fuel - white on red and blue



NARROW PIPE DECALS are the same as the pipe decals above, but they are 2x15” and come with the flow arrows attached. Simply use scissors to cut off one of the arrows and turn it to indicate flow direction. GTP-3255-A1-N is shown.

GTP-3255-A-N	For Jet A fuel - white letters on black
GTP-3255-A1-N	For Jet A-1 fuel - white letters on black
GTP-3255-LL-N	For Avgas 100LL fuel, white letters on red and blue

NOZZLE BAND DECALS are used on overwing nozzles to positively identify the fuel type. These band decals are made to the industry standard and measure 7/8” x 10”.

GTP-3097	Jet fuel - white letters on black
GTP-3098	Avgas 100LL - white letters on blue with red edges
GTP-3099	Avgas 80 - white letters on red background

NO SMOKING and **FLAMMABLE** decals warn personnel around fuel systems, tanks, and trucks of the fire hazard present. They feature red letters on a white background.

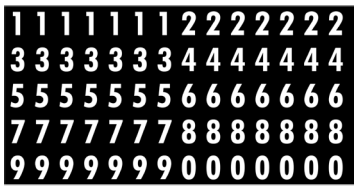
GTP-2135-10
Flammable - 6x24”

GTP-2135-1
No smoking - 6x26”

GTP-2135-14
In-cab no smoking - 1.5x6.5”

GTP-2135-19
Filters changed decal
white letters on black, 4.25x11.5”

GTP-2135-20
Water slug tested decal
white letters on blue, 4.25x11.5”



GTP-2135-24
Numbers sheet for the previous
white numbers on black, 10.75x5.5”

We offer a wide range of fuel system handling decals. These decals are all printed on top quality 3M® decal stock for long life and ease of use. Cheap decals fade and peel, but these decals will last for many years when properly applied.

All of our decals are prepared using a system that was developed by the 3M Company. It is called ScotchCal™ and is generally considered the highest quality, most technically advanced system available.

The film used to make these decals is white vinyl and is 0.003” (0.076mm) thick. The backing paper is stiff enough to prevent warping so that the decal will maintain its shape during handling and shipping. The pressure sensitive adhesive is permanent and vandal resistant.

The vinyl inks are resistant to deterioration by sunlight. To provide maximum durability, a clear coating is also applied after the printing process.

When applying these decals, care should be taken to ensure that air bubbles are not trapped. To prevent this from happening, we suggest that the decal be laid on progressively from one end to the other. For best results, apply when the temperature is above 60°F (15°C). Never attempt to apply the entire decal directly; start at one end. If air bubbles are trapped, a stiff plastic object such as a spatula can be used to work the bubbles toward an edge.

The surface on which the decal is to be applied must be clean and dry as well as free of wax, oil, and fuel.

DURABILITY	5 years from application
SHELF LIFE	2 years at 100°F (38°C) - not in sunlight
HUMIDITY RESISTANCE	No effect from 95% relative humidity at 100°F (38°C) for 500 hours
SALT SPRAY TEST	No effect from 20% concentration at 95°F (35°C) for 200 hours
JET FUEL RESISTANCE	No effect after 24 hours at 73°F (23°C)
WATER RESISTANCE	No effect after 24 hours at 73°F (23°C)

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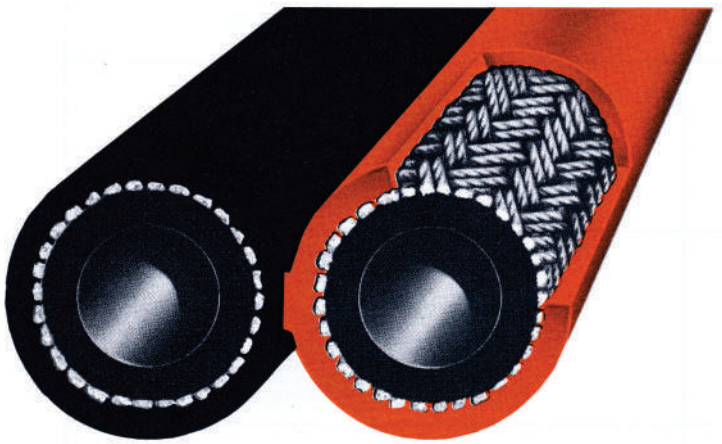
SENSING HOSE, DEADMAN HOSE, & ACCESSORIES

BULLETIN 78 (11-19)

DUAL AIR - FUEL SENSING HOSE

BOTH HOSES HAVE 3/8” NITRILE TUBES FOR FUEL RESISTANCE



ORDER MODEL GTP-2123

For hydrant pit valve connection to the cart or servicer. The orange hose is for air pressure reference; the black hose if for fuel pressure sensing. Both hoses are braid reinforced and are formed together in a continuous bond. Both hoses have 3/8” inside diameter nitrile (Buna N) tubes for fuel resistance, and outer covers of neoprene. They are manufactured exclusively for Gammon Technical Products to our specifications. We are confident that this is the most durable and reliable dual sensing hose available.

Available in cut lengths or reels, with or without fittings.

Operating pressure rating: 200 psi
Burst pressure rating: More than 800 psi

DEADMAN HOSE

BOTH HOSES HAVE NEOPRENE CONSTRUCTION - BUNA-N TUBES

ORDER MODEL GTP-1202

Manufactured to Gammon Technical Products specifications, this hose is superior to any other deadman hose available on the market. It is suitable for all refueling operations.

The tubes are made of Buna N (nitrile rubber) to resist fuel from cross-leakage in the control system. The brand reinforced tubes have neoprene covers to resist oils that contaminate ramp areas. A special additive is included to give the cover superior resistance to cracking.

Available in cut lengths or reels, with or without fittings.

Operating pressure rating: 200 psi
Burst pressure rating: More than 800 psi

FITTINGS AND CONNECTORS

MALE TUBE CONNECTOR

GTP-2421	-	4-2	1/4” tube, 1/8” NPT
		4-4	1/4” tube, 1/4” NPT
		4-6	1/4” tube, 3/8” NPT
		6-4	3/8” tube, 1/4” NPT
		6-6	3/8” tube, 3/8” NPT
		6-8	3/8” tube, 1/2” NPT

A 4-4 swivel version is also available as GTP-5862.

FEMALE TUBE CONNECTOR

GTP-2422	-	4-4	1/4” tube, 1/4” NPT
		4-6	1/4” tube, 3/8” NPT

ROTATABLE FEMALE TUBE CONNECTOR

Nut will rotate to allow tightening but will not swivel when tightened.

GTP-2423	-	4-4	1/4” tube, 1/4” NPT
		4-6	1/4” tube, 3/8” NPT
		6-4	3/8” tube, 1/4” NPT
		6-6	3/8” tube, 3/8” NPT

FERRULES

GTP-2424 For hoses with O.D. of 17/32”, e.g. GTP-1202

GTP-2425 For hoses with O.D. of 23/32”, e.g. GTP-2123

FERRULE CRIMPING TOOL

GTP-2426 use on 1/4” I.D. hose and 3/8” I.D. hose

STOP BALL

GTP-1203 Molded of durable plastic in two halves to form a sphere. The material is brilliant orange polyethylene. Holes for single or dual hose are custom drilled to fit. The outer diameter is 3”.

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AIRCRAFT REFUELING HOSE TESTER

BULLETIN 79
(12-02)

AIRCRAFT REFUELING HOSE TESTER

GTP-2157-A

The Gammon Aircraft Refueling Hose Tester is made of non-ferrous materials, designed for periodic testing of jet refueling hose, using jet fuel for pressurizing.

The unit consists of a 10 U.S. gallon (38 liter) aluminum tank (GTP-2234) equipped with a vented fill cap, hand pump (GTP-8076), 0-1000 psi 4.5” face pressure gauge (GTP-281-H), quick disconnect (GTP-1004-4MA), and six feet of 1/4” hose (GTP-8079) to connect to the tester.

HOSE TEST PROCEDURE FOR GTP-2157

OVERVIEW

This tester is designed to perform integrity tests on hose assemblies used in the refueling of aircraft. A thorough inspection of the hose should be done before testing, and if any significant flaw is found, the test should not be run. The purpose of this test is to ensure that the couplings are still secure and that no physical flaw exists that cannot be seen on a physical inspection. **Air MUST NOT BE PRESENT** in the system or else, in the event of a failure of the hose or a fitting, the trapped air will cause an explosive release carrying particles at high speed as it expands.

PROCEDURE

The primary application of this tester is for testing aircraft refueling hose in accordance with API Bulletin 1529. When testing newly coupled Grade 1 hose, the test pressure is 300 psi. Periodic tests are required at the working pressure which is 150 psi. When testing Grade 2 hose, the test pressure is 600 psi for newly coupled or recoupled hose, and 300 psi for periodic testing. Because most aircraft refueling hose is Grade 2, the instructions below are written for a 300 psi periodic test with the hose full of jet fuel and remaining attached to the hose reel or to piping on the refueling vehicle.

When testing equipment other than hose, the standard practice is to perform hydrotests at 1.5 times the design or working pressure.

NOTE: If failure occurs during this test, fuel may be released. Be sure to have the site of the test in a secure area so that the spill will be contained and no fire hazard exists. Wear the proper personal protection such as eye protection.

1. Extend the hose to its full length.
2. Be sure that:
    A. No air is present in the hose
    B. The hose and couplings are fully inspected for flaws
    C. The hose reel is rated for 300 psi proof pressure and there is a 300 psi rated isolation valve upstream
    D. The overwing nozzle has been removed and a pipe cap with vent valve has been installed
    E. The underwing nozzle can handle 300 psi (some brands cannot), and that it is connected to a fueling adapter with a 300 psi rated stop valve downstream. Open the nozzle valve before pressurizing the hose.
    F. Any hose reel and/or nozzle that does not meet the 300 psi rating has been removed before testing. Install a pipe cap with a vent valve on the hose end.
    G. The hose is marked all the way around at the edge of the ferrule/fitting with a light coat of paint or by any other means so that you will be able to clearly see if the hose begins to slip out of the ferrule when the hose is pressurized.
    H. Vent valves are used to released all air before pressurizing the hose.
3. Close the hose reel inlet valve.
4. Connect the supplied hose “A” to the quick disconnect “B” on the hose tester and then to the nozzle, or any other point. Underwing nozzles have a plug in the side which can be used for this purpose. Once again, be sure no air is present in the hose, nozzle, or associated pipe.
5. Open valve “C” and step lightly on hose “A” to displace any air in it. Close valve “C.”
6. Pump the pressure up to 300 psi in accordance with API-1529 Appendix D for Grade 2 hose, observing for leaks, bubbles, cuts, or blisters. Roll the hose to observe the entire surface. If defects that penetrade the cover material to the reinforcing cord are observed, stop the test; it is a failure. Depressurize immediately as instructed in Step 8 below.
7. Look at the paint mark on the hose at the ferrule. If there is more than 1/32" (0.8mm) gap after the test pressure has been released, the test is a failure; depressurize after the test.
8. When the test has been completed, open valve “C” to bleed off pressure by returning the pumped fuel to the hose tested reservoir. Disconnect the test equipment.

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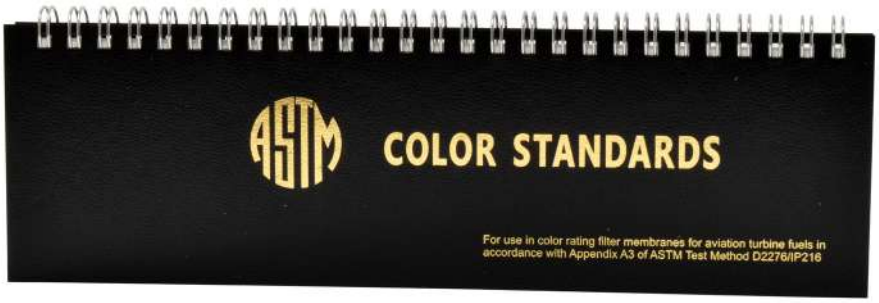
ASTM COLOR STANDARDS

BULLETIN 80 (07-16)

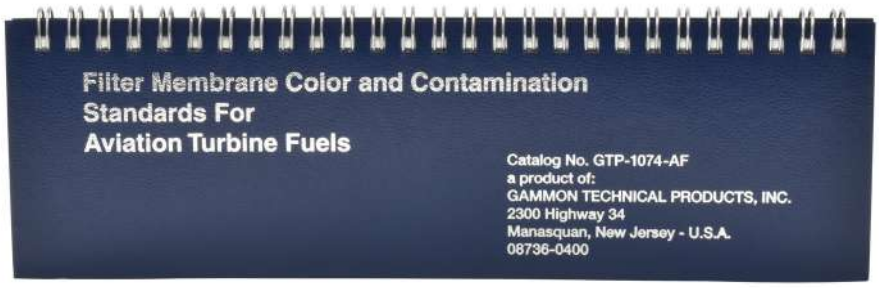
ASTM COLOR RATING BOOKLET

For use in color rating filter membranes for aviation turbine fuels in accordance with Appendix X1 of ASTM Test Method D2276/IP216

Available through Gammon Technical Products distributors worldwide. We are proud to have been appointed as the central custodian for this color standard booklet. We supervise the manufacture and color certifications.



GTP-1074-1
Our standard color rating booklet.



GTP-1074-AF
This booklet contains the same color rating pages as the standard booklet, with the addition of a particle assessment rating guide at the back of the book.

SPECIFICATIONS

Each color standard panel has been certified in accordance with the Munsell Color rating system to Triple A standards for chroma, value, and hue. The colors, as specified in ASTM D2276/IP216, are as follows:

Rating Number	Scale A				Scale G				Scale B			
	Munsell	CIELAB			Munsell	CIELAB			Munsell	CIELAB		
		L*	a*	b*		L*	a*	b*		L*	a*	b*
0	N 9.6	98.99	0.00	-0.01	N 9.6/	98.99	0.00	-0.01	N 9.6/	96.99	0.00	-0.01
1	2.5 YR 9.3/0.5	94.03	1.41	2.01	N 9.3/	94.03	0.00	-0.01	5 Y 9.3/0.5	94.03	-0.60	4.21
2	2.5 YR 9/1	91.08	2.69	3.79	N 9/	91.08	0.00	-0.01	3.4 Y 9/1	91.08	-0.70	8.05
3	2.5 YR 8.5/2	86.21	5.27	7.43	N 8.5/	86.21	0.00	-0.01	1.7 Y 8.5/2	86.21	0.13	14.89
4	2.5 YR 8/3	81.35	8.90	12.37	N 8/	81.35	0.00	-0.01	10 YR 8/3	81.35	2.78	19.60
5	2.5 YR 7/4	71.60	12.41	16.88	N 7/	71.60	0.00	-0.01	10 YR 7/4	71.60	4.50	25.82
6	2.5 YR 6/3.4	61.70	11.07	14.37	N 6/	61.70	0.00	-0.01	10 YR 6/3.4	61.70	4.28	21.57
7	2.5 YR 5/2.8	51.57	9.60	11.66	N 5/	51.57	0.00	0.00	10 YR 5/2.8	51.57	4.09	17.64
8	2.5 YR 4/2.2	41.22	8.50	9.60	N 4/	41.22	0.00	0.00	10 YR 4/2.2	41.22	3.60	14.46
9	2.5 YR 3/1.6	30.77	6.85	6.84	N 3/	30.77	0.00	0.00	10 YR 3/1.6	30.77	2.88	9.68
10	2.5 YR 2.5/1	25.61	4.48	3.83	N 2.5/	25.61	0.00	0.00	10 YR 2.5/1	25.61	1.96	5.76

Every color page is wire bound.

Each color standard has a 1 inch (25mm) window so that the membrane can be viewed for better accuracy in color rating.

Every color page has an index tab to speed up finding the right page.

Margins are provided at the ends of color pages to avoid fingerprints on color panels.

Fuel resistant lamination is provided on the back on each color page and on an interleaf between each color page. This prevents a wet membrane from soaking the page and possibly altering the color.

IMPORTANT NOTE: Instrumented tests have proven that some colors in the old, original booklets dated 1981 have changed over the years since they were originally manufactured. Those booklets have been declared invalid and must be destroyed.

ASTM D2276, paragraph X1.5.1.1 states the following:

> *Charts in use should be checked periodically against a reference set of color standards to eliminate the possibility that sunlight or soiling due to handling may have appreciably changed the colors. The reference set is a set of color standards obtained new, stored in dry, dark conditions, and is only used for the purpose of checking the standards in day-to-day use.*

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HYDRANT PIT SHUT-OFF VALVE

BULLETIN 84 (12-14)

REFUELING HYDRANT PIT SHUT-OFF VALVES

WHY IS THIS VALVE NECESSARY?

Without a servicing valve, there is no way to remove, repair, or stop a leak on a hydrant pit valve unless the entire hydrant system is shut down, at least back as far as a system shut-off valve.

When the isolation feature in hydrant valves is inoperative, a servicing shut-off valve is essential.

This is a servicing valve as well as an automatic emergency shut-off valve.

This emergency valve closes automatically in case of a fire, triggered by a 165°F (74°C) fusible link.

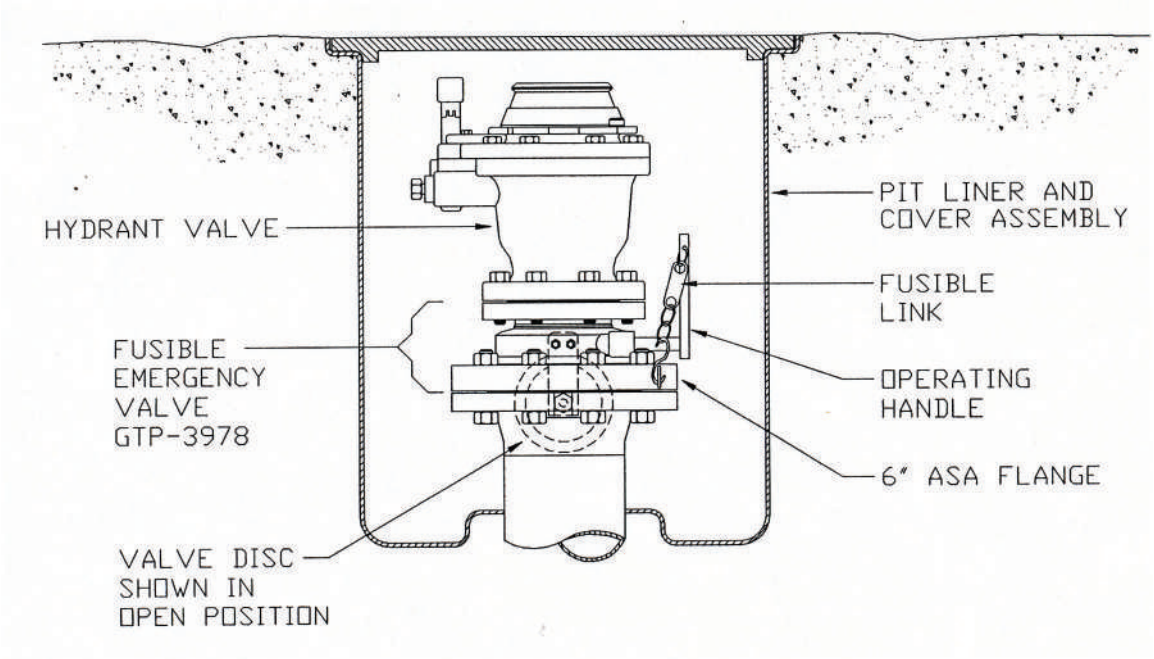
SHUT-OFF VALVE FEATURES

The hydrant pit shut-off valve is easily opened with no need to turn small, delicate knobs or handles.

All valve components, and the seat, are stainles steel for strength, corrosion resistance, and reliability.

This valve is fire safe, tested to API-6FA and passes the leak test, even if the seals are burned away.

It is available with a 6x6” or 6x4” stainless steel body with either carbon steel or stainless flanges, 150# or 300# ANSI. It has a thin design, as little as 4.5” face to face in 6x6” or 6x4”. Also available in a 4x4” design with face to face dimension of 8.94”.



OVERVIEW

One thing is true of all hydrant pit control valves, and that is that they occasionally leak and/or need service. To stop the leak or service the valve without depressurizing the hydrant system, or a portion of it, a manual shut-off valve must be located between the hydrant pipe connection and the hydrant pit control valve.

Shut-off valves are sized either 4x4", 6x4", or 6x6" depending on the hydrant pipe size and the connection size of the hydrant pit control valve. The shut-off valve cannot be a "wafer" style valve; it must be flanged on the inlet and outlet. By using a flanged-type under-hydrant valve, the entire hydrant pit control valve can be removed, if necessary, and no leakage will occur.

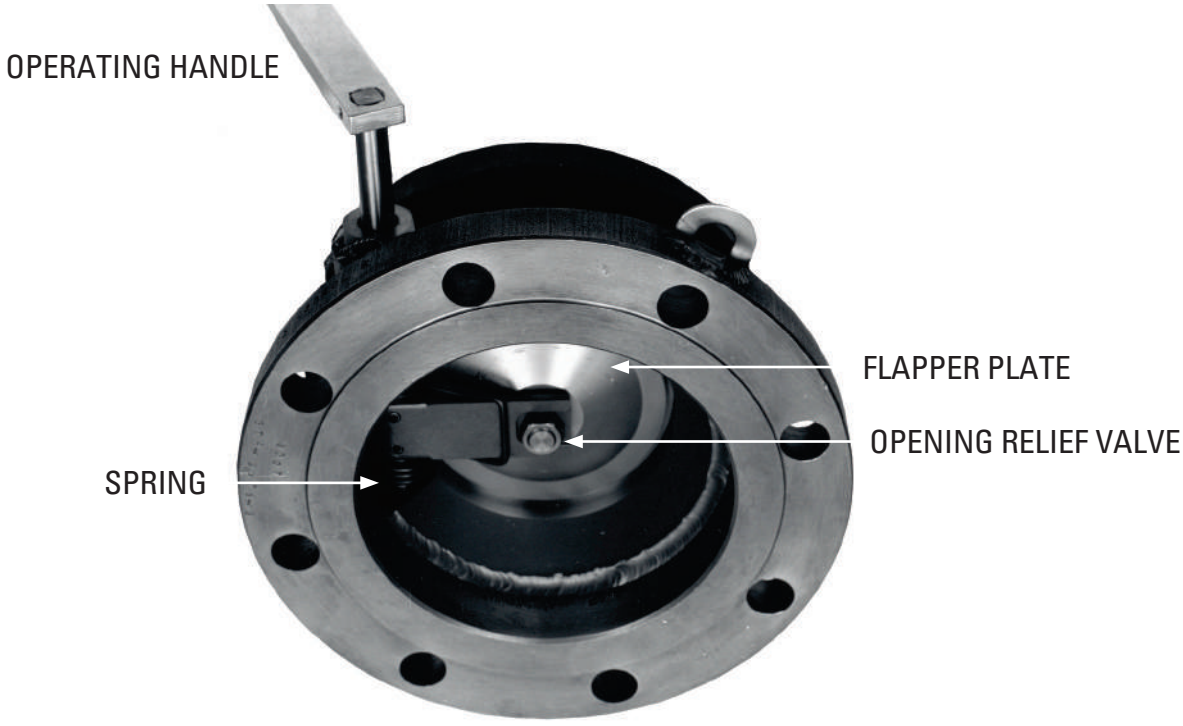
A shut-off valve may be a flapper-type or butterfly-type. The butterfly-type is good, but the disk remains in the flow path when the valve is open and acts as a restriction. The flapper-type is excellent on pressure drop, but a plain flapper cannot be opened against pressure. For this reason, our valve incorporates a "valve within a valve," which automatically equalizes pressure when you start to move the operating handle. It is very easy to operate, yet provides all the advantages of a flapper-type valve. Other flapper-type designs rely on a separate tiny, vulnerable, manually operated valve for equalizing pressure. This is inconvenient, and it may also be accidentally left open.

The unique feature of the Gammon Under-Hydrant Shut-Off Valve is that, in addition to providing the standard shut-off feature, it can protect the airport and personnel from a disastrous fire because it closes automatically as soon as the temperature reaches 165°F (74°C). A fusible link in the chain that normally holds the valve open will melt at this temperature, resulting in instantaneous closure.

Under normal conditions, the valve can be closed easily by unhooking the chain. This action is totally independent of the fusible link. Unless the fusible link melts in a fire, it will never need to be replaced.

We usually refer to our Under-Hydrant Shut-Off Valve as an "Emergency Valve" because it will function in an emergency situation, which is usually more important to the approval authority than the basic shut-off feature. For any customer who does not need this added safety feature, we do not include the fusible link. Our valve then serves only as a "service valve," like any other valve.

VIEW OF DEVICE LOOKING UPWARD FROM BENEATH THE VALVE



DESIGN FEATURES

This valve has special features that were necessary to make it pass the API-6FA fire test. This test requires that leakage through the valve or outside the valve will not exceed specified amounts after the seals have burned away at a temperature of 1600°F. To meet those specifications, we were unable to seal the operating shaft with o-rings so we used a unique labyrinth-type seal assembly that has proven to be reliable in other products we make.

OPENING RELIEF FEATURE

The primary advantage of this valve is its opening relief feature. Proven in many years of service on model GTP-2654, we made no changes when this feature was applied to model GTP-3978. In the closed position, the hydrant pressure assists the spring in keeping the valve tightly closed. Therefore, to open the valve, it is necessary to bleed fuel from the pressure side into the hydrant valve. To do this, the operator applies a small constant force (about 4-5 lbs.) to the handle. This force opens an internal bleed valve which passes fuel to the hydrant valve. When the pressure in the hydrant valve equals the hydrant system pressure, the operator can easily open the main valve and then attach the fusible link chain to arm it. A competitive valve on the market today has a separate, external bleed valve that can be opened by the operator who must reach under the hydrant valve to turn the handle. After the pressure equalizes, he must remember to close that valve.

OPENING RELIEF VALVE OPEN
Note cross-drilled holes for flow.

OPENING RELIEF VALVE CLOSED

GENERAL INFORMATION

Airport design engineers in many parts of the world are specifying the features of our Model GTP-3978-3 because they achieve two objectives that a plain butterfly valve (or even a fire-safe butterfly valve) does not offer. A non-fire-safe valve offers no leakage protection. A fire-safe butterfly valve is capable of stopping fuel flow in a fire only if it is in the closed position when a fire develops.

Clearly, an under-hydrant valve is expected to be in the open position except under unusual circumstances, such as for maintenance of the main hydrant control valve. Therefore, our valve is favored because it not only serves as a maintenance valve, but also will sense the presence of a fire and then close automatically to ensure that the fire will not be enhanced by more jet fuel.

Under such a condition, the fire may develop intense heat that will destroy all of the seals in any valve whether it is a butterfly or flapper-type. However, the unique design of our valve ensures that leakage will be minimized in accordance with API Bulletin 6FA even if the seals have been burned away.

In summary, our valves are in service at a number of airports worldwide, from New York's JFK to Singapore's Changi Airport. We have had virtually no replacement part orders, proving that these valves require no maintenance or replacement parts.

Our valves serve as manual shut-off valves and emergency valves. All working parts are solid stainless steel. They are very heavy duty. They offer almost no resistance to flow. Samples are available upon request. Once you have seen our valve and compared it with any and all alternatives, we are confident that you will agree no equal to our valve exists.

HOW TO ORDER

GTP - 3978 - □ □ □ □ □

VALVE TYPE

CODE	INLET		OUTLET
1	4″	x	4″
2	6″	x	6″
3	6″	x	4″

VALVE HEIGHT (in.)

Face to face dimension other than standard

FLANGE MATERIAL

CODE	
1	Carbon Steel
2	Stainless Steel

FLANGE RATING

CODE	INLET		OUTLET
1	150 lb.	x	300 lb.
2	300 lb.	x	150 lb.
3	150 lb.	x	150 lb.
4	300 lb.	x	300 lb.

FLANGE STYLE

CODE	INLET	OUTLET
1	Raised Face	Raised Face
2	Raised Face	Flat Face
3	Flat Face	Raised Face
4	Flat Face	Flat Face

EXAMPLE: GTP-3978-23126 is an emergency valve as follows: 6" x 6" valve type, 150 lb. x 150 lb. flange rating, raised face flanges, stainless steel, with a valve height of 6 inches.

APPROXIMATE WEIGHTS: 4" x 4" 150 lb. flanges 51 lbs., 6" x 6" 300 lb. flanges 78 lbs., 4" x 6" 150 lb. flanges 47 lbs.

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TANK SAMPLING DEVICE

BULLETIN 85 (07-14)

NEW AND IMPROVED TANK SAMPLING DEVICE

TAKE A SAMPLE FROM THE BOTTOM SURFACE, OR ANY LEVEL, OF AN UNDERGROUND TANK, BARGE, OR TANKER CARGO TANK FOR INSPECTION

The new version of this product has been designed so that the cover will fit a Mason jar as well as a bottle. The stopped will fit any drink bottle or common gallon jug.

Proper housekeeping of a tank farm requires that management knows the conditions of tank bottom accumulations. Is there a water bottom? What color - clear, brown, black? Is there any scum or obvious microorganism material?

The importance of knowing that the settled water in the sump of a storage tank is discolored cannot be overstated. After all, the coloration of the water is caused by contamination of the fuel itself. So when dark-colored water is found, it should be removed and the fuel should be checked using the color rating of filter membranes (ASTM D2276).

GTP-9670-20 (pictured left) combines a threaded cap that will fit a standard Mason jar (sold separately) with 20 feet of weighted, bonded polyurethane tubing. Simply lower the weighted end of the tubing to the desired level and operate the plunger pump to draw the sample. The assembly comes complete with internal bonding and grounding wire and clamp.

Every pump comes with both a jar connection and a conical stopper, designed to seal on the opening on a bottle or container with a 0.70-1.10” inside diameter.

HOW TO ORDER

GTP-9670-10	Pump with 10 feet of hose (jar is not included)
GTP-9670-20	Pump with 20 feet of hose (jar is not included)
GTP-2811	16oz glass jar

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AQUA-GLO® WATER DETECTOR

BULLETIN 86 (04-19)

AQUA-GLO® SERIES V WATER DETECTOR

MEASURES WATER CONTENT OF JET FUEL
MODEL NUMBERS GTP-322 & GTP-323

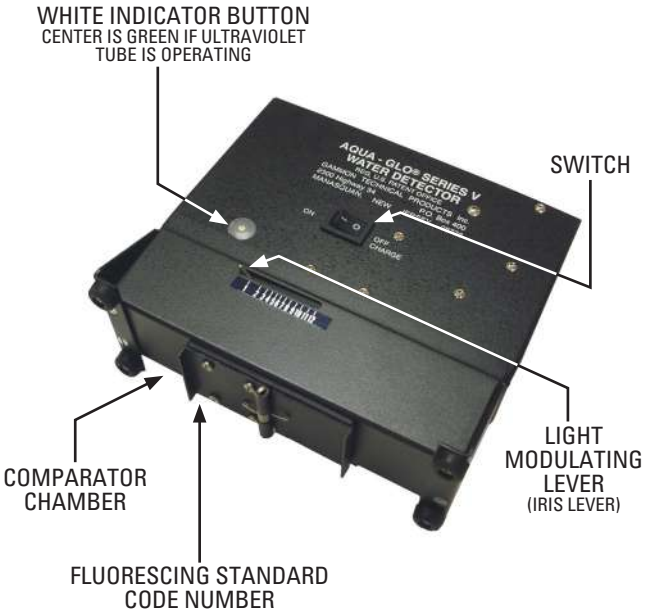
FEATURES

- Manufactured specifically to perform tests per ASTM Method D3240
- Automatic power switching between external power supply and internal battery 120/220 volts, 50-60 Hz
- Nickel cadmium rechargeable battery
- Fully instrumented to eliminate human error
- Detects presence of free water within 1.5 ppm
- Test completed in less than 2 minutes
- Portable, lightweight (8 pounds)
- Permanent fluorescing standard
- Can be recalibrated in the field

The test requires two simple steps. First, a measured sample of fuel is passed through a paper pad that is treated with sodium fluorescein on its upstream surface. Second, the pad is compared with a fluorescing standard in ultraviolet light. Water droplets that are smaller than the eye can see will cause the sodium fluorescein to fluoresce. The degree of fluorescence is greater for increasing amounts of water in the fuel.

The Aqua-Glo® Kit employs this unique approach in the determination of the degree of fluorescence (or water content). A single, permanent fluorescing standard is positioned under a photographic-type iris diaphragm which can be opened or closed to increase or decrease the amount of ultraviolet light.

To determine water content, the operator merely adjusts the diaphragm lever arm under the fluorescing standard and the test pad show equal brightness in the ultraviolet light. This balance is reached when the zero centering ammeter reads ZERO. The amount of water is read in parts per million (ppm) on the diaphragm lever arm scale which has been pre-calibrated in the factory. The scale numbers range from 1 to 12. These numbers are in ppm if the test sample of fuel that flowed through the pad was 500 ml. However, if water content is as great as 60 ppm, the test sample can be reduced to 100 ml. When a 100 ml sample is taken, the operating instructions explain that the scale reading must be multiplied by 5 to obtain the water content in ppm.



® Registered in U.S. Patent Office.

The Series V Aqua-Glo® was introduced in 2005 with an entirely new power supply. This power supply is external, automatically switching to work with either 120 VAC or 220 VAC, 50/60 Hz.

The water detector pads that are used in the Aqua-Glo® Kit are produced in compliance with MIL-D-81248 (WP) with the exception that the diameter is 25mm. Each pad is packaged in an air and moisture-proof envelope.

The Aqua-Glo® Kit pad holder is designed for ease in sampling. Fittings are available for several different methods of taking samples. For example, the standard fitting permits direct connection to the quick disconnect. Another fitting allows the sample to be drawn through the test pad with a syringe.

The Aqua-Glo® Kit is based on a technique developed by the U.S. Navy for accurate field determination of the free water content of jet fuels. Unlike the Navy equipment, the Aqua-Glo® Kit requires only one fluorescing standard and is instrumented to eliminate human error.

Available also in combination with our MiniMonitor® Kit for contamination testing per ASTM Method D2276.

See Bulletin 8 for details on the MiniMonitor® Kit.

COMBINATION KIT - MODEL GTP-323

In one carrying case: Aqua-Glo® Series V Water Detector
MiniMonitor® Kit Contamination Tester

An outstanding feature of the Aqua-Glo® Kit is permanency of the fluorescing standard. Extreme care has been taken in perfecting a standard that will not deteriorate with age.

HOW TO ORDER

KITS

GTP-322	Aqua-Glo® Series V Kit with built-in 120/220 VAC 50-60 Hz power supply
GTP-322-AF	Aqua-Glo® Series V Kit with built-in 120/220 VAC 50-60 Hz power supply for the U.S. Air Force
GTP-323	Combination Kit: Aqua-Glo® Series V and MiniMonitor® with 120/220 VAC 50-60 Hz power supply
GTP-2855	Aqua-Glo® unit only with power supply and standards, 120/220 VAC
GTP-9334	Upgrade kit from Series III to Series V

PARTS AND ACCESSORIES

GTP-25	Water detector pads (25mm diameter), box of 50
GTP-2324	Internal/external battery, rechargeable, nickel cadmium
GTP-2380	Replacement tube, ultraviolet
GTP-191	Detector pad holder assembly
GTP-8326-1	Toggle valve, aluminum, ⅛" FNPT
GTP-293	Tweezers
GTP-294	Calibrated bottle
GTP-765	Screwdriver calibrating
GTP-9459	Carrying case for GTP-322 and GTP-323
GTP-892	Battery, 9 volt, for meter
GTP-292	Hose assembly, outlet, for GTP-191
GTP-835	Fluorescing and calibrated standards set
GTP-9292	Power supply
GTP-1074-1	Color rating book
GTP-3326	Stainless steel holder for water detector pads (25mm) - see Bulletin 8
GTP-3850	Stainless steel holder for water detector pads (37mm) - see Bulletin 8
GTP-9329	External battery power cable (optional)
GTP-9331	External battery charging cable (optional)
GTP-9300-12	Both external battery cables (GTP-9329 and GTP-9331)

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"Q" KIT JET FUEL QUALITY CONTROL

BULLETIN 87 (01-21)

THE GAMMON "Q" KIT

A basic self-contained package for the fixed base operator, fueling contractor or private carrier who must perform safety checks on jet fuel. Everything needed to determine the presence of solid contaminants and excess water is packaged together for carrying convenience and safe-keeping in a case with handle and lock.

New and improved case
features telescopic handle and wheels.

THE "Q" KIT FEATURES

- The Gammon MiniMonitor® Kit for containment testing per ASTM D2176, including electrostatic bonding and grounding discharge hose assembly
- Special tweezers designed for handling delicate filter membranes
- Color rating book meeting ASTM Method D2176
- White bucket - 2 or 5 gallon capacity - including grounding rod and level indicator
- Supply of 48 plastic monitors pre-packaged with filter membranes and support pads
- Complete record-keeping system featuring filing envelopes with write-on panels, filing pages with pockets, and a notebook binder for record-keeping
- Long-term supply of water-finding paste

"Q" KIT NUMBER 1 - MODEL GTP-2652-1 INCLUDES THE FOLLOWING PARTS

PART NUMBER	QUANTITY	DESCRIPTION
GTP-172	1	MiniMonitor® Kit
GTP-1985	1 box of 48	Monitors
GTP-1400	1	Notebook
GTP-1331	1 set of 10	Filing pages
GTP-2099	1	Tweezers
GTP-1267	1 package of 500	Envelopes
GTP-982-12	1	Water finding paste (12)
GTP-2518-2	1	White bucket (2 gallon)
GTP-2651-1	1	Case (26x12.5x15")
N/A	1 set	Catalog and GamGrams

"Q" KIT NUMBER 2 - MODEL GTP-2652-2

includes all the same parts, except the 2-gallon bucket is replaced with a 5-gallon bucket

GTP-2518-5	1	White bucket (5 gallon)

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PRESSURE GAUGES

BULLETIN 92
(11-20)

PRESSURE GAUGES

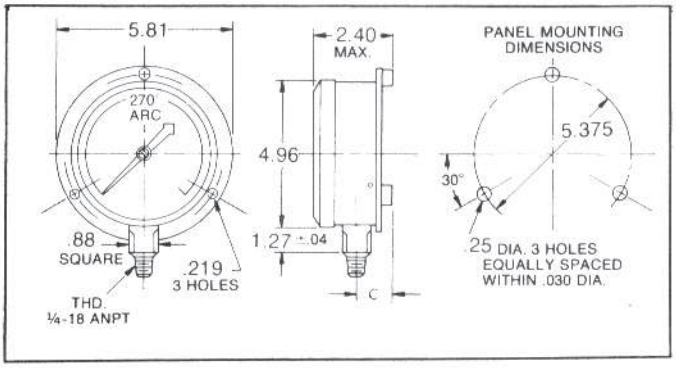
4 1/2" FACE, BACK FLANGE MOUNTED

MODEL No.	RANGE, PSI
GTP-281A	0-100
GTP-281B	0-160
GTP-281H	0-1000

SPECIFICATIONS

CASE:	Cast aluminum with blowout grommet
BEZEL RING:	Polypropylene, snap-on
WINDOW:	Acrylic
POINTER:	Slotted hub, adjustable
BOURDON TUBE:	Phosphor bronze
CONNECTION:	1/4" NPT, brass
ACCURACY:	1% of span

BACK FLANGE MOUNT



3-WAY VALVE FOR PRESSURE DROP TESTS

Model GTP-2305 3-Way Ball Valve was designed to assure you that pressure drop data will be obtained correctly. Now you can get reliable pressure drop data from inexperienced personnel.

Model GTP-2305 is made of stainless steel, sealed with PTFE o-rings.

ORDERING INFORMATION

GTP-2305	3-Way Selector Valve, 1/4" NPT female

Protect your gauge investment with a snubber - reduce pressure pulsations which wear out your gauge. The snubber fits on the gauge connection and absorbs pressure surges.

GTP-2607S	Stainless steel snubber
GTP-2607B	Brass snubber

2” AND 2 1/2” FACE PRESSURE GAUGES

MODEL No.	FACE DIA.	RANGE, PSI	CONNECTION	SIZE, IN., NPT
GTP-2954C	2	0-160	Center back	1/4
GTP-686A	2	0-60	Lower	1/4
GTP-686B	2	0-100	Lower	1/4
GTP-686C	2	0-160	Lower	1/4
GTP-686D	2	0-300	Lower	1/4
GTP-2955C	2 1/2	0-160	Lower	1/4

SPECIFICATIONS

CASE:	Steel
BEZEL RING:	Steel
CONNECTION:	Brass
ACCURACY:	3% of span

STAINLESS STEEL STEM MOUNTED

MODEL No.	FACE DIA.	RANGE, PSI
GTP-707D	2 1/2	0-300
GTP-2956B	3 1/2	0-100
GTP-2956D	3 1/2	0-300

SPECIFICATIONS

CASE:	Drawn 316 stainless steel
BEZEL RING:	Drawn stainless steel
CONNECTION:	1/4” NPT, 316 stainless steel
ACCURACY:	1% of span

LIQUID FILLED PRESSURE GAUGES

Steady pointer reading even when pressure is pulsating or in cases of excessive vibration. All are silicone filled.

MODEL No.	RANGE, PSI
GTP-5866	0-100
GTP-5867	0-160
GTP-5868	0-300

SPECIFICATIONS

FACE:	4” diameter
CASE:	Stainless steel
BEZEL RING:	Steel
CONNECTION:	1/2” NPT, brass
MOUNT:	Stem mounted
ACCURACY:	±1%

MODEL No.	RANGE, PSI	CONNECTION
GTP-5873	0-100	Brass/bronze
GTP-5874	0-100	316 stainless steel
GTP-5875	0-160	Brass/bronze
GTP-5876	0-160	316 stainless steel

SPECIFICATIONS

FACE:	2 1/2” diameter
CASE:	Stainless steel
BEZEL RING:	Steel
CONNECTION:	1/4” NPT
MOUNT:	Stem mounted
ACCURACY:	±3 2/3 %

MODEL No.	RANGE, PSI
GTP-1174	0-100

SPECIFICATIONS

FACE:	1 1/2” diameter
CASE:	Steel
BEZEL RING:	Steel
CONNECTION:	1/8” NPT, brass
MOUNT:	Center back
ACCURACY:	±3%

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GROUNDING/ BONDING CABLE

BULLETIN 98 (08-20)

GROUNDING/BONDING CABLE

WE NOW OFFER SUPER DUTY CABLE IN 1/8” CLEAR AND 3/16” HIGH VISIBILITY CABLE THAT LASTS THREE TIMES LONGER THAN REGULAR CABLE

STANDARD CABLE

High quality 7x7 galvanized steel cable 3/32” diameter coated to either 1/8” or 3/16” diameter. Available in clear or yellow. Shipped on strong, easy to handle steel or wood spools. The tough vinyl coating also allows great flexibility. Highly conductive.

	CLEAR 1/8”	**CLEAR 3/16”**	**PVC YELLOW 5/32”**
Cut lengths by foot	GTP-1093-1	GTP-1299-1	
1,000’ reel	GTP-1093	GTP-1299	GTP-8557-1

SAFETY-ORANGE HIGH VISIBILITY CABLE

In addition to our standard clear cable, we now offer this high visibility safety-orange cable. This special coating is formulated with a high-tech neon dye which remains visible even in low light. The tough vinyl coating gives long life. This cable is made with our standard 7x7 galvanized steel wire construction, 3/32” coated to 1/8” or 3/16”. Due to our high volume we can offer this cable at a price only slightly higher than our standard clear cable.

	1/8”	**3/16”**
Cut lengths by foot	GTP-1093HVO-1	GTP-1299HVO-1
1,000’ reel	GTP-1093HVO	GTP-1299HVO

KINK RESISTANT BRIGHT YELLOW CABLE

You can reduce your problems with kinks and tangles by using this special cable. Resistance to kinking is accomplished by making the cable of specially wound stainless steel instead of galvanized steel. We offer two versions. First, our premium GTP-2869 cable with its oversized 5/32” specially compounded DuPont Hytrel® polyester coating is even tougher than our standard vinyl and the coating adds to the kink resistance of the cable. Resistance to wear and cutting is amazing. For a more affordable cable, we offer cable with 1/8” yellow vinyl coating. This lower-priced cable has the same kink resistant stainless steel cable inside.

NOTE: Hytrel cable has a higher electrical resistance. If you want to meet Mil Spec on connectivity, we recommend GTP-1299 HVO cable (galvanized steel). Flashlight type testers cannot be used to test stainless cable. A meter (V.O.M. should be used when testing this cable.

	HYTREL® 5/32”	**VINYL 1/8”**
Cut lengths by foot	GTP-2869-1	GTP-2869V-1
1,000’ reel	GTP-2869	GTP-2869V

NOTE: We do NOT offer nylon coatings because we have found that vinyl and Hytrel last longer. The low temperature range for the Hytrel® is -40°F, for the other cable is it -20°F.

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EPOXY LINED FUEL SAMPLE SHIPPING CONTAINERS

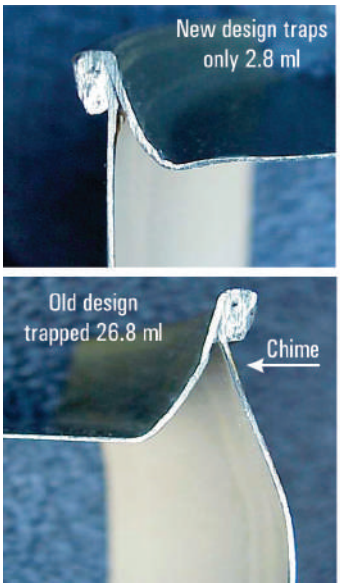
BULLETIN 99 (11-20)

DOUBLE-COAT EPOXY LINED FUEL SAMPLE SHIPPING CONTAINERS

NOW REUSABLE

Specifically made to transport samples of aviation fuel for laboratory testing

The containers meet UN/1A1/X1.5/250/11 (the last two digits reflect the current year). The UN standard is an international standard equal or superior to DOT 17C and the “250” rating is an improvement over the old container. The bung plug is epoxy coated and can be safety wire sealed. In the photos (below, left), note that when the technician pours fuel from the container, 26.8ml of fuel and dirt particles are trapped in the chime of other containers. Ours traps only 2.8ml.



These containers have been tested in accordance with the approval procedure defined in ASTM Standard Practice D-4306. This standard practice recommends the use of epoxy-lined containers when any of the following ASTM Standard tests are performed on aviation turbine fuels:

- D-2624 Electrical Conductivity of Aviation and Distillate Fuels
- D-3241 Thermal Oxidation Stability of Aviation Turbine Fuels (JFTOT Procedure)
- D-3948 Determining Water Separation Characteristics of Aviation Turbine Fuels by Portable Separameter
- D-4308 Electrical Conductivity of Liquid Hydrocarbons by Precision Meter
- D-5001 Measurement of Lubricity of Aviation Turbine Fuels by the Ball-on-Cylinder Lubricity Evaluator (BOCLE)
- D-5452 Particulate Contamination in Aviation Fuels by Laboratory Filtration

HOW TO ORDER

MODEL No.	CAPACITY	BUNG PLUG	SHIPPING BOX
TL-2935B-4	1 gallon	¾”	TL-2935-2A
TL-2935C-4*	1 gallon	¾”	TL-2935-2A
TL-2935A-5	5 gallons	2”	TL-2935-3

* This model has a bung plug that can be safety wired.

IMPORTANT SHIPPING INFORMATION

The rules by IATA 1.5 and 49 CFR 172,700 by the U.S. Department of Transportation require that any employee who offers dangerous goods for shipment must be trained in all aspects of packing and labeling. Training courses are offered by many organizations. This bulletin does not purport to provide all the information that is required to prepare and ship fuel samples, but it does show that we offer required decals and labels.

To ship samples of jet fuel or avgas in any of these steel containers, the use of shipping box is required as shown under “How to Order” on the preceding page.

FOR JET FUEL - TL-9050
Includes:

(12)
Flammable liquid
hazard labels

(12)
“Overpack”
labels

(24)
Package orientation
arrows

FOR AVGAS - TL-9051
Includes:

(12)
Flammable liquid
hazard labels

(12)
“Overpack”
labels

(24)
Package orientation
arrows

(12)
“Cargo Aircraft Only”
labels

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API GRAVITY & DENSITY CALCULATORS

BULLETIN 100 (03-04)

API GRAVITY AND DENSITY CALCULATORS

API GRAVITY CALCULATOR GTP-3012-1A

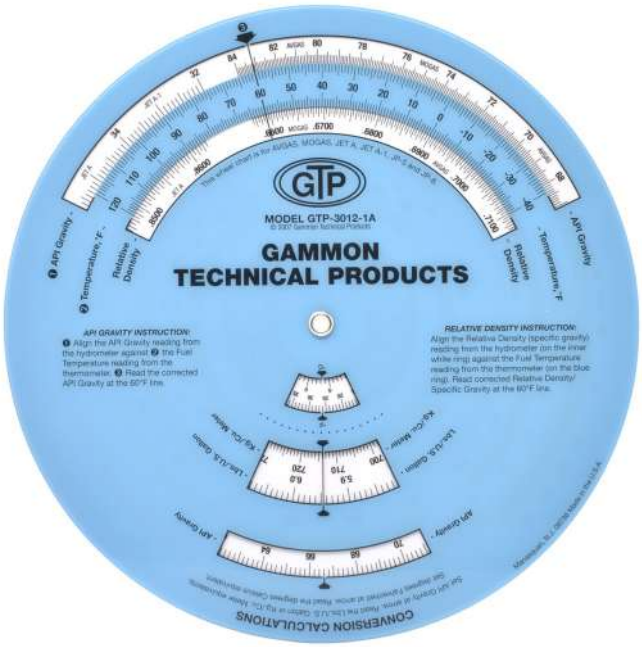
Corrects API hydrometer readings at any temperature (°F) to API degrees at 60°F.

Corrects relative density hydrometer readings at any temperature (°F) to relative density at 60°F

Converts API gravity to relative density*

Converts API gravity to metric density (kg/m³)

Converts API gravity to weight (lbs/gal)



DENSITY CALCULATOR GTP-2727EF

Converts density readings taken with a hydrometer to corrected density at 15°C

Separate scales for 3 different types of fuel:

- Kerosene (Jet A, Jet A-1, JP 5, JP 8)
- Wide Cut (JP 4, Jet B)
- Avgas

Scales read in kg/m³

* "Relative density" is now the accepted term for "specific gravity."

INSTRUCTIONS FOR API CALCULATOR GTP-3012-1A

1. Rotate the disk until the observed hydrometer reading (°API) is aligned with observed temperature (°F).
2. Read the corrected °API at the 60°F arrow.

NOTE: If a relative density or specific gravity hydrometer is used, set the hydrometer reading opposite the observed temperature. Then read the corrected relative density at the 60°F arrow.

INSTRUCTIONS FOR DENSITY CALCULATOR GTP-2727EF

1. Rotate the disk until the observed hydrometer reading is aligned with observed temperature.
2. Read the corrected density at the 15°C arrow.

This circle represents the actual diameter of both calculators.

NOTE ON GTP-3012-1A

Results obtained with this calculator in the API gravity range from 48 to 51 (or a correction that goes through this range) cannot be compared to the printed tables because we have avoided error created by this transition zone (see Volume X of Petroleum Measurement Tables (D1250-80/IP200), pages X-73 to X-79). For jet fuels, we extended the curve upward using the original equation without entering the transition zone. For avgas, we extended the gasoline curve downward in the same manner. From a technical standpoint, our scales will yield more accurate results than the printed tables.

NOTE ON GTP-2727EF

Results obtained with this calculator in the density range from 770 to 784 kg/m³ (or a correction that goes through this range) cannot be compared to the printed tables because we have avoided error created by this transition zone (see Volume X of Petroleum Measurement Tables (D1250-80/IP200), pages X-73 to X-79). For jet fuels, we extended the curve upward using the original equation without entering the transition zone. For avgas, we extended the gasoline curve downward in the same manner. From a technical standpoint, our scales will yield more accurate results than the printed tables.

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FUEL TEST PRESSURE REGULATOR

BULLETIN 102 (7-11)

JET TEST REGULATOR: GTP-1526

The maximum rated pressure for a plastic monitor is **100 psi**. How do you run a filter membrane test when the system pressure is as high as **300 psi**?

Use the **Jet Test Reg**™, a high-precision, extremely accurate pressure regulator. It connects directly into the existing quick disconnect coupler at the same point.

You simply connect the MiniMonitor® Kit (sold separately) test device into the outlet of the regulator.

Now you can perform tests on high-pressure systems (up to 300 psi) and meet all of the requirements of ASTM Method D2276.

The GTP-1526 regulator is unique because it will limit downstream pressure to 100 psi over the normal flow range encountered during filter membrane testing, including nearly zero flow. It is equipped with quick disconnect fittings so that it can be "plugged in" at the sampling connection with the filter membrane tester at its outlet, our standard MiniMonitor® Kit. See the photograph on the preceding page.

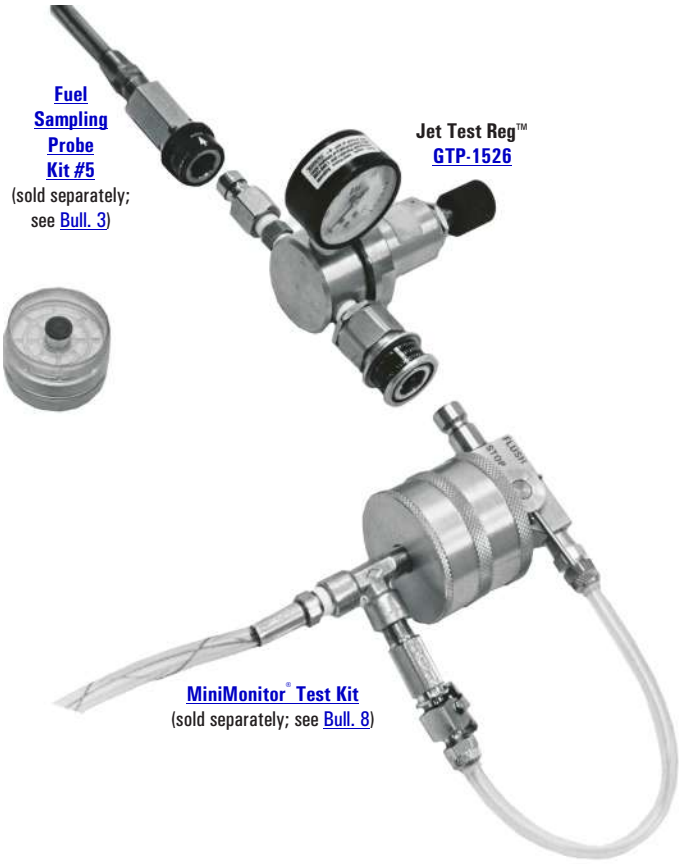
After a suitable flushing period (usually one gallon) to clear the sample connection, the valve lever is moved to the "test" position. You can adjust the regulator with its control knob to any desired pressure up to 100 psi but we set it at 100 psi before shipment because that is the limit for plastic monitors. When the correct volume of fuel has passed through the membrane (either 1 US gallon or 5 liters) the test is finished.

SPECIFICATIONS

- Male QD inlet fits standard test connections
- Female QD outlet fits MiniMonitor® Kit & other brands
- 300 psi maximum inlet pressure
- 100 psi maximum outlet pressure
- Aluminum & stainless steel, Viton seals
- 0-100 psi pressure gauge

The GTP-1526 Jet Test Reg™ contains a coarse strainer which will be found at the port marked FLT. This strainer is necessary to prevent large particles from being trapped in the regulator components.

For details on the very high pressure sampling system (up to 450 psi), see Bulletin 127.



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ANTI-ICE ADDITIVE PUMP

BULLETIN 113 (10-09)

HAND PUMP FOR ANTI-ICING ADDITIVE

(also known as PRIST® or DiEGME)

- Save money by purchasing additive in 55-gallon drums instead of 5-gallon cans
- Fill your reservoir with minimal exposure of personnel
- No heavy 5-gallon cans to lift
- Special non-drip hose-end check valve
- Seals and hose are compatible with anti-icing additive

Handling anti-icing additives such as PRIST® can be dangerous because of the hazardous nature of the chemical. We offer a hand pump equipped with special seals for use with DIEGME additive. We also include a special hose and anti-drip fill valve for safe handling. The hose is 12' long.

We also offer a choice of several rugged heavy-gauge stainless steel reservoir tanks with built-in level gauges. Plastic tanks and the additive itself will burn in a fire. These tanks are designed for safe storage of DIEGME additive.

All tanks are 300-series stainless steel. A drain plug is located at the bottom. Filling port is covered by a heavy stainless pipe cap with vent connection for a desiccant dryer.

We also are your source for additive injection systems for any application. Flow rates from 10 to 10,000 GPM. Call for further information or contact your distributor.

NOTE: Store additive drums indoors or cover to prevent water from gathering on drum top. This water can contaiminate the additive.

ORDERING INFORMATION

TL-1938	Hand pump
TL-1938H	Hand pump with 12' hose
GTP-1516-6	6-gallon stainless steel tank
GTP-1516-4	10-gallon stainless steel tank
GTP-1516-5	15-gallon stainless steel tank

Tanks can be made to almost any capacity needed. Contact us for a quote.

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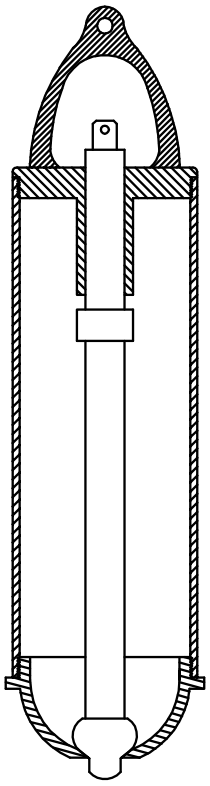
BACON BOMB AND TANK SAMPLERS

BULLETIN 115 (12-19)

BACON BOMB SAMPLERS

Designed by Charles V. Bacon, Chemical Engineer

Makes possible two sampling methods important to every company handling liquids in tanks.



Bottom Sampler

AVERAGE SAMPLER

This sampler takes truly average samples. When lowered into a tank, liquid flows into the lower end of the sampler only as quickly as air is displaced through the opening at the top. A rugged needle valve permits exact control of the rate of flow. If the sampler is lowered from the top to the bottom of a liquid at a uniform rate and is not quite full when withdrawn, the liquid trapped in the sampler must be a truly average sample.

MODEL	CAPACITY	DIAMETER	HEIGHT
TL-3576	16 oz.	2 ¾”	12”

BOTTOM OR POINT SAMPLERS

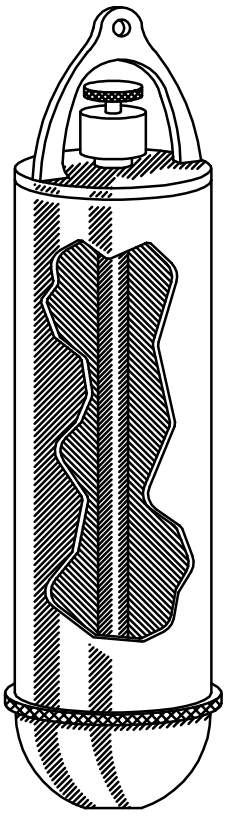
A plunger keeps the sampler closed until it strikes the bottom of the tank, then the sampler fills. When raised, the plunger automatically falls back into position, closes the sampler, and prevents any contamination by liquid taken at a higher level. This device picks up sediment or water directly off the bottom of the tank.

But a sample can be taken at any point above the bottom by attaching a cable to the top of the plunger, raising it at will to fill the sampler and lowering it to close the sampler. However, average sampling operations cannot be performed with the perfect control possible with the average model.

MODEL	CAPACITY	DIAMETER	HEIGHT
TL-3572	8 oz.	2 1/4”	10”
TL-3573*	16 oz.	2 ¾”	12”
TL-3574	32 oz.	3 ⅝”	16”
TL-3575	4 oz.	1 ⅞”	9”

Extension rods are available to allow a sample to be taken 1” to 12” from the bottom. Order extension kit Model TL-3577.

* FAN 6695-00-946-3602



Average Sampler

FOR SAMPLING: Jet Fuels ▪ Petroleum Oils ▪ Fish Oils ▪ Solvents ▪ Tar Oils ▪ Sugar ▪ Glycerine ▪ Fruit Juices Chemical Solutions ▪ Molasses ▪ Varnish ▪ Vinegar ▪ Latex ▪ Vegetable Oils ▪ Laquer ▪ Beverages ▪ Fisheries

You may coat samplers with protective varnish when used with liquids that will attack nickel and bronze.

All Bacon Bomb Samplers are substantially made of brass and bronze, and heavily nickel plated. Each sampler has but one moving part, no springs, nothing to get lost or out of order, and they are easily cleaned. All models show the same simplicity of design and rugged construction, and also incorporate various desirable features suggested by years of hard usage. All models conform to ASTM specifications D-4057. All Bacon Bomb Samplers are anti-magnetic.

IN-TANK SAMPLERS

- No copper or brass
- All stainless steel or aluminum
- Model GTP-9090 (aluminum) has a capacity of 1 U.S. gallon (3,785 ml)
- Model GTP-9021 (stainless steel) has a capacity of ⅓ U.S. gallon (1,260 ml)
- Stainless steel chain is tangle resistant, 65 feet (18,300 mm)

With a one-gallon capacity, our model GTP-9090 is welcomed by technicians because they no longer must collect repeated samples to obtain enough liquid for the laboratory tests.

If lowered to the bottom of a tank, the sample will be collected at a level 14.2 in (368 mm) above the bottom for model GTP-9090 and 10.8 in (275 mm) above the bottom for model GTP-9021. These samplers are not designed to sample the very bottom of the tank. To meet that requirement, we recommend a Bacon Bomb as described on the front of this bulletin.

SAFETY FROM AN ELECTROSTATIC STANDPOINT

Yes, our samplers come with 65-foot (19.8m) long stainless steel chains so that the sampler can be grounded to the tank. The greatest danger on tank operations occurs when an “unbonded charge collector” is inserted. If a sampler or any other object enters the tank, there exists a real danger of sparking. Our instruction is that the heavy-duty clamp be attached first to a metal component of the tank, being careful to remove paint or rust that may prevent continuity. The sampler may then be lowered safely into the tank. Rope or cord must never be used.

The unique model GTP-9021 was developed specifically to fit through the small gauging found on U.S. Air Force bases where level gauging electric cables are also present. It was important that there be no tangling of our sampler with those cables and that those cables not be damaged. Therefore, the outside diameter is only 3.1 in (79 mm).

GAMMON

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HYDRANT HOSE DOLLY

BULLETIN 116 (02-02)

HYDRANT HOSE DOLLY

- Durable, heavy wall, cast aluminum
- 11.7” long support (300 mm)
- Steel hanger also is lifting
- Highest quality casters

Hose dollies, long recognized as more economical and reliable than hose reels for hydrant hoses, are usually fabricated locally from available materials. Professionally designed, our hose dolly overcomes the numerous problems that have occured with other designs.

Of particular importance in our design is the caster. Look at these features:

- Nickel-plated steel construction
- Ball bearing swivels have stainless steel balls
- Lubricatable bearing design
- Ball bearing wheels
- Durable neoprene tires

HOW TO ORDER

GTP-3226-1
For 4” hose with 4¾” OD maximum

GTP-3226-2
For 3” hose with 3¾” OD maximum

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SAMPLE SHIPPING CONTAINERS UN/ICAO

BULLETIN 119 (04-15)

SAMPLE SHIPPING CONTAINERS - UN/ICAO

DRUMS FOR AIR SHIPMENT OF FUEL SAMPLES:
1 LITER & 5 LITER INCLUDING APPROVED CARTONS

INTERNAL EPOXY COATING WILL NOT INFLUENCE
TESTS FOR WISM, CONDUCTIVITY, GUM, OR JFTOT

VERMICULITE AVAILABLE FOR 1 LITER CARTON SHOWN BELOW

NOTE: Box markings subject to change.

Fuel sample containers for shipment by air are controlled by UN/ICAO rules. The fuels that are the subject of this bulletin are called Class 3 - Flammable Liquids. The table that follows defines the way various fuels are classified.

We offer a packaging system that conforms to packaging instructions 353 or 355 in 1 or 5 liter drums. These are additional references. Our drums and cartons conform to these requirements:

AGENCY	INNER CONTAINER (STEEL)	OUTER CONTAINER (FIBERBOARD)
UN/ICAO	Rated 1A1	Rated 4G
IATA	Rated Ic3	Rated T5A

YOU CAN SHIP VIA CARGO AIRCRAFT ANYTHING THAT IS PERMITTED ON PASSENGER AIRCRAFT.

NOTE: These drums can be re-used if inspection shows no damage and if the plug gasket proves to be adequate to prevent leakage.

HOW TO ORDER

MODEL No.	DESCRIPTION
TL-3816*	1 liter drum only
TL-3818	5 liter drum only
TL-3817*	1 liter drum with carton
TL-3819	5 liter drum with carton
TL-8335	1 - 16 lb. bag of vermiculite (2 lbs. fills the void space in a 1-liter carton)

*If you require safety wire holes in the plug, add the suffix “-A” to the part number.

WEIGHTS AND DIMENSIONS

1 liter drum in carton:	7 x 7 x 12.2 in (178 x 178 x 310 mm) - 2 lbs (0.9 kg)
5 liter drum in carton:	8.8 x 8.8 x 8.8 in (225 x 225 x 225 mm) - 4.4 lbs (2 kg)

HOW TO PACKAGE

After the fuel sample has been placed in the drum, tighten the threaded plug. Make sure the fuel resistant gasket is in place. The inner container must never be filled completely so as to avoid leakage or rupture as a result of thermal expansion and/or pressure caused by a temperature build-up.

Turn the drum upside down to be sure of no leakage from the plug.

If lock-wiring is required, secure the threaded plug so that it cannot loosen during shipment. Twist the wire so that force is applied to tighten the plug. Not loosen it.

1 LITER: Place the drum in the carton so it is supported by the corrugated spacer and fill the entire void under, around, and on top of the drum with vermiculite or sawdust to act as an absorbent.

5 LITER: Place the drum in the corrugated carton. It is not necessary to fill the remaining space with sawdust or vermiculite because the combination of the 5 liter drum and corrugated carton has been granted a UN approval. The drum itself is rated 1A1.

Tape all carton edges - top, bottom, and sides - with good quality packaging tape.

PRODUCT	UN or ID No.	FLASH POINT (CLOSED CUP)	PACKAGING GROUP	PASSENGER AIRCRAFT PKG. INSTRUCTIONS	MAXIMUM QUANTITY (LITERS)
Aviation Turbine Fuel	1863	If greater than 23°C (73.5°F) but less than 60°C (140°F)	III	355	60
		If less than 23°C (73.5°F)	II	353	5
Kerosene	1223	If greater than 23°C (73.5°F) but less than 60°C (140°F)	III	355	60
Motor Spirit, Gasoline, Petrol	1203	If greater than 23°C (73.5°F)	II	353	5

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TEST BUCKETS

BULLETIN 123 (03-17)

TEST BUCKETS

WHITE BUCKETS

We now offer high-grade, 2 1/4 gallon, powder-coat epoxy white buckets. The coating is specifically formulated for outdoor and fuel use and is more durable than porcelain. They have passed a Gammon six-month sunlight exposure test. The epoxy-lined buckets were recently accepted in an ASTM meeting as equal to white porcelain for color testing. Formal approval is in process.

GTP-1748B	White bucket
GTP-1748C	White bucket with grounding cable and clip

PLASTIC BUCKETS

Our plastic containers are made with a conductive (aluminum) electrostatic bonding device to collect static charges so they can be safely carried away, using the bonding cable (included). Note the bonding lug at the top for use in membrane tests. This device also serves as a level indicator. The operator can clearly see the fuel level as it reaches the notches which are at accurately calibrated levels. Plastic buckets are not approved as standard “white buckets.”

GTP-2518-2	0.5, 1.5, and 2 gallons graduated
GTP-2518-3	1, 2, and 3.5 gallons graduated
GTP-2518-5	1, 2, 3, 4, and 5 gallons graduated
GTP-2518-10L	3, 5, and 10 liters graduated
GTP-2518-14L	4, 9, and 14 liters graduated

STAINLESS STEEL BUCKETS

We offer stainless steel buckets in two models:

GTP-3905-1	1-5 liters graduated
GTP-3905-2	2 1/4 gallon capacity - no graduations

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FUELING ADAPTER

BULLETIN 124 (10-09)

FUELING ADAPTER SC-8167

2 ½" - 3 LUG WITH 3" NPT CONNECTION

The three-lug adapter is manufactured in accordance with MS-24484-2 and will accept any aircraft refueling nozzle made by Whittaker, Carter, Zenith, or Avery Hardoll. It will also receive 2 1/2" bottom loading couplers made by these firms but it is not available to accept the product selection feature. It will also receive any U.S. military refueling nozzle that is manufactured to MIL-N-5877.

The connection has a 3" NPT female thread and is made of type 6061 aluminum with an anodized finish.

A plastic dust cap is included. For the optional pressure sealing cap, add "-SC" to the part number.

SPECIFICATIONS

OVERALL LENGTH:	6"
OUTSIDE DIAMETER:	4 ¾"
PROOF PRESSURE:	240 psi
LEAK PROOF AT:	90 psi
BURST PROOF AT:	360 psi

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HIGH PRESSURE MEMBRANE TESTER

BULLETIN 127
(07-08)

HIGH PRESSURE MEMBRANE TESTER

PERFORMS FUEL TESTS TO ASTM D2276/IP216 AT PRESSURES UP TO 450 PSI

Stainless steel housing and valves

Includes grounding and bonding hose, and ASTM color rating book

ASSEMBLY
GTP-3318-100

Jet fuel particulate contamination testing is performed to ASTM D2276 and IP-216. Conventional equipment on the market is not suitable for high pressures. This is because the plastic monitor is only rated for 100 psi. We have found a way to design a housing which allows testing using standard plastic monitors at up to 450 psi.

For replacement membranes and backup pads, see Bulletin 73.
For testing at pressures below 100 psi, see Bulletin 8.
For pressure up to 600 psi, order GTP-3318-200.

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TANK GAUGING TAPES

BULLETIN 129 (11-20)

TANK GAUGING TAPES

MEETS GOVERNMENT SPECIFICATION MIL-T-16644

STAINLESS STEEL RESISTS CORROSION AND RUST

STAINLESS STEEL AND SNAP SWIVEL ASSEMBLY

SUITABLE FOR USE WITH ALL LIQUIDS

CHROME PLATED GAUGING TAPE

The chromium plated steel tape is exceptionally good for dark oils because the contrast between the wetter and non-wetted surface is easily recognized.

Stock No.	Length	Weight (lbs.)
TL-8219	25 ft	1 1/2
TL-8221	50 ft	1 3/4
TL-8222	75 ft	2 1/4
TL-8223	100 ft	2 3/4

STAINLESS STEEL GAUGING TAPE

The stainless steel tape has a brushed surface, which aids in identifying the limit of the wetted surface on either dark or clear fuels.

Stock No.	Length	Weight (lbs.)
TL-8228	33 ft (10m)	1 1/2
TL-8229	50 ft (15m)	1 3/4
TL-8232	100 ft (30m)	2 3/4

ETCHED GAUGING TAPE

This etched tape has a blackened surface, making it especially suitable for clear products.

Etched, dark finish for clear oils, graduations on black background. Baked-on clear enamel for protection. Stainless steel reel.

Stock No.	Length	Weight (lbs.)
TL-8233	33 ft (10m)	1 1/2
TL-8234	50 ft (15m)	1 3/4
TL-8237	100 ft (30m)	2 3/4

DOUBLE-DUTY GAUGING TAPE

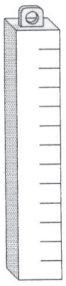
1/2” wide heavy gauge (0.12”) steel blade graduated in feet, inches, and eighths. Chrome plated on one edge, matte black finish on the other edge for measuring dark and light oils.

Stainless steel reel.

Stock No.	Length	Weight (lbs.)
TL-8238	25 ft	1 1/2
TL-8239	50 ft	1 3/4
TL-8240	75 ft	2 1/4

TANK GAUGING ACCESSORIES

TL-8242
20oz. brass innage plumb-bob, 1 1/4 lbs.



TL-8244
16oz. brass outage plumb-bob, 2 3/4 lbs.

TL-8243
Wiper (attached to frames), 3/4 lb.

NOTE: The most common method of gauging liquids in a tank is from the bottom of the liquid to the top (innage). To read from the top of the tank to the top of a liquid, specify OUTAGE. Refills are available for all sizes.

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SAMPLING QUICK DISCONNECTS

BULLETIN 131 (06-19)

SAMPLING QUICK DISCONNECTS

(INTERCHANGABLE WITH FLIGHT REFUELING COUPLERS)

Made entirely of stainless steel, these couplers are fully interchangeable with Flight Refueling models, as well as those available from A. Searle & Co.. Because we make the caps of aluminum, there is no possibility of thread galling as in other brands when the coupler is also aluminum. We used the Gammon tapered gland O-ring seal principle that has proven to be astonishingly reliable for the last 50 years in the Jet Test QD®.

In addition to the two basic models, we also offer each one with either BSP or NPT threads for installation on fueling nozzles. Refer to the chart below.

MODEL No.	TEST FITTING CONNECTION	CAP CONNECTION	TYPE	O-RING
GTP-1206	3/8 BSPP	13/16-16 UN	Shell	Yes
GTP-1206-A	3/8 BSPP	1/2 BSPP	Shell	Yes
GTP-1397	3/8 NPT	3/4 BSPP	Air BP	No
GTP-2479	3/8 NPT	13/16-16 UN	Shell	Yes
GTP-2479-A	3/8 NPT	1/2 BSPP	Shell	Yes
GTP-2480	1/4 NPT	13/16-16 UN	Shell	Yes
GTP-2480-A	1/4 NPT	1/2 BSPP	Shell	Yes
GTP-2481	3/8 BSPP	3/4 BSPP	Air BP	No

NOTE: All BSPP models will be switched over to a blue anodized cap as soon as we deplete our inventory of the current gold anodized caps.

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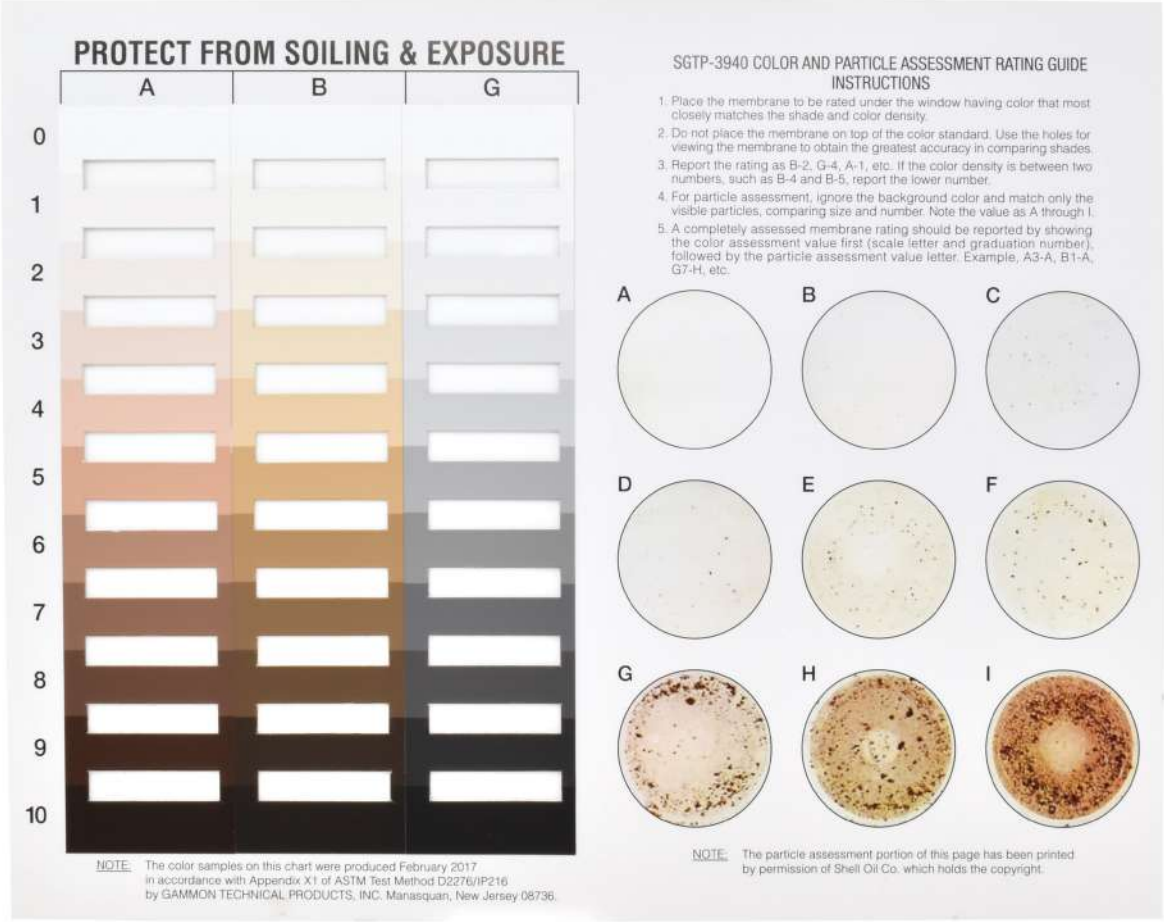
COLOR AND PARTICLE GUIDE

BULLETIN 133 (03-94)

COLOR AND PARTICLE ASSESSMENT RATING GUIDE FOR EVALUATION OF CONTAMINATION IN JET FUEL



COLOR RATING

The colors are in accordance with ASTM D2276 (IP-216) Appendix 3. They have been certified as falling within the Munsell notation limits as specified.

PARTICLE RATING

The nine particle photographs have been duplicated faithfully from the Shell Oil Co. chart and by permission of that firm.

In presenting all 33 colors and the 9 particle photographs on one 8.5x11" chart, our model **SGTP-3940** provides convenience that has never before been achieved. Particle assessment is a requirement in section 2-17 of ATA-103, along with color rating. Particle rating is also specified in Section FO-6 of the United Airlines "Fuel Operations Manual."

The color rating presenting is unique in that oblong windows of adjacent colors are provided so that the technician can more easily compare shades and colors. The filter membrane is placed under the chart, allowing the operator to see four different colors at one time for comparison.

The official ASTM color rating booklet, model GTP-1074-1, which we also produce, was designed so that it could be kept closed to protect the colors from soiling and contamination. This new chart is not provided with such a means of protection so it must be kept in a notebook. Standard 3-ring punchings are provided. For more information on the color rating book, see Bulletin 80.

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NOZZLE ACCESSORIES

BULLETIN 135 (12-20)

NOZZLE ACCESSORIES

NOSE INSERT REPAIR

MEGGITT (WHITTAKER) NOZZLE BODY REINFORCEMENT

Don't replace Meggitt (Whittaker) nozzle bodies if the "lip" at the nose seal becomes cracked. The GTP-1128S repair makes your damaged body better than new. Our design is proven by 20 years of use, and Meggitt (Whittaker) has now adopted and approved our design.

The Gammon nose insert design is available from Meggitt (Whittaker) directly on new nozzles as the "X" option.

This is the **ONLY** nose seal approved by Meggitt (Whittaker) other than their own.

D-RING

FITS F116 & F117 NOZZLES

Low priced, 1/2" thick, solid stainless steel carry handle and interlock bar.

Order GTP-9123.

PROTECTED NOZZLE GAUGE

Liquid-filled nozzle pressure gauge with heavy-duty stainless steel mount and guard. Includes urethane protective bumper.

Order GTP-9069.

PRODUCT SELECTION SPOUT ADAPTERS

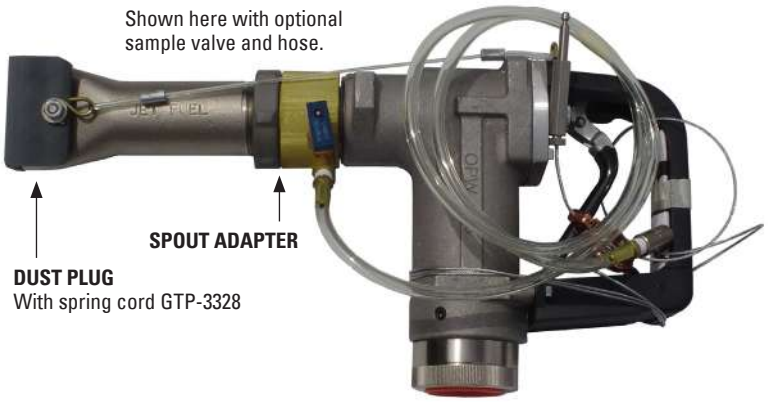
We offer an adapter to allow you to mount the OPW 696J jet spout to an OPW 1" 295SA nozzle. Without an adapter, the spout will only fit an OPW 295SA-0138 1 1/2" x 1 1/2" nozzle.

NOTE: When ordering the OPW 696J spout, be sure to specify the 153J strainer because no other strainer will fit this spout. For a nozzle including the complete jet spout and strainer, order OPW 295SAJ-0200.

TO FIT:
1 1/2" OPW spout to 1" OPW nozzle

USE:
GTP-5957

Shown here with optional sample valve and hose.



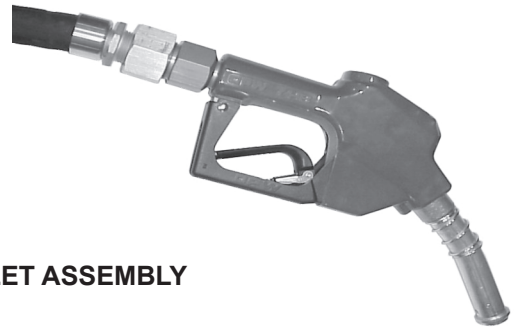
HOSE SWIVELS FOR OVERWING NOZZLES

These swivels turn so easily and are so reliable that no other brand can match them. We guarantee you will be satisfied or you money back. Female thread at inlet, male thread at outlet. Chrome-plated brass (-B models) or aluminum. Buna N seals.

GTP-1501	1" NPT	GTP-1503-B	1 1/2" NPT
GTP-1502-B	1 1/4" NPT	GTP-1504-B	2" NPT

HEAVY DUTY NOZZLE STRAINER 1” NPT

This simple product serves an important function, providing a “last line of defense” to prevent debris being dispensed from a nozzle. Our heavy duty strainer is made of 6061-T6 aircraft grade aluminum with a 100 mesh 300 series stainless steel cone strainer and DuPont Viton gasket, compatible with almost any liquid product from motor oil to Avgas. It was developed primarily for use with the OPW 7H® and 7HB® series automatic shut-off nozzle, an excellent nozzle, but due to being automatic, it cannot accept a spout strainer. Fits any 1” NPT nozzle. Do not use nozzles with hold-open devices for aviation fuels or self-service installations.



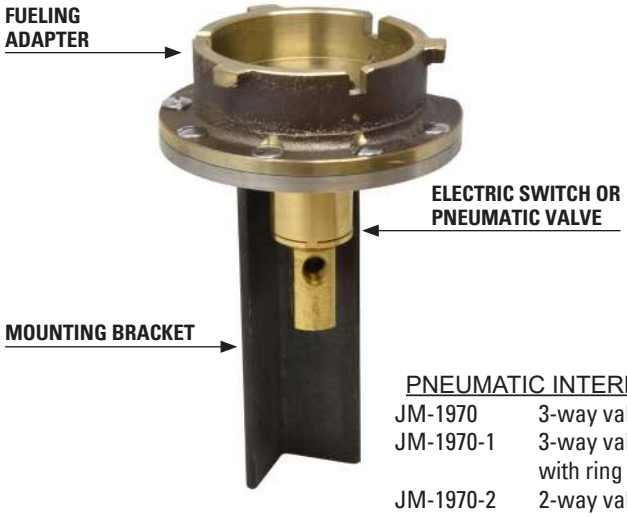
- Discover small problems before they become big ones.
- Protect your customer from inadvertent contamination.
- Easily inspected and cleaned.
- Mounts simply between the hose and the nozzle.
- Good for gasoline, diesel, oils, and lubricants.
- Quality construction, including hard-coat anodizing on male threads.

GTP-8923 1” FEMALE INLET, 1” MALE OUTLET ASSEMBLY

ACCESSORIES

HEAVY DUTY STATIC BONDING AND GROUNDING CABLE
When attaching any 1” nozzle, allows you to bond the nozzle to the tank before you remove the tank cap and maintain that bond reliably. The cable is a full 4’ of heavy 1/8” vinyl coated 7x7 galvanized steel with a heavy duty copper clamp.
Order TL-9012.

HEAVY DUTY DUST CAP
Fits OPW-7H® and 7HB® automatic shut-off nozzles. Keeps debris from entering the nozzle spout when not in use. Not compatible with some gasoline dispensers with the nozzle storage built-in. Solid urethane, precision cast, good from -40 to +200°F. Order GTP-9013.



NOZZLE HOLDERS AND INTERLOCKS SPECIAL DESIGN

Will not damage nose seals. Can be mounted in any convenient position using the steel angle bracket.

When the nozzle is attached to the adapter on the interlock assembly, a pneumatic valve or electric switch is activated to release the vehicle brakes. When the nozzle is removed for fueling operations, the vehicle brakes lock automatically.

PNEUMATIC INTERLOCKS		ELECTRIC INTERLOCK	NO VALVE OR SWITCH
JM-1970	3-way valve N/O		
JM-1970-1	3-way valve N/O with ring flange	JM-3505 12/24 V or intrinsically safe	JM-8845-1 3-lug flange w/o valve or switch
JM-1970-2	2-way valve N/C		
JM-1970-3	3-way valve N/C		

FOR ADDITIONAL LITERATURE ON NOZZLE ACCESSORIES SEE THE FOLLOWING:

Bulletin 14: Jet Test QD®
Bulletin 31: Dry Break QD
Bulletin 156: Wear Gauges
Bulletin 74: Nozzle Band Decals

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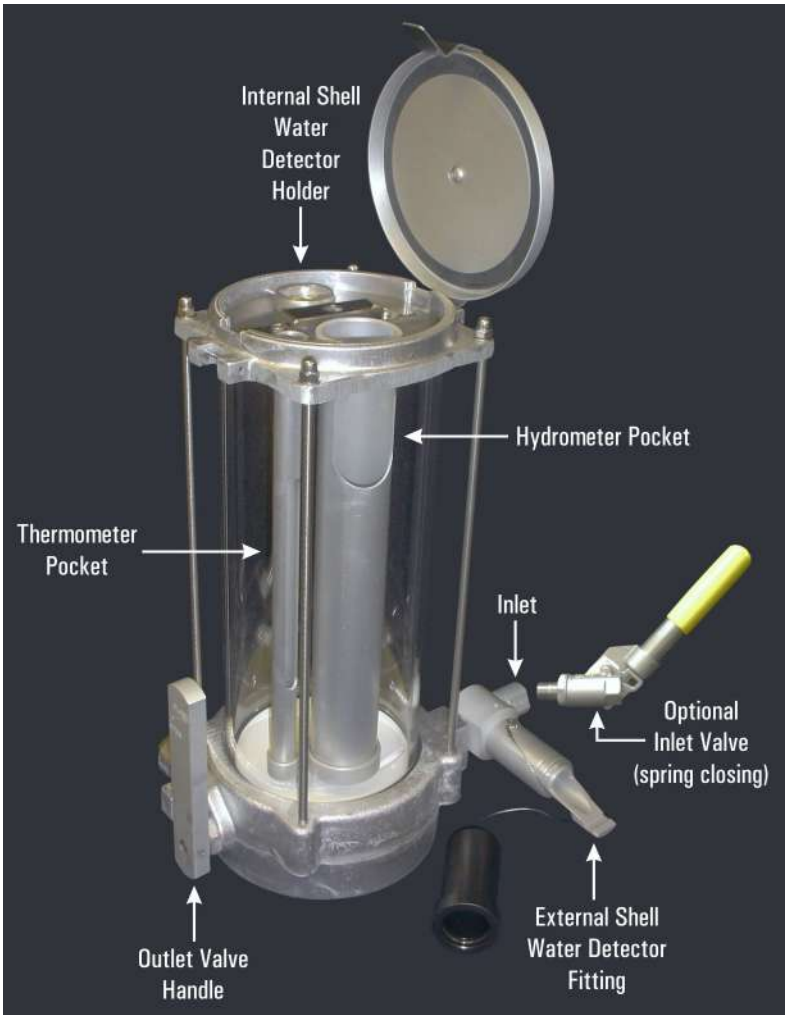
CLOSED CIRCUIT SAMPLER

BULLETIN 138 (09-12)

ALJAC CLOSED CIRCUIT SAMPLER

Over 1,000 in service worldwide, 1 US gallon (4 liter) capacity



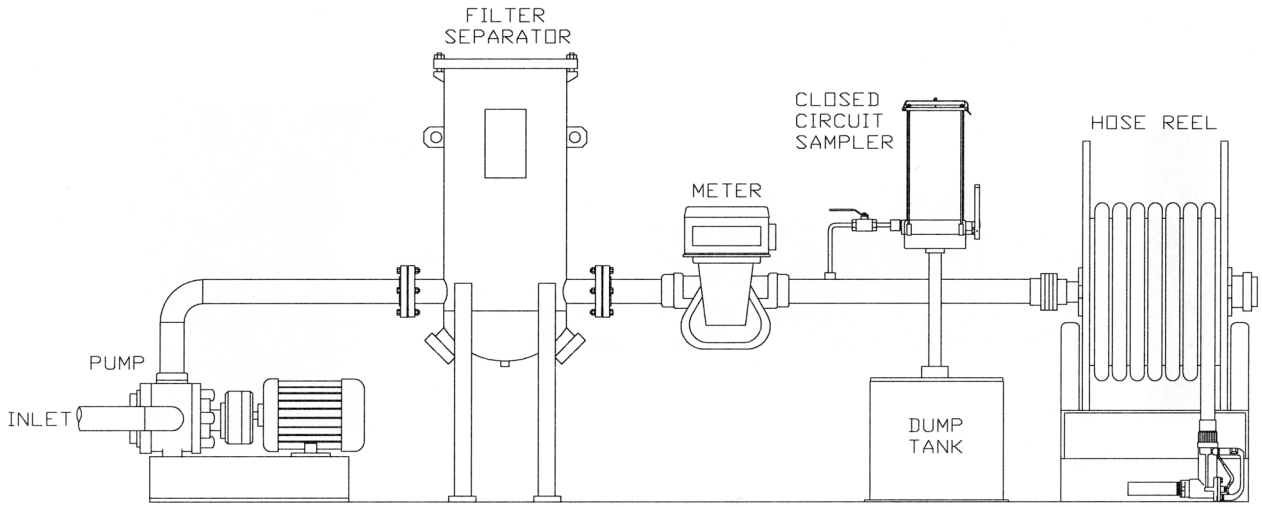
INSTALLATION

In most sampler installations, the sample is taken directly from the flow stream after the filter separator or monitor. A light located behind the sampler is very useful at night. The condition of the fuel just before it enters the aircraft provides the operator with immediate information. Alternatively, some operations may prefer to check a sample of fuel from the filter separator sump to learn immediately if any water or particulate contamination was in the fuel supply.

- When fueling aircraft, there is no substitute for a visual inspection of the delivered product using the closed circuit sampler. Periodic tests of fuel cleanliness tell you nothing about the condition of the fuel at any moment.
- The Aljac 4-liter closed circuit sampler solves that problem. Take a visual inspection of the fuel entering the airplane at any time.
- Test the water content of the fuel with either the Shell water detector or the Velcon Hydro-Kit at the same time that you make a visual inspection.
- Read the fuel gravity (weight or density) and temperature while fueling the aircraft.
- Cleaning is made simple. Lift the vented top cover one quarter turn to remove the internal apparatus (hydrometer and temperature pockets).

When drawing a visual sample of fuel from the filter separator sump, you learn immediately whether or not there was any water in the fuel supply. If the fuel is hazy, the filter separator is not functioning properly. If it is clear and bright but liquid water is found in the closed circuit sampler, you can reason that the filter separator is coalescing the water, but you surely will want to check the source of the supply. Dirt particles indicate that the coalescers are not filtering properly.

Also available: Internal or external Hydro-Kit adapters.



Fuel enters the sampler tangentially at the bottom, creating a clockwise swirl to force particles and water to the center of the coned-down, white epoxy chamber bottom. Any contaminants are then easily seen. After inspection or testing, simply open the outlet valve to release the contents to the dump or slop tank.but the range has been reduced so they will fit in the Aljac sampler.

SPECIFICATIONS

BODY: Aluminum

CYLINDER: Borosilicate glass

SEALS: Viton A

OUTLET BALL VALVE: Stainless steel

TEMPERATURE: 50°C maximum

PRESSURE RATING: None, this is a container only

CAPACITY: Standard model - 4 liters (1 US gallon)

Optional - 20 liters (5.25 US gallons)

INSTALLATION

INLET: 3/8” NPT

OUTLET: 1” NPT (3/8” BSP adapter included)

MOUNTING: 2 3/8” - 16 bolts

HYDROMETERS AND THERMOMETERS FOR CLOSED CIRCUIT SAMPLERS

Standard length ASTM hydrometers and thermometers are too long to fit the holders if it is desire to leave these instruments in place with the lid closed. For customers who want to leave them in place, we offer special short models as follows.

These hydrometers have shorter scales than are required for standard ASTM models. For example, in the metric models, the graduations are 2.14 mm apart for 1 kg instead of 2.59 mm for standard hydrometers. These thermometers have the same graduation spacings as for standard ASTM thermometers such as 12°C and 12°F but the range has been reduced so they will fit in the Aljac sampler.

See Bulletin 61 for product information.

HOW TO ORDER

MODEL No.	DESCRIPTION
JM-3001	Basic model - includes outlet drain valve only
JM-3001-2	Same as JM-3001 but includes internal fitting for Velcon Hydro-Kit test
JM-3001-3	Same as JM-3001 but includes internal fitting for Shell water detector syringe
JM-3001-4	Same as JM-3001-2 but includes thermometer and hydrometer holders
JM-3001-5	Same as JM-3001-3 but includes thermometer and hydrometer holders
JM-3001-16	Same as JM-3001 but includes thermometer and hydrometer holders
JM-3170	Adds external Shell water detector fitting. Not available with JM-3204.
JM-3204	Adds external Velcon Hydro-Kit fitting. Not available with JM-3170.
JM-3175	Adds 3/8” spring closing fill valve at inlet to any model number starting with JM-3001

NOTE: Above listed options are also available to retrofit existing equipment. Please call for details.

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ANTI-ICING ADDITIVE TEST KIT

BULLETIN 145 (03-20)

MODEL B/2HB™ ANTI-ICING ADDITIVE TEST KIT

This complete kit provides a quick, easy method for determining the volume percent (%v.) of anti-icing additive (FSII) in jet turbine engine fuels.

INEXPENSIVE TO OPERATE

Requires only:

- 200 ml sample of fuel to be tested
- An ounce of potable water
- One man's time for 12 minutes

CONVENIENT - LIGHTWEIGHT

Refractometers that were manufactured before July 2003 have two scales: one was for DiEGME, the other for EGME. The EGME scale has now been eliminated because that additive is no longer used in aviation fuels.

TEST TO ASTM D5006

A small amount of water is used to remove the additive for testing.

NEW DESIGN

We now have a new visual optical refractometer, a high-quality device made by a Japanese optics company at a lower cost than previous direct reading refractometers!

HOW TO ORDER

SC-B/2HB-C-4	Complete visual refractometer kit
SC-B/2HB-C2	Visual refractometer only
SC-B/2-F1	Replacement separator funnel

NOTE: The graduated scale is labeled DiEGME and it reads the true volume percent directly. **No correction or mathematics needed.**

DIGITAL REFRACTOMETER

Using the same extraction apparatus and method. Operator error is minimized and the test is faster. You can buy it separately or in a kit. The test method instructions are included.

Part Number	SC-B/2HB-3D
Complete Kit	SC-B/2HB-C-3D

FAST ▪ SAFE ▪ SURE

IMPORTANT INSTRUCTIONS

This test kit provides the necessary equipment for determining the volume percent (%v.) of anti-icing additive, known as AIA, FSII, PRIST®, or DiEGME in turbine engine fuels.

VISUAL REFRACTOMETER TEST METHOD

Digital refractometer test method instructions differ and are included with the unit.

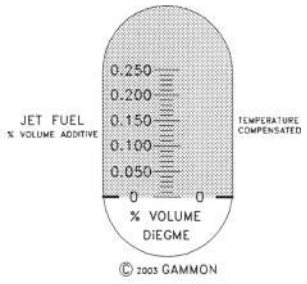

Figure 1

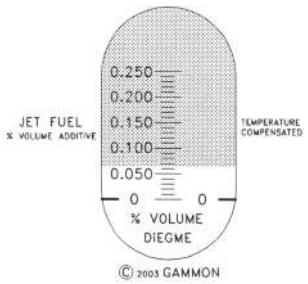

Figure 2

STEP 1 In a clean and dry container, procure a 200 ml sample of the fuel to be tested.

STEP 2 Set up the ring stand. Fill one of the aluminum dishes half full of water (tap water is satisfactory)

STEP 3 For the optical refractometer, open the cover of the refractometer window, make certain it is clean, and apply one or two drops of water to it from the aluminum dish. Close the cover and look through the eyepiece to observe the location of the shadow line on the graduated scale. The eyepiece can be rotated for clarity. Adjust the set screw (in the middle of the nameplate) so that the shadow line intersects the zero line of the scale. See Figure 1 for a typical condition of a correctly zeroed instrument. Clean the cover and window.

CAUTION: Do not turn the adjusting screw until you read and understand the manual for this refractometer. Turning the adjusting screw improperly can damage the instrument and void the warranty.

STEP 4 Using the graduated cylinder, transfer exactly 160 ml of the fuel to the separator funnel that you have placed in the ring stand.

STEP 5 Using one of the piston pipettes, add exactly 2 ml of the same water to the separator funnel from the aluminum dish. Cap the funnel and shake vigorously for five minutes. Then place it in the ring stand to let the water settle to the bottom.

STEP 6 When some water has collected at the bottom, carefully rotate the separator funnel drain cock so that a trickle of settled water can be taken in a clean, dry, aluminum dish.

STEP 7 Using the same technique as in Step 3, transfer one or two drops from the aluminum dish to the refractometer prism; close the cover and observe the position of the shadow line. Figure 2 shows a typical test result for fuel containing 0.065% DiEGME.

STEP 8 Properly dispose of the liquids. Wipe and dry all items. Treat the refractometer as an optical instrument and avoid damage to the lens and prism.

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SEALS AND BALL RACES FOR CHIKSAN®-FMC SWIVELS

BULLETIN 147 (12-03)

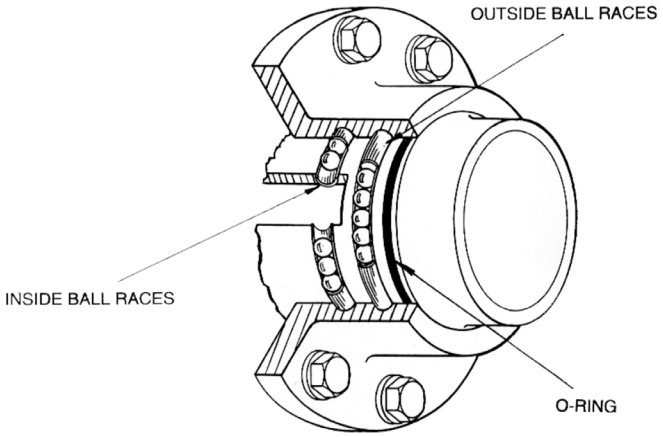
SEALS AND BALL RACES FOR SWIVELS

BALL RACES in Chiksan® aluminum swivels sometimes become pitted and worn. This results in poor operation and leakage, because compression on the seal is lost. Instead of replacing the entire swivel joint, use snap-in stainless steel ball races. Installation is fast. No special tools are required. Developed and fully approved by FMC, these races have decades of success behind them.

Order one of the following kits:

GTP-8832 Race kit, 3”
Consists of one male and one female snap-in race plus 45 stainless steel balls, 5/16” diameter

GTP-8833 Race kit, 4”
Consists of one male and one female snap-in race plus 60 stainless steel balls, 5/16” diameter

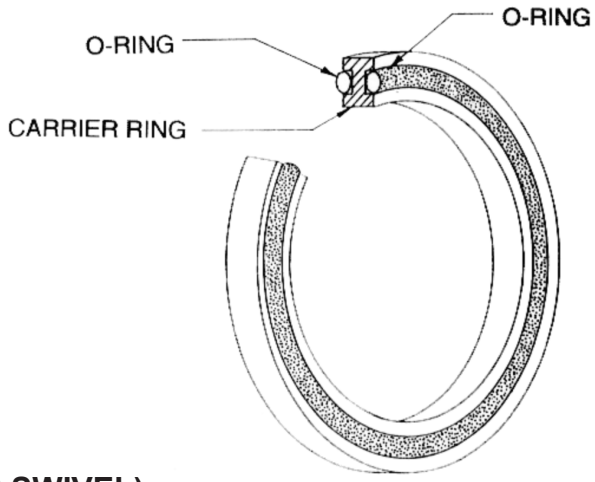


REPLACEMENT SEALS, developed by Gammon specifically for Chiksan® FMC swivels, overcome “weeping” or dripping when the system is not pressurized. Instead of a molded ring, our seal system uses 2 Viton o-rings that seal at both low and high pressures. A perfectly machined o-ring carrier ring is supplied in the kit for initial installation. Thereafter, only the o-rings need to be replaced.

Order one of the following kits:

GTP-3068-4 Seal kit, 3”
Consists of one seal carrier ring and two Viton o-rings
Replaces FMC P/N 3199366

GTP-3068-1 Seal kit, 4”
Consists of one seal carrier ring and two Viton o-rings
Replaces FMC P/N 6100835



REPLACEMENT O-RINGS (TWO ARE REQUIRED PER SWIVEL)

GTP-3068-5 Set of 2 o-rings for 3” swivels

GTP-3068-2 Set of 2 o-rings for 4” swivels

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GAMMON DP-PILOT

BULLETIN 149 (09-20)

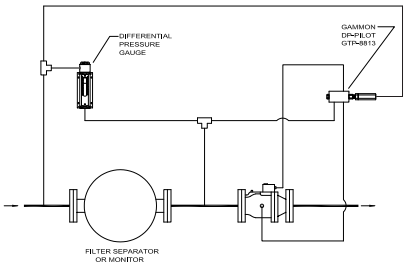
GAMMON DP-PILOT

Forget about element bursting or deck plate damage, even with water-absorbing elements

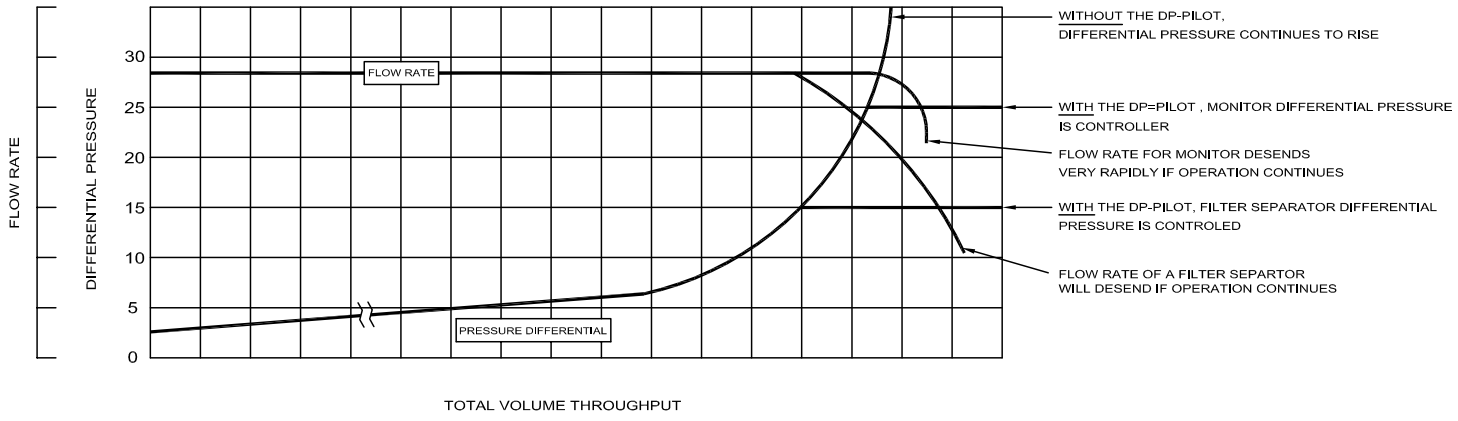
DIFFERENTIAL PRESSURE LIMITING PILOT VALVE: GTP-8813-101

- Protect your filter system from excessive differential pressure
- The DP-Pilot is a simple add-on to an existing in-line control or slug valve
- All stainless steel construction - a USAF specified control
- No electrical or compressed air connections - simple hydraulic pilot
- Protects elements from high pressure drop, even plugged elements
- Works on any type of filter in any system with in-line control valves
- Does not simply shut down flow, it actually controls pressure drop

Many filter systems operate under the threat of a sudden influx of contamination that plugs the filter elements. Recently, water-absorbing elements have added to this concern. If no one is watching the differential pressure gauge at the time, you can burst the elements, with the dirt and debris going downstream and possibly into the aircraft. We designed the Gammon DP-Pilot so you can forget about element bursting or deck plate damage with any type of element, even the water absorbing elements.



TYPICAL CONTROL VALVE



GAMMON DP-PILOT MODEL JM-8813-101

Now a standard US Air Force accessory, added to all R-9 and R-11 vehicles during refurbishment.

In 1995, we wrote GamGram 44 showing that high differential pressure concerns could be erased by a unique mounting of a rate of flow control pilot valve. The solution is simple and elegant. The pilot senses the pressure drop on a vessel and, if that pressure drop exceeds a set limit, the pilot takes over, lowering the flow rate. Because pressure drop decreases as flow rate decreases, the elements can never burst.

We have now designed an all stainless steel pilot specifically for this purpose, and we are proud to offer the Gammon DP-Pilot. The DP-Pilot field test was performed at a US Air Force facility in early 1998. Their primary concern was that water-absorbing elements could rupture or the deck plate in the vessel could deform or tear. As a result of that test, this pilot was designated as required equipment on all US Air Force refueler vehicles.

We ran the test starting at full flow rate. The DP-Pilot had no detrimental effect on the system. We then added water to plug the water-absorbing elements in this truck's filter vessel. As the differential pressure increased, nothing happened until it reached 20 psid (differential), our set point (this is adjustable). At 20 psid, the DP-Pilot took over, slightly lowering the flow rate. This kept the differential pressure from exceeding the set point. As we added more and more water, the pilot dutifully closed the main control valve more and more, lowering the flow rate and maintaining the 20 psid pressure drop. At the end of the test, the meter was barely moving, less than 1 gpm, yet the pressure drop never exceeded 20 psid!

WILL IT WORK WITH PREFILTERS AND FILTER SEPARATORS?

Yes. Any filter vessel in a system that has an in-line control or slug valve if it has a pilot circuit can accept a DP-Pilot. You can even add two DP-Pilots to a slug valve downstream of a prefilter and filter separator combination. One pilot protects the prefilter and the other protects the filter separator.

WHAT PRESSURE DROP RANGES ARE AVAILABLE?

Our standard set point is 20 psid. On the basic model, this is adjustable from 15 to 35 psid. Other springs are available for ranges from 1 to 50 psid.

WHAT IS THE MAXIMUM WORKING PRESSURE?

We recommend the maximum working pressure of this pilot to be 450 psi. There is no minimum pressure, minimum flow rate, or maximum flow rate. The maximum temperature is 250°F.

WHAT BRANDS IS IT COMPATIBLE WITH?

The Gammon DP-Pilot works with Cla-Val, Whittaker, Brooks, Oil Capitol, Smith, Haar, Avery Hardoll, or any other brand of piston or diaphragm in-line control valve if it has a pilot flow circuit.

HOW IS IT INSTALLED?

Call us with your valve make and model number for an installation schematic.

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APPARATUS FOR TEST METHOD D5452

BULLETIN 151 (11-20)

SUPPORT STAND AND APPARATUS FOR ASTM TEST METHOD D5452

Designed for safety from electrostatic hazards during filtration

To collect solid contaminants from a fuel sample for gravimetric determination

Hands-free method for transferring sample to the filter funnel

Support stand in accordance with ASTM Method D5452

Stable support is adjustable, aluminum construction

Accessory items for D5452 procedure are available

This apparatus is well suited to perform three tests:

- Gravimetric determination of particulate content, per D5452
- Membrane color per D5452
- Filter time test per US Air Force Technical Manual T.O. 42B-1-1

As described in ASTM Method D5452, the support stand is designed to hold the container that was used to collect the jet fuel sample in the field. There is no need to transfer the sample from the collection container to another container, thereby eliminating possible contamination from the second container.

Using a flexible dispensing tube assembly that fits the thread of the port in the top of the sample container, the operator closes the tube with the clip to prevent the release of fuel when the container is being turned upside-down to place it on the support stand upper shelf. The tube is then positioned in the filter tunnel before releasing it. This allows fuel to fill the funnel but it will not overflow because air must return to the container through the same tube. The filter funnel remains full in the same way that a bird feeder operates because the lower end of the tube is below the fuel surface in the funnel.

Vacuum in the collection flask draws fuel through the membrane filter desk that is positioned at the base of the filter funnel. Hands-free operation is assured. The operator is no longer required to hold the container as fuel is poured into the filter funnel. The potential for spillage is virtually eliminated.

HOW TO ORDER

COMPLETE APPARATUS

GTP-8368 Complete apparatus assembly, including each of the components listed below

APPARATUS COMPONENTS

GTP-8197 Support test stand
GTP-8199 Flask, 4 liter, graduated (2 of these are included when GTP-8368 is ordered)
GTP-8369 Dispensing plug for 1 gallon sample can
GTP-8372 Flask to flask connect hose
GTP-8373 Vacuum attachment/stopper assembly
GTP-8374 Flask bonding and grounding cable
GTP-8375 Apparatus bonding and grounding cable
GTP-9563 Filter holder/funnel assembly
TL-2935-B1 1-gallon sample container

OPTIONAL ACCESSORIES (to be ordered separately)

GTP-8370 Dispensing cap for 1 gallon sample can - formed from sheet metal, fits oblong cans only
TL-3777-1 47mm, 0.8 micron membranes (package of 100)

TL-9555: DISPENSER FOR FILTERED FLUSHING FLUIDS

This type of 1-liter dispenser is specified in various ASTM test methods such as D-2276 and D-5452 which are used to determine the weight of contaminants that are in fuel samples.

One dispenser is recommended for isopropyl alcohol to flush particles off of laboratory apparatus before it is used to insure that those particles are not included as contamination in the fuel sample.

A second dispenser is used for petroleum spirit (either) to flush residual particles out of the sample container and off of the funnel that was used to deliver the fuel sample from its container onto the filter membrane after the container contents have been passed through it.

Both dispensers are equipped with filter housings to remove particles from the isopropyl alcohol and from the petroleum spirit. A packet containing 10 of 0.4533 membranes (25 mm diameter) are included with each dispenser. Replacement membranes are available in a packet of ten (order GTP-9582).

The squeeze bulb develops pressure in the 1 liter flask, forcing fluid into the tubing and through the filter membrane. Gammon Technical Products manufactures the aluminum filter housing and membrane support using reagent resistant materials.

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WEAR GAUGES

BULLETIN 156 (11-19)

FUELING ADAPTER WEAR GAUGE, GTP-8963

Leakage during refueling is often caused by excessive wear on the underside of the three lugs that are located on the outer edge of the fueling adapter. This wear reduces the sealing force between the nose seal of the refueling nozzle and the sealing face on the adapter.

There are two consequences of excessively worn refueling adapters:

1. Leakage when the nozzle is attached.
2. A major spill if the nozzle is accidentally removed from the adapter while the nozzle valve is still in the open position.

Wear that develops on the underside of the three lugs is the most common problem. It causes leakage because it reduces the force on the seal between the nozzle and adapter. Our GTP-8963 wear gauge quickly determines whether the lugs are excessively worn. Each lug should be checked. If any of the three are overly worn, the adapter must be replaced.

Failure of the interlock system can result in a major fuel spill because the nozzle could be disconnected from the fueling adapter before the nozzle valve has been closed. Excessive wear (0.062 inches) of the alignment slots of the adapter on the counter-clockwise side is the limit.

Lug width is important because excessive wear can result in this type of fuel spill in the same way as described above for slot wear.

The most dangerous adapter condition is wear that can allow the nozzle to be removed before the valve is closed. On “3-pin type” nozzles, this wear occurs in the three slots, about ¼ inch (6.4 mm) wide, which are located between the lugs. When a nozzle is being attached to an adapter, the operator rotates the nozzle clockwise until it stops. This causes the nozzle pins to impact the clockwise side of each slot, causing wear. However, this wear is of no consequence. But when the nozzle is removed, the impact and wear occurs on the counter-clockwise side of the slots. This is the dangerous wear that our gauge measures.

To check for lug wear, set the gauge in the adapter and rotate it so that the gauging pin moves toward the lug. If the pin passes under the lug, there is excessive wear.

To check for slot wear, invert the gauge and set it on the adapter with the tongue in a slot. If the small pin completely enters the slot as shown, there is excessive wear.

To check for lug width wear, use the groove in the end of the gauge. If the lug enters the groove, there is excessive wear.

EI/API 4” ADAPTER WEAR GAUGE, GTP-9410

FOR HYDRANT SYSTEM PIT VALVES & TRUCK LOADING ADAPTERS EI/API 1584 & 1004

The GTP-9410 Wear Gauge is specially designed to detect wear on 4” EI/API adapters. Adapters wear in three areas, the top, the outside diameter and on the clamping surface. This simple instrument adds the wear on these surfaces into one measurement, and provides a simple indication that the adapter needs to be replaced.

This unique patented design makes checking for wear simple; it takes just seconds.

Included is a gauge block, factory calibrated to allow you to calibrate the gauge accurately before each use. Instructions and a Pelican case are included.

NOTE: This wear gauge does not detect damage, only normal operational wear. A complete visual/hand inspection is also needed to ensure that the adapter is truly safe for use.

WEAR GAUGE

GAUGE BLOCK

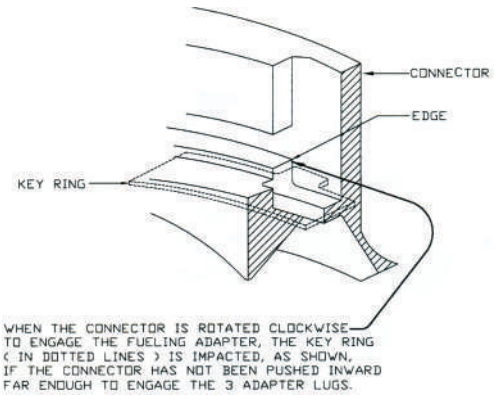
CARRYING CASE

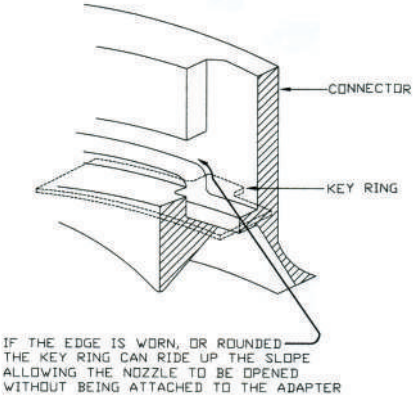
NOZZLE CONNECTOR WEAR GAUGE, GTP-9192

FOR WHITTAKER FUELING NOZZLES

The Gammon GTP-9192 is to be mounted on a firm surface such as a work bench or a wall. The technician then places the nozzle face against the gauge and attempts to rotate the nozzle as if making a connection to a 3-lug fueling adapter. If the nozzle will rotate, the wear is excessive. If the nozzle will not rotate, the wear is within suggested limits.

NOTE: When a connector is found to be worn, order the replacement 2662319. Whittaker also offers connectors that have stainless steel inserts at the 3 critical wear points. Order part number 2682020. In fact, Whittaker nozzles can be ordered with that special connector by specifying option J.





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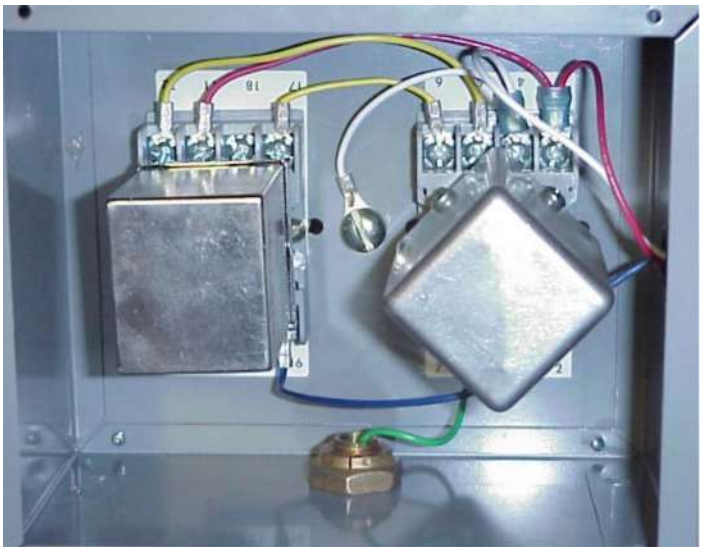
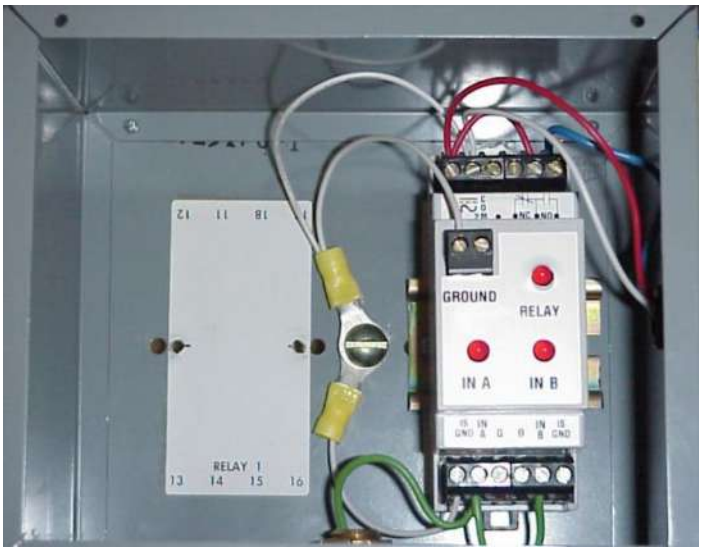
WATER PROBE CONTROLS

BULLETIN 158 (07-16)

REPLACEMENT ELECTRONIC CONTROLS FOR PARKER, MEGGITT (WHITTAKER) WATER DETECTOR SYSTEMS - UL LISTED -



F716 Before



F716 After

In the handling of aviation fuels, water is a constant concern. Many refueler vehicles and fuel farm filter separators are equipped with the Parker Water Detector System. That system was manufactured by Parker, Thiem and Meggitt (Whittaker) Ground Fueling Products.

When Meggitt (Whittaker) decided to no longer manufacture the system, they turned over the support of these older systems to us here at Gammon Technical Products. We have developed much more modern and less expensive controls that can be retrofitted into the existing control boxes, both explosion-proof and weather tite. The same water detector probes are used because they are fully compatible.

These new replacement electronics system include better voltage regulation and are fully UL listed. They are Intrinsically Safe for use in Class 1 Division 1 Group C and D Explosion Proof environments. The old controls did not carry any certifications.

We offer complete kits with mounting hardware and replacement controls for all of the old control systems for 12 and 24 VDC, as well as 120 and 220 VAC, 50/60 Hz power. In addition, we offer combination controls which add deadman controls and are also Intrinsically Safe.

SYSTEM PART NUMBER			COMPLETE KIT	CONTROL UNIT
F718	120 VAC	Single-stage probe	GTP-9318	GTP-9278
F717	120 VAC	2-stage probe	GTP-9317	GTP-9278-3
F716	12 VDC	Single-stage probe	GTP-9310-12	GTP-9278
F716	24 VDC	Single-stage probe	GTP-9310-24	GTP-9278-1

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STATIC BONDING CABLE REEL

BULLETIN 163 (10-19)

NEXT GENERATION STATIC BONDING CABLE REEL 4-WAY MOUNTING BRACKET

SMALL	MANUAL REWIND
DURABLE	ADJUSTABLE TENSION
INEXPENSIVE	LIGHTWEIGHT
HIGH CAPACITY	RUST-FREE BRACKETS

The simplest form of static cable reel is the manual rewind design. This simple reel incorporates all the features you want - and need. Can be mounted on a horizontal or vertical surface.

CONSTRUCTION:

- Static conductive nylon discs
- Aluminum hub with conductive corrosion protection
- Stainless axle, and bracket guide
- 1/8" OD cable - over 200'
- 3/16" OD cable - over 100'
- Height: 9 ⅝"
- Width: 6 ⅜"
- Depth: 9"
- Mounting plate: 7" x 2"
- Weight (without cable): 5 lbs.

HOW TO ORDER

GTP - 9394 - □ - (□ / □ - □ - □) - □ - □

RH Right-hand
LH Left-hand

LENGTH, Not to exceed capacity

LENGTH "Y", Not to exceed capacity

Y CABLE END (see cable end box)

Combined cable length not to exceed drum capacity:

DIAMETER	LENGTH
1/8"	200'
5/32"	150'
3/16"	100'

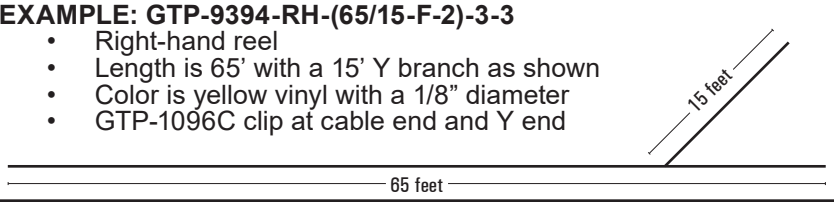
CABLE TYPE/COLOR (SEE BULLETIN 98)
C Clear plastic (diameter 1/8" or 3/16")
E Yellow Hytrel (diameter 5/32")
F Yellow vinyl (diameter 1/8" or 5/32")
H High-visibility orange (1/8" or 3/16")

CABLE DIAMETER
2 1/8"
3 3/16"
4 5/32"

CABLE END
1B GTP-1097B brass grounding plug
1S GTP-1097S-1 s/s grounding plug
2 GTP-1101 super clamp
3 GTP-1096C standard clip
4 Other clip (customer specifies)
5 GTP-9654 Gator clamp

EXAMPLE: GTP-9394-RH-(65/15-F-2)-3-3

- Right-hand reel
- Length is 65' with a 15' Y branch as shown
- Color is yellow vinyl with a 1/8" diameter
- GTP-1096C clip at cable end and Y end



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CLOSED LOOP HYDROKIT TESTER

BULLETIN 168 (09-20)

GAMMON CLOSED LOOP HYDROKIT® TESTER
HYDROKIT® TESTING WITHOUT COLLECTING A SAMPLE

Although a very good and simple water detector, the Velcon HydroKit® has one weakness; the fuel sample must be taken in a jar. This results in a potential mess; the operator must first have a clean, dry container, and then dispose of the excess sample and store the jar in a safe place.

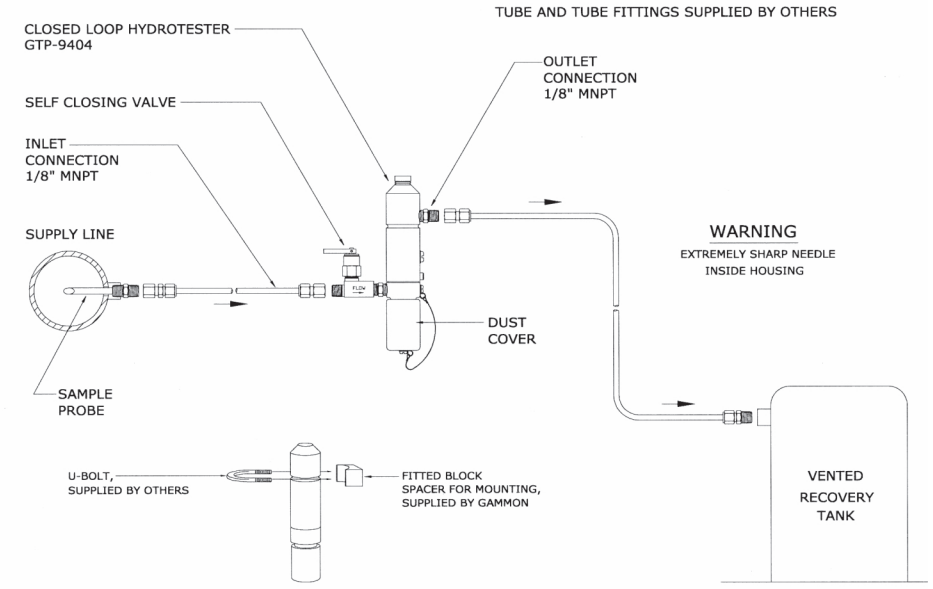
Not any more! The Gammon Closed Loop HydroKit® Tester eliminates sample containers! All you need to handle is the HydroKit® test tube itself and the fuel sample is never exposed, even to the atmosphere. Patent pending.

Saves time, eliminates waste fuel and eliminates the chance for spillage.

GTP-9404

OPERATION

1. During system fuel flow, operate the self-closing valve for a few seconds to flush the inlet line and fill the Tester with a representative sample of fuel from your system. The flush fuel goes automatically to the recovery tank or back to storage.
2. Remove dust cover, place the HydroKit® tube into the bottom of the tester and push up. This automatically opens an internal vent valve and the vacuum in the tube draws in the fuel sample.
3. HydroKit® fills correctly in a couple of seconds. Remove and then replace dust cover.
4. Evaluate color change of powder in the tube.



HOW TO ORDER

GTP-9404	Closed Loop HydroKit
GTP-5535	Repair kit

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CLOSED LOOP MINIMONITOR®

BULLETIN 169 (01-20)

CLOSED LOOP MINIMONITOR®

The problem in running the MiniMonitor® (a.k.a. "Millipore" TM Millipore Corp.) membrane test for particulate/dirt detection in Jet Fuel is the bucket. Many years ago, the ASTM reduced the problem by changing the sample volume from 3 gallons to just 1, but the hassle of having to deal with buckets of fuel remained - UNTIL NOW.

The Closed Loop MiniMonitor® eliminates the bucket. It reduces spills, waste and personnel exposure by keeping the fuel completely inside the fuel system itself. All the test fuel is recoverable. On a hydrant cart, it can be directed to a recovery tank and on a truck or in a fuel tank system, it can be directed back to storage.

Trays and testers sold separately, mount one tray on each truck and at the fuel farm, buy just one (or two if needed) Closed Loop MiniMonitor®.

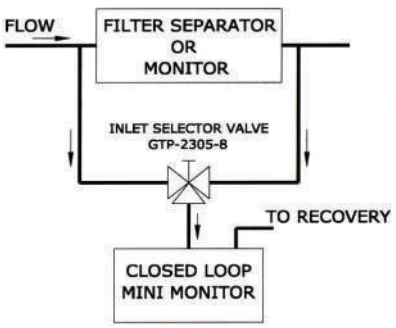
Simply put the Plastic Monitor into the Closed Loop MiniMonitor® and then:

1. Turn the inlet selector valve (optional) to "Filter Inlet" or Filter Outlet"
2. Turn the control valve to "Flush" and watch the CLMM fuel meter to flush the connection.
3. Turn the control valve to "Test" and allow 1 gallon to pass through the Membrane in the Plastic Monitor.
4. Turn the valve to "Off". (**MUST** be in the off position before removing cap).
5. Remove the plastic monitor and evaluate the results.

In addition to the obvious savings over disposing of test fuel and preventing spills, this approach allows you to run tests so quickly and easily that the results have much more meaning that tests run minutes or even hours apart, in which you have to handle buckets of fuel.

QUALITY - Made in America, all 300 series S/S except the meter body (Brass body, Aluminum internal working parts) and monitor holder (Aluminum). The highest quality components available are used.

INSTALLATION DIAGRAM



GTP-9571	Gallons
GTP-9571-LIT	Liters

PRESSURE GAUGE (optional)
GTP-9609 0-100psi

TRAY ASSEMBLY
GTP-9589

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GAMMON DP GUARD

BULLETIN 171 (07-12)

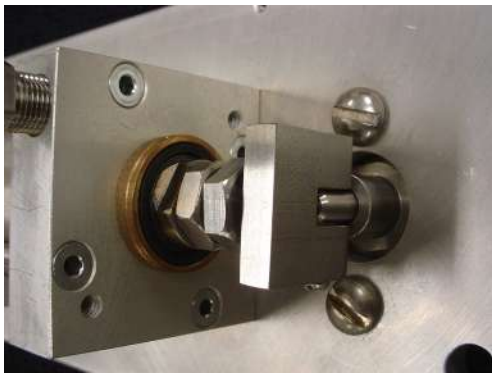
GAMMON DP GUARD

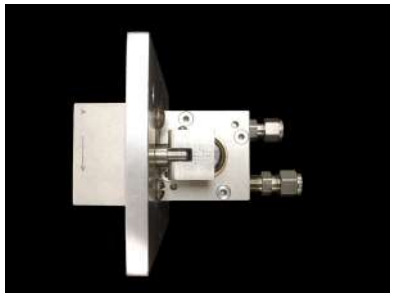
Simple and Inexpensive
Stops Flow if Differential Pressure on a Filter Vessel Exceeds a Safe Level
For both powered and unpowered carts and trucks

Hydraulic GTP-9425-H
Air Operated GTP-9425-A

For information on the push button Gammon Gauge, see Bulletin 25.

TOGGLE VALVE OPERATOR





END VIEW

Connecting to the existing differential pressure gauge lines and existing hydraulic deadman circuit.

No power needed, 2 way hydraulic and 3-way compressed air version available.

Adjustable set point. It can be simply tested using a 3-way valve (GTP-2305V) or better yet, connect directly to Gammon Gauge with a Push Button Tester. (Special lower flange on Gammon Gauge needed).

Lockable cover, simple, heavy duty design.

Aluminum and Stainless Steel construction.

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SKYHAWK OVERWING NOZZLE

BULLETIN 173 (10-19)

THE GAMMON SKYHAWK OVERWING FUELING NOZZLE

Weighs only 5¼ lbs - 100% Made in USA

Maximum Test Pressure 150psi - Maximum Flow Rate 100gpm

5 YEAR LIMITED WARRANTY

- Heavy duty 1 1/2" swivel inlet
- Quick change swiveling spout design - QD type
- Inexpensive to repair - all seals independently replaceable
- Easy operation, fingertip sensitivity, and **adjustable closing speed**
- Swivel interlock compatible design
- Survived 16 months in a continuous duty test at a major international airport
- Rugged polyurethane handle guard with side protection
- Seals well to -50°F and compatible with all aviation fuels, bio diesel, and jet
- Spout dust covers and retainer are polyurethane
- No plastic components (except PTFE poppet bushing), no cast metal parts, 300 series stainless steel shaft and fasteners
- Spout storage holder available (for second spout)
- GTP-9644 check valve available when ordering or as a retrofit.

Spout Storage Holder
GTP-9363-25A

SAFELY RECIRCULATE OVERWING HOSES WITH THE SKYHAWK RECIRCULATION ADAPTER

SkyHawk Recirculation Adapter
JM-9647

In the past, recirculation of your overwing nozzles required climbing on top of the truck. Aside from the potential for the operator falling, you can also damage the nozzle by dropping it, and in addition, splashing fuel into the tank is a static fire hazard.

The SkyHawk Recirculation Adapter (patent pending) solves this problem. Simply disconnect the standard spout and connect the JM-9647 adapter to the SkyHawk nozzle. Then connect it directly to the bottom load adapter on the truck.

Squeeze the trigger and recirculate at up to 100 gpm. *The only downside is that upon disconnection, you need to catch about 3 oz of fuel from the adapter.* Dual interlocks help prevent accidental disconnection.

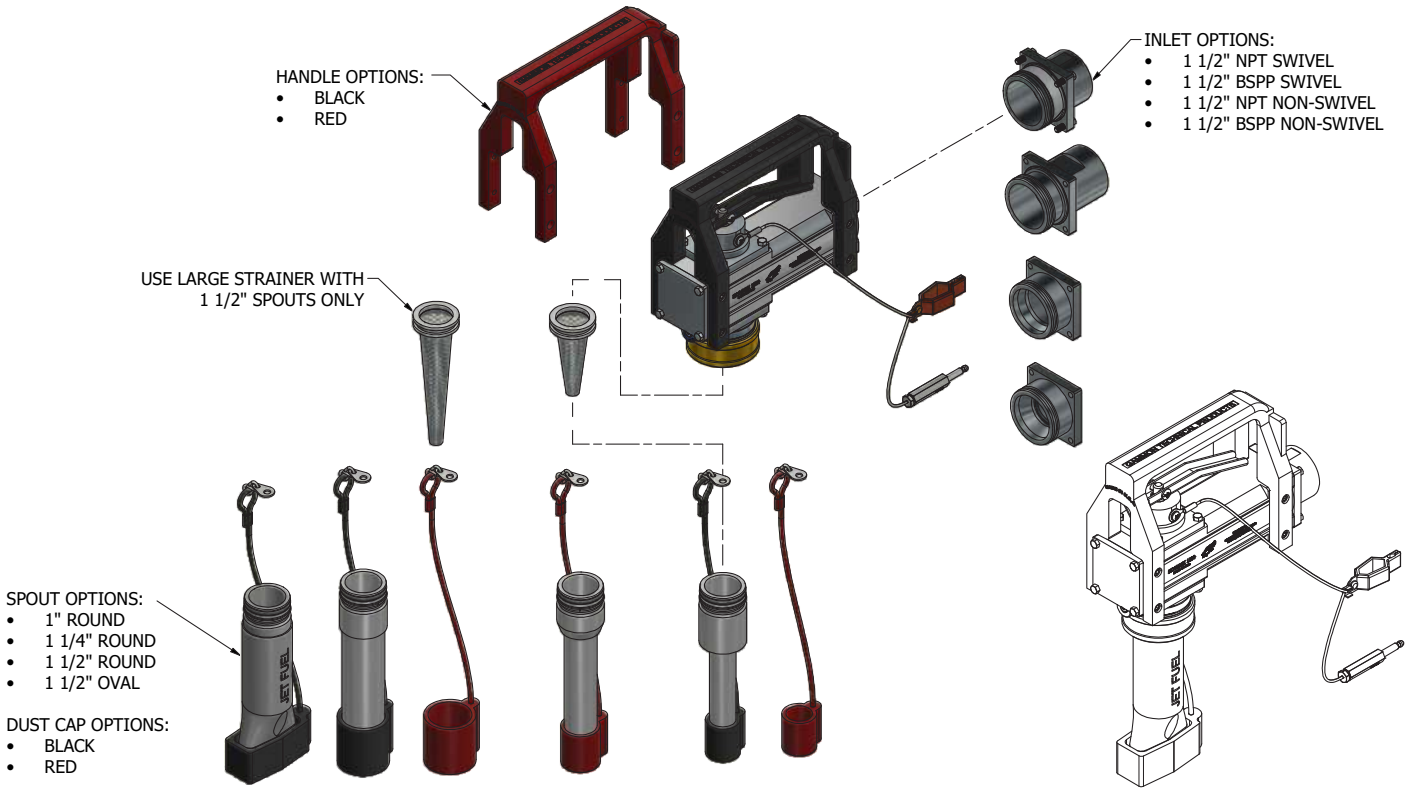
Replacing your bottom load dust cap? We include an inlet dust cap and lanyards so you can replace the existing (or missing) bottom load dust cap with the SkyHawk Recirculation Adapter, making it a high quality solid aluminum dust cap as well as a recirculation adapter!

Uses a genuine Meggitt (Whittaker) F117 nose seal for excellent sealing integrity. (P/N 2713509)

Constructed of 100% aviation grade aluminum with S/S trim and, of course, manufactured by GTP in the USA.

NOTE: This does not make the SkyHawk overwing nozzle into an underwing nozzle, it is meant only for recirculation purposes.

HOW TO ORDER THE SKYHAWK OVERWING NOZZLE



STANDARD GTP-9363 BASE MODEL CONFIGURATION

- Black nozzle guard/handle
- Swivel with 1½ NPTF threads
- Grounding cable assembly
- Strainer assembly
- No spouts or dust caps
- No check valve

CUSTOM ORDER GUIDELINES

- Modifiers apply to the base model configuration.
- Suffix letters must follow order of groups as shown.
- Skip unneeded modifiers, do not write “0” - no placeholders are needed.
- If more than one spout is needed, append letters without adding spaces.
- If needed, additional parts should be ordered as separate line items.

GTP - 9363 - □ - □ - □ - □ - □

GROUP 1 - SPOUTS
A 1 ½” oval with dust cap
B 1 ½” round with dust cap
C 1 ¼” round with dust cap
D 1” round with dust cap

Dust cap(s) to match handle color.

GROUP 2 - CHECK VALVE
V Check valve

Skip if you do not want a check valve.

GROUP 3 - HANDLE
R Red handle

Skip if you want the standard handle

GROUP 4 - INLET THREADS
F 1½ NPT fixed
FP 1½ BSPP fixed
P 1½ BSPP swivel

Skip if you want the standard threads.

GROUP 5 - DUST CAP
N No dust cap

Skip if you want the dust cap.

EXAMPLES

GTP-9363-AB-P: Nozzle with both of the 1½ inch spouts with BSP threads on inlet.

GTP-9363-V-R: Nozzle with no spouts, a check valve, and a red handle.

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AUTO AIR HIGH PERFORMANCE AIR ELIMINATOR

BULLETIN 175
(5-19)

AUTO AIR HIGH PERFORMANCE AIR ELIMINATOR

- 4 Times the flow of comparable air eliminators
- All stainless steel construction
- 100% U.S. Made
- Replaceable soft seat (not metal-on-metal)
- Fully rebuildable
- 150 psi operating pressure - 750 psi proof pressure
- Compound lever-in-lever mechanism

GTP-9636

Releasing air from a filter vessel is critically important both to allow full utilization of the filter element and to reduce the risk of internal static fires. Our new Auto Air releases 4 times the air of similar air eliminators and is fully rebuildable. It also works at up to 150psi. The heart of the design is our new double lever mechanism (patent applied for) that allows the use of a larger orifice.

The standard unit has a ¾" NPT inlet and outlet. If you require BSP, just add that to the part number.

DIMENSIONS: 7in (17.8cm) tall, 6 ½ in (16.6 cm) top flange

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REFUELER VEHICLE FLOW ACCESSORIES

BULLETIN 179 (06-19)

REFUELING VEHICLE FLOW ACCESSORIES

TL-8856 DEFUELING EDUCTOR

When defueling aircraft, the safest method is to use an eductor. This device generates flow and a mild vacuum. This allows the truck to defuel aircraft at a controlled rate and a controlled vacuum, to protect the aircraft. Excess vacuum can cause damage to the aircraft fuel tanks, which are often part of the wing. The primary adjustment is made by controlling the pump speed/flow rate on the refueler.

The TL-8856 eductor is designed to match or exceed the performance of other eductors on the market and do so with one less gasket and a lower price. Our eductor is rated up to 280 gpm. In addition, it is cast of 356-T6 aluminum, 100% made in the USA.

3” x 3” x 2” IPS (Victaulic)

GTP-496-5 RECOVERY TANK EDUCTOR

Recently redesigned for even greater performance, this eductor is designed for recovering clean fuel from an expansion/recovery tank on a refueling vehicle. For optimal performance, the suction line should be 1/2” pipe or tubing at a minimum and the suction line ball valve should be 3/8” full port or 1/2” standard port. 100% made in the USA, aircraft grade aluminum.

3/4 NPT x 1 NPT x 3/8 NPT

GTP-9365 VACUUM BREAKER

To protect the aircraft from excess vacuum, a vacuum breaker is added to the nozzle. Acting like a reverse of a pressure relief valve, this small device helps to avoid excessive vacuum on the aircraft during defueling.

The GTP-9365 vacuum breaker is made with a 3/8” NPT male thread to fit almost any underwing nozzle but can also be added to the piping. 100% made in the USA, stainless steel with Viton seal.

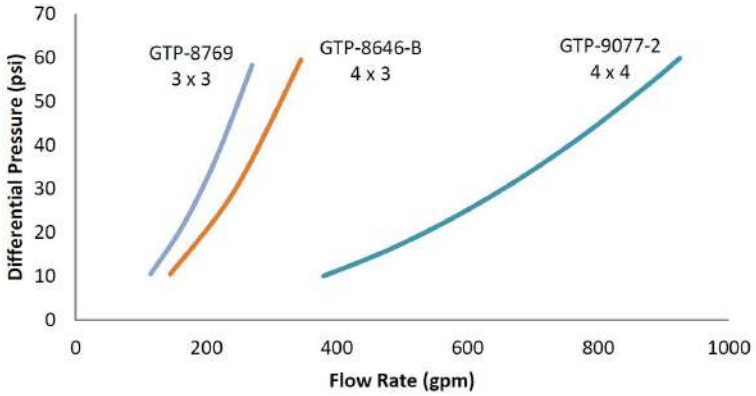
VENTURIS

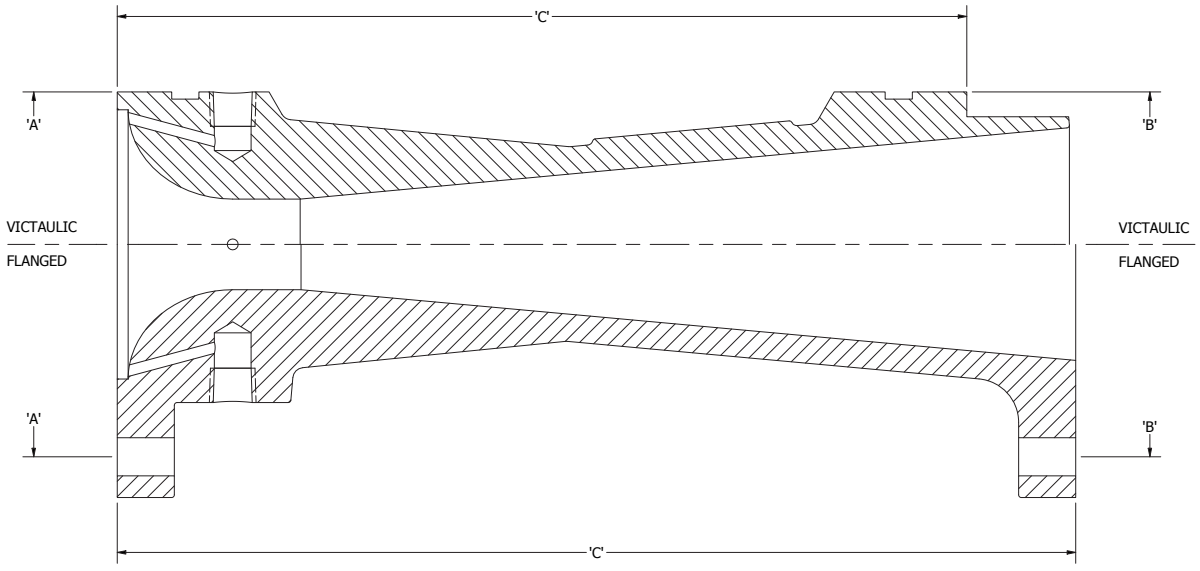
To refuel aircraft at the highest possible flow rate, a refueling vehicle must control the pressure accurately at the nozzle to approximately 45 psi. Because of pressure drop in the hose reel and hose, a system flowing at 300 gpm with 45 psi at the nozzle has to have a much higher pressure at the host reel inlet. But pressure drop changes with flow rate. For this reason, Venturis are used to automatically “compensate” for this pressure drop.

As velocity increases, the small opening at the center of the venturi has higher and higher velocity. As the inventor, Giovanni Venturi, discovered over 200 years ago, the pressure decreases as velocity increases. Using careful mathematics, a Venturi can create a “false signal” that can be tuned to match the actual nozzle pressure (or it may be higher in some cases, on the “safe side” with actual nozzle pressure lower). See our GamGram #32.

The primary venturi we sell is the 3” x 3” GTP-8769 venturi, made with either flanged (TTMA) or Victaulic connections. It is the highest performance 3” venturi we know of, specifically tuned for 300 gpm. We also make the GTP-8646-B 4” x 3” Venturi with Victaulic connections only.

All Gammon Technical Products venturis are cast and machined in the USA and are 356 T6 aluminum, impregnated against leakage. Rated for up to 150 psi system pressure. Needle valve not included.





PART NO.	END STYLE	INLET ‘A’	OUTLET ‘B’	LENGTH ‘C’
GTP-8769	Victaulic	3”	3”	9.75”
GTP-8769-3	TTMA Flanged	3”	3”	11”
GTP-8646-B	Victaulic	4”	3”	14.1”
GTP-9077-2	Victaulic	4”	4”	14.1”

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MINI GAMMON GAUGE

BULLETIN 180 (02-19)

MINI GAMMON GAUGE DIFFERENTIAL PRESSURE INDICATOR

The First High-Quality, Inexpensive Direct Reading Differential Pressure Indicator

In 1966, Gammon Technical Products introduced the Gammon Gauge, which quickly became the world's #1 aviation fuel filter differential pressure gauge. In 2017, we are pleased to introduce the new, patented, smaller gauge, made to the same unparalleled quality standards.

Calibration is simple and does not require a gauge laboratory. Use GTP-2305 or any three-way valve. Our test procedure is accepted by the USAF, Army, Navy, and all major oil companies and airlines in the world as all you need to do to check the accuracy of the Gammon type DP indicator.

- 100% made in the USA
- Aluminum and stainless steel construction
- 0-30 psi design range
- 150 psi operating pressure
- Built-in, cleanable filter
- Ultraviolet protected
- Viton GLT seals good -40° to +130°F
- Available in psi, bar, kPa, and kg/cm² scales
- Accurate ±0.75 psi at any pressure
- Versions available that meet EI-1587 and industrial specifications

HOW TO ORDER

GTP-9700- □ - □ - □

FILTER CHANGE DECAL	SCALE UNITS	THREAD TYPE
A With decal	1 psi	1 ¼ NPT
B No decal	2 bar	2 ¼ BSP
	3 kPa	
	4 kg/cm²	

GTP-9700-A-1-1

GTP-9700-B-2-2

GTP-9739 MINI GAMMON GAUGE MOUNTING KIT

This mounting kit allows the Mini Gammon Gauge to be installed on either Velcon VF-61 or Facet VF-22, if predrilled and tapped.

U.S. PATENT #9,057,654

MINI GAMMON GAUGE CONTROL SYSTEMS

Protect Against Filter Element Bursting
Add a Differential Pressure Switch to the Gammon Gauge

Sound Alarm - Stop Flow - Turn on Second Filter
Normally Open or Normally Closed, Fail Safe

If differential pressure suddenly increases or a facility is operated without personnel monitoring the differential pressure, filter element failure can occur. This new switch is unique. It adds differential pressure control at a low cost using a non-powered proximity switch. This simple double-sealed switch is ideal for use in PLC (miniature computer) and relay controlled systems. The connection box is rated NEMA4X.

Control operations are also available if you don't plan to use an external control. We have weather-tight and explosion-proof versions.

We strongly recommend a three-way test valve for properly testing the Mini Gammon Gauge and Proximity Switch and/or system.

Any Mini Gammon Gauge can be converted to include the new proximity switch.

Note: To meet IATA JIG Bulletin 58, order the "BKS" option for key switch reset and test functions. The ATA-103 does not require this. For vehicle mounting, we recommend the weather-tight housing.

HOW TO ORDER

GTP-9980 - □ - □ - □ - □ - □
GTP-9980B - □ - □ - □ - □ - □

GAUGE TYPE (0-30 PSID ONLY)

P	Mini gauge with test valve - psi
Q	Mini gauge with test valve - kPa
R	Mini gauge with test valve - bar
T	Mini gauge with test valve - kg/cm²
U	Converts any existing mini gauge

PROXIMITY SWITCH ORIENTATION

RH	Switch on right side
LH	Switch on left side

NOTE

Viton GLT o-rings are standard and rated for low temperatures.

VOLTAGE

12	VDC
24	VDC
120	VAC
220	VAC
0	None specified

ENCLOSURE

0	No enclosure, no light, no relay
B	Weather tight
X	Explosion proof
BKS	Weather tight with key lock switches

VALVE

S	Solenoid valve (three-way n/o)
0	No valve

EXAMPLE:

GTP-9980B-P-RH-12-B-0 is a differential pressure gauge with a normally closed switch as follows: mini gauge with test valve, 30psi scale, switch on right side, 12 VDC, enclosure is weather tight which includes light and push to test feature, no solenoid valve, and low temperature o-rings.

GTP-9980B-P-RH-12-BKS-0 is the same as above except the enclosure has two key lock switches for test and reset as per IATA JIG Bulletin 58.

NOTE:

1. GTP-9980 has a normally open switch. The switch closes upon high differential pressure. If the cable to the controller is cut, high differential would never be detected.

2. GTP-9980B has a normally closed switch. The stwich opens upon high differential pressure. If the cable to the controller is cut, the system would go into alarm notifying the operator that something is wrong with the system.

3. If a sytem is purchased without the controller (no enclosure), both types of switches are still available. When a complete system is ordered with an enclosure, it is our policy to provide a GTP-9980B fail safe system unless otherwise requested. The difference is in the internal wiring and components in the controller.

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DEFKIT®

BULLETIN 181
(08-20)

DEFKit® - DEF in FSII Test Kit

Simple Field Test to check for Diesel Exhaust Fluid (DEF) in the refueler Anti-Icing Additive reservoir! (Fuel System Icing Inhibitor/Prist®/DiEGME)

No training, no instrument needed!

Protect aircraft from DEF contamination when refueling with additive injection. Avoid the potentially catastrophic effect of FSII cross contamination with DEF.

For use by mechanics and pilots. Recommended for use after every filling of the additive reservoir. Comes in a pack of 10.

Developed by Emcee Electronics and marketed by Gammon Technical Products, this kit can detect DEF in anti-icing additive down to as low as 2%.

Simply follow these instructions. (The operator must not be blue/green color blind!)

Procedure, wearing protective rubber or plastic gloves. Eye protection is recommended:

1. Using the supplied pipette, collect and dispense 2 mL of FSII from the reservoir into the supplied clear vial. (As close as possible to 2 mL using the pipette)
2. Open and empty the contents of the powder packet into the vial, replace the stopper.
3. Shake the vial vigorously for at least 30 seconds.
4. Compare the vial to the color chart included. If blue in color, this is a serious failure, 10% or more of DEF. If you do not see blue, THE TEST IS NOT OVER, proceed to step 5.
5. Place the vial on a level surface and wait 5 minutes. If the sample remains cloudy white, top and bottom, it is a pass, if the powder settles to the bottom or turns blue, there is 2-10% DEF and this is a fail. (Note, there is no way to detect DEF in jet fuel, only in the additive itself)

IMPORTANT WARNING! If the test is a failure, the reservoir, the entire additive injection system and refueling equipment downstream of the injection point must be considered contaminated. Aircraft fueled with additive, at least since the reservoir was last filled, should be considered not flight worthy, notified and grounded until it can be determined that they are safe to fly. If already in flight, the pilot should be notified and told to land safely as soon as possible. Aircraft previously fueled must also be considered to be at risk until such time that you are SURE AS TO WHEN the DEF got into the reservoir.

The aircraft manufacturer must be consulted on making the aircraft flight worthy. DEF is not easily flushed from fuel systems and no complete and proper method is known at this time for its removal, although hot water has been used to clean up spills. Unsafe levels of residue may still remain.

ORDER PART NUMBER 840-99-2020

Made in USA by Emcee Electronics, Venice, Florida www.emcee-electronics.com
Shelf life: 18 months from date of manufacture