

# Diversco



Leak Detection Systems




## Pressure Test vs Leak Test vs Leak Check What's the Difference

## Pressure Test - Mandatory

- As part of the initial gas line installation or addition to any piping or tubing system, service professionals are required to perform an INITIAL pressure test to verify the integrity of the piping system.
- The requirement states that the piping or tubing system be isolated during this procedure and that any additional components need not be connected during the duration of the test. This includes anything not rated for the test pressure.
  - Regulators
  - Appliances
  - Gas meters
- The test shall be performed with using either air, inert gas (nitrogen) or carbon dioxide.
- The pressure test shall be monitored by a pressure gauge or equivalent device (Digital Manometer).
- If a gauge is used, the minimum diameter shall be 3" and the gauge shall exceed the test pressure by at least 15% not more than 300%. The gauge shall read in increments of not more than 2PSI or 2% of the maximum dial reading.

## Pressure Test

**Table 6.3**  
**Pressure test requirements**  
(See [Clauses 6.22.1](#) and [6.22.2](#).)



Working pressure, psig (kPa)	Diameter of pipe or tubing	Length of pipe or tubing, ft (m)	Test pressure, psig (kPa)	Test duration, min
Up to and including 2 (14)	All sizes	200 (60) or less	15 (100)	15
Up to and including 2 (14)	All sizes	More than 200 (60)	15 (100)	60
Over 2 (14) but not more than 33 (230)	All sizes	200 (60) or less	50 (340)	60
Over 2 (14) but not more than 33 (230)	All sizes	More than 200 (60)	50 (340)	180
Over 33 (230)*	All sizes	All lengths	1.5 times the maximum operating pressure	180
All welded pipe	All sizes	All lengths	The greater of 50 psig (340 kPa) or 1.5 times the maximum operating pressure	180

\*Propane maximum operating pressure is defined as

- (a) 250 psi (1725 kPa) for piping and tubing operating at container pressure;
- (b) 350 psi (2400 kPa) when connected to the outlet of a pump or compressor; or
- (c) 375 psi (2570 kPa) minimum or the setting of the hydrostatic relief valve in piping that can contain liquid propane, that can be isolated by valves, and that requires hydrostatic relief valves as specified in [Clause 5.4.1](#) of this Code or [Clause 5.6.1](#) of CSA B149.2.

**Notes:**

- (1) These test pressures and test durations are minimum requirements. Circumstances can require test pressures and test durations in excess of those shown in the Table.
- (2) All wrapped and/or factory-coated piping and tubing systems (except for CSST and copper) of all sizes and lengths shall be tested at a minimum pressure of 100 psig (700 kPa) in accordance with the time duration in the Table.

For most “Tank-to-Wall” installations, a pressure test of 15 PSI for 15 minutes is the most common. (15 for 15)

## Low Pressure Leak Test - Mandatory

- After the initial pressure test is complete (15 for 15) and all other components and appliances are connected to the system, a leak test or low pressure test must be performed prior to starting an appliance.
- This test can be performed using propane
- Accepted means of monitoring media are
  - Gas Meter (watch dial)
  - Manometer
  - Pressure gauges which meet the same criteria for dial increments as used in the initial pressure test. For systems operating at 0.5 PSI or less (13.8" w.c.), the gauge shall read in increments not greater than 1" w.c.
  - Digital Manometer (must read up to 2 decimal points for manifold pressure, inches water column)
- This test is monitored for a duration of 10 minutes.
- Each appliance connection, valve and system component needs to be tested while under normal operating pressure with either a leak solution or a leak detection device.

# Leak Check – Risk Reduction (Troubleshooting)

- In the USA, per NFPA 58, if there is an interruption of service (out of gas call) the retailer is required to perform a leak check of the system prior to putting it back in to service.
- This “Quick Check” can be performed at the containers service valve without the driver or technician ever having to leave the point of transfer.
- In Canada, surprisingly there is no requirement to perform a leak check due to an interruption in service, however many retailers have included this test in to there SOP as a means to reduce risk in the event of an outage.
- As part of the 10 year inspection (Ontario/ Other?), the retailer is required to perform a leak check on the system every 10 years



# Diversco

## Presto-Tap Leak Detection System (LDS)



Simplifying the Leak Detection Process





# INTRODUCTION

Launched in 1998, Presto Tap is a patented leak detection system sold exclusively by RegO Master Distributors.

Their mission is to promote increased safety and simplify the leak detection process for the propane industry.

This is the preferred method of leak detection in the United States and has been recognized as the approved test method for leak detection by NFPA.

Due to the success of the system, O.E.M's have switched to RegO "Ready-To-Go" container valves with Presto-Tap fittings pre-installed.



Presto Tap RVL2000 Test Port  
Pre-Installed on Rego  
"Ready-To-Go" Service Valve on New  
Trinity ASME Tank





# PURPOSE

- To simplify the leak detection process as part of initial leak test as per B149.1
- Reduce time onsite performing annual leak tests as part of regulations set out by the AHJ.
- To easily measure line loss and check lockup on 1<sup>st</sup>, 2<sup>nd</sup> and twin stage regulators. Also allows easy set-up of proper manifold pressures.
- Make trouble shooting of piping, tubing and regulator systems easier/quicker.
- Ideal for locations that have had an interruption of service and out-of-gas customers prior to re filling the container.
- Allow for delivery drivers to easily perform a leak check and verify presence of liquid in the tanks with little training and little risk.



Presto Tap in use on downstream side of 1<sup>st</sup> Stage Regulator

On average, a service professional will spend 15-20 minutes on average connecting existing methods for system leak tests when arriving on site. With Presto-Tap fittings installed on a piping system, the LDS can be hooked up in under 30 seconds at each stage of the system

# ADVANTAGES

- Presto-Tap is the first complete system designed to quickly and efficiently perform leak checks and tests on new and existing piping systems without having to “break” into the system. .
- Presto-Tap Leak Detection System (LDS) can be attached to piping system in a quarter of the time as traditional methods without ever having to open the system.
- Presto-Tap system can be used as part of initial pressure tests limiting the amount of extra equipment required by a service professional.
- Presto-Tap leak detection gauges can be adopted to be used with traditional analog gauges and digital test equipment.
- Allows for easy set-up and troubleshooting of regulators in a piping system



Presto Tap in use on downstream side of 2<sup>nd</sup> stage regulator testing manifold pressure

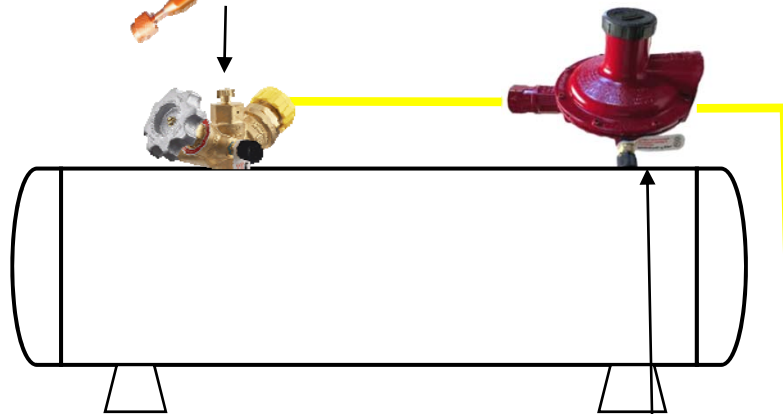
## Presto-Tap Leak Detection System

**P/N PT6800CAKG**

**\*\* Gauge and adapter Only**



Presto-Tap 0-300 PSI gauge  
w/ ambient temperature  
reading related to tank  
pressure for testing between  
tank and first stage.



Presto-Tap 0-30 PSI shown  
with Universal Flex Hose for  
testing on down stream side  
of 1<sup>st</sup> stage regulator



**P/N PT6830CAKG**

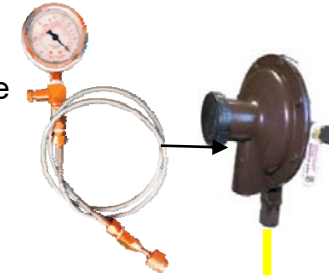
**\*\* Gauge and adapter only**

**NEVER OPEN A SYSTEM AGAIN**  
Leak Detection, Leak Check and  
Regulator Set Up  
One System, All Stages

**P/N PT8620KG**

**\*\* Gauge and adapter only**

Presto-Tap 0-30" w.c gauge  
shown with Universal Flex  
Hose for testing on down  
stream side of 2nd stage  
regulator



For existing installations that do not have a  
Presto-Tap fitting installed at the service valve.  
A tank pressure fitting (Tee) is available to be  
installed prior to the 1<sup>st</sup> stage regulator as well  
as Pigtails in various lengths with the Presto  
Tap test port pre-installed



**P/N PTPPF**



**Presto Tap PT912PS20 shown**  
Other lengths available

## Presto-Tap Leak Detection System

### Presto-Tap LDS2000 Fitting

The patented Presto-Tap LDS2000 pressure tap fitting is designed to easily obtain pressure readings and perform leak testing without ever having to break into the system.

- Fully compatible with all Presto-Tap gauge products
- UL Listed
- Allows quick and easy hook up to piping system without ever having to break into the system.
- 1/8" NPT enables fitting to be easily and permanently installed at different points
  - 1st Stage Regulator Side Port (High Pressure)
  - 2nd Stage Regulator Side Port (Low Pressure)
  - Pressure tap on appliance gas valve
  - Container service valve
- Reduces on site set up and diagnostic



PATENTED DESIGN FEATURES



# PRESTO TAP IS ALREADY INSTALLED IN YOUR NETWORK

## Presto-Tap Valves

### ASME Multivalves® for Vapor Withdrawal Valves with Presto-Tap PG8475

These Multivalves® are designed for use in single opening ASME containers equipped with a 2½" M. NPT riser. A separate opening is required for liquid withdrawal. The MultiBonnet® is standard on this valve.

### Service Valves for ASME and DOT Containers or Fuel Line Applications PT9102 Series

Designed for vapor withdrawal service on ASME and DOT containers. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity.

### DOT and ASME Multivalves® for Vapor Withdrawal 6532, 6533, 6542, 6543 Series and PT6542, PT6543 Series with Presto-Tap®

These Multivalves® permit vapor withdrawal from ASME containers DOT containers up to 420 lbs. propane capacity. They allow on-site cylinder filling without interrupting gas service.

### ASME Multivalves® for Vapor Withdrawal PT7556R

These compact Multivalves® are especially suited for vapor withdrawal of ASME containers where compact groupings of components are necessary. Separate filler valves and pressure relief valves are required.



PG8575RL



PT9102



PT6543R



PT7556R



# TRINITY CONTAINERS

Containing Our World's Energy™

## NO PRESTO? NO PROBLEM!



**RegO, Silver soldered Pigtail assembly with Presto-Tap Option.**

**Available in  
1/4 x POL & POL x POL (20" and 48")**

Presto-Tap can easily be added to ANY in field installation in under 2 minutes

## NO PRESTO? NO PROBLEM!



**Presto-Tap easily installs into side port of RegO regulators to eliminate breaking into piping system for leak checks or system trouble shooting.**

Presto-Tap can easily be added to ANY in field installation in under 2 minutes

**REGO.**

**Diversco**

*Solutions That Work, Products You Trust*



NO PRESTO? NO PROBLEM!



**Jomar 1/2, 3/4 and 1" Ball Valves c/w 1/8" SideTap**

Presto-Tap can easily be added to ANY in field installation in under 2 minutes



## Presto-Tap Leak Detection System

### Presto-Tap Patented 6800 Series, 300# Temperature and Pressure Gauges

Ideal for performing pressure and leak checks as well as verifying the presence of liquid in the tank based on tank pressure related to ambient temperature

- The outer **black** graduations and numbers indicate approximate tank pressure.
- The inner **red** graduations and numbers indicate approximate ambient temperature relevant to tank pressure.
  - If ambient temperature on the gauge, indicated by the pressure reading is close to outside ambient temperature, there is liquid in the tank.
  - If the gauge reading is materially lower, there is vapor in the tank and an interruption of service likely has occurred.
  - If gauge pressure reading is lower it could also mean the tanks are undersized for the application.



2.5 " dial shown, 3.5" dial available also

## Presto-Tap Leak Detection System

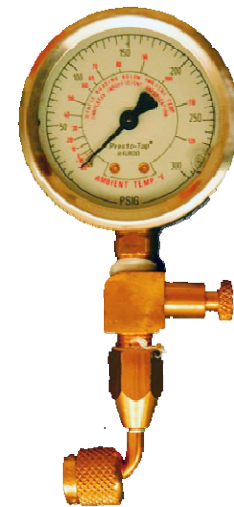
### GAUGE OPTIONS – 300#



**P/N PT6800CAKG**  
0-300# 3.5" Dial, temp and pressure,  
Includes straight adapter and back  
mounted magnet  
(Requires use of Universal Flex Hose)



**P/N PT6800DS**  
0-300# 2.5" Dial, Temp and Pressure,  
Includes straight adapter and back  
mounted magnet  
(Requires the use of Universal Flex  
Hose)



**P/N PT6800DB90**  
0-300# 2.5" Dial Temp and  
Pressure, Includes 90 deg adapter  
and bleeder.  
(Does not require use of Universal  
Flex Hose)

## Presto-Tap Leak Detection System

### GAUGE OPTIONS – 30#



**P/N PT6830CAKG**  
0-30# 3.5" Dial, Includes straight adapter  
and back mounted magnet  
(Requires use of Universal Flex Hose)



**P/N PT6830DS**  
0-30# 2.5" Dial, Includes straight adapter  
and back mounted magnet  
(Requires the use of Universal Flex Hose)



**P/N PT6830LP**  
0-30# 2.5" Includes 90 deg  
adapter and bleeder.  
(Does not require use of  
Universal Flex Hose)

## Presto-Tap Leak Detection System

### GAUGE OPTIONS – 5# and W.C (2PSI systems and Manifold Pressure)



**P/N PT6820S**  
0-30" W.C 2.5" Dial, Includes straight  
adapter and back mounted magnet  
(Requires use of Universal Flex Hose)



**P/N PT6820DB90**  
0-30" W.C 2.5" Includes 90 deg  
adapter and bleeder.  
(Does not require use of  
Universal Flex Hose)



**P/N PT6805DS**  
0-5# 2.5" Dial, Includes straight adapter  
and back mounted magnet  
(Requires the use of Universal Flex Hose)

# Presto-Tap Leak Detection System

## Adapters and Accessories



**P/N PTUFH**

Universal Flex Hose to allow for easy attachment to PT valve assemblies and gauges. C/W Bleeder valve assembly to drop line pressure prior to leak test. Included as standard in Presto Tap Master Kit's.



**P/N PTGBV**

Bleeder Valve Assembly for use with Straight or 90 Deg swivel adapter to use with existing gauges. Bleeder valve assembly aids in dropping system pressure prior to leak test.  
 $\frac{1}{4}$ " FNPT x  $\frac{1}{4}$ " M.NPT



**P/N PTRVQAS**

Straight swivel adapter. Used to adapt existing gauge assemblies to Presto Tap System  
 $\frac{1}{4}$ " F.NPT x  $\frac{1}{8}$ "



**P/N PTRVQS90**

90 Deg swivel adapter. Used to adapt existing gauge assemblies to Presto Tap System  
 $\frac{1}{4}$ " F.NPT x  $\frac{1}{8}$ "



**P/N PTMHA**

Manometer Adapter c/w Bleeder Valve. Used to adapt U-Tube or Digital manometers to Presto-Tap System

## Presto-Tap Leak Detection System

Getting Started, Made Easy



Ready to Go Starter Kits



## Presto-Tap Leak Detection System

Ready to Go Kits for the Service Professional

### Presto Tap Starter Pack

#### Includes

- 1 x 0-300# temp and pressure gauge 3.5" Dial c/w with straight adapter, rubber boot and back mount magnet
- 1 x 0-30# pressure gauge 3.5" dial c/w straight adapter, rubber boot and back mount magnet
- 1 x 5# gauge 2.5" dial c/w straight adapter, rubber boot and back mount magnet
- 1 x w.c gauge 2.5 dial c/w straight adapter, rubber boot and back mount magnet
- 1 x universal flex hose c/w bleeder valve assembly
- 1 x allen wrench for removing hex plugs from regulators
- 1 x combo ratchet wrench for installation of Presto-Tap LDS fittings
- 1 x Manometer adapter
- 10 x Presto-Tap RVL2000 Fittings
- 1 x carry bag



## Presto-Tap Leak Detection System

### Ready to Go Kits for the Service Professional

#### Presto Tap Deluxe Starter Pack

##### Includes

- 1 x 0-300# temp and pressure gauge 3.5" dial c/w with straight adapter, rubber boot and back mount magnet
- 1 x 0-30# pressure gauge 3.5" dial c/w straight adapter, rubber boot and back mount magnet
- 1 x 5# gauge 2.5" dial c/w straight adapter, rubber boot and back mount magnet
- 1 x w.c. gauge 2.5 dial c/w straight adapter, rubber boot and back mount magnet
- 1 x universal flex hose c/w bleeder valve assembly
- 1 x allen wrench for removing hex plugs from regulators
- 1 x combo ratchet wrench for installation of Presto-Tap LDS fittings
- 1 x Manometer adapter
- 10 x Presto-Tap RVL2000 Fittings
- 1 x carry bag



+



P/N TPI645NPT

## Presto-Tap Leak Detection System

### Ready to Go Kits for the Service Professional

#### TPI 645NPT

##### Features

- Differential input with + 29 PSI range.
- Dual 1/4" NPT Fittings
- 7 units of measure (mbar, kPa, PSI, mmHg, inHg, mH2O, inH2O).
- Display - 4 digit dual line with backlight
- Data Hold - Freezes reading on display.
- Min / Max - Records Min/Max readings
- Auto Off - Conserve battery power.

##### Specifications

- Measurement Range: + 29 psi
- Input Type: Dual Differential (1/4" NPT) Resolution (max): 0.01 psi
- Accuracy: +/- (0.2% Full scale + 3 digits)
- Functions: One Touch Zero, Data Hold, Backlight, Unit Selection, Smoothing, Auto Power Off, Min / Max Record, Resolution Selection
- Battery Type: 9V alkaline
- Battery Life: 80hours (Typical)



Ideal digital solution for most tank to wall systems with pressure range capabilities from 11" w.c up to 29psig

## Presto-Tap Leak Detection System

Ready to Go Kits for the Service Professional

### Presto Tap Premium Starter Pack

#### Includes

- 1 x 0-300# Temp and Pressure Gauge 3.5" Dial c/w with straight adapter, rubber boot and back mount magnet
- 1 x 0-30# Pressure Gauge 3.5" Dial c/w straight adapter, rubber boot and back mount magnet
- 1 x 5# Gauge 2.5" Dial c/w Straight adapter, rubber boot and back mount magnet
- 1 x w.c Gauge 2.5 Dial c/w Straight adapter, rubber boot and back mount magnet
- 1 x Universal Flex Hose c/w Bleeder valve assembly
- 1 x Allen wrench for removing hex plugs from regulators
- 1 x Combo Ratchet wrench for installation of Presto-Tap LDS fittings
- 1 x Manometer adapter
- 10 x Presto-Tap RVL2000 Fittings
- 1 x Carry bag



P/N TPI645NPT



P/N TPI665NPT

## Presto-Tap Leak Detection System

### Ready to Go Kits for the Service Professional

#### TPI 665NPT

##### Features

- Differential input with +/-100psi range.
- 7 units of measure (bar, kPa, PSI, mmHg, inHg, mH2O, inH2O).
- Data Logging - Record test data with time stamp and display with optional software. PC
- Communication: IR to USB Interface and PC Application software (optional p/n A665)
- Printing - Print test results directly to the optional A740 IR printer
- Display - 5 digit dual line with backlight Data Storage - Save up to 16 readings.

##### Specifications

- Measurement Range:  $\pm 101.5$  psi ( $\pm 7$  bar)
- Display: 5 Digit Dual line LCD with backlight
- Input Type: Differential (1/4" NPT)
- Resolution (max): 0.01 psi (0.001 bar) (0.1 inH2O)
- Accuracy: 0.2% Full scale
- Repeatability: 0.1% Full scale
- Mean Temperature Coefficient: 0.1% of reading per °C
- Functions: One Touch Zero, Data Hold, Back-light, Unit Selection,
- Data Logging 5000 Data, 1sec ~ 24 hour. Data Storage: 16 data points



Ideal digital purpose for initial pressure tests and system diagnostics

## Presto-Tap Leak Detection System

### Adapt any Gauge or Digital Equipment to the Presto Tap System

Presto- Tap gives you the flexibility to use their patented fittings and adapters to utilize existing test equipment to the system.



0-60# 3.5" dial adapted to  
Presto Tap system for initial  
pressure testing of 33lbs<  
systems



## Presto-Tap Leak Detection System

### HOW TO PERFORM A LEAK CHECK AT TANK PRESSURE

1. With the tanks service valve in the closed position, attach the 300# gauge to presto tap fitting installed between containers service valve and the 1<sup>st</sup> stage regulator.
2. Open service valve to admit full container pressure to the system.
3. Once system reaches operating pressure, close the containers service valve and slowly open bleeder valve on hose assembly to drop line pressure by approx. 10 PSI. Then close bleeder.
4. Observe gauge reading for a min of 3 minutes or as described by the AHJ.
  - A rise in pressure indicates a faulty shutoff valve seat
  - A decrease in pressure indicates a leak in the system

This is a manufacture guideline for best practice when using the Presto-Tap LDS. Always refer to your local code for pressure and test duration requirements.



3.5" 300# Gauge installed on RegO Ready to Go service valve performing tank pressure leak check.



## Presto-Tap Leak Detection System

### HOW TO PERFORM A LEAK CHECK DOWNSTREAM OF 1<sup>st</sup> STAGE REGULATOR (5-10PSI System)

1. With the tanks service valve in the closed position, attach the 30# gauge to Presto Tap fitting on the 1<sup>st</sup> stage regulator.
2. Open service valve to admit full container pressure to the system.
3. Once system reaches operating pressure, close the containers service valve and slowly open the bleeder on the hose assembly to drop line pressure by approx. 5 PSI on 10# systems. Then close bleeder. This will open the regulator so the entire system is being monitored by the gauge.
4. Observe gauge reading for a min of 3 minutes or as described by the AHJ.
  - A rise in pressure indicates a faulty shutoff valve seat
  - A decrease in pressure indicates a leak in the system

This is a manufacture guideline for best practice when using the Presto-Tap LDS. Always refer to your local code for pressure and leak test duration requirements



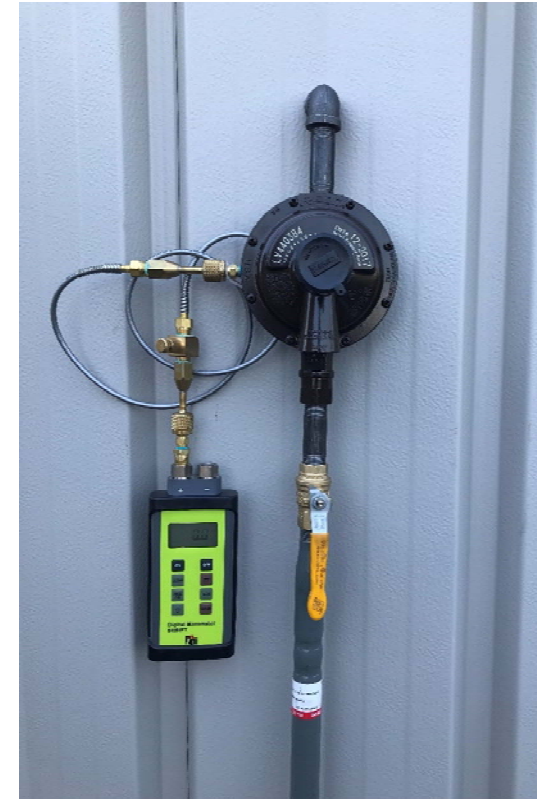
3.5" 30# gauge installed on RegO LV Series 1<sup>st</sup> stage regulator with Presto Tap fitting installed on side port

## Presto-Tap Leak Detection System

### HOW TO PERFORM A LOW PRESSURE LEAK TEST or LEAK CHECK DOWNSTREAM OF 2<sup>nd</sup> STAGE REGULATOR (Manifold Pressure – 11" W.C.)

1. With the tanks service valve in the closed position, attach the w.c gauge to Presto Tap fitting on the 2<sup>nd</sup> stage regulator.
2. Open service valve to admit full container pressure to the system.
3. Once system reaches operating pressure, close the container's service valve and slowly open bleeder valve on hose assembly to drop line pressure to approx. 9" w.c. Then close bleeder. This ensures all regulators are unlocked and that a leak can be detected anywhere in the system.
4. Observe gauge reading for a min of 3 minutes or as described by the AHJ.
  1. There should be no gain or loss in pressure during this test.

This is a manufacture guideline for best practice when using the Presto-Tap LDS. Always refer to your local code for pressure and leak test duration requirements



Digital Manometer installed on RegO LV series 2nd stage regulator with Presto Tap fitting installed on side port

## Presto-Tap Leak Detection System

### SAVES TIME – SAVES MONEY

On average, the Presto Tap Leak Detection system will reduce onsite time during installation and re-inspection by approx. 20 minutes.

INSTALLATION AND INSPECTIONS PER YEAR					
INSTALATIONS PER YEAR	INSPECTIONS PER YEAR	ON- SITE REDUCTION TIME USING PT	HOURLY RATE	HOURS SAVED (PER YEAR)	SAVINGS (PER YEAR)
125	80	20 Minutes	\$100.00	41	\$ 4,100.00

# PRESTO-TAP BENEFITS

- ✓ No special tools required.
- ✓ Never have to break in to a system.
- ✓ System can be integrated into existing customer network cost effectively.
- ✓ Less time involved bleeding down piping.
- ✓ Delivery driver never required to leave the point of transfer.
- ✓ Reduce costs on testing equipment by having the right gauge for the right stage of the system.
- ✓ Simple training process to adopt to SOP



***MORE TIME PUMPING  
LESS TIME TESTING  
INCREASED PROFITS***

THE RIGHT PARTNERS FOR A SUCCESSFUL ROLL OUT

Diversco



Service, Supply, Support & Training