



# Ralston Instruments

Pressure Calibration Specialists



**Connect**



**Create**



**Control**



**Calibrate**

MADE IN THE USA SINCE 1969

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# Made in the USA – The Ralston Way

**When precise, reliable pressure calibration is essential, trust Ralston Instruments.** For over 39 years, we've engineered pressure calibration equipment and systems to serve a wide range of applications, saving time and taking the guesswork out of critical pressure testing, maintenance and repair functions.

Founded in 1969 by Doug Ralston, today Ralston Instruments continues to be a family owned company with a proud history of innovation. Responding to the demand for convenient, accurate ways to monitor and calibrate pressure in industries around the globe, Ralston invented the first hand held pneumatic pump in 1969, followed by the development of the first hydraulic hand pump in 1970.

That passion for advancing pressure calibration components remains undiminished. In 1993, RI launched the first fully integrated system of Quick-test™ hoses

and adapters. Designed for low volume, high pressure connections to virtually any device being tested, this unique design offers secure, time-saving

connections without using a wrench or thread sealant. Ralston's integrated calibration pressure sources are the ultimate solution for performing differential or static pressure calibrations using nitrogen or compressed gas.

All Ralston products are made in the USA using superior design and manufacturing techniques. These products include hand pumps, compressed gas control devices, hoses, adapters and complete calibration kits.

When the job requires hand pumps that deliver pressure, hoses and adapters for fast, fail-safe connections, or precision calibration tools, Ralston Instruments provides the most exacting pressure control, even in remote locations.



**1969**  
First Pneumatic  
Hand Pump



**1970**  
First Hydraulic  
Hand Pump

## Ralston Milestones

- 1969** First Pneumatic Hand Pump
- 1970** First Hydraulic Hand Pump
- 1987** First Calibration Manifold
- 1993** First complete system of Quick-test™ hoses
- 2001** Pressure/Vacuum Hand Pump
- 2003** NitroPak
- 2006** Volume Controller
- 2008** Male NPT Quick Disconnect



Ralston Instruments new headquarters, completed in 2008

# Our Approach to Pressure Calibration



## Connect

We're your single source for all the adapters and hoses you'll ever need to perform easy, accurate calibrations in the field. Our Quick-test™ adapters set the industry standard for fast, leak-free connections to almost any pressure instrument, without tools or thread tape. For connections you can count

on — count on Ralston.



Quick-test™ hose



## Create

Whether you are calibrating low pressure differential transmitters, or static transmitters up to 5000 psi, our extensive range of hand pumps features heavy-duty construction for field-tested reliability. Dual pressure ports eliminate the need to carry extra tees, hoses and fittings. Versatile and efficient, Ralston hand pumps let you create the pressure you need, wherever you need it.



Hydraulic hand pump



## Control

When precision is important, one of our nitrogen calibration manifolds, volume controllers or nitrogen calibration sources is the answer. Using nitrogen or other compressed gas, these instruments deliver highly stable pressure control from 0.001 – 3000 psi. From a single manifold to control a specific process, to an all-inclusive calibration kit, we engineer solutions to help you perform both differential and static pressure calibrations.



Portable calibration nitrogen source



## Calibrate

Ralston offers complete calibration kits featuring everything you need for fast, fool-proof calibrations — from hand pumps or calibration manifolds, to perfectly matched gauges, hoses, and adapters. Our field-tested configurations ensure reliable results regardless of the application.



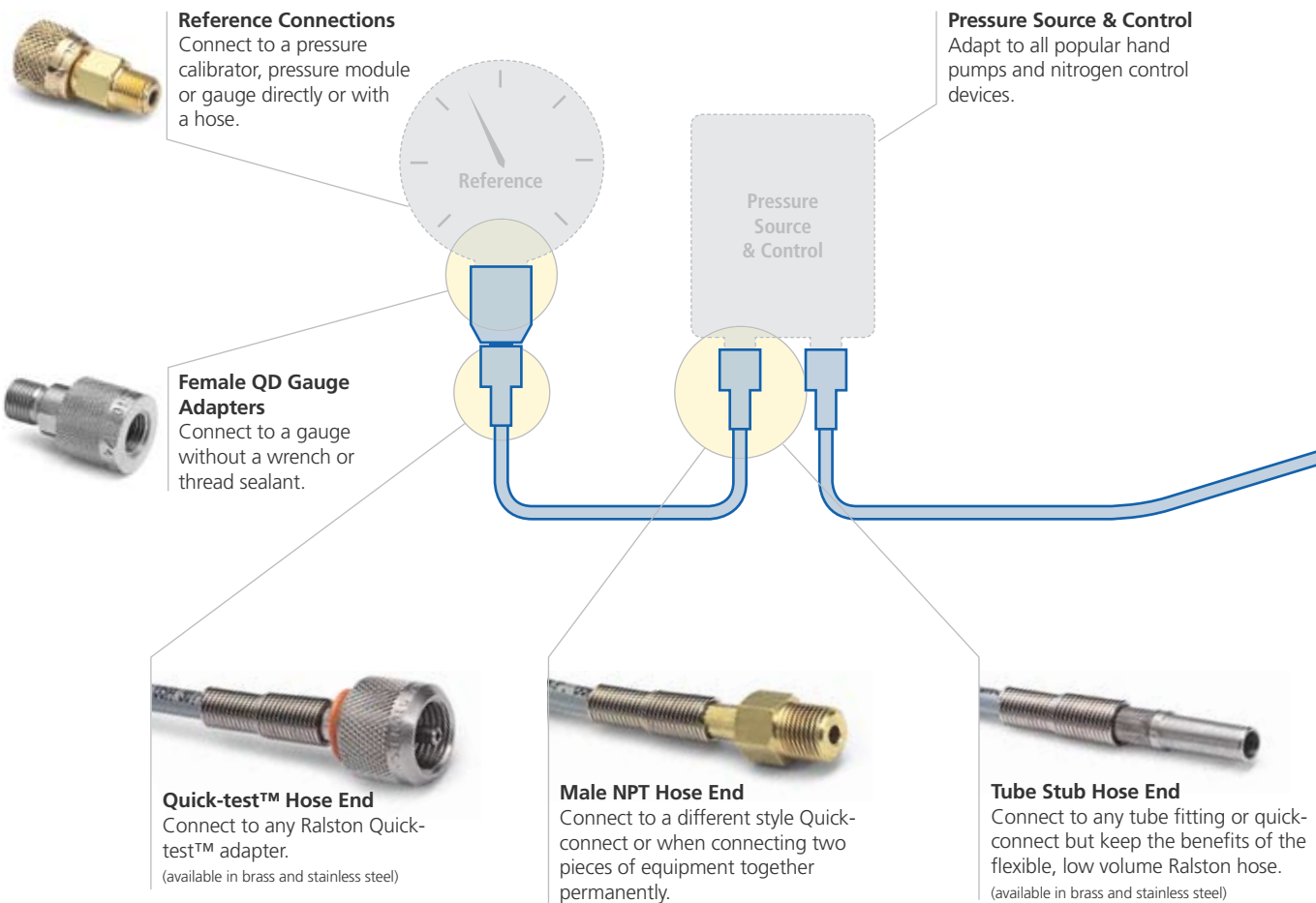
Portable calibration volume controller



# It starts with the Connection...

Ralston Quick-test system™ allows for a faster workflow when connecting and reconnecting to all standard process connections.

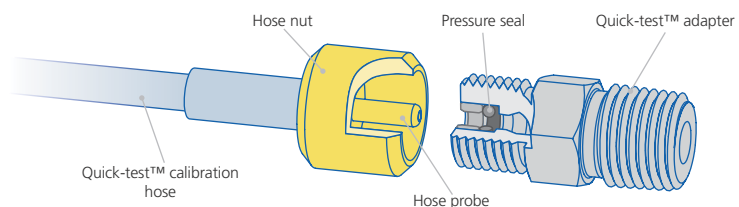
The most precise, economical and efficient calibrations start with the best connections. Only Ralston Instruments offers Quick-test™ fittings and hoses that attach and detach without a wrench or thread sealant, saving valuable time and reducing the need to stock multiple hoses or adapters. Equally important, all Ralston Quick-test™ fittings make leak-tight connections you can count on. The o-ring inside each fitting forms a secure seal capable of sustaining high pressure. Ralston's Quick-test™ hoses are extremely lightweight and flexible yet have a working pressure of 6900 psi (475 bar) and are engineered to perform in harsh environments.



## How the Quick-test™ System works

### Leak Free Connections - Every Time

Quick-test™ connections use an integrated o-ring pressure seal for quick, leak-free connections every time - without the need for thread tape or a wrench!



**It couldn't be easier.** Ralston Quick-test™ connections make thread sealant a thing of the past. All of our hoses adapt easily to tube fittings, NPT, BSPP and BSPT threads, pressure gauges, pressure transmitters and pressure calibrators. We have adapters for virtually any process connection.



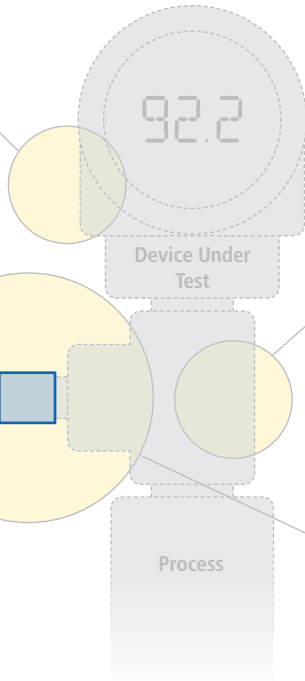
**Transmitter Adapters**  
Connect directly to a Rosemount®, Honeywell®, ABB®, Yokogawa® or equivalent transmitter using the bleeder port.



**Quick-test™ Adapters and Fittings**  
Install Quick-test™ adapters in all standard threads for quick hose connections. Use cap and chain models for permanent installation and leave capped when not in use.



**Valves & Verniers**  
Install a valve with an integrated Quick-test™ port on any process that needs quick access for calibration.



**Tube Fittings**  
Connect to Swagelok®, Parker®, Hoke® or equivalent tube fittings without a wrench. The fitting seals with an o-ring instead.



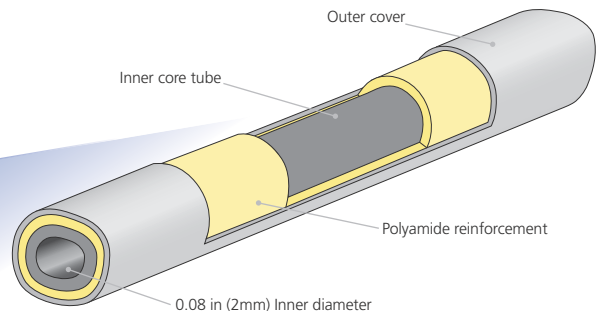
**Male Quick-Disconnect**  
Connect a Quick-test™ hose to a female NPT port without using a wrench or thread sealant.

**Low volume, high pressure hoses**

The small inner diameter and low volume of Ralston Quick-test™ hoses make this hose ideal for transmitting high pressure while consuming very little compressed gas or fluid. Whether pressure is created hydraulically or pneumatically, less media is needed to generate and sustain the pressure required. This design makes calibrations faster and easier to complete while delivering precise results.



Quick-test™ calibration hose



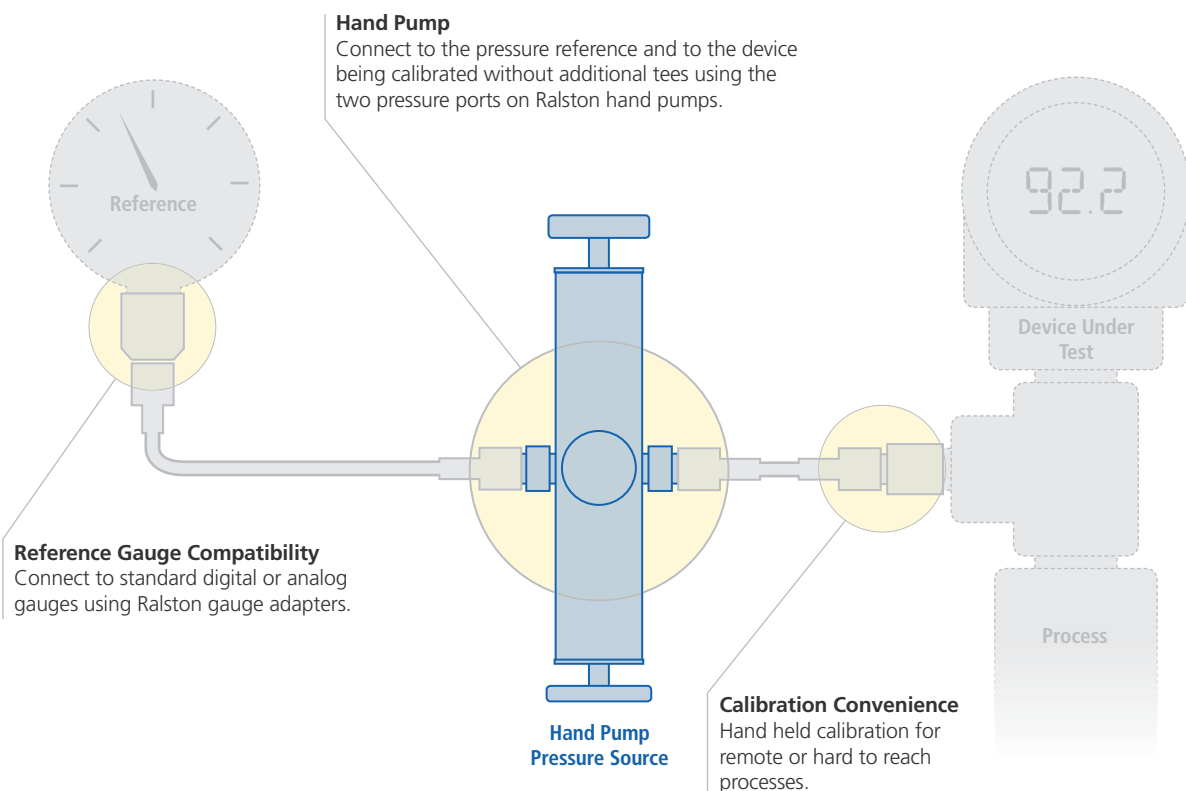
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# Create the kind of pressure you need – whenever you need it.

Ralston offers the most comprehensive selection of hand pumps on the market.

Made in the U.S.A. and constructed of high quality parts, our hand pumps offer years of reliable performance even in the toughest field conditions. Ralston hand pumps feature two pressure ports, making it easy to connect to the pressure reference and to the device being calibrated without needing additional tees. The advanced design lets you change gauges, connect to one of Ralston's Quick-test™ hose adapters or switch to a different process connection, all without using a wrench!



## Creating the pressure you need - for any application

### Vacuum

-30 inHg to 0  
(-584 mmHg to 0)

Media Air  
Models DPPV

Example Applications  
» Vacuum gauge calibration  
» Vacuum switch testing

### Low Pressure

0 to 100 psi  
(0 to 7 bar)

Media Air  
Models DPOV, DPPV

Example Applications  
» Differential pressure transmitter calibration  
» Leak testing

### Medium Pressure

100 psi to 300 psi  
(7 bar to 20 bar)

Media Air  
Models APOV, APGV

Example Applications  
» Relief valve testing  
» Pressure gauge calibration

### High Pressure

300 psi to 5000 psi  
(20 bar to 350 bar)

Media Hydraulic fluid, water  
Models HPOV, HPGV, XHOV, XHGV

Example Applications  
» Pressure regulator adjustment  
» Safety relief valve testing  
» Hydrostatic testing

**Pneumatic, hydraulic, or vacuum** - Ralston is your best source for a full range of portable, dependable hand pumps. Comfortable scissor grips and fine adjustment pistons provide excellent pressure control across a wide spectrum of applications.

### Ralston Hand Pump Features and Benefits

**Powerful**

Lightweight, portable, handheld pressure up to 5000 psi

**Long Lasting**

Replacement parts and kits for all our hand pump models

**Convenient**

Simple design allows easy field maintenance with just a screw driver and a wrench

**Flexible**

Two pressure ports means no need for a tee

**Compatible**

Each hand pump is compatible with all Quick-test™ hoses and adapters

**Controllable**

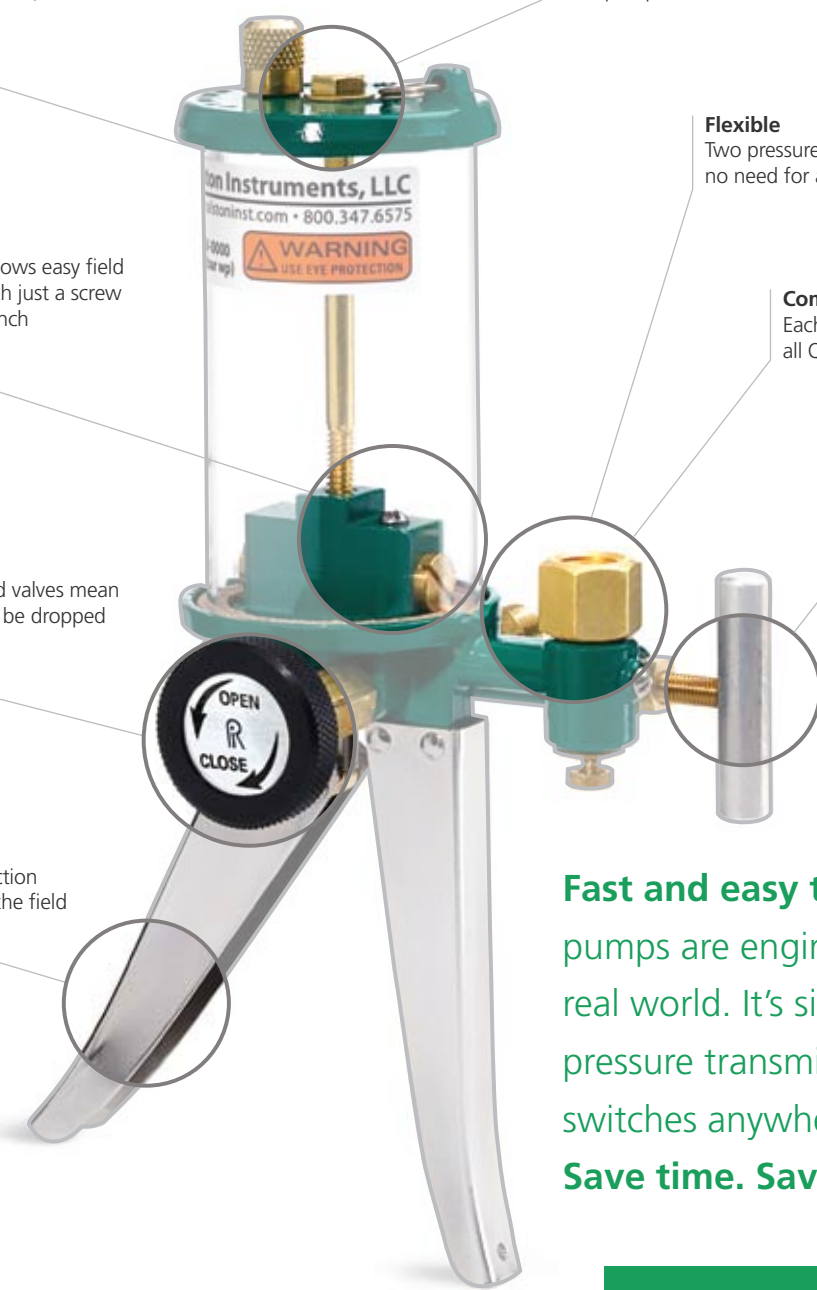
Soft seated bleed valves mean the pressure can be dropped very easily

**Precise**

Make precise adjustments of pressure with the fine adjust vernier

**Rugged**

Durable construction built to work in the field



**Fast and easy to operate**, our pumps are engineered for the real world. It's simple to field test pressure transmitters, gauges or switches anywhere the job demands. **Save time. Save money.**

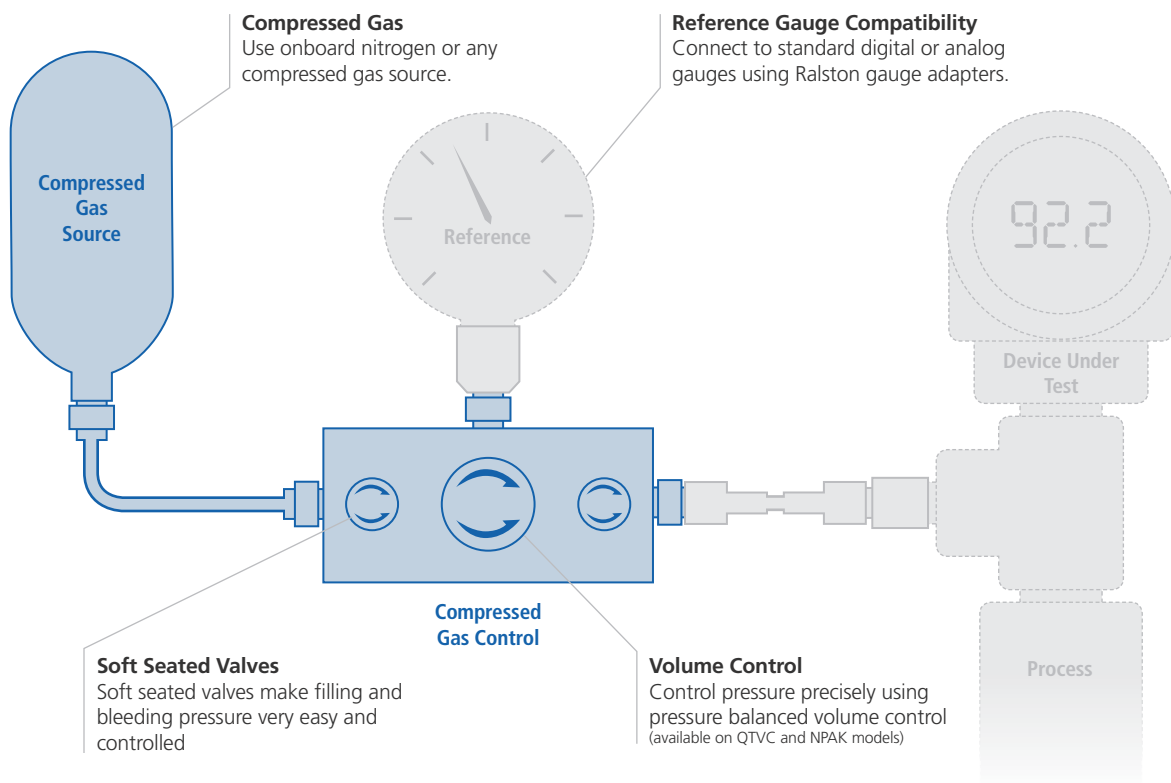
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# Control compressed gas precisely

**In the shop or in the field, precision counts.** Ralston Instruments offers more ways to control compressed gas than anyone in the industry. Intelligent engineering lets you connect any of our calibration manifolds, volume controllers or nitrogen sources quickly and reliably to your pressure reference and to the device being tested.

## It's the smart approach to calibration



### Controlling compressed gas for precise calibration at any pressure level

#### Vacuum

-30 inHg to 0  
(-584 mmHg to 0)

Media Vacuum (supplied from vacuum pump)  
Models QTVC

Example Applications  
» Vacuum gauge calibration  
» Absolute pressure measurement

#### Low Pressure

0 to 100 psi  
(0 to 7 bar)

Media Compressed gas  
Models QTVC, NPAK

Example Applications  
» Calibrating pressure gauges  
» Pressure transmitter calibration

#### Medium Pressure

100 psi to 300 psi  
(7 bar to 20 bar)

Media Compressed gas  
Models QTCM, QTVC, NPAK

Example Applications  
» Static pressure transmitter calibration  
» Pressure gauge calibration

#### High Pressure

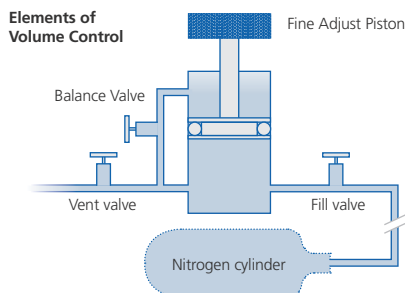
300 psi to 5000 psi  
(20 bar to 350 bar)

Media Compressed Gas  
Models QSCM, QTVC, NPAK

Example Applications  
» Safety relief valve testing  
» Burst disc testing  
» Pressure gauge calibration



## Benefits of Volume Control over Pressure Regulation



A traditional pressure regulator and needle valves work by filling and bleeding the pressure which wastes a great deal of compressed gas. Because pressure regulators are designed to work with flowing gas or liquid they work very poorly when there is no flow. **A compressed gas control device actually changes the volume of a closed system to control the pressure.** This approach makes it more accurate and easier to use. The pressure balanced design of the QTVC and NPAK models provide higher precision due to smoother operation and larger piston diameter.

### Fine Control Over Compressed Gas



QTCM  
Calibration Manifold

Regardless of the process being controlled, Ralston Instruments makes a compressed gas control device to serve the purpose. Made in America using the highest grade parts, our manifolds are the most economical way of performing static pressure calibrations in the shop or in the field. Select a single manifold or opt for the convenience of a fully integrated calibration kit – either way, our units adapt to your needs.

### Precision and Stability at Any Pressure with a Volume Controller



QTVC  
Volume Controller

For the ultimate in accuracy with a wide pressure range, Ralston Volume Controllers provide highly stable pressure control from vacuum to 3000 psi. Coupled with nitrogen or other compressed gas to control pressure, our Volume Controllers regulate pressure precisely without time consuming pumping. Ralston Volume Controllers are the next generation of calibration instruments.

### Integrated Pressure Source and Volume Controller



NPAK  
Nitrogen  
Calibration  
Source

When you need to perform pressure calibration in remote locations, a Ralston Nitropak is your best option. This fully integrated calibration kit contains everything you need – from a compressed gas cylinder, pressure regulator, hoses, adapters all contained in an extremely rugged carrying case with rigid foam that keeps instruments securely in place. Set up takes seconds and precise pressure control is easy to achieve despite difficult or remote working conditions.

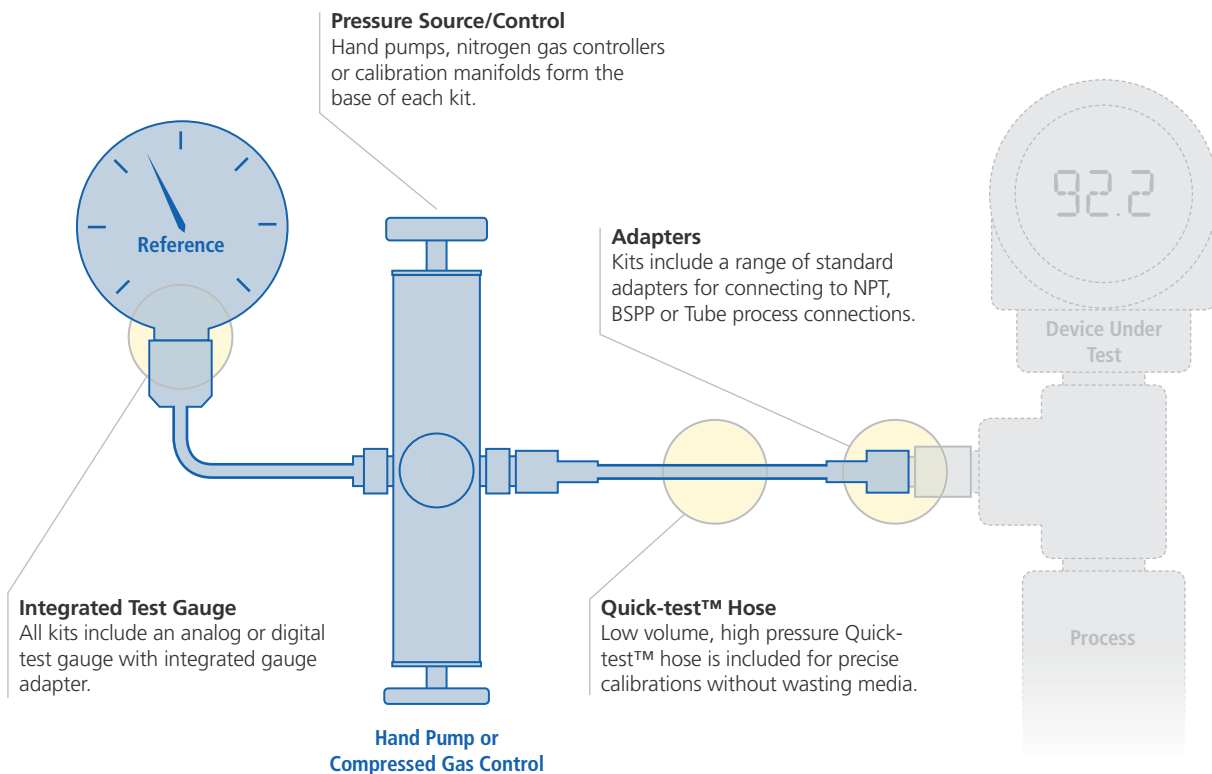
More at [ralstoninst.com/control](http://ralstoninst.com/control)



# Calibrate with confidence

Ralston gives you everything you need for virtually any calibration process with one of our fully integrated Calibration Kits. No more guess work, no more searching for the right adapters, no more carrying multiple gauges. The right Ralston kit puts it all together for you.

Whether your application calls for pneumatic pressure, hydraulic pressure, compressed gas or requires a volume controller, we'll make sure your instruments are perfectly matched. From hand pumps and manifolds to the correct reference gauge, with every hose and adapter for seamless connectivity, your kit features proven configurations.



## Be prepared with the right combination of components for any calibration

Vacuum	Low Pressure	Medium Pressure	High Pressure
-30 inHg to 0 (-584 mmHg to 0)	0 to 100 psi (0 to 7 bar)	100 psi to 300 psi (7 bar to 20 bar)	300 psi to 5000 psi (20 bar to 350 bar)
Media Air Models DPPV-+/15PSIG-D	Media Air Models DP0V-100PSIG-D, DPPV-100PSIG-D	Media Air Models APGV-300PSIG-D	Media Hydraulic fluid, Compressed gas, Water Models HPGV-3KPSIG-D, QTCM-3KPSIG-D, QTVC-3KPSIG-D, NPAK-3KPSIG-D
Example Applications » Pressure and vacuum calibration with 1 unit » Clean room pressure transmitter calibration	Example Applications » Differential pressure transmitter calibration » Leak testing	Example Applications » Safety relief valve testing » Pressure regulator adjustment	Example Applications » Pressure gauge calibration » Burst disc testing » Static pressure transmitter calibration

**Ralston has your solution** with our pre-packaged calibration kits available with a choice of either an analog or digital pressure gauge. Our test gauges have  $\pm 0.25\%$  full scale accuracy and are very durable.



GAUD Digital Test Gauge



GAUG Analog Test Gauge

### Hand Pump Calibration Kits



DPOV-100PSIG-M



APGV-300PSIG-M



DPPV+/-15PSIG-D



HPGV-3KPSIG-D

### Nitrogen Pressure Control Kits



QTCM-3KPSIG-M



QSCM-5KPSIG-D



QTVC-3KPSIG-D



NPAK-3KPSIG-D

“I have used this pump 10,000 times and it is still going...”

-Dave Gagon  
Anadarko Petroleum

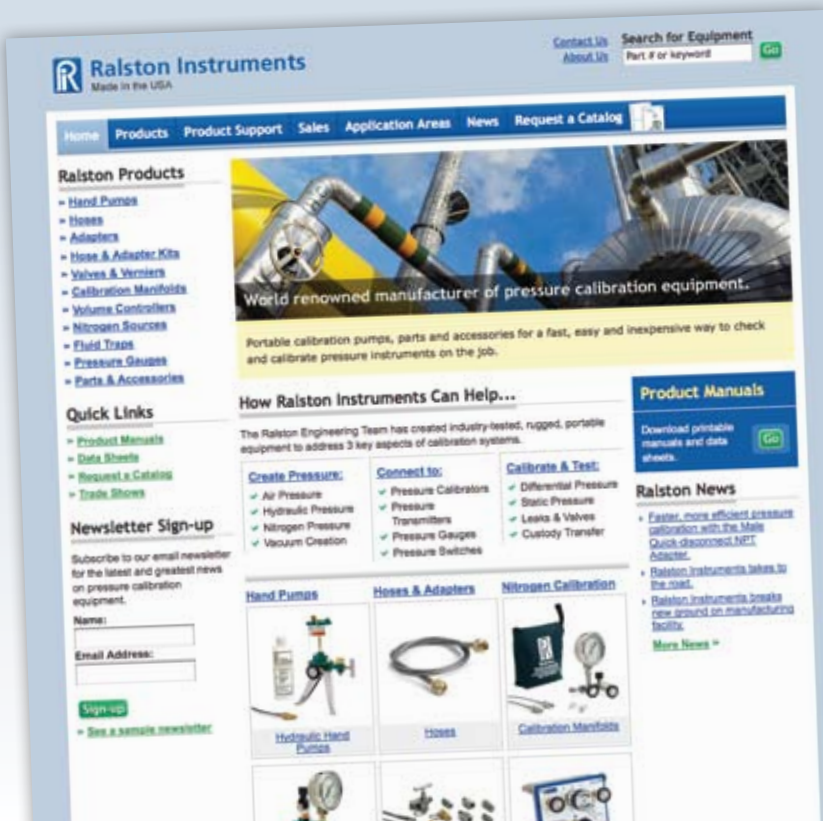
#### Built for immediate use and a long life

- » Tested connections of pressure gauge, pressure source, connections and hoses
- » Adapters available for a range of standard process connections
- » Available carrying cases, bags, calibration oil
- » Easy maintenance with basic tools
- » Complete repair kits available

More at [ralstoninst.com/calibrate](http://ralstoninst.com/calibrate)

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