

Ralston Instruments, LLC



Pressure Creation



Introduction

At Ralston Instruments we believe that pressure calibration should be viewed as the successful integration of three different concepts: pressure creation, pressure connection and pressure calibration. We have focused on these three parts of the equation to make sure that your job goes more easily. We manufacture a broad range of equipment from hand pumps and nitrogen calibration products to calibration hose and quick-disconnect adapters that help to provide you with a complete calibration solution. We sell our products worldwide to process industries, the armed forces, space agencies and power applications. We are proud to say that all of the products Ralston Instruments makes are manufactured in the U.S.A.

Features

All of our products are designed and built with hard use in mind and are designed to provide years of trouble free service. One of the weaknesses in many pressure calibration systems is the ability to connect to the pressure reference and the device being calibrated. At Ralston Instruments we have placed special emphasis on making that connection easier. All of our products come standard with Quick-test connections. These are quick-disconnect ports, hoses and process connections that all work together to ease the pressure calibration process. They use an o-ring and probe seal to make a leak free seal without using thread sealant or wrenches. Thus Ralston Instruments has a broad range of Quick-test adapters that will allow you to connect the hose directly to the device being tested with only

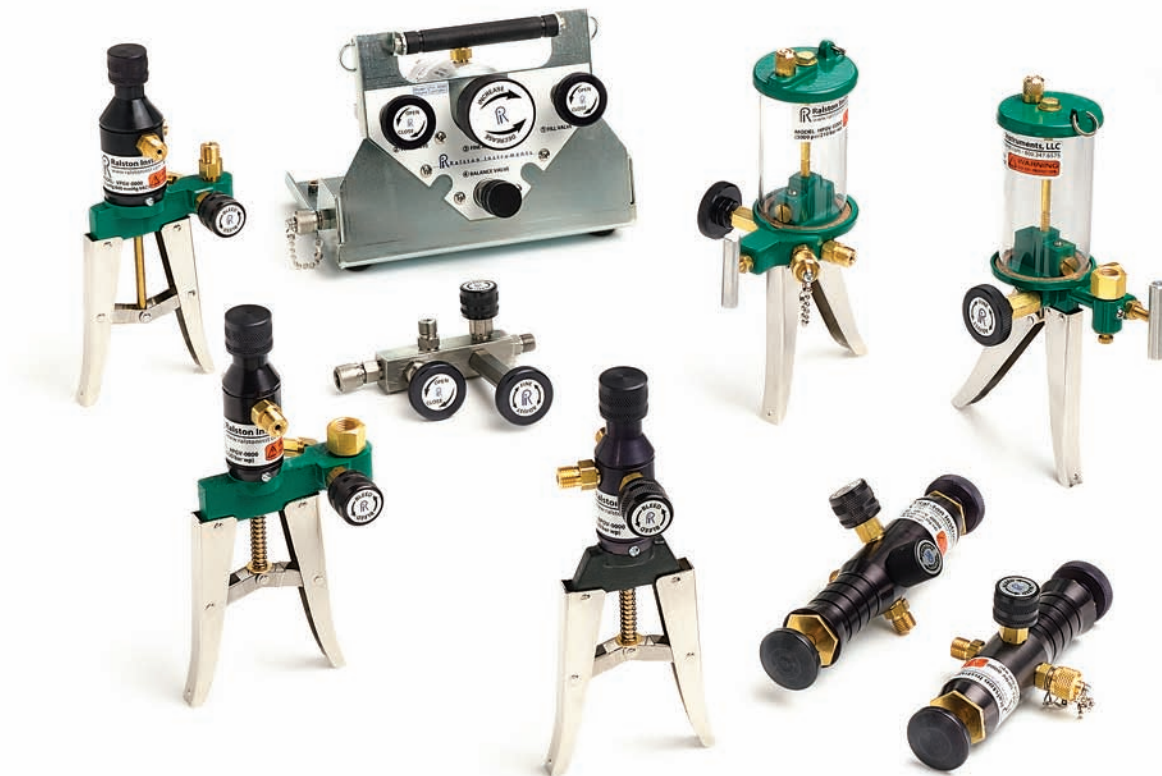
one adapter. Please see the Hose and Adapter pages of this catalog or see the Ralston Instruments "Pressure Connection" catalog for more complete information on all the process connections that are available.

Pressure Ratings

All pressures stated in the catalog are working pressures under normal operating conditions. In many cases the material into which the adapter is installed may be the limiting factor. Design precautions should be taken into consideration in any pressure application and a factor of safety should be built into any pressure system.

About Ralston Instruments, LLC

Ralston Instruments is a world renowned manufacturer of pressure calibration equipment. It was founded in 1969 with the invention of the pneumatic and hydraulic Quick-test pumps. It is a testament to these design innovations that updated versions of these pumps are available in this catalog. We are proud of our family heritage and our continued family involvement in the company. Ralston Instruments remains committed to providing customers with lasting value and exceptional service. The design of each model incorporates ruggedness, dependability and ease of maintenance. Our calibration systems allow the customer to work more efficiently, reduce the cost of each calibration and have greater confidence in the accuracy of their pressure calibration.



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Hydraulic Hand Pumps with Gauge Connection

HPGV (3000 psi / 210 bar), XHGV (5000 psi / 350 bar)

Fast and efficient hydraulic field testing of pressure transmitters, gauges or switches is aided by an integral gauge adapter which allows the user to quickly attach a precision test gauge to the pump.

Features:

- Portable, hand operated hydraulic pumps that easily generate up to 5000 psi (350 bar)
- Fine adjustment piston provides an easy way to fine tune exact pressure
- Bleed pressure slowly with soft seated vent valve
- Liquid reservoir holds enough fluid for multiple calibrations
- Marine brass construction resists corrosion and abuse
- Quick-disconnect gauge adapter allows changing gauges without using a wrench
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Made in U.S.A.



(Reference gauge not included)

Specifications		
Pump connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Pressure media	Ralston calibration oil (QTHP-HYDL), mineral based oil, hydraulic oil, water	Ralston calibration oil (QTHP-HYDL), mineral based oil, hydraulic oil, water
Fine adjust resolution	± 1 psi (0.1 bar)	± 1 psi (0.1 bar)
Reference connection (brass)	1/4" female NPT swivel (SWIV-2FBW)	1/2" female BSPP swivel (SWIV-4GBW)
HPGV outlet port (brass)	Male Quick-test with check-valve (QTHA-3SB1)	Male Quick-test with check-valve (QTHA-3SB1)
XHGV outlet port (brass)	Male Quick-test with cap and chain (QTFT-3SB0)	Male Quick-test with cap and chain (QTFT-3SB0)
Calibration hose (brass ends)	3 ft (92 cm) long (QTQT-HOS-3')	1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	1/4" male NPT (QTHA-2MB0)	1/4" female BSPP (QTHA-2FB0-RG)
Liquid reservoir	7.2 fl oz (256 ml) clear polycarbonate (QTHP-RESV)	7.2 fl oz (256 ml) clear polycarbonate (QTHP-RESV)
Construction	Brass, aluminum, plated steel	Brass, aluminum, plated steel
Seal material	Buna-N, Teflon™, Delrin™, synthetic cork	Buna-N, Teflon™, Delrin™, synthetic cork
Bottle included	12 fl oz (355 ml) with flip-up top, empty	12 fl oz (355 ml) with flip-up top, empty
Weight	2.6 lb (1.2 kg)	2.6 lb (1.2 kg)

Ordering information	
HPGV, XHGV pumps with brass NPT connections	
Model	Description
HPGV-0000	3000 psi (210 bar) pump, hose, NPT gauge swivel and process connection
XHGV-0000	5000 psi (350 bar) pump, hose, NPT gauge swivel and process connection
HPGV, XHGV pumps with brass BSPP connections*	
Model	Description
HPGV-4GBW	3000 psi (210 bar) pump, hose, BSPP gauge swivel and process connection
XHGV-4GBW	5000 psi (350 bar) pump, hose, BSPP gauge swivel and process connection

* Not for sale in North American market
 For hoses and accessories see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet.
 For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments Pressure Connection catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Hydraulic Hand Pumps with no Gauge Connection HP0V (3000 psi / 210 bar), XH0V (5000 psi / 350 bar)

The ideal solution for hydraulic field testing pressure transmitters, gauges or switches using an external pressure calibrator as the reference.

Features:

- Portable hand operated hydraulic pumps that easily generate up to 5000 psi (350 bar)
- Two outlet ports allow user to connect to both device under test and external pressure calibrator thus eliminating a tee.
- Fine Adjustment piston provides an easy way to achieve precise pressure
- Liquid reservoir holds enough fluid for multiple calibrations
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Rugged, all metal construction improves temperature and pressure stability
- Made in U.S.A.



Specifications	
Pressure media	Ralston calibration oil (QTHP-HYDL), mineral based oil, hydraulic fluid, water
Fine adjust resolution	± 1 psi (0.1 bar)
Reference connection (brass)	None
Outlet port 1 (brass)	Male Quick-test with check-valve (QTHA-3SB1)
Outlet port 2 (brass)	Male Quick-test with cap and chain (QTFT-3SB0)
Calibration hose (brass ends)	(1) 3 ft (92 cm) long (QTQT-HOS-3')
Process connection (brass)	(1) 1/4" male NPT (QTHA-2MB0)
Liquid reservoir	7.2 fl oz (256 ml) clear polycarbonate (QTHP-RESV)
Construction	Brass, aluminum, plated steel
Seal material	Buna-N, Teflon™, Delrin™, synthetic cork
Bottle included	12 fl oz (355 ml) with flip-up top, empty
Weight	1.7 lb (770 g)

Ordering Information	
Model	Description
HP0V-0000	3000 psi (210 bar) pump with hose, NPT process connection
XH0V-0000	5000 psi (350 bar) pump with hose, NPT process connection

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pneumatic Hand Pumps with Gauge Connection (scissor handle) APGV (300 psi / 20 bar)

Quick and efficient pneumatic field testing of pressure transmitters, gauges or switches is aided by an integral gauge adapter which allows the user to quickly attach a precision test gauge to the pump.

Features:

- Portable, hand operated pump easily generates 300 psi (20 bar) without electricity or compressed air
- Light, compact pump can be easily transported to remote locations
- Fine adjustment piston allows the user to achieve an exact pressure for cardinal point pressure calibrations
- Precisely vent pressure with soft seated bleed valve
- Quick-disconnect gauge adapter allows changing test gauges without using a wrench
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Rugged, all metal construction improves temperature and pressure stability
- Made in U.S.A.



(Reference gauge not included)

Specifications		
Pump connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Maximum pressure	300 psi (20 bar)	300 psi (20 bar)
Style	Scissor handle	Scissor handle
Pressure media	Air	Air
Fine adjust resolution	± 0.01 psi (0.7 mbar)	± 0.01 psi (0.7 mbar)
Reference connection (brass)	1/4" female NPT swivel (SWIV-2FBW)	1/2" female BSPP swivel (SWIV-4GBW)
Outlet port (brass)	Male Quick-test (QTHA-3SB0)	Male Quick-test (QTHA-3SB0)
Calibration hose (brass ends)	3 ft (92 cm) long (QTQT-HOS-3')	1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	1/4" male NPT (QTHA-2MB0)	1/4" female BSPP (QTHA-2FB0-RG)
Construction	Aluminum, brass, plated steel	Aluminum, brass, plated steel
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Weight	1.6 lb (730 g)	1.6 lb (730 g)

Ordering Information	
APGV pump with brass NPT connections	
Model	Description
APGV-0000	APGV pump with hose, NPT gauge swivel and process connection
APGV pump with brass BSPP connections*	
Model	Description
APGV-4GBW	APGV pump with hose, BSPP gauge swivel and process connection

* Not for sale in North American market
For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet.
For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pneumatic Hand Pumps with no Gauge Connection (scissor handle) APOV (300 psi / 20 bar)

The quickest and most economical way to perform pneumatic field pressure calibrations on pressure transmitters, switches or gauges using an external pressure calibrator as the reference.

Features:

- Pressure calibration can be performed without electricity or nitrogen to 300 psi
- Two outlet ports allow the user to attach pump to both device under test and external pressure reference thus eliminating a tee
- Fine adjustment piston allows the user to achieve an exact pressure for cardinal point pressure calibrations
- Precisely vent pressure with soft seated bleed valve
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Rugged, all metal construction improves temperature and pressure stability
- Made in U.S.A.



Specifications	
Maximum pressure	300 psi (20 bar)
Style	Scissor handle
Pressure media	Air
Fine adjust resolution	± 0.01 psi (0.7 mbar)
Reference connection (brass)	None
Outlet port 1 (brass)	Male Quick-test (QTHA-3SB0)
Outlet port 2 (brass)	Male Quick-test with check-valve (QTHA-3SB1)
Calibration hose (brass ends)	(1) 3 ft (92 cm) long (QTQT-HOS-3')
Process connection (brass)	(1) 1/4" male NPT (QTHA-2MB0)
Construction	Aluminum, brass, plated steel
Seal material	Buna-N, Teflon™, Delrin™
Weight	1.2 lb (540 g)

Ordering Information	
Model	Description
APOV-0000	APOV pump, hose, NPT process connection

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pneumatic Hand Pumps (direct acting) DP0V (100 psi / 7 bar)

The most economical solution for very precise low pressure calibration using a precision test gauge or pressure calibrator as the reference.

Features:

- Light weight, compact pump generates up to 100 psi (7 bar) with ease
- Large volume fine adjustment piston provides precise control, even at very low pressures
- Modular design makes field maintenance quick and easy
- Precisely vent pressure with soft seated bleed valve
- Two outlet ports provide connections for both pressure reference and for device under test thus eliminating a tee
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Rugged, all metal construction reduces pressure changes due to temperature fluctuations
- Made in U.S.A.



(Reference gauge not included)

Specifications		
Pump connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Maximum pressure:	100 psi (7 bar)	100 psi (7 bar)
Style	Direct acting	Direct acting
Pressure media	Air	Air
Fine adjust resolution	± 0.001 psi (0.07 mbar)	± 0.001 psi (0.07 mbar)
Reference connection (brass)	See below	See below
Outlet port 1 (brass)	Male Quick-test (QTHA-3SB0)	Male Quick-test (QTHA-3SB0)
Outlet port 2 (brass)	Male Quick-test with cap and chain (QTFT-3SB0)	Male Quick-test with cap and chain (QTFT-3SB0)
Calibration hose (brass ends)	(1) 3 ft (92 cm) long (QTQT-HOS-3')	(1) 1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	(1) 1/4" male NPT (QTHA-2MB0)	(1) 1/4" female BSPP (QTHA-2FB0-RG)
Construction	Anodized aluminum, brass, plated steel	Anodized aluminum, brass, plated steel
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Weight	1.6 lb (725 g)	1.6 lb (725 g)

Ordering information	
DP0V pumps with NPT connections	
Model	Description
DP0V-1MBA	DP0V pump, 1/8" male NPT gauge adapter (QTHA-1MBA), hose, process connection
DP0V-2MBA	DP0V pump, 1/4" male NPT gauge adapter (QTHA-2MBA), hose, process connection
DP0V-2FBA	DP0V pump, 1/4" female NPT gauge adapter (QTHA-2FBA), hose, process connection
DP0V-0000	DP0V pump, no gauge adapter, with hose and process connection
DP0V pumps with BSPP connections*	
Model	Description
DP0V-2FBA-RG	DP0V pump, 1/4" female BSPP gauge adapter (QTHA-2FBA-RG), hose, process connection
DP0V-3FBA-RG	DP0V pump, 3/8" female BSPP gauge adapter (QTHA-3FBA-RG), hose, process connection
DP0V-4FBA-RG	DP0V pump, 1/2" female BSPP gauge adapter (QTHA-4FBA-RG), hose, process connection

* Not for sale in North American market
For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet.
For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pneumatic Pressure / Vacuum Hand Pumps (direct acting)

DPPV (100 psi / 7 bar) pressure, (-25" Hg / -635 mm Hg) vacuum

The ideal solution for either differential pressure or vacuum calibration using a precision test gauge or pressure calibrator as the pressure reference.

Features:

Generate either 100 psi (7 bar) pressure or -25" Hg (-635 mm Hg) vacuum with the same pump

Unique design allows the user to convert from pressure to vacuum by simply twisting a knob, even with gloves on

Two outlet ports allow connection to reference pressure gauge or pressure calibrator as well as device under test, thus eliminating a tee

Large volume fine adjustment piston provides precise control, even at very low pressures

Precisely vent pressure with soft seated bleed valve

Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench

Rugged, all metal construction reduces pressure changes due to temperature fluctuations

Made in U.S.A.



(Reference gauge not included)

Specifications		
Pump connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Maximum pressure	100 psi (7 bar)	100 psi (7 bar)
Maximum vacuum	-25" Hg (-635 mm Hg)	-25" Hg (-635 mm Hg)
Style	Direct acting	Direct acting
Pressure media	Air	Air
Fine adjust resolution	± 0.001 psi (0.07 mbar)	± 0.001 psi (0.07 mbar)
Reference connection (brass)	See below	See below
Outlet port 1 (brass)	Male Quick-test (QTHA-3SB0)	Male Quick-test (QTHA-3SB0)
Outlet port 2 (brass)	Male Quick-test with cap and chain (QTFT-3SB0)	Male Quick-test with cap and chain (QTFT-3SB0)
Calibration hose (brass ends)	(1) 3 ft (92 cm) long (QTQT-HOS-3')	(1) 1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	(1) 1/4" male NPT (QTHA-2MB0)	(1) 1/4" female BSPP (QTHA-2FB0-RG)
Construction	Anodized aluminum, brass, plated steel	Anodized aluminum, brass, plated steel
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Weight	1.9 lb (860 g)	1.9 lb (860 g)

Ordering Information	
DPPV pumps with NPT connections	
Model	Description
DPPV-1MBA	DPPV pump, 1/8" male NPT gauge adapter (QTHA-1MBA), hose, process connection
DPPV-2MBA	DPPV pump, 1/4" female NPT gauge adapter (QTHA-2MBA), hose, process connection
DPPV-2FBA	DPPV pump, 1/4" female NPT gauge adapter (QTHA-2FBA), hose, process connection
DPPV-0000	DPPV pump, no gauge adapter, with hose and process connection
DPPV pumps with BSPP connections*	
Model	Description
DPPV-2FBA-RG	DPPV pump, 1/4" female BSPP gauge adapter (QTHA-2FBA-RG), hose, process connection
DPPV-3FBA-RG	DPPV pump, 3/8" female BSPP gauge adapter (QTHA-3FBA-RG), hose, process connection
DPPV-4FBA-RG	DPPV pump, 1/2" female BSPP gauge adapter (QTHA-4FBA-RG), hose, process connection

* Not for sale in North American market
 For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet.
 For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pneumatic Vacuum Hand Pumps (scissor handle) VPGV (-23" Hg / -585 mm Hg)

An outstanding solution for performing vacuum calibration in the laboratory or in the field where the pressure reference is attached to the pump with integral test gauge adapter.

Features:

- Easily generate -23" Hg (-585 mm Hg) vacuum without electricity or compressed air
- Fine adjustment piston allows user to control vacuum precisely
- Modular construction allows for easy field maintenance
- Low volume Quick-test hose, gauge adapter and process connection can be attached to pump without thread sealant or a wrench
- Rugged, all metal construction reduces pressure changes due to temperature fluctuations
- Made in U.S.A.



(Reference gauge not included)

Specifications	
Maximum vacuum	-23" Hg (-585 mm Hg)
Style	Scissor handle
Vacuum media	Air
Fine adjust resolution	± 0.02" Hg (0.5 mm Hg)
Reference connection (brass)	See below
Outlet port (brass)	Male Quick-test (QTHA-35B0)
Calibration hose (brass ends)	3 ft (92 cm) long (QTQT-HOS-3')
Process connection (brass)	1/4" male NPT (QTHA-2MB0)
Construction	Aluminum, brass, plated steel
Seal material	Buna-N, Teflon™, Delrin™
Weight	1.9 lb (860 g)

Ordering Information	
VPGV pumps with NPT connections	
Model	Description
VPGV-1MBA	1/8" male NPT gauge adapter (QTHA-1MBA), hose, process connection
VPGV-2MBA	1/4" male NPT gauge adapter (QTHA-2MBA), hose, process connection
VPGV-2FBA	1/4" female NPT gauge adapter (QTHA-2FBA), hose, process connection

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Nitrogen Calibration Manifolds

QTCM (3000 psi / 210 bar), QSCM (5000 psi / 350 bar)

The most economical solution for doing static pressure calibrations with compressed nitrogen gas.

Features:

- Available in both brass (3000 psi / 210 bar) and stainless steel (5000 psi / 350 bar) models
- Fine adjustment piston provides precise pressure control instead of trying to make adjustments with a pressure regulator and a needle valve
- Soft-seated valves make filling and venting the system very precise
- Compact design allows the manifold, gauge adapter and hoses to fit in the included nylon bag
- Because pressure is controlled at the device under test, the nitrogen cylinder can be mounted on a truck
- Low volume Quick-test hose, gauge adapter and process connection reduce gas usage and make nitrogen cylinders last longer
- Made in U.S.A.



(Reference gauge not included)

Specifications		
Type of Manifold	QTCM (brass) manifolds	QSCM (stainless steel) manifolds
Maximum pressure	3000 psi (210 bar)	5000 psi (350 bar)
Pressure media	Compressed nitrogen	Compressed nitrogen
Fine adjust resolution	± 0.1 psi (6.9 mbar)	± 0.1 psi (6.9 mbar)
Reference connection	Brass - see below	Stainless steel - see below
Inlet port	Female Quick-test, brass (QTHA-3SBA)	Female Quick-test, stainless steel (QTHA-3SSA)
Outlet ports	(2) male Quick-test, brass (QTHA-3SB0)	(2) male Quick-test, stainless (QTHA-3SS0)
Quick-test inlet hose	20' (6.1 m) long with check-valve 1 end, brass (QTQC-HOS-20')	20' (6.1 m) long, check-valve 1 end, stainless steel (QTQN-HOS-20')
Quick-test outlet hose	2' (0.6 m) long, brass (QTQT-HOS-2')	2' (0.6 m) long, stainless steel (QSQS-HOS-2')
Process connections	(2) 1/4" male NPT, brass (QTHA-2MB0)	(2) 1/4" male NPT, stainless steel (QTHA-2MS0)
Construction	Brass, stainless steel fine adjust assembly	Stainless steel
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Weight	2.2 lb (1.0 kg)	2.2 lb (1.0 kg)

Ordering information	
QTCM (brass) manifolds with NPT connections:	
Model	Description
QTCM-1MBA-20'-2'	1/8" male NPT, gauge adapter (QTHA-1MBA), 2 hoses, 2 process connections
QTCM-2MBA-20'-2'	1/4" male NPT, gauge adapter (QTHA-2MBA), 2 hoses, 2 process connections
QTCM-2FBA-20'-2'	1/4" female NPT, gauge adapter (QTHA-2FBA), 2 hoses, 2 process connections
QTCM-0000-0-0	QTCM only, no gauge adapter, no hoses, no process connections
QSCM (stainless steel) manifolds with NPT connections	
Model	Description
QSCM-1MSA-20'-2'	1/8" male NPT, gauge adapter (QTHA-1MSA), 2 hoses, 2 process connections
QSCM-2MSA-20'-2'	1/4" male NPT, gauge adapter (QTHA-2MSA), 2 hoses, 2 process connections
QSCM-2FSA-20'-2'	1/4" female NPT, gauge adapter (QTHA-2FSA), 2 hoses, 2 process connections
QSCM-0000-0-0	QSCM only, no gauge connection, no hoses, no process connections

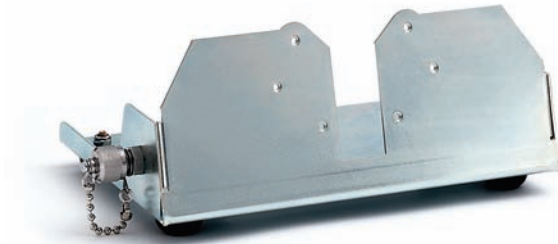
For manifolds with custom length hoses change first hose (inlet) or second hose (outlet) to desired length. Contact your Ralston Instruments dealer or the factory for pricing on custom length hoses. For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pressure Calibration Volume Controllers QTVC (3000 psi / 210 bar)

Perform both ultra-precise low pressure differential or high pressure static pressure calibrations with nitrogen using the same device.

Features:

- Proprietary pressure balanced fine adjustment piston allows for extremely precise, finger-tip control of pressure at 0.03 psi (2 mbar) or 3000 psi (210 bar) or any range in between.
- Fine adjust piston, fill, balance and vent valves are in one light weight, compact unit
- Includes handle, Quick-test System™ outlet connections, hoses and adapters
- Low volume Quick-test hose, gauge adapter and process connection can be attached to QTVC without thread sealant or a wrench
- Soft-seated valves make filling and venting the system very precise
- Optional stand for laboratory or table top use (QTVC-LKIT)
- Optional padded strap for field use (NPAK-STRP)
- Made in U.S.A.



QTVC-LKIT



(Reference gauge not included)

Pressure Calibration Volume Controllers

QTVC (3000 psi / 210 bar)

Specifications		
QTVC connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Maximum pressure	3000 psi (210 bar)	3000 psi (210 bar)
Pressure media	Compressed nitrogen	Compressed nitrogen
Fine adjust resolution	± 0.0005 psi (0.035 mbar)	± 0.0005 psi (0.035 mbar)
Mechanical rotation	42 turn (pressure balanced)	42 turn (pressure balanced)
Operating temperature range	0° to 130°F (-18° to 56° C)	0° to 130°F (-18° to 56° C)
Reference connection (brass)	See below	See below
Inlet, gauge ports (brass)	Male Quick-test port (QTHA-5SB0)	Male Quick-test port (QTHA-5SB0)
Outlet ports (brass)	(2) Male Quick-test port with cap and chain (QTFT-5SB0)	(2) Male Quick-test port with cap and chain (QTFT-5SB0)
Quick-test hose 1 (brass ends)	6 ft (183 cm) long (QTQT-HOS-6')	2 m (6.6 ft) long (QTQT-HOS-2m)
Quick-test hose 2 (brass ends)	3 ft (92 cm) long (QTQT-HOS-3')	1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	(2) 1/4" male NPT (QTHA-2MB0)	(2) 1/4" female BSPP (QTHA-2FB0-RG)
Construction	Aluminum, brass, plated steel, stainless steel	Aluminum, brass, plated steel, stainless steel
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Weight	3.7 lb (2.5 kg), with stand 6.2 lb (2.8 kg)	3.7 lb (2.5 kg), with stand 6.2 lb (2.8 kg)

Ordering Information	
QTVC volume controllers with NPT connections	
Model	Description
QTVC-1MBA-6'-3'	1/8" male NPT gauge adapter (QTHA-1MBA), 2 hoses, 2 process connections
QTVC-2MBA-6'-3'	1/4" male NPT gauge adapter (QTHA-2MBA), 2 hoses, 2 process connections
QTVC-2FBA-6'-3'	1/4" female NPT gauge adapter (QTHA-2FBA), 2 hoses, 2 process connections
QTVC-0000-0-0	QTVC only, no gauge connection, no hoses, no process connections
QTVC volume controllers with BSPP connections*	
Model	Description
QTVC-2FBA-RG-2m-1m	1/4" female BSPP gauge adapter (QTHA-2FBA-RG), 2 hoses, 2 process connections
QTVC-3FBA-RG-2m-1m	3/8" female BSPP gauge adapter (QTHA-3FBA-RG), 2 hoses, 2 process connections
QTVC-4FBA-RG-2m-1m	1/2" female BSPP gauge adapter (QTHA-4FBA-RG), 2 hoses, 2 process connections
Add -FKIT	Field calibration kit - includes padded shoulder strap, metal hardware
Add -LKIT	QTVC Laboratory kit - includes non-skid stand, bulkhead male Quick-test port

* Not for sale in North American market

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Pressure Calibration Nitrogen Sources NPAK (3000 psi / 210 bar)

Self contained nitrogen source, regulator, precision fine adjust, hoses, gauge adapters and process connections provide a complete pressure control solution for doing nitrogen calibration of pressure instruments in remote locations.

Features:

- Proprietary pressure balanced fine adjustment piston allows for extremely precise, finger-tip control of pressure at 0.03 psi (2 mbar) or 3000 psi (210 bar) or any range in between.
- Easily refillable nitrogen cylinder holds enough gas for multiple calibrations
- Nylon bag to hold hose and fittings attached to inside of lid
- Includes storage compartment in control panel for pressure reference test gauge
- Low volume Quick-test hose, gauge adapter and process connection can be attached to NPAK without thread sealant or a wrench
- Optional padded strap for field use (NPAK-STRP)
- Made in U.S.A.



(Reference gauge not included)

Pressure Calibration Nitrogen Sources

NPAK (3000 psi / 210 bar)

Specifications		
NPAK connection type	National Pipe Thread (NPT)	British Parallel Thread (BSPP)*
Maximum pressure	3000 psi (210 bar)	3000 psi (210 bar)
Pressure media	Compressed nitrogen	Compressed nitrogen
Fine adjust resolution	± 0.0005 psi (0.035 mbar)	± 0.0005 psi (0.035 mbar)
Mechanical rotation	42 turn (pressure balanced)	42 turn (pressure balanced)
Operating temperature range	0° to 130°F (-18° to 56° C)	0° to 130°F (-18° to 56° C)
Cylinder capacity	15.3 ft ³ (430 l)	15.3 ft ³ (430 l)
Cylinder pressure gauge	2.5" (6.5 cm) psi / bar scale, ± 0.5% full scale accuracy	2.5" (6.5 cm) psi / bar scale, ± 0.5% full scale accuracy
Regulated pressure gauge	2.5" (6.5 cm) psi / bar scale, ± 0.5% full scale accuracy	2.5" (6.5 cm) psi / bar scale, ± 0.5% full scale accuracy
Over pressure relief	3200 psi (221 bar) relief pressure	3200 psi (221 bar) relief pressure
Reference connection (brass)	See below	See below
Quick-test hose 1 (brass ends)	6 ft (183 cm) long (QTQT-HOS-6')	2 m (6.6 ft) long (QTQT-HOS-2m)
Quick-test hose 2 (brass ends)	3 ft (92 cm) long (QTQT-HOS-3')	1 m (3.3 ft) long (QTQT-HOS-1m)
Process connection (brass)	(2) 1/4" male NPT (QTHA-2MB0)	(2) 1/4" female BSPP (QTHA-2FB0-RG)
Inlet port (stainless steel)	Male Quick-test with check-valve, cap and chain	Male Quick-test with check-valve, cap and chain
Outlet ports (stainless steel)	(2) Male Quick-test with cap, and chain	(2) Male Quick-test with cap, and chain
Construction	Aluminum, brass, plated steel	Aluminum, brass, plated steel
Internal connections	Stainless steel tubing, tube fittings	Stainless steel tubing, tube fittings
Case	Vented high impact ABS plastic	Vented high impact ABS plastic
Seal material	Buna-N, Teflon™, Delrin™	Buna-N, Teflon™, Delrin™
Dimensions	18.5 x 14.6 x 7.5 in (47 x 37 x 19 cm)	18.5 x 14.6 x 7.5 in (47 x 37 x 19 cm)
Weight	28.8 lb (13.0 kg)	28.8 lb (13.0 kg)

Ordering Information	
NPAK calibration source NPT connections	
Model	Description
NPAK-1MBA-6'-3'	1/8" male NPT gauge adapter (QTHA-1MBA), 2 hoses, 2 process connections
NPAK-2MBA-6'-3'	1/4" male NPT gauge adapter (QTHA-2MBA), 2 hoses, 2 process connections
NPAK-2FBA-6'-3'	1/4" female NPT gauge adapter (QTHA-2FBA), 2 hoses, 2 process connections
NPAK-0000-0-0	NPAK only, no gauge connection, no hoses, no process connections
NPAK calibration source BSPP connections*	
Model	Description
NPAK-2FBA-RG-2m-1m	1/4" female BSPP gauge adapter (QTHA-2FBA-RG), 2 hoses, 2 process connections
NPAK-3FBA-RG-2m-1m	3/8" female BSPP gauge adapter (QTHA-3FBA-RG), 2 hoses, 2 process connections
NPAK-4FBA-RG-2m-1m	1/2" female BSPP gauge adapter (QTHA-4FBA-RG), 2 hoses, 2 process connections

* Not for sale in North American market

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Moisture, Fluid Trap (3000 psi / 210 bar)

Increases confidence and efficiency in pneumatic calibrations by eliminating unwanted fluid or moisture that can contaminate a pressure calibrator or Nitropak

Features:

- Quick-release lid allows for easy cleaning of dirt or liquid without tools
- Entraps fluid and debris out of system to prevent blocking or plugging
- High pressure trap is ideal for pneumatic systems
- Compatible with all Ralston Instruments Quick-test hoses and adapters
- Comes with either only Quick-test ports (for use with Nitropak) or with both Quick-test ports and NPT top and bottom connections
- Made in U.S.A.



Specifications	
Pressure range	3000 psi (210 bar)
Bottom port (stainless steel)	Female Quick-test (QTHA-3SSA-LD)
Top port (stainless steel)	Male Quick-test (QTHA-3SSA)
Material	Anodized aluminum, stainless steel
Seal material	Buna-N, Teflon™
Weight	1.2 lb (540 g)

Ordering information:	
TRSO trap with stainless steel NPT connections	
Model	Description
NPAK-TRSO	Trap with no top connection, no bottom connection
NPAK-TRSO-2MS0-2FSA	Trap with 1/4" female NPT (QTHA-2FSA) top connection, 1/4" male NPT (QTHA-2MS0) bottom connection

For accessories, repair kits and hoses see page 17. For a complete list of accessories and parts see product manual or detailed specification sheet. For a list of the most commonly used gauge and process connections see page 18. For a complete list refer to Ralston Instruments *Pressure Connection* catalog. Contact your Ralston Instruments dealer or the factory for information on reference gauges and pressure calibration kits.

Accessories, Repair Kits and Calibration Hose



QTAP-CASE

Accessories	
Model	Description
QTHP-CASE	HPGV, XHGV, HP0V, XH0V pump carrying case holds (1) pump, (2) gauges, ABS plastic
QTAP-CASE	APGV, APOV, VPGV pump carrying case holds (1) pump, (2) gauges, ABS plastic
DP0V-CASE	DP0V, DPPV pump carrying case holds (1) pump, (2) gauges, ABS plastic
QTVC-CASE	QTVC volume controller carrying case holds QTVC with gauge, ABS plastic
QTHA-HSBG	QTCM, QSCM bag, holds manifold, hoses and adapters, zippered nylon
NPAK-HSBG-VC	NPAK bag to hold hoses and adapters in Nitropak, zippered nylon with Velcro
QTHP-HYDL	Bottle of ISO-32 hydraulic calibration oil, 12 fl oz (355 ml)
QTVC-LKIT	QTVC Laboratory kit - includes non-skid stand, bulkhead male Quick-test port
NPAK-STRP	Shoulder strap for NPAK, QTVC, padded, adjustable, nylon, steel hardware, black

For a complete list of accessories see product manual or detailed specification sheet



NPAK-STRP

Repair kits and parts	
Model	Description
QTHP-REPK	HPGV, XHGV, HP0V, XH0V pump repair kit
QTAP-REPK	APGV, APOV pump repair kit
DP0V-REPK	DP0V pump repair kit, includes (2) pressure check valves
DP0V-0040	(2) pressure check valves for DP0V pump
DP0V-0045	(2) vacuum check valves to convert DP0V to vacuum pump
DPPV-REPK	DPPV pumps repair kit, includes (1) pressure and (1) vacuum check valve
QTVP-REPK	VPGV pumps repair kit, includes (2) vacuum check valves
QTCM-REPK	QTCM, QSCM manifold repair kit
QTVC-REPK	QTVC volume controller repair kit
NPAK-REPK	NPAK nitrogen calibration source repair kit

For a complete list of parts see product manual or detailed specification sheet

Quick-test calibration hose (female Quick-test hose ends)	
Model	Description
AP0V-0010	(1) 3' hose with brass ends, (1) 1/4" Male NPT brass process connection
QTQT-HOS-2'	Brass hose ends, 2 ft (0.6 m) long
QSQS-HOS-2'	Stainless steel hose ends, 2 ft (0.6 m) long
QTQT-HOS-3'	Brass hose ends, 3' (92 cm) long
QTQT-HOS-6'	Brass hose ends, 6' (183 cm) long
QTQT-HOS-20'	Brass hose ends, 20' (610 cm) long
QTQC-HOS-20'	Brass hose ends, check-valve 1 end, 20 ft (6.1 m) long
QSQN-HOS-20'	Stainless steel hose ends, check-valve 1 end, 20 ft (6.1 m) long
QTQT-HOS-1m	Brass hose ends, 1 m (3.3 ft) long
QTQT-HOS-2m	Brass hose ends, 2 m (6.6 ft) long

(For a complete list of Quick-test hoses refer to Ralston Instruments *Pressure Connection* catalog)



AP0V-0010

Gauge Adapters, Ports and Process Connections

National Pipe Thread (NPT) connections	
NPT gauge adapter for HPGV, XHGV, APGV pumps only	
Model	Description
SWIV-2FBW	1/4" Female NPT swivel, brass
NPT gauge adapters for DP0V, DPPV, VPGV, QTCM, QSCM, QTVC, NPAK	
Model	Description
QTHA-1MBA	1/8" male NPT X female Quick-test, brass
QTHA-1MSA	1/8" male NPT X female Quick-test, stainless steel
QTHA-2MBA	1/4" male NPT X female Quick-test, brass
QTHA-2MSA	1/4" male NPT X female Quick-test, stainless steel
QTHA-2FBA	1/4" female NPT X female Quick-test, brass
QTHA-2FSA	1/4" female NPT X female Quick-test, stainless steel
(For a complete list of NPT gauge adapters refer to Ralston Instruments <i>Pressure Connection</i> catalog)	
NPT process connections	
Model	Description
QTHA-1MB0	1/8" male NPT X male Quick-test, no check-valve, brass
QTHA-2MB0	1/4" male NPT X male Quick-test, no check-valve, brass
QTHA-2MS0	1/4" male NPT X male Quick-test, no check-valve, stainless steel
QTHA-1FB0	1/8" female NPT X male Quick-test, no check-valve, brass
QTHA-2FB0	1/4" female NPT X male Quick-test, no check-valve, brass
(For a complete list of NPT process connections refer to Ralston Instruments <i>Pressure Connection</i> catalog)	
Inlet and outlet ports for all pumps, manifolds, volume controllers, Nitropaks	
Model	Description
QTHA-3SB0	Male Quick-test x 3/8-24 SAE o-ring, brass
QTHA-3SS0	Male Quick-test x 3/8-24 SAE o-ring, stainless steel
QTHA-3SB1	Male Quick-test x 3/8-24 SAE o-ring with check valve, brass
QTFT-3SB0	Male Quick-test x 3/8-24 SAE o-ring with cap and chain, brass
QTFT-3SS0	Male Quick-test x 3/8-24 SAE o-ring with cap and chain, stainless steel
QTHA-3SBA	Female Quick-test x 3/8-24 SAE o-ring, brass
QTHA-3SSA	Female Quick-test x 3/8-24 SAE o-ring, stainless steel
QTHA-3S1F	1/8" female NPT x 3/8-24 SAE o-ring, brass
QTHA-3S2F	1/4" Female NPT x 3/8-24 SAE o-ring, brass
QTHA-5SB0	Male Quick-test x Male 5/16-24 SAE o-ring, brass (QTVC only)
QTFT-5SB0	Male Quick-test x Male 5/16-24 SAE o-ring with cap and chain, brass (QTVC only)
British Parallel Thread (BSPP, ISO 228/1) connections - (Not for North American market)	
BSPP gauge adapters for HPGV, XHGV, APGV pumps only	
Model	Description
SWIV-4GBW	1/2" female BSPP swivel, brass
BSPP gauge adapters for DP0V, DPPV, QTCM, QSCM, VPGV, QTVC, NPAK	
Model	Description
QTHA-2FBA-RG	1/4" female BSPP x female Quick-test, brass
QTHA-3FBA-RG	3/8" female BSPP x female Quick-test, brass
QTHA-4FBA-RG	1/2" female BSPP x female Quick-test, brass
(For a complete list of BSPP gauge adapters refer to Ralston Instruments "Pressure Connection" catalog)	
BSPP process connections	
Model	Description
QTHA-2FB0-RG	1/4" female BSPP x male Quick-test, no check-valve, brass
QTHA-2MB0-RS	1/4" male BSPP x male Quick-test, no check-valve, brass
(For a complete list of BSPP process connections refer to Ralston Instruments <i>Pressure Connection</i> catalog)	

Ralston Instruments Hoses and Adapters

Ralston Instruments Quick-test hoses and adapters are designed to provide leak-free connections for use in pressure calibration to 6900 psi (475 bar). Their unique, proprietary design has allowed Ralston Instruments to become a leading supplier of pressure calibration connection products.

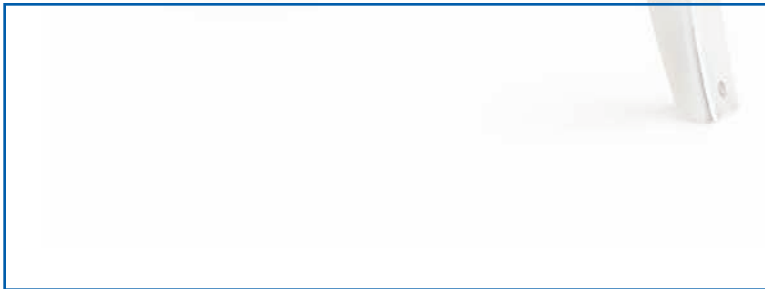
Quick-test hoses come in several standard models. Hoses can be made to order in any length with a large selection of hose ends to choose from. Ralston Instruments also makes a wide variety of process connections that allow the user to connect to virtually any process.

Please contact your Ralston Instruments dealer or the factory and request a *Pressure Connection* catalog which contains information on Quick-test hoses and adapters. All hose and adapter information is also available on the internet at: www.ralstoninst.com.





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Ralston Instruments, LLC

P.O. Box 340 Novelty Ohio 44072-0340

www.ralstoninst.com • 1.800.347.6575 • fax: 440.247.2634

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