

**Leaders in Service Equipment for
the Fire Extinguisher Service and
Cylinder Re-Testing Industry**



Hydro-Test Products Inc.

- CYLINDER HYDROSTATIC WATER JACKET TEST SYSTEMS**
- PNEUMATIC VISE STATIONS**
- VISUAL INSPECTION EQUIPMENT**
- CYLINDER MARKING STAMPS**
- HOT AIR CYLINDER DRYERS**
- DOT HAZMAT AND OPERATIONAL TRAINING**
- CARBON DIOXIDE FILLING PUMPS**
- DRY CHEMICAL FIRE EXTINGUISHER SERVICE EQUIPMENT**
- CLEAN AGENT FILLING AND RECLAIMING SYSTEMS**
- DOT / TC CALIBRATED CYLINDERS**
- DOT / TC CALIBRATED PRESSURE GAUGES**
- FIRE HOSE TEST PUMPS**
- CYLINDER ROLLERS / TUMBLERS**
- and more...**



www.hydro-test.com

Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942
Stow, Massachusetts, USA 01775



Hydro-Test Products Inc.

email: sales@hydro-test.com

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Visit www.hydro-test.com for easy on-line ordering - industry information - new products - special offers.

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TERMS AND CONDITIONS OF SALE

PRICES: ALL PRICES LISTED ARE IN U.S. FUNDS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

MINIMUM BILLING: MINIMUM BILLING IS \$25.00 (Exclusive of freight charges)

TERMS:

- NET 30 DAYS TO PRE ESTABLISHED ACCOUNTS
- DISCOUNTS ARE OFFERED FOR PREPAYMENT
- MASTER CARD - VISA AND AMERICAN EXPRESS ARE ACCEPTED

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SHIPPING: ALL SALES ARE F.O.B. STOW, MA., AND BECOME PROPERTY OF THE BUYER UPON SHIPMENT. ALL SHIPMENTS ARE MADE BY THE MOST ECONOMICAL MEANS AS DETERMINED BY HYDRO-TEST PRODUCTS. PREMIUM FREIGHT (UPS AIR, FEDERAL EXPRESS, ETC...) SERVICE IS MADE AVAILABLE TO ESTABLISHED ACCOUNTS, OTHERWISE CARRIER ACCOUNT NUMBER MUST BE SUPPLIED FOR FREIGHT BILLING. OTHER CHARGES: APPLICABLE TAXES (MA.), SPECIAL PACKAGING, EXPORT DOCUMENTATION, PREMIUM FREIGHT OR OTHER UNIQUE CHARGES ARE PAYABLE BY THE BUYER

RETURNS: CONTACT HYDRO-TEST PRIOR TO MAKING ANY RETURNS FOR R.A. #, AND INSTRUCTIONS. A MINIMUM RESTOCKING CHARGE OF 15% APPLIES TO ALL SALEABLE GOODS ACCEPTED AS AN ACCOMMODATION TO THE BUYER. UNAUTHORIZED RETURNS WILL NOT BE ACCEPTED. RETURNS ARE TO BE MADE TO **85 HUDSON ROAD, STOW, MA. 01775.**

WARRANTY: HYDRO-TEST WARRANTS THAT ALL MERCHANDISE IS FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP WHEN SHIPPED FOR A PERIOD OF 12 MONTHS ON MAJOR EQUIPMENT, 30 DAYS ON CONSUMABLE REPLACEMENT COMPONENTS (I.E. VALVES , SEALS, HOSES, QUICK COUPLERS, ADAPTERS, ETC...), AND THOSE COMPONENTS ON MAJOR EQUIPMENT UNDER NORMAL USAGE. FOR EQUIPMENT OR ITEMS NOT MANUFACTURED BY HYDRO-TEST PRODUCTS THE ORIGINAL MANUFACTURERS WARRANTY SHALL BE IN EFFECT. IT IS THE RESPONSIBILITY OF THE BUYER TO INSPECT PRODUCT UPON RECEIPT WITHIN 10 DAYS. IF DAMAGE HAS OCCURRED IN SHIPPING OF PRODUCT IT IS THE BUYERS RESPONSIBILITY TO MAKE THE CLAIM WITH FREIGHT COMPANY. ALL WARRANTY WORK IS ON A FOB STOW, MA. BASIS AND EXCLUDES ANY / ALL FREIGHT SHIPPING COST. THERE ARE NO ADDITIONAL IMPLIED WARRANTIES AND IN NO EVENT WILL HYDRO-TEST PRODUCTS BE LIABLE FOR INCIDENTAL OR COINCIDENTAL DAMAGES.

ON-LINE ORDERING IS AVAILABLE AT www.hydro-test.com



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Page ii

INTRODUCTION

The requalification (visual inspection and hydrostatic testing) of DOT/TC compressed gas cylinders, ASME coded pressure vessels, fire protection containment cylinders / fire hose and pipe / pressure components, offers a profitably viable business opportunity with minimal initial capital equipment investment. The addition of in-house test capability enhances both the quality and expediency of services provided to your customers.

In evaluating and designing an efficient service facility, one should consider:

(1) Your Market

A wide spectrum of industries utilize pressure vessels requiring requalification under similar regulations, many of which can be incorporated into a single hydrostatic test station. There are over 300,000,000 DOT/TC cylinders in service that must be periodically requalified. Industrial gas, carbonic, oxygen therapy, CO₂ beverage, SCUBA dive, SCBA breathing, fire extinguishers, refrigerant, cylinders can be test requalified using a single test station. Some prefer to service only their own customers, while others solicit different markets to maximize utilization of equipment.

(2) Your Facility

Blueprints of the proposed floor plan should be developed to maximize utilization of existing, or new, floor space, taking into consideration : efficient (minimum) handling of test subject, location of utilities (water, electric, compressed air) –overhead I-beam to carry a hoist- recessed pit and drain for water jacket, etc.

(3) Selection of Equipment

Determination of desired test pressure capability and physical sizes (diameter and height) of the largest cylinders to be tested (ie by the water jacket method) must be specified. Test pressure ranges to 10,000 psi and a range of cylinder holding jackets from 6 to 34 inch diameter x any height, are available as ‘standard’ product. Anticipated production rates (ie. tests per hour / day) will dictate the need for optional enhancements to ensure maximum production with minimum labor requirement.

(4) Test Equipment Controls

Fully automated, computer controlled, and manually operated test stations, as well as hybrids, are manufactured by Hydro-Test Products, Inc.

(5) Complimentary Service Shop Equipment and Accessories

Hydro-Test Products Inc. offers all accessory product necessary in outfitting a fully equipped service facility. Cylinder handling (vises /valving machines / inverters), dryers (heated air and PLC controlled hot water), hoists and air compressor, visual inspection and record keeping tools, etc, are available, as needed.

(6) Training and Service

Training (including Hazmat) on the proper operation and maintenance is included with each test station. Technical assistance is also provided.

Hydro-Test sales and engineering staff is available to assist you in the design of your service facility and to provide a no obligation, detailed quotation covering the equipment needed to meet your test application requirements.

Visit www.hydro-test.com for easy on line ordering - industry information - new products - special offers.

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GUIDELINES FOR GETTING STARTED IN THE CYLINDER TESTING BUSINESS

Starting into a new business venture can be overwhelming. As in any new business it is important that you investigate the potential for new business and be sure that you purchase equipment from a reputable supplier. Hydro-Test has been in this industry for 50 years. We have helped new business develop and assisted in the growth of existing companies by supplying the correct equipment at an affordable price.

Step 1: Decide what type of cylinders you want to test

An important first step. If you want to test just portable size cylinders (under 34" tall) you do not need a pit. This may be a concern if you are renting your building.

Step 2: Contact Hydro-Test for a complete detailed quotation

We have ready made quotes on our website or you can email, call or fax us your request and we will get a quotation off to you. Unlike some other companies you may have dealt with, when Hydro-Test offers a quotation, it is a full quote on all of the equipment required to retest cylinders. Don't get fooled into thinking all you need is a hydro machine. Vises, dryers, stamps, record forms, wrenches, training, etc... are required to secure your DOT license.

Step 3: Contact an Independent Inspection Agency (IIA)

A list of inspection agencies is available on our quote(s) or on our website. The inspectors do charge for there services. You will want to get a price from them to complete your cost analysis.

Step 4: Review your final cost

Now that you have all of your equipment cost in place, add in other expenses (labor, possible re-design of floor space, re-occurring cost, utilities required to operate equipment,etc...) and decide if this is a profitable venture.

Step 5: Order up equipment.

During this time period is suggested that you also **a)** Discuss the training options offered by Hydro-Test in the equipment quotation. Remember, you must be trained. Hydro-Test has many viable options for training. Refer to this catalog or our website. **b)** Contact the IIA to schedule the inspection

Step 6: Get DOT facility inspection

Once equipment is operational and training has been received, have the IIA visit your facility for the DOT inspection. Once inspection has been successfully performed, you typically receive your DOT license within 4 weeks.

Step 7: Keep up to date on any regulation changes and information by signing up for our free service at hydro-test.com.



WE ARE HERE TO ASSIST YOU IN THE SOMETIME COMPLICATED WORLD OF DOT APPROVAL AND TRAINING. LET US KNOW WHEN YOU ARE READY AND WE WILL WALK YOU THROUGH THE STARTUP AND BE WITH YOU THRU THE SUCCESSFUL COMPLETION.

www.hydro-test.com

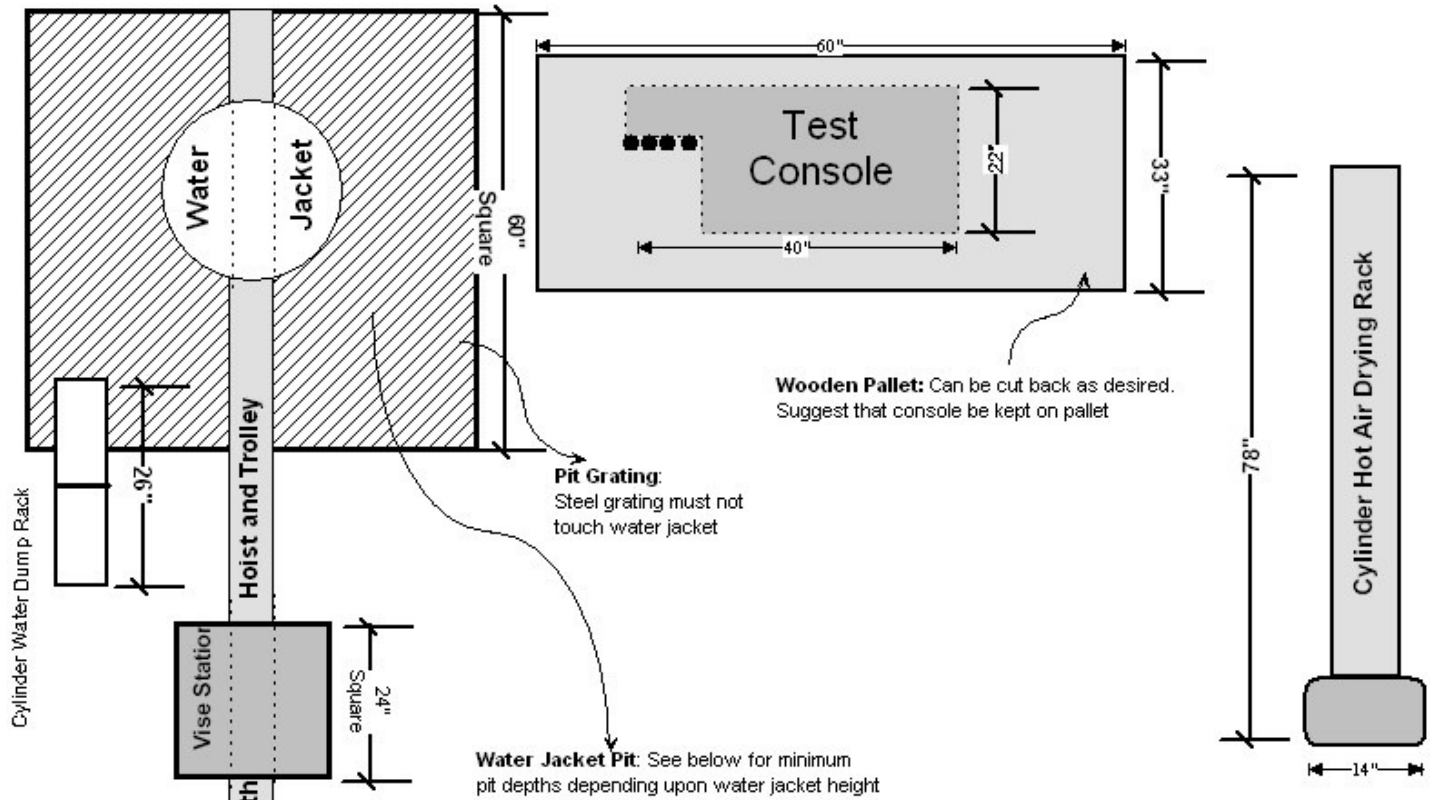
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TYPICAL FLOOR PLAN FOR WATER JACKET TEST SYSTEM



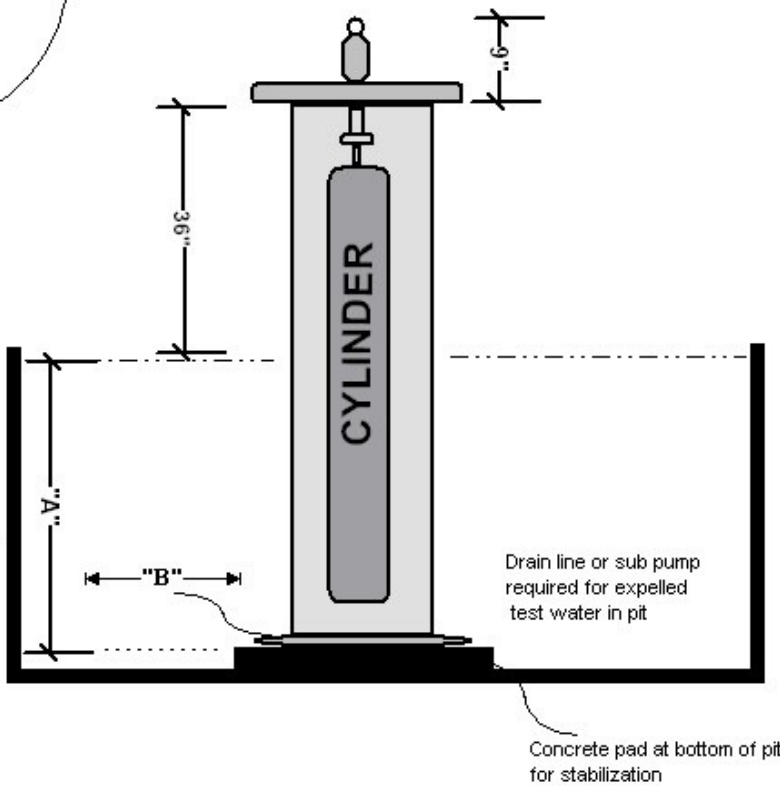
Length of Jacket	Dia of Jacket	Hit Depth ("A")	Base Plate Dia. ("B")
40"	14"	No Pit Required	30"
40"	18"	No Pit Required	36"
40"	24"	No Pit Required	42"
66"	14"	30"	20"
72"	18"	36"	24"
72"	24"	36"	30"

IMPORTANT NOTES

The above dimensions are for our standard size water jackets. If your water jacket size is not listed, please call us and we will be pleased to advise you on a floor plan and pit size.

Pit is shown 60" x 60". You may want to go larger for future expansion, or you may want to go smaller in size due to room size constraints.

Pit depths are predicated upon 12' height from floor to underside of I-beam. If I-Beam / ceiling are lower than 12', you may need to increase the depth of your pit.



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METHODS FOR REQUALIFYING DOT SPECIFICATION CYLINDERS

WATER JACKET TEST METHOD

This method is applicable to all hydrostatic tests where determination of volumetric expansions are required. It consists of enclosing a cylinder filled with water inside a test jacket filled with water. Pressure is then applied internally to the cylinder, causing the cylinder to expand. The total and permanent volumetric expansions of the cylinder are determined by measuring the amount of water displaced by the expansion of the cylinder when under pressure and after the pressure has been released. This is the only testing method that will requalify a cylinder for charging to 10% in excess of the marked service pressure. All retesters shall have a Requalifiers Identification Number (RIN) issued by the D.O.T./OHMS. In Canada test facilities are registered with T.C.

DIRECT EXPANSION TEST METHOD

This method is applicable to hydrostatic tests when volumetric expansion determinations are required. It consist of forcing a measurable volume of water into a cylinder filled with a known weight of water at a known temperature, and measuring the volume of water expelled from the cylinder when the pressure is released. The permanent volumetric expansion of the cylinder is calculated by subtracting the net volume of water expelled from the cylinder from the volume of water forced into the cylinder. The total volumetric expansion of the cylinder is calculated by subtracting from the total volume of water forced into the cylinder (in attaining test pressure),the volume of water due to compressibility and volumetric expansion of the test apparatus. Regulations do not permit this testing method to be used to qualify a cylinder for charging to 10% in excess of marked service pressure. All retesters shall have a Requalifiers Identification Number (RIN) issued by the D.O.T./OHMS. In Canada test facilities are registered with T.C.

PROOF TEST METHOD

This method is permitted where the regulations do not require the determination of total and permanent expansion. It consist of examining a cylinder under pressure for leaks, bulges and any visible defects. Certain specification containers, used exclusively in noncorrosive service, may be retested by this method. All retesters shall have a Requalifiers Identification Number (RIN) issued by the D.O.T./OHMS. In Canada test facilities are registered with T.C.

VISUAL INSPECTION METHOD

This method is permitted where the regulations do not require a hydrostatic test of any kind. An example of a cylinder than is allowed to be visual inspected in place of a hydrostatic test is a propane cylinder. As of May 31, 2004 all whom perform requalification via visual inspection shall have a Requalifiers Identification Number (RIN) issued by the D.O.T./OHMS. In Canada test facilities are registered with T.C.



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Page 3

HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

507-HP Series
Computer Controlled Test Operation
High Pressure Testing (2000 psi - 10,000psi)



This style test system is typically used to test high pressure cylinders (CO₂, N₂, SCUBA, SCBA, O₂). This test system is designed for high volume testing shops.

Features:

Test Range of 2000 – 10,000 psi

Ability to Operate Manually or Automated Air Operated Test Pump

- Stainless Steel Water Section
- Soft Seated Check Valves
- Contaminant Free Design

Your Choice of 6 Different Water Jacket Sizes

- Pneumatic or Manual Lid Closures
- Low Pressure Safety Port
- High / Low Pressure Bleed Valves

Calibrated Master Pressure Gauge

- Class 3A, 1/4% Accuracy - 8.5" Diameter
- 11,000 psi x 20 psi Increments
- For Use In Periodic Verification of System

Digital Expansion Scale

- 700g Expansion Capacity x 0.1g Increments

Calibrated Cylinder for Full Test Range

- Steel Construction
- Expansion Chart and Adapter Included

Automated Test Software

Computer Hardware Included

- Laptop - Printer

Enamel Painted Steel Cabinet

Removable Plexiglass Front Panel

Safety Relief

Set of 7 Test Adapters

Instructional Manual

Training Seminar at our Facility

Calibration Certificates

Automated test software calculates total, permanent and elastic expansion. Test is performed at the touch of a button. Test log and calibrated cylinder reports print in a clean - mistake free - professional looking form. Easy to understand load screen and history screen. **DOT / TC warnings if verification is not performed properly.**

Test can be performed manually for ease in troubleshooting. As with all of our water jacket test systems - free training is included in the purchase price.

DEPENDABLE - EASY TO OPERATE - MEETS D.O.T. AND T.C. SPECIFICATIONS

This Fully Automated Cylinder Test System Has Been Designed With The Operator In Mind. A Comfortable Working Height With Easy Access To All Of The Components And Ease Of Operations Makes This The Test System Of Choice.

See Next Page For A Listing Of Available Test Console And Water Jacket Combinations ➡

One of the smartest moves a company can make is to get initial cylinder re-qualification training. It is critical that the designated operator knows how to operate the equipment and comply with the rules and regulations prior to the on-site inspection. With this in mind, Hydro-Test Products offers the initial required training free of charge (at our facility in Massachusetts) with the purchase of a water jacket hydrostatic cylinder test system. Alternatively, we have on-site training and setup at an additional cost. Please see **Page 67** for a complete details on all of our training opportunities.

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HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

507-HP Series
Computer Controlled Test Operation
High Pressure Testing (2000 psi - 10,000psi)

Test System shown with 14" diameter x 66" tall water jacket with optional pneumatic lid closure



Water Jacket Pit



FLOOR LEVEL

Complete - With Water Jacket Size Of Your Choice

Model No.	Water Jacket Size		Maximum Cylinder Size		Type of Water Jacket Lid Closure
	Dia (")	Height (")	Dia (")	Height (")	
507-HP-14S-M	14	40	12	34	Manual
507-HP-14S-P	14	40	12	34	Pneumatic
507-HP-14-M	14	66	12	60	Manual
507-HP-14-P	14	66	12	60	Pneumatic
507-HP-18S-M	18	40	16	34	Manual
507-HP-18S-P	18	40	16	34	Pneumatic
507-HP-18-M	18	72	16	66	Manual
507-HP-18-P	18	72	16	66	Pneumatic
507-HP-24S-M	24	40	22	34	Manual
507-HP-24S-P	24	40	22	34	Pneumatic
507-HP-24-M	24	72	22	66	Manual
507-HP-24-P	24	72	22	66	Pneumatic
507-HP	Test Console Only - No Water Jacket, Calibrated Cylinder or Test Adapters				

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 115V Electrical supply
- 8CFM of 100 psi pre regulated shop air
- Pit for water jacket(s) over 40" tall

The electronics on this system require 115V-50/60Hz electrical. If you reside in a country that has 220V, you will need an electrical step down voltage converter.

Notes:

- 1) 40" tall water jackets sit on floor - no pit required
- 2) Other options are available see page13



Model 170-070

Frequency Voltage Converter

- 200 Watts Max Step Down voltage converter
- Converts 220/240 V to 110/120V
- Comes with 2-round pin Euro Plug
- Led indicator light
- Thermal Fuse protection

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HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

500-HP Series Manually Operated High Pressure Testing (2000 psi - 10,000 psi)

This test system is typically used in an industry testing high pressure cylinders (CO₂, N₂, SCUBA, SCBA, O₂)



Features:

Test Range of 2000 – 10,000 psi

Air Operated Test Pump

- Stainless Steel Water Section
- Soft Seated Check Valves
- Contaminant Free Design

Your Choice of 6 Different Water Jacket Sizes

- Low Pressure Safety Port
- High / Low Pressure Bleed Valves
- Choice of Manual or Pneumatic Closure

Calibrated Pressure Gauge

- Class 3A, 1/4% Accuracy - 8.5" Diameter
- 11,000 psi x 20 psi Increments

Pressure Pulsation Dampener

Calibrated Cylinder for Full Test Range

- Steel Construction
- Expansion Chart and Adapter Included

Digital Scale for Expansion Reading

- 700g(cc) Net Scale x 0.1g(cc)
- Calibration Weights Included

Enamel Painted Steel Cabinet

Safety Relief

Set of 7 Test Adapters

- For CO₂, N₂, SCUBA, O₂, SCBA

Valves -Tubing - Hoses To Complete System

Video and Written Instructional Manuals

Training Seminar at our Facility

Calibration Certificates

Picture Shown with Optional Burette Bank Assembly

- 25, 50, 125, 360cc Burette Tubes

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 8CFM of 100 psi pre regulated shop air
- Pit for water jacket(s) over 40" tall

DEPENDABLE - EASY TO OPERATE - MEETS D.O.T. AND T.C. SPECIFICATIONS

The Workhorse Cylinder Test System Of The Compressed Gas Industry. A Standard System Can Be Purchased Initially And Options Can Be Added On As Your Business Grows.

See Page 12 For A list Of Options Available

See Next Page For A Listing Of Available Test Console And Water Jacket Combinations ➡

One of the smartest moves a company can make is to get initial cylinder re-qualification training. It is critical that the designated operator knows how to operate the equipment and comply with the rules and regulations prior to the on-site inspection. With this in mind, Hydro-Test Products offers the initial required training free of charge (at our facility in Massachusetts) with the purchase of a water jacket hydrostatic cylinder test system. Alternatively, we have on-site training and setup at an additional cost. Please see **Page 67** for a complete details on all of our training opportunities.

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HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

500-HP Series
Manually Operated
High Pressure Testing (2000 psi - 10,000 psi)

Test System shown with 14" diameter x 40" tall water jacket and digital expansion scale with optional burette tubes as a backup

Our Experienced Sales and Engineering Staff
 Are Only a Phone Call or Email Away to Assist
 You in Choosing The Correct Test Station

Choose Your Test System By Water Jacket
 Size and Type of Lid Closure Desired.



Model No.	Water Jacket Size		Maximum Cylinder Size		Type of Water Jacket Lid Closure
	Dia (")	Height (")	Dia (")	Height (")	
500-HP-14S-M	14	40	12	34	Manual
500-HP-14S-P	14	40	12	34	Pneumatic
500-HP-14-M	14	66	12	60	Manual
500-HP-14-P	14	66	12	60	Pneumatic
500-HP-18S-M	18	40	16	34	Manual
500-HP-18S-P	18	40	16	34	Pneumatic
500-HP-18-M	18	72	16	66	Manual
500-HP-18-P	18	72	16	66	Pneumatic
500-HP-24S-M	24	40	22	34	Manual
500-HP-24S-P	24	40	22	34	Pneumatic
500-HP-24-M	24	72	22	66	Manual
500-HP-24-P	24	72	22	66	Pneumatic
500-HP	Test Console Only - No Water Jacket, Calibrated Cylinder or Test Adapters				

Notes:

- 1) 40" tall water jackets sit on floor - no pit required
- 2) Test System is available with either burette tubes and/or digital scale
- 3) Other options are available see page 12
- 4) See following pages for low pressure (under 3000 psi) test systems

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HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

500 -LP Series
Manually Operated
Low Pressure Testing (200 psi - 1400 psi)

Test System shown with 14" diameter x 66" tall water jacket and digital expansion scale with optional burette tubes as a backup



This test system is typically used in an industry testing low pressure, DOT specification 4B series cylinders only
Complete - With Water Jacket Size Of Your Choice

Features:

- ◆ **Test Range of 200 – 1400 psi**
- ◆ **Air Operated Test Pump**
 - √ Stainless Steel Water Section
 - √ Soft Seated Check Valves
 - √ Contaminant Free Design
- ◆ **Your Choice of 6 Different Water Jacket Sizes**
 - √ Low Pressure Safety Port
 - √ High / Low Pressure Bleed Valves
- ◆ **Calibrated Pressure Gauge(s)**
 - √ Class 3A, 1/4% Accuracy - 8.5" Diameter
 - √ 0-1500 psi x 2 psi Increments
- ◆ **Pressure Pulsation Dampener**
- ◆ **Calibrated Cylinder for Full Test Range**
 - √ Expansion Chart and Adapter Included
- ◆ **Digital Scale for Expansion Reading**
 - √ 700g(cc) Net Scale x 0.1g(cc)
 - √ Calibration Weights Included
- ◆ **Enamel Painted Steel Cabinet**
- ◆ **Safety Relief**
- ◆ **Set of 3 Test Adapters**
- ◆ **Video and Written Instructional Manuals**
- ◆ **Training Seminar at our Facility**
- ◆ **Calibration Certificates**

Picture Shown with Optional Burette Bank Assembly

- 25, 50, 125, 360cc Burette Tubes

Model No.	Water Jacket Size		Maximum Cylinder Size		Type of Water Jacket Lid Closure
	Dia (")	Height (")	Dia (")	Height (")	
500-LP-14S-M	14	40	12	34	Manual
500-LP-14S-P	14	40	12	34	Pneumatic
500-LP-14-M	14	66	12	60	Manual
500-LP-14-P	14	66	12	60	Pneumatic
500-LP-18S-M	18	40	16	34	Manual
500-LP-18S-P	18	40	16	34	Pneumatic
500-LP-18-M	18	72	16	66	Manual
500-LP-18-P	18	72	16	66	Pneumatic
500-LP-24S-M	24	40	22	34	Manual
500-LP-24S-P	24	40	22	34	Pneumatic
500-LP-24-M	24	72	22	66	Manual
500-LP-24-P	24	72	22	66	Pneumatic
500-LP	Test Console Only - No Water Jacket, Calibrated Cylinder or Test Adapters				

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 8CFM of 100 psi pre regulated shop air
- Pit for water jacket(s) over 40" tall

Notes:

- 1) 40" tall water jackets sit on floor - no pit required
- 2) Test System is available with either burette tubes or digital scale, or is available with both
- 3) Other options are available see page 12

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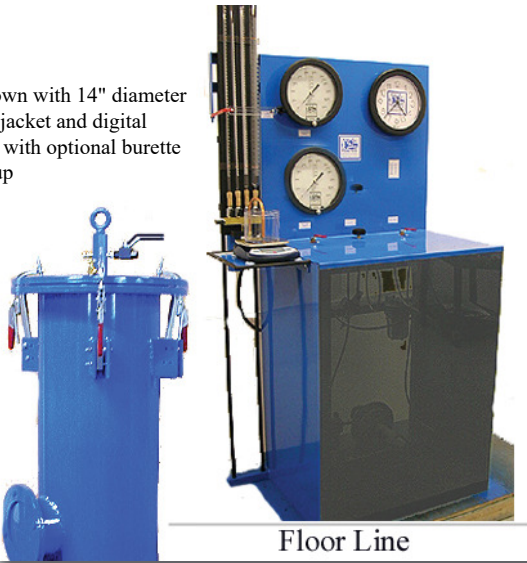
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HYDROSTATIC "WATER JACKET" CYLINDER TEST SYSTEMS

500 -LHP Series
Manually Operated
High and Low Pressure Testing (200 psi - 10,000 psi)

Test System shown with 14" diameter x 66" tall water jacket and digital expansion scale with optional burette tubes as a backup



This style test system is typically used in an industry testing low pressure, DOT specification 4B series cylinders and high pressure cylinders (CO₂, N₂, SCUBA, SCBA, O₂)

Complete - With Water Jacket Size Of Your Choice

Features:

- ◆ **Test Range of 200 – 10,000 psi**
- ◆ **Air Operated Test Pump**
 - ✓ Stainless Steel Water Section
 - ✓ Soft Seated Check Valves
 - ✓ Contaminant Free Design
- ◆ **Your Choice of 6 Different Water Jacket Sizes**
 - ✓ Low Pressure Safety Port
 - ✓ High / Low Pressure Bleed Valves
- ◆ **Calibrated Pressure Gauge(s)**
 - ✓ Class 3A, 1/4% Accuracy - 8.5" Diameter
 - ✓ 0-11,00 psi x 20 psi Increments
 - ✓ 0-1500 psi x 2 psi Increments
- ◆ **Pressure Pulsation Dampener**
- ◆ **Calibrated Cylinder for Full Test Range**
 - ✓ Steel Construction
 - ✓ Expansion Chart and Adapter Included
- ◆ **Your Choice of Burette Tubes or Digital Scale for Expansion Reading**
- ◆ **Enamel Painted Steel Cabinet**
- ◆ **Safety Relief**
- ◆ **Set of 7 Test Adapters**
- ◆ **Video and Written Instructional Manuals**
- ◆ **Training Seminar at our Facility**
- ◆ **Calibration Certificates**

Picture Shown with Optional Burette Bank Assembly
 • 25, 50, 125, 360cc Burette Tubes

Model No.	Water Jacket Size		Maximum Cylinder Size		Type of Water Jacket Lid Closure
	Dia (")	Height (")	Dia (")	Height (")	
500-LHP-14S-M	14	40	12	34	Manual
500-LHP-14S-P	14	40	12	34	Pneumatic
500-LHP-14-M	14	66	12	60	Manual
500-LHP-14-P	14	66	12	60	Pneumatic
500-LHP-18S-M	18	40	16	34	Manual
500-LHP-18S-P	18	40	16	34	Pneumatic
500-LHP-18-M	18	72	16	66	Manual
500-LHP-18-P	18	72	16	66	Pneumatic
500-LHP-24S-M	24	40	22	34	Manual
500-LHP-24S-P	24	40	22	34	Pneumatic
500-LHP-24-M	24	72	22	66	Manual
500-LHP-24-P	24	72	22	66	Pneumatic
500-LHP	Test Console Only - No Water Jacket, Calibrated Cylinder or Test Adapters				

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 8CFM of 100 psi pre regulated shop air
- Pit for water jacket(s) over 40" tall

Notes:

- 1) 40" tall water jackets sit on floor - no pit required
- 2) Test System is available with either burette tubes or digital scale, or is available with both
- 3) Other options are available see page 12

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HYDROSTATIC "DIRECT EXPANSION" CYLINDER TEST SYSTEMS

501 Series
Manually Operated Test Operation
Direct Expansion Low Pressure Testing (200 psi - 1400psi)



Part No. 501-15

Digital Expansion Readout Optionally Available to Replace Reservoir Burette

This style test system is used in the Chlorine / Refrigeration Industry for testing of 1/2 and 1 ton cylinders. This type of test is limited to these types of vessels.

For this type of testing the customer may need to supply a cylinder that the Independent Inspector will make into a calibrated cylinder. Optionally at the DOT discretion the Master Gauge can be used as a daily verification instrument.

Features:

- ◆ **Test Range of 200 - 1400 psi**
- ◆ **Air Operated Test Pump**
 - √ Stainless Steel Water Section
 - √ Soft Seated Check Valves
 - √ Contaminant Free Design
- ◆ **Calibrated Pressure Gauge**
 - √ Class 3A, 1/4% Accuracy - 8.5" Dia.
 - √ 0-1500 psi x 2 psi Increments
- ◆ **Calibrated Master Pressure Gauge**
 - √ Class 3A, 1/4% Accuracy - 8.5" Dia.
 - √ 1500 psi x 2 psi Increments
- ◆ **3000cc x 10cc Reservoir Burette**
- ◆ **Enamel Painted Steel Cabinet**
- ◆ **Safety Relief**
- ◆ **Set of 3 Test Adapters**
- ◆ **Instructional Manual**
- ◆ **Calibration Certificates**

COMBINATION "DIRECT EXPANSION" AND "WATER JACKET" HYDROSTATIC CYLINDER TEST SYSTEMS

502 Series
Manually Operated Test Operation
Direct Expansion Low Pressure Testing (200 psi - 1400psi)
and Water Jacket High / Low Pressure Testing



This style test system is used in the Chlorine / Refrigeration Industry for testing of 1/2 and 1 ton cylinders. This system can also be used to water jacket test cylinders for high or low pressure applications

This uniquely manufactured system allows for a variety of different test pressure and water jacket size combinations. Please contact our experienced sales staff for pricing on a system that meets your requirements.

All options on page 12 are available with this test system

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 8CFM of 100 psi pre regulated shop air
- Pit for water jacket(s) over 40" tall

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MOBILE WATER JACKET TESTING SYSTEM

Hydro-Test has outfitted a number of customer supplied vehicles / trailers with water jacket test systems. This allows you to bring the cylinder re-qualification to your customer. The U.S. Department of Transportation allows mobile cylinder testing, however there are additional license requirements.



Unique overhead hoist with frame assembly



Model 500-2010
Small footprint test console with 10" dia. water jacket



A great alternative for testing of SCBA cylinders - Reduce the fire departments down time by testing their cylinders at their fire house.

Features:

- Test range of 2000 - 8000 psi
- Small footprint test cabinet: 64"H x 16"W x 16"D
- Ability to test at customers site
- 10" diameter x 38" tall water jacket
- Allows testing of cylinders to 8.5" dia x 32" tall
- Air operated test pump
- Digital readout of expansions scale

Utilities Required to Operate

- Stable and consistent air and water temperatures
- Inlet water supply
- 8CFM of 100 psi pre regulated shop air
- Minimum of 98" ceiling height
- 115Volt-20amp electrical

A complete equipment setup includes;

- Water jacket test system
- Vise
- Dryer
- Pamphlets
- Stamps
- Overhead hoist assembly
- Operational and DOT required hazmat training

Complete Equipment Cost
Under \$15,000.00
(does not include vehicle)



Purchase the mobile cylinder testing equipment from Hydro-Test, drive your vehicle to us in Stow, Massachusetts and we include the installation of the equipment on your vehicle as well as operational and DOT required hazmat training.

Contact us for a complete and detailed quotation on this unique mobile setup

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email: sales@hydro-test.com

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OPTIONS FOR WATER JACKET TEST SYSTEMS

WATER JACKET TEST RECORD SOFTWARE

Allows For Correct Entries of Hydro Test in a Clean Professional Manner



Supplied on a USB Thumb Drive

- Requires Windows 7.0 or greater operating system
- Available USB port
- Printer
- 4GB RAM
- 20MB Available hard drive space

Use this software to replace your hand written forms

- Performs all of the math
- Allows DOT / TC warnings to display if not within regulations for verification
- Sortable and printable history field
- Store records on hard drive or print out

ID	Owner	Serial #	Mfg ID	Size	Spec/Svc. Press	Test Pressure	Test Time	Actual Pressure	Visual Inspection	Test Result	Date Tested	Operator	Releas Years
1	Bruce's Garage	9112878	Luder	7.25" x 28"	DOT3AL3000	0	30	5,040	Pass	Pass	12/14/2015 13:42	JH	5
2	Bruce's Garage	9112878	Luder	7.25" x 28"	DOT3AL3000	0	30	5,040	Pass	Pass	12/14/2015 13:42	JH	5
3	Bruce's Garage	9844576	Luder	7.25" x 28"	DOT3AL3000	0	30	5,100	Pass	Fail	12/14/2015 13:43	JH	5
4	Georges Fire Extg...	L5548889	SCI	8" x 22"	DOT3AL1800	0	30	3,000	Pass	Pass	12/14/2015 13:45	JH	5
5	Georges Fire Extg...	X811287ST	Luder	8" x 25"	DOTSP1094	0	30	7,500	Pass	Fail	12/14/2015 13:47	JH	5
6	Georges Fire Extg...	V85998265	Norris	9" x 48"	DOT3AA2400	0	30	4,010	Pass	Pass	12/14/2015 13:49	JH	5
7	Georges Fire Extg...	V85998265	Norris	9" x 48"	DOT3AA2400	0	30	4,010	Pass	Pass	12/14/2015 13:49	JH	5
8	The Fire Dept.	K7554887	Norris	9" x 48"	UN - ISO 9082	0	180	7,250	Pass	Pass	12/14/2015 13:59	JH	10
9	Penn State Univ.	89785542	Luder	8" x 32"	DOT3AL3000	0	30	5,000	Pass	Pass	01/27/2016 15:57	TF	5

New and improved history screen:

- Allows sorting by any field
- Sorting by date range
- Easy exporting of files to Excel if required
- Print directly from history screen - selected files or all files
- Find any tested cylinder quickly and easily

Test Data Screen
<ul style="list-style-type: none"> • Type in test results and pass/fail criteria • Automatically pass / fail based on test criteria • Performs all math calculations • Optional DOT / TC warning applied if test is not within verification points required in regulations • Plus stamping results calculated and recorded • REE testing input allows pass/fail on REE only

Part No. 393-507
See Page 42
for further details

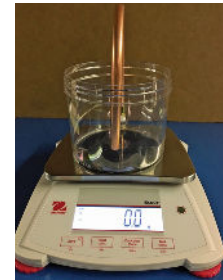
Verification Screen
<ul style="list-style-type: none"> • Allows unlimited calibrated cylinder templates • Pick and choose what pressures you want to verify • Performs all math calculations for system accuracy <p>DOT / TC warning is displayed if:</p> <ol style="list-style-type: none"> 1. Pressures verified at do not meet the regulations 2. Calibrated cylinder does not return to zero expansion

DIGITAL SCALE FOR MEASURING OF EXPANSION

Available as an option for older test systems or can be purchased on a new test system as a replacement for the burette tubes assembly

- ◆ 700g Capacity x 0.1g Increments
- ◆ Operates on 115V - With battery Backup
- ◆ Steel Shelf Plate Bolts to Side of Your Existing Cabinet
- ◆ Provides for Easier Reading of Cylinder Expansions
- ◆ Easily Retrofitted to Existing Test Systems

Part No. 500-014



PNEUMATIC OPERATED LID CLOSURES FOR WATER JACKETS

Available as an option for older test systems or can be purchased on a new test system as a replacement for the manual style clamps



Diameter of Water Jacket	Part no. for Pneumatic Operated Clamps
10"	500-199
14"	500-199
18"	500-200
24"	500-201

- ◆ Offer a More Positive Seal Than Manual Clamps
- ◆ Tremendous Time and Labor Savor
- ◆ Easily Retrofitted to Existing Water Jackets
- ◆ Requires 100 psi of Shop Air

MULTI SPUD LIDS FOR WATER JACKETS

- ◆ Allows for Loading / Un-loading of a Number of Cylinders at One Time
- ◆ Tremendous Time and Labor Savor
- ◆ Easily Retrofitted to Existing Water Jackets
- ◆ Cylinders are tested Individually
- ◆ Full Size Cylinders Require a Support Frame

Part No.	Diameter of Water Jacket	# of Cyls Lid Can Handle	Max. Dia of Each Cyl.
500-889	14"	3	4.25"
500-220	18"	3	7.5"
500-225	24"	3	10"
500-230	24"	4	8"
500-235	24"	6	6.125"
500-890	24"	7	5"



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UPGRADE OPTIONS FOR EXISTING WATER JACKET TEST SYSTEMS

HIGHER PRESSURE UPGRADE

Most Cylinder Test Systems Manufactured prior to 1990 are rated to 5000 or 7500 psi. With Higher Test Pressures Now Being Seen, It May Be Profitable For Your Company To Upgrade Your Existing Test System To 10,000 psi.



Part No. 500-UP-10 The Upgrade Kit Includes:

Part No.	Description
190-416	Air operated test pump (rated to 16,000psi)
190-450	Inlet Air pump accessory kit (regulator, filter, lubricator, muffler)
140-234	Calibrated cylinder to 10,000 psi (9.25" dia. x 33" tall)
140-001	Pressure gauge, 0-11,000psi
120-112	Safety relief device
120-089	High pressure water jacket bleed valve
200-100	8' Long high pressure outlet hose
Misc. high pressure fittings	
Installation manual	

LOW PRESSURE UPGRADE

With The Addition Of A Lower Range Gauge and A Means Of Verifying At Lower Pressures (calibrated cylinder), You Can Expand Your Testing To Encompass Low Pressure Cylinders.

Part No. 500-004



The Kit Includes:

This upgrade will allow testing in the 200 - 1400 psi range

Part No.	Description
140-005	0-1500 psi x 2 psi increment pressure gauge
120-083	Isolation pressure valve
120-019	Low pressure safety device
Misc. pressure fittings and tubing	
Installation manual	

Note: A calibrated cylinder is required to verify accuracy to 1% within 10% of test pressures. An additional calibrated cylinder may be required if your existing calibrated cylinder is not calibrated in this lower range.

ADD ADDITIONAL TEST JACKET

With Multiple Operators, The Addition Of A Second Test Jacket Can Speed Up The Cylinder Testing Process. While One Cylinder Is Being Tested, The Second Operator Can Be Loading The Second Test Jacket. A Dual 3-Way Valve Package is Offered For Two Jacket Setups.

By Upgrading to A 18" or 24" Diameter Test Jacket Optional Multi Spud Lids Can Be Utilized. (see previous page for information on multi spud lids)



Part No. 500-050

Part No.	Description	Accepts Cyls In Size To:	
		Dia.	Lgth
500-019S	14"Dia x 40"Tall with splash pan	12"	34"
500-019	14"Dia x 66"Tall	12"	60"
500-020S	18"Dia x 40"Tall with splash pan	16"	34"
500-020	18"Dia x 72"Tall	16"	66"
500-021S	24"Dia x 40"Tall with splash pan	22"	34"
500-021	24"Dia x 72"Tall	22"	66"

Stainless Steel Test Jackets Are Available Upon Request

All Test Jackets Include:

- ◆ Splash Pan on 40" Tall Models
 - ◆ Inlet & Outlet Water Connections
 - ◆ Manual Lid Closures
 - ◆ Low Pressure Rupture Port(s)
 - ◆ High and Low Pressure Bleed Valves
 - ◆ Master Spud with Lifting Eye
- (pneumatics are optionally available- see previous page)

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AUTOMATED HYDROSTATIC "PROOF" TEST EQUIPMENT

With the influx of UN specification cylinders now being purchased and used in the USA, Hydro-Test is pleased to become the first cylinder test equipment manufacturer to offer an Automated Proof Test System. This easy to use test stand is a must for those that are testing or are going to be testing UN specification cylinders or any other specification cylinders that are allowed a proof test in place of a water jacket volumetric test. Other popular types of cylinders would be dry chemical fire extinguishers and Propane cylinders, both can be re-qualified by the Proof Test Method.

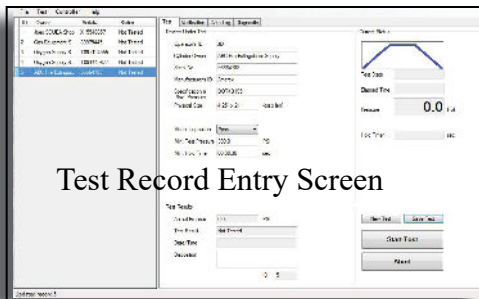


New
Automated Proof
Test Equipment

Features:

- Available in 2 configurations: Low Pressure and High Pressure
- Master dial gauge meets DOT and ISO Requirements
- Test pressures up to 10,000 psi
- Compact test console
- Windows based software design
- Test, records and prints all with the click of a keyboard mouse
- Pneumatic operated test pump
- Slim design laptop
- Pre-loaded hydrotest software
- Printer
- Easy to remove Plexiglass front
- Ability to operate manually or automated
- Small footprint allows for mobility
- Pressure bleed valve mounted on cabinet
- Training provided free of charge with purchase

Foot Print: 65"H x 26"D x 22"W



Test Record Entry Screen

Utilities Required To Operate:

- 8 CFM @ 100 psi of pre-regulated shop air
- Inlet water connection to back of console
- 115V-1Phase 20Amp electrical

- **Speed up Your Proof Testing**
- **Keep Accurate Automated Records**
- **Meets DOT and ISO Requirements**

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AUTOMATED HYDROSTATIC "PROOF" TEST EQUIPMENT

Model 504-LP

Low Pressure Automated Proof Test Machine
Designed for Testing Dry Chemical Fire Extinguishers
- System Cylinders & Propane Cylinders

Pneumatic Operated Test Pump
Test Pressure Range: 200-1400 psi
Operates Automated or Manual

Includes:

- Hydrotest software
- Laptop Computer
- Windows Operating System
- Ink Jet Printer
- Plexiglass Removable Front
- 0-1500 psi x 2 psi** Master Pressure Gauge
- Compact Cabinet Design
- Wheels for Easy Mobility
- 8' Long Outlet Pressure Hose
- All Valves-Tubing & Hoses to Complete System

Test Pressure Range:
200-1400 psi



Foot Print:
 65"H x 26"D x 22"W

Model 504-HP

High Pressure Automated Proof Test Machine
Designed for Testing UN Specification Cylinders &
Special Permit Cylinders Where Proof Test is Allowed

Pneumatic Operated Test Pump
Test Pressure Range: 2000-10,000 psi
Operates Automated or Manual

Includes:

- Hydrotest software
- Laptop Computer
- Windows Operating System
- Ink Jet Printer
- Plexiglass Removable Front
- 0-11,000 psi x 20 psi** Master Pressure Gauge
- Compact Cabinet Design
- Wheels for Easy Mobility
- 8' Long Outlet Pressure Hose
- All Valves-Tubing & Hoses to Complete System

Test Pressure Range:
2000-10,000 psi



Foot Print:
 65"H x 26"D x 22"W

For Those That Will Be Testing The UN Specification Cylinders, You Must Have On Hand The DOT Title 49 - Applicable CGA Pamphlets and ISO Specifications as required under CFR Title 49 §180.205(c)(1),(2),(3),(4)

ISO specifications are offered as follows: See Page 65 for download details

Part No.	ISO Specification No.	Description
393-6406	ISO 6406	Periodic inspection and testing of seamless steel gas cylinders
393-10461	ISO 10461	Periodic inspection and testing of aluminum alloy gas cylinders
393-11623	ISO 11623	Periodic inspection and testing of composite gas cylinders

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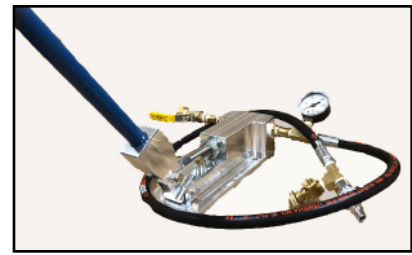
MANUAL AND AIR OPERATED HYDROSTATIC "PROOF" TEST EQUIPMENT

TEST PUMP ASSEMBLIES



Item A

- ◆ Designed for Larger Volume Vessels
- ◆ Air Operated on 100 psi
- ◆ 8' Long Outlet Hose
- ◆ Pressure Bleed Off Valve
- ◆ Inlet Garden Hose Connection
- ◆ Inlet Air Filter Regulator
- ◆ Safety Relief Device
- ◆ 4" Dia. Pressure Gauge
- ◆ Steel Base Plate



Item C

- ◆ Manually Operated
- ◆ 4' Long Outlet Hose
- ◆ Pressure Bleed Off Valve
- ◆ Inlet Garden Hose Connection
- ◆ Operating Handle
- ◆ 1000 psi Pressure Gauge



Item B

- ◆ Designed for Small Volume Vessels
- ◆ Air Operated on 100 psi
- ◆ 8' Long Outlet Hose
- ◆ Pressure Bleed Off Valve
- ◆ Inlet Garden Hose Connection
- ◆ Inlet Air Filter Regulator
- ◆ Safety Relief Device
- ◆ 1000 psi Pressure Gauge
- ◆ Steel Base Plate

Item D

- ◆ Manually Operated
- ◆ Operating Handle
- ◆ Inlet/Outlet Check Valves
- ◆ Stainless Steel Water Section
- ◆ Steel base Plate



Does not include gauge, hose or bleed valve. Contact factory if required

Item	Model No	Type	Rating (psi)		GPM	Gauge Range
			Pump	System		
A	500-810	Air	1000	1000	2.0	0-1000
A	500-825	Air	6100	5000	0.9	0-5000
A	500-845	Air	16,000	10,000	0.3	0-10,000
B (*)	500-801	Air	1500	1000	0.5	0-1000
C (*)	500-026B	Manual	1000	1000	0.9	0-1000
D	500-150	Manual	3000	---	0.53	upon request
D	500-155	Manual	4300	---	0.37	upon request
D	500-160	Manual	6800	---	0.21	upon request
D	500-165	Manual	12,000	---	0.13	upon request

() Recommended as Fire Extinguisher Cylinder Testing Pumps*

DOT/TC SPECIFICATION PROOF TEST GAUGE ASSEMBLY

When requalifying U.S. Department of Transportation or Transport Canada specification cylinders, the equipment must meet certain requirements as set forth in CFR49 and CGA C-1 pamphlet. A dual gauge assembly must be used to perform accuracy verification of proof test equipment prior to testing. Gauges must have 1% readability and be recalibrated periodically. Equipment must be able to demonstrate 1% overall accuracy to within 10% of pressures being tested to that day. NFPA #10 also requires the use of a calibrated gauge.

- ◆ (2) 0-1100 psi x 2 psi Increment Gauges x 6" Diameter
- ◆ Calibrated to 1/2% Accuracy
- ◆ Isolation Valve
- ◆ 4' Long Outlet Hose to attach to test pump
- ◆ Mounted on Steel Base Plate
- ◆ Includes Operational DVD

Part No. 140-415



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LARGE VOLUME HYDROSTATIC "PROOF" TESTING EQUIPMENT

ELECTRIC OPERATED TEST PUMPS

- Ideal For Fire Hose Testing • Portable Design • Outer Steel Case

- ◆ 10 ft Outlet Hose x 1/2"MNPT
 - ◆ Glycerin Filled Pressure Gauge
 - ◆ Safety Relief & By-Pass Valve
 - ◆ Carrying Handle
- (115V-1PH-60HZ)



Model No.	Motor		Pump	
	H.P.	Amp.	Range(psi)	GPM
500-301	3/4	11.5	0-350	3.0
500-302	3/4	11.5	0-500	2.0
500-303	1	13.0	0-750	2.2
500-304	1 1/2	19.0	0-1000	2.2

GASOLINE ENGINE OPERATED TEST PUMPS

- ◆ 10 ft Outlet Hose x 1/2"MNPT
- ◆ Glycerin Filled Pressure Gauge
- ◆ Safety Relief & By-Pass Valve



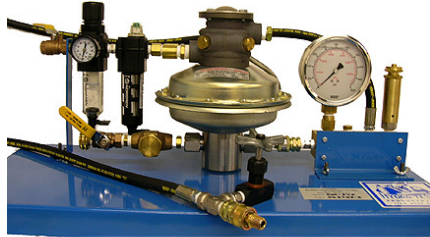
Model No.	Engine	Pump	
	H.P.	Range(psi)	GPM
500-305	4	0-500	3.0
500-306	5	0-400	10.0



Model No. 500-305

Model No. 500-306

AIR OPERATED TEST PUMP



- ◆ Rated to 1000 psi
- ◆ 2 GPM Output
- ◆ Stainless Steel Water Pump Section
- ◆ 10 ft Outlet Hose x 1/4"MNPT
- ◆ 0-1000psi Pressure Gauge
- ◆ Safety Relief
- ◆ Inlet Air / Filter Regulator
- ◆ Inlet Air Control Valve
- ◆ Soft Seated Check Valves
- ◆ Mounted on Steel Base Plate

Operates on 8CFM @ 100 psi of Pre-Regulated Shop Air

Model No. 500-810

FIRE HOSE TEST ADAPTERS AND FITTINGS

Adapters are precision machined with NST threads. Adapters to convert NST to NPSH are also available. The fire hose nozzle is typically used on the opposite end of the hose as an air bleed and shutoff

Part No.	Description
100-508	Test Adapter: 1 1/2"(M)NST x 1/2" (F)NPT
100-512	Test Adapter: 2 1/2"(M)NST x 1/2" (F)NPT
80-088	Thread Adapter: 1 1/2"(F)NST x 1 1/2"(M)NPSH
80-068	Thread Adapter: 2 1/2"(F)NST x 2 1/2"(M)NPSH
110-001	Quick Coupler: 1/2" (F)NPT
110-002	Quick Coupler Nipple: 1/2"(M)NPT



Part No. 500-330

3 STATION HOSE MANIFOLD

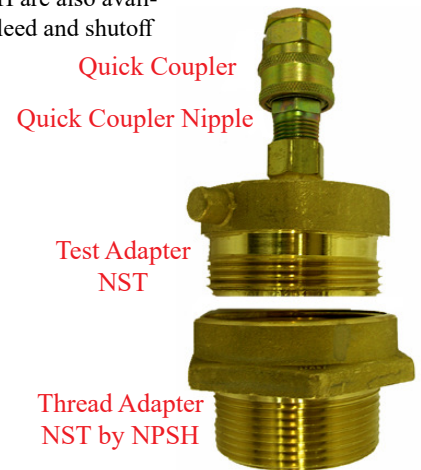
Speeds up the testing process - by testing multiple lengths of hose at one time

- ◆ Easily Attaches To Any Test Pump
- ◆ Individual Shutoff Valves
- ◆ All Brass Construction



Part No. 393-362

NFPA #1962 Standard for the Care, Use, Inspection, Service Testing of Fire Hose



Quick Coupler

Quick Coupler Nipple

Test Adapter NST

Thread Adapter NST by NPSH

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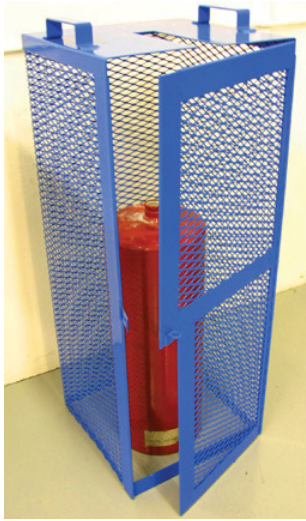


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ADDITIONAL ITEMS FOR FIRE EXTINGUISHER "PROOF TESTING"

Additional items are required to properly and safely test portable fire extinguisher cylinders. Below is information on these additional items



Safety Test Cages

Part No. 300-050
12" Square x 32" Tall
 Designed for hand held portable fire extinguishers

Part No. 300-052
18" Square x 50" Tall
 Designed for extinguisher system cylinders

- ◆ As Required by NFPA 10
- ◆ Steel Mesh Construction
- ◆ Hinged Door
- ◆ 2 Sizes to Choose From
- ◆ Top Opening for Test Hose
- ◆ Carrying Handles

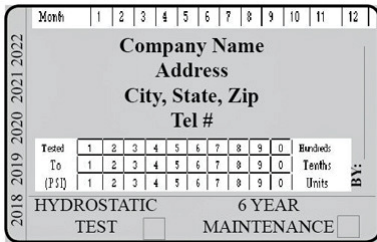


Calibrated Pressure Gauges to Meet DOT and NFPA Requirements for Proof Testing

- (2) 0-1100 psi x 2 psi Increment Gauges x 6" Diameter
- Calibrated to 1/2% Accuracy
- Isolation Valve
- 4' Long Outlet Hose to attach to test pump
- Mounted on Steel Base Plate
- Includes Operational DVD

Part No. 140-415

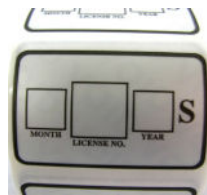
FIRE EXTINGUISHER TEST LABEL



Part No. 393-025

- ◆ Meets NFPA 10 Specifications
- ◆ 3.5" x 2.25" in Size
- ◆ Coated for Protection
- ◆ Self Destruct Void Feature
- ◆ 500 Labels per Roll
- ◆ Price Includes 4 Line Imprint
- ◆ Fast 3 Week Delivery

PROOF TEST LABEL FOR DOT SPEC CYLINDERS



Part No. 393-012

- ◆ Preprinted With "S"
 - ◆ 2" x 1.25" Die Cut Label
 - ◆ Coated for Protection
 - ◆ Self Destruct Void Feature
 - ◆ 50 Labels per Roll
 - ◆ As Required By DOT
- available with RIN number preprinted*

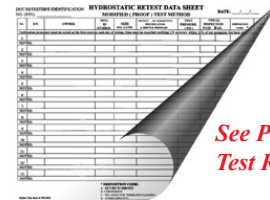
TAG/LABEL PUNCH



Part No. 230-014

- ◆ 7/8" Reach
- ◆ Nickel Plated Body

MANUALLY KEPT TEST RECORD FORM



See Page 43 For Proof Test Record Software

Part No. 393-003

- ◆ 8.5" x 11" in Size
- ◆ 13 Test per Sheet
- ◆ 50 Sheets per Pad
- ◆ Verification Recording on Backside
- ◆ Required For DOT Testing

NFPA #10
 Pamphlet

Part No. 393-350



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CYLINDER VISE STATIONS

Pneumatic Operated

- ◆ Operates on 60 - 80 psi of Shop Air
- ◆ Rubber Belted to Protect Cylinder Finish
- ◆ Unique "Center Pull" Design Eliminates Belt Slippage
- ◆ Removable - Adjustable Shelf Plate
- ◆ Accepts Cylinder Diameters From 3" to 12"
- ◆ Includes Small Cylinder Fixture for Cyls Under 5" Diameter
- ◆ Steel Base Plate (24" square) With Mounting Holes
- ◆ **Shipping Weight: 220 Lbs**

Part No. 510-010



Optional Shelf

- ◆ Great for Holding Stamps, Wrenches, Adapters...
- ◆ Easily Bolts Onto Hydro-Test Vise

Part No. 510-045



Manually Operated



- Unique detachable design allows vise to be bench mounted
- Designed for portable or full size cylinders
- Manually operated strap belt system
- Rubber Belted to Protect Cylinder Finish
- Removable Shelf Plate
- Accepts Cylinder Diameters From 4" to 12"
- Steel Base Plate (10" square) With Mounting Holes
- **Shipping Weight: 165 Lbs**

This vise is designed as a lower cost option to our pneumatic vise for valving and de-valving Aluminum and Steel cylinders in a lower volume operation.

The versatility of being a bench mount or upright vise makes this an excellent choice for SCUBA and SCBA retest facilities

Part No. 510-061
Bench Vise Only

Part No. 510-060
Vise Stand with Detachable
Bench Vise



BENCH VISE FOR PORTABLE FIRE EXTINGUISHERS

Designed to Hold O-ring Sealed Valved Portable Fire Extinguisher

Part No. 510-020
Air Operated



- ◆ Rubber Adjustable Pads
- ◆ Accepts to 9" Dia.
- ◆ Great for Service Vehicles
- ◆ Mounting Holes Provided on Steel Base Plate
- ◆ Choice of Manual or Air Operated

Part No. 510-019
Manual Operated



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VALVING / DE-VALVING MACHINES

For Removal and Insertion of Tapered Threaded Valves Into and Out of Industrial Gas Cylinders Under a Controlled Torque

Designed for those facilities that are valving and de-valving a large number of steel industrial gas cylinders. Allows one operator to easily and efficiently valve and de-valve up to 25 cylinders per hour.

Features:

- ◆ Adjustable Torque Limit Control With Override
- ◆ 1000 ft lbs of Hydraulic Powered Torque
- ◆ Adjustable Wrench Quick Coupled to Telescoping Wrench Arm
- ◆ Pneumatic Operated Rubber Belted Vise
- ◆ Accepts Cylinders to 12" Diameter x 58" Tall
- ◆ Enclosed Operating Control Panel
- ◆ Heavy Duty Steel Construction
- ◆ 36" x 48" Steel base Plate With Mounting Holes
- ◆ Dimensions: 36"W x 48"L x 132"T
- ◆ **Shipping Weight:** 1200 Lbs

Utilities Required

- 80 psi of shop air
- Electrical (see below)
- 12' Ceiling Height
- 15 Gallons of Hydraulic Fluid

Model No.	Electrical	HP	Wrench Speed (RPM)
520-001	115/230V-1PH-60Hz	2	7
520-002	230/460V-3PH-60Hz	2	7
520-009	230/460V-3PH-60Hz	5	21

50Hz electrical available upon request

See page 33 for torque wrenches and tools for verifying torque values against psi values of valving / de-valving machine



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CYLINDER DRYERS

LIGHT DUTY DESIGN FOR THIN WALL PORTABLE SIZE CYLINDERS



Model No. 530-003
Foot Print: 84"L x 8"D x 28"T

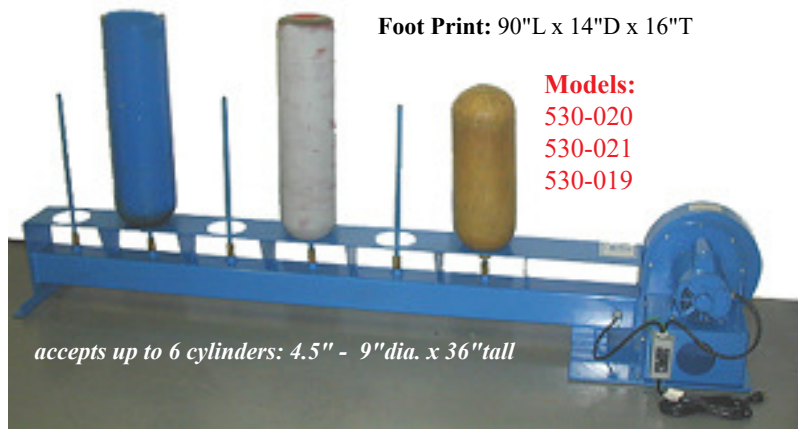
- ◆ 1/20 HP Electric Motor
- ◆ Operates only on 115V Electrical (draws 12amp)
- ◆ 1500 Watt Stainless Steel Heating Element
- ◆ Four or Six Outlets For Portable Size Cylinders
- ◆ Maximum Temperature of 130° F
- ◆ Will Dry Thin Wall Steel or Aluminum Cylinders in 30-40 Minutes (depending on ambient temperature)

Either Model Accepts Cylinders: 4.5" - 8"dia. x 36"tall



Model No. 530-010
 New space saving square design
 Can be shipped via UPS/Fedex
Foot Print: 25"L x 16"W x 14"T

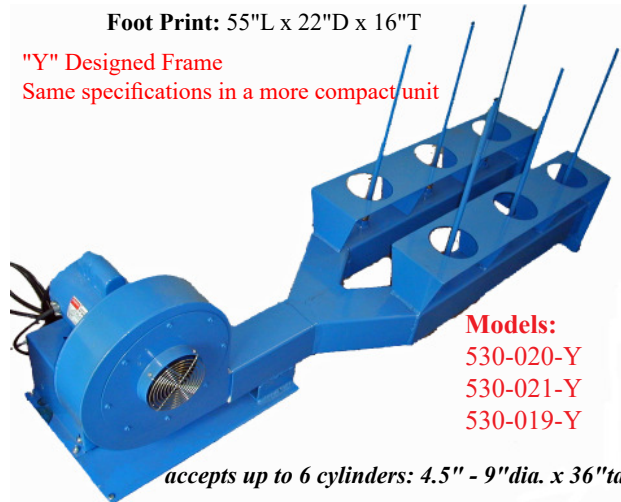
HEAVY DUTY DESIGN FOR PORTABLE SIZE INDUSTRIAL GAS CYLINDERS



Foot Print: 90"L x 14"D x 16"T

- Models:**
 530-020
 530-021
 530-019

accepts up to 6 cylinders: 4.5" - 9"dia. x 36"tall



Foot Print: 55"L x 22"D x 16"T

"Y" Designed Frame
 Same specifications in a more compact unit

- Models:**
 530-020-Y
 530-021-Y
 530-019-Y

accepts up to 6 cylinders: 4.5" - 9"dia. x 36"tall

- ◆ 1/2 HP Electric Motor
- ◆ Operates on 115V or 220v Electrical
- ◆ 1500 Watt Stainless Steel Heating Element
- ◆ Six Outlets For Portable Size Cylinders
- ◆ Maximum Temperature of 130° F
- ◆ Will Dry Steel or Aluminum Cylinders in 20-30 Minutes (depending on ambient temperature)

Model No.	Electrical	HP	Amp Draw
530-020	115V - 1 Phase - 60Hz	1/2	20
530-021	230V - 1 Phase - 60Hz	1/2	11
530-019	230V - 1 Phase - 50Hz	1/2	9
530-020-Y	115V - 1 Phase - 60Hz	1/2	20
530-021-Y	230V - 1 Phase - 60Hz	1/2	11
530-019-Y	230V - 1 Phase - 50Hz	1/2	9



Small cylinder (less than 4.5" diameter) adapter plate
 Easily sits on dryer frame of any of the above cylinder dryers
Part No. 530-012

Internal Drying Blow Gun Assembly

- Assist in getting all water droplets out of cylinder prior to drying
- Decreases drying time by up to 1/3rd
- Simple-Effective-Safe
- Hook up **regulated** dry air or nitrogen supply to 1/4"FNPT inlet
- Easy to operate on/off valve
- 4' flexible hose with blow gun and diffuser tip

Warning: Not intended for use with inlet pressure exceeding 100psi

Blast Water Droplets Out of Cylinders Before Drying



Part No. 230-015

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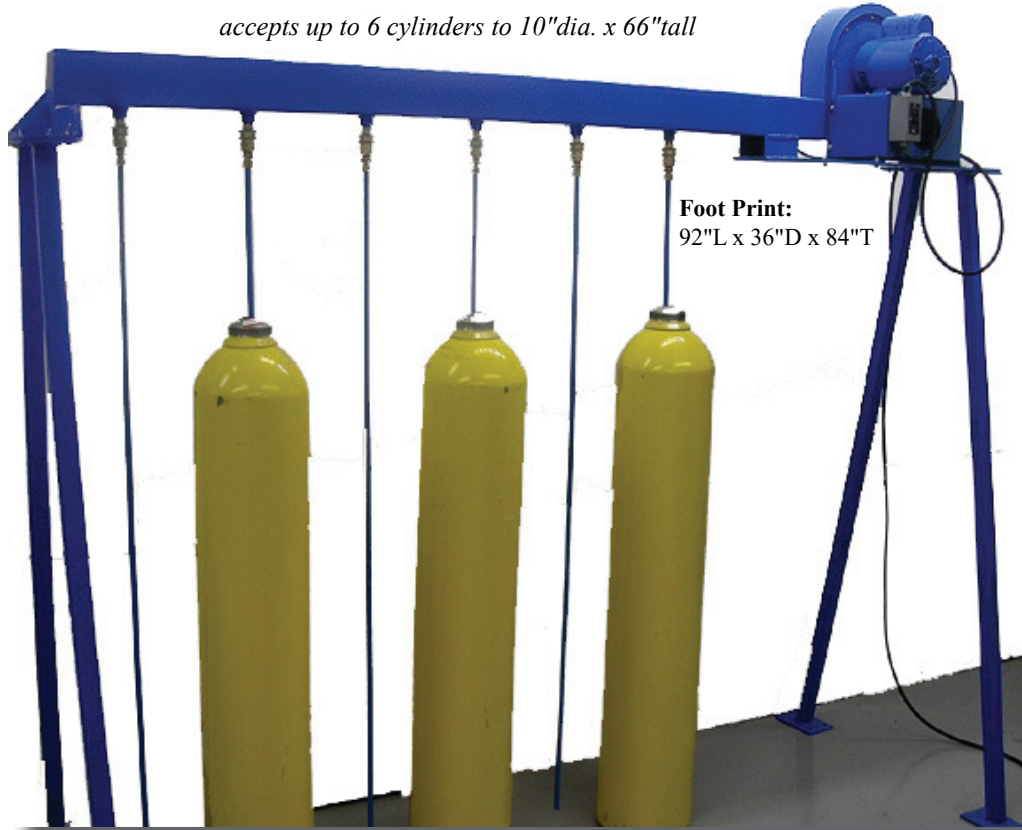
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CYLINDER DRYERS

HEAVY DUTY DESIGN FOR FULL SIZE INDUSTRIAL GAS CYLINDERS

accepts up to 6 cylinders to 10" dia. x 66" tall



- ◆ 1/2 HP Electric Motor
- ◆ Operates on 115V or 220v Electrical
- ◆ 1500 Watt Stainless Steel Heating Element
- ◆ Six Outlets For Full Size Cylinders
- ◆ Heating Tubes Quick Couple to Frame
- ◆ Support Legs Provided
- ◆ Maximum Temperature of 130° F
- ◆ Will Dry Steel or Aluminum Cylinders in 30-40 Minutes
(depending on environment)

Model No.	Electrical	HP	Amp Draw
530-022	115V - 1 Phase - 60Hz	1/2	20
530-023	230V - 1 Phase - 60Hz	1/2	11
530-024	230V - 1 Phase - 50Hz	1/2	9

OPTIONAL 2ND HEATING ELEMENT

Additional 1500 Watt heating Element Positioned Between 3rd and 4th Outlet Provides For More Uniform Heat On Last 3 Tubes

Factory Installed At Hydro-Test Only

- ◆ Available on 1/2 HP Heavy Duty Units Only
- ◆ Separate On/Off Switch
- ◆ Thermostatically Controlled

Part No.	For Electrical Service of:
530-033	115V
530-034	230V

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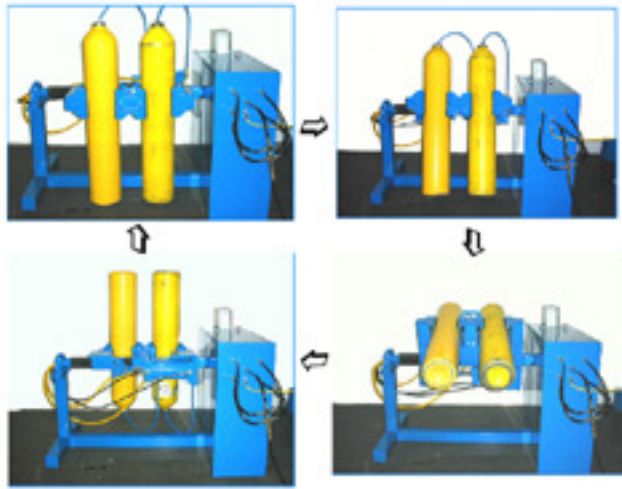


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CYLINDER HOT WATER DRYING & INVERTING

PLC CONTROLLED CYLINDER VISE - INVERTER - HOT WATER DRYER



- ◆ Automates the Inversion and Drying Sequence
- ◆ Accepts Full Size or Portable Industrial Gas Cylinders
- ◆ PLC Allows for Custom Time Sequences
- ◆ Completes Dumping of Water and Drying in 4 Minutes
- ◆ Padded Vise Jaws
- ◆ Heavy Duty Design

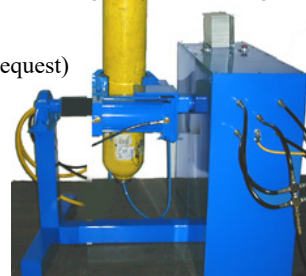
Utilities Required

- Hot water supply of 180° F @ 130GPH recovery
- 115V-1Phase-60Hz electrical (220V-50Hz available)
- 8CFM of 100 psi pre regulated shop air
- Regulated nitrogen supply tank
- Pit for expelled water

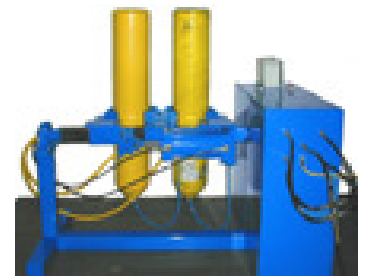
- Accepts cylinders in sizes of: 6-10" dia. x 45-60"H (other sizes upon request)
- Optional support stand available for portable cylinders
- Quick disconnect water tube for easy alignment

If Your Drying Area is a Bottleneck for Your Facility - This Will Speed Up Your Cylinder Drying Time

Single Cylinder Design



Dual Cylinder Design



Model No.	Description	Floor Space
510-025	Single Cylinder Vise-Inverter-Dryer	55"L x 48"W x 42"H
510-030	Dual Cylinder Vise-Inverter-Dryer	66"L x 48"W x 42"H
510-035	Single Cylinder Vise-Inverter (no hot water drying)	55"L x 48"W x 42"H
510-040	Dual Cylinder Vise-Inverter (no hot water drying)	66"L x 48"W x 42"H

HOT WATER HEATER

Designed to be used with our hot water cylinder dryer / inverters



Model 230-051

- Industrial Grade Construction
- 15 gallon capacity
- 30 KW
- 240V-3Phase-60hz electrical (220V-50Hz available upon request)
- Stainless steel pressure vessel provides maximum service life
- ASME Section VIII stamped vessel ensures high quality construction
- Heavy duty construction withstands demanding industrial use
- Packaged with all electrical operating controls for efficient installation
- Shipping weight: 120 Lbs
- Foot Print: 30"L x 18"W" x 18"H

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CYLINDER INVERSION RACK

MANUALLY OPERATED CYLINDER INVERSION RACKS



Model 540-001

- For use in inverting cylinders to expel test water
- Heavy steel construction
- Enamel paint finish
- Adjustable safety strap
- Two sizes available
- Floor Space: 30"L x 18"W

Model 540-003



Model No.	Description	Accepts Cylinders to:	
		Height	Dia.
540-003	Manual Inversion Rack for Portable Cyls.	24-32"	6-11"
540-001	Manual Inversion Rack for Full Size Cyls.	42-57"	6-11"



Detailed View of Retaining Strap
Part No. 210-050



Detailed View of Neck Slot In Inverted Position

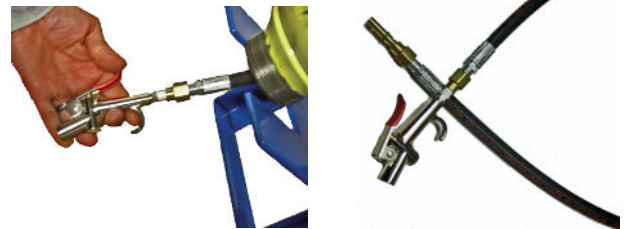


Detailed View of Neck Slot In Upright Position

Internal Drying Blow Gun Assembly

- Assist in getting all water droplets out of cylinder prior to drying
- Decreases drying time by upto 1/3rd
- Simple-Effective-Safe
- Hook up **regulated** dry air or nitrogen supply to 1/4"FNPT inlet
- Easy to operate on/off valve
- 4' flexible hose with blow gun and diffuser tip

Blast Water Droplets Out of Cylinders Before Drying



Part No. 230-015

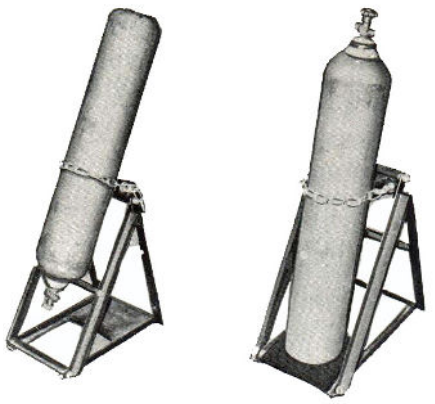
Warning: Not intended for use with inlet pressure exceeding 100psi

Inversion Rack For CO2 Supply Cylinder

Allows inverting of 50-100LB CO₂ Supply Cylinder that does not have a siphon tube. This allows CO₂ liquid to valve for easier transfer of liquid CO₂.

- Accepts cylinders sizes: 8"-10" diameter x 45"-55" height
- Adjustable retaining chain
- Steel construction

Model 540-010



Inversion Rack For CO2 Filling

Allows inverting of portable size cylinder that is being filled.

- Accepts cylinders sizes: 4"-8" diameter x 20"-34" height
- Steel construction

Model 540-012



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TUMBLE JUICE

Hydro-Test Products is pleased to start distributing a new product for the cylinder re-test industry that is 100% water soluble, and environmentally friendly, A Phosphoric acid cleaner-descaler specifically designed to remove rust and scale from steel and aluminum scuba cylinders, regulators, water jackets and other components. Tumble-Juice will not damage rubber or plastic parts; it penetrates hard to reach areas to dissolve rust and salt corrosion.



*Tumble Juice is a cleaner for Cylinders, Regulators and Water Jackets
Cleaner Concentrate-Non-Toxic-Biodegradable-Non-Flammable*

Part No.	Description
63-120	5 Gallon Concentrated 1 part to 4 parts of water
63-122	1 Gallon Concentrated 1 part to 4 parts of water
63-124	1/2 Gallon Concentrated 1 part to 4 parts of water
63-126	1 Quart Concentrated 1 part to 4 parts of water

Use: Concentrate may be mixed 1 part concentrate to 4 to 8 parts water, depending on the need. Safe for Ultrasonic use. Cylinders may be tumbled with a small amount of the product or stand upright and filled to the top with water and about 1 cup of product and left overnight to slowly clean. Rinse cylinders after use. Re-use on similar materials only.

Non-Toxic-100% Biodegradable-Non-Flammable



Optional Jug Dispensing Pump

Fits 1/2 gal. and 1 gal. style jugs
Spout rotates 360°.
Polypropylene with flexible 11" intake tube

Part No. 63-130



Idea For Cylinder Retesters:

Use a small amount of this product in your water jacket to keep the water clean and free of rust build up. We have used it here at Hydro-Test for many years with outstanding results.

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CYLINDER ROLLERS / TUMBLERS

Cylinder Rollers and Tumblers Are Offered for Gas Mixing and Interior Cylinder Cleaning. Custom Designed Units Are Available To Meet Your Needs

Features

- ◆ Non-Marring Rubber Rollers
- ◆ Cold Rolled Steel Shafts
- ◆ 115V-1phase-60Hz (220V-50Hz on request)
- ◆ Heavy Duty Steel Housing
- ◆ Gear Motor Driven
- ◆ Adjustable Cylinder Stop



Model No. 540-021

Designed for Two Full Size Cylinders

Minimum Size: 6" Diameter x 24" Tall

Maximum Size: 10" Diameter x 72" Tall



Model No. 540-020

Designed for Three Portable Size Cylinders(*)

Minimum Size: 4" Diameter x 12" Tall

Maximum Size: 8" Diameter x 30" Tall

(*) Cylinders can be "pyramided" so that roller will accept a total of 6 cylinders. Be aware when stacking cylinders for tumbling, some scratching of cylinder surfaces will occur.



Model No. 540-022

Designed for One Portable Size Cylinders

Minimum Size: 4" Diameter x 14" Tall

Maximum Size: 8" Diameter x 26" Tall

Part No. 230-209

Tumbling Media

- ◆ 3/16" Diameter
- ◆ Made of Aluminum Oxide
- ◆ Random Shaped
- ◆ Sold in 50 Lb box
- ◆ Re-Usable



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CYLINDER ROLLERS / TUMBLERS

Multiple Cylinder Roller, designed for internal cleaning of cylinders with appropriate abrasive pellets or for gas mixing.



Features:

- 4 or 6 Cylinders models (additional quantities upon request)
- Sizes of cylinders: 8"-10" diameter x 46"-58" tall (unique sized capacities available)
- Pneumatically tilts cylinder from vertical to horizontal position
- Ramp provided for easy rolling on/off of cylinders
- Electric gear motor operation for rotation
- Rotation speed of 85 RPM
- Rubber - non marring rollers
- Floor space: 72"W x 60"D x 66"T
- Shipping weight: 950 Lbs

Utilities required:

- 100psi @ 4CFM of pre-regulated shop air
- 115V electrical



Options:

- Can be custom built to suit your cylinders (send request with smallest and largest cylinder sizes)
- Variable RPM and directional motor and timer
- 220V-50Hz electrical

Model No.	Accepts Up To:
540-100	4 Cylinders, 8-10" diameter x 46-58" tall
540-101	6 Cylinders, 8-10" diameter x 46-58" tall

CYLINDER INTERIOR CLEANING WHIP



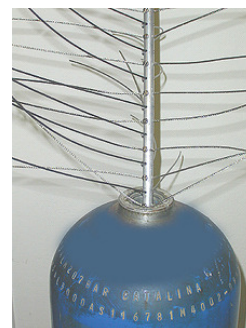
An Inexpensive and Easy Procedure For Removing Scaling and Loose Corrosion From Interior of Cylinders. Simply Attach the Wire Whip Rod to a Drill - Start Drill and Move the Wire Whip Up and Down Cylinder Interior Wall.

The More You Use the Whip, the Wire Strands Will Start To Unravel and Cover More Surface Area, Including Bottom of Cylinder, Making the Process Faster.

Features:

- ◆ Stainless Steel Wire
- ◆ Attaches to 3/8" Drill
- ◆ Two Sizes Available

Part No.	Description
230-206	30" Long Cleaning Whip for Portable Cylinders
230-207	60" Long Cleaning Whip for Full Size Cylinders
210-109	Replacement S.S. Strand (sold by the foot)
215-046	Replacement Self Tapping Screws



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SHOP AIR COMPRESSORS

Shop Compressed Air Is Used To Operate Hydro Pumps - Powder Fill Equipment - Cylinder Vises And A Wide Range Of Other Shop Items. Be Sure That You Purchase An Air Compressor That Can Handle All Of Your Inlet Air Supply Requirements.



Part No. 230-028



Part No. 230-022



Part No. 230-023

Model No.	HP	Tank Size (gal)	CFM@ Max psi	Max psi	Electrical	Amp Draw	Outlet Thread	Cylinder	Height	Width	Length
230-028	2	13	5.5	135	115V-1PH-60Hz	15.7	1/4"Fnpt	Single	26.5"	18"	28"
230-022	3	60	10.3	135	220V-1PH-60Hz	14.7	3/8"Fnpt	Single	66"	23"	20"
230-023	5	60	15.5	135	220V-1PH-60Hz	21.5	1/4"Fnpt	Single	71"	30"	20"

*** Other capacities - pressures and voltage available on special order ***

HOIST ASSEMBLIES



Air Operated



Trolley

A Hoist And Trolley Assembly Is Required For Movement Of Cylinder and Water Jacket Lid Prior To And After The Hydrostatic Water Jacket Test. Hydro-Test Offers Pneumatic And Electric Hoist.

Typically a 4" I-Beam Is Used And Can Be Purchased Locally.



Chain Bucket



Electric Operated

Part No.	Capacity (lbs)	Ft per Min. Lift Speed	Lift (ft)	HP	Electrical	Hook to Hook (")
230-033	1000	16	10	1/2	115V-1PH-60Hz	18"
230-035	2000	16	10	1	115V-1PH-60Hz	18"
230-047	1000	45	10	---	Air Operated	17"
Hoist Trolley						
230-040	1000	Fits I-Beam: Vertical 4"-10" Horizontal: 2.66"-4.66"				
230-041	2000	Fits I-Beam: Vertical 5"-12" Horizontal: 3.0"-5.0"				
Chain Bucket						
230-037	For Use With Above Hoists					

*** Other capacities and styles available on special order ***

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HYDROSTATIC TEST ADAPTER

TAPERED THREADS FOR WATER JACKET TESTING

For use on Steel Industrial Gas Cylinders, using a tapered thread

✓ All threads machined to CGA specifications

✓ Heavy duty **brass** stock

✓ Tapped 1/2" FNPT on backside



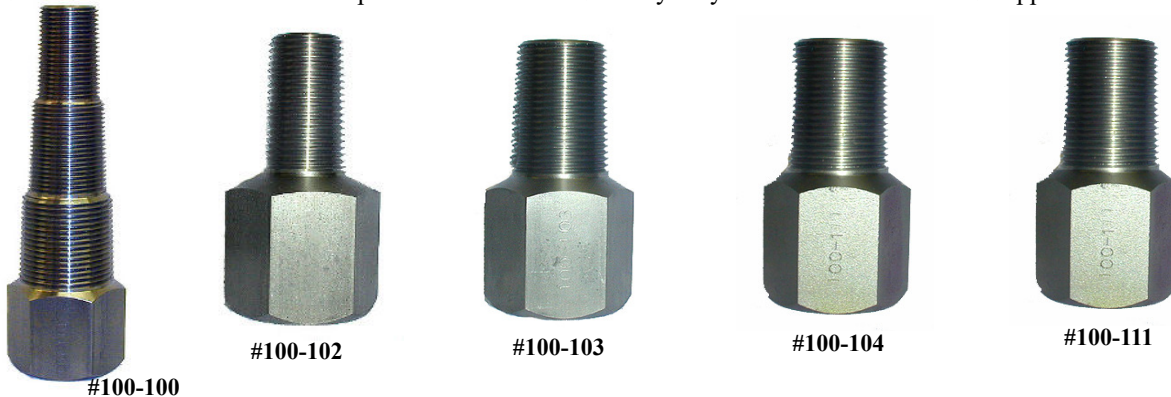
Part No.	Nominal Size(")	O.D. to 1/10th	T.P.I.	Common Application(s)
100-000	1/2•3/4•1	.8•1.0•1.3	14•14•11.5	Industrial Gas Steel Cylinders Carbon Dioxide Cylinders N2, Breathing Air, O2 - Steel Cylinders
100-002	1/2	.8	14	
100-003	3/4	1.0	14	
100-004	1	1.3	11.5	
100-007	3/4 #2 Oversize	1.0	14	#2 Oversize for Chlorine cylinders
100-009	3/4 #4 Oversize	1.0	14	#4 Oversize for Chlorine cylinders
100-011	3/4 - 24 Thread Oversize	1.1	14	Taylor Wharton 4500 psi Air Bank Cylinder
100-001	3/8	.7	18	Small Medical Cylinders & Special Applications
100-010	3/8	.7	14	
100-045	Whitworth thread 17E (W19.8 x 1/14)	.7	14	Whitworth thread 17E (W19.8 x 1/14)
100-047	Metric W28.8 x 1 1/4	1.1	14	Wentworth Tapered Thread for UN Cyls.

For use on Steel Industrial Gas Cylinders, using a tapered thread

✓ All threads machined to CGA specifications

✓ Heavy duty **stainless steel** stock

✓ Tapped 1/2" FNPT on backside



Part No.	Nominal Size(")	O.D. to 1/10th	T.P.I.	Common Application(s)
100-100	1/2•3/4•1	.8•1.0•1.3	14•14•11.5	Industrial Gas Steel Cylinders Carbon Dioxide Cylinders N2, Breathing Air, O2 - Steel Cylinders
100-102	1/2	.8	14	
100-103	3/4	1.0	14	
100-104	1	1.3	11.5	
100-111	3/4 - 24 Thread Oversize	1.1	14	Taylor Wharton 4500 psi Air Bank Cylinder

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HYDROSTATIC TEST ADAPTER

"FAST SEAL" TAPERED THREADS FOR WATER JACKET TESTING

For use on Steel Industrial Gas Cylinders, using a tapered thread

- √ Self sealing under test pressure √ Unique design eliminates need for teflon tape on adapter threads
- √ Low torque insert - 1/4 turn beyond hand tight √ O-ring seal is easily replaced √ Rated to 4000 psi test pressure



#100-133

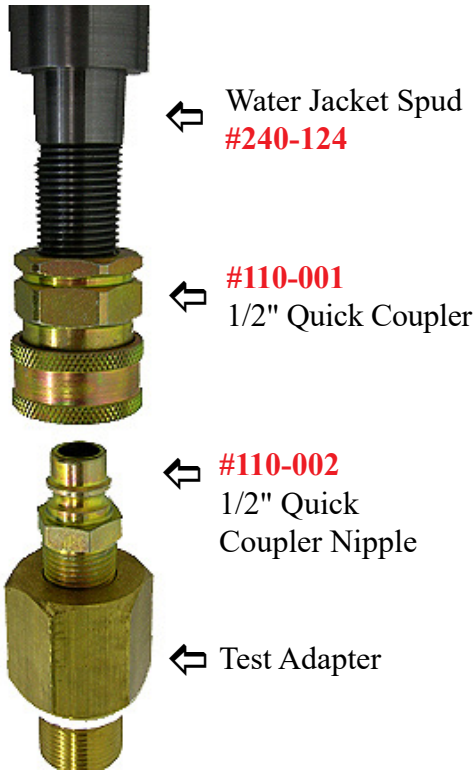
#100-136

#100-139

- ◆ Tremendous Time Saver
- ◆ No Need To Vise Cylinders For Insertion of Adapter
- ◆ Eliminates the Need Of Teflon Tape
- ◆ Longer Life For Test Adapters

Part No.	Nominal Size(")	O.D. to 1/10th	T.P.I.	Common Application	Replacement Internal Seals	Replacement Face Seal
100-133	1/2	.8	14	Industrial Gas Steel Cylinders Carbon Dioxide Steel Cylinders	100-135	100-134
100-136	3/4	1.0	14		100-138	100-137
100-139	1	1.3	11.5		100-141	100-140

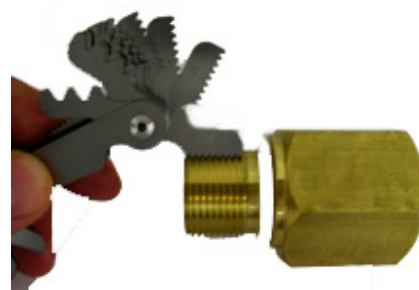
TYPICAL HYDRO-TEST ADAPTER SET UP



THREAD MEASURING TOOLS

Be sure to use the correct adapter. The following tools will assist you in picking out the proper test adapter

Thread Per Inch Gauge



Part No. 69-047

Visit www.hydro-test.com for easy on-line ordering - industry information - new products - special offers.

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HYDROSTATIC TEST ADAPTER

O-RING SEALED STRAIGHT THREADS FOR WATER JACKET TESTING

For use on Cylinders, using a o-ring sealed straight thread

√ All threads machined to CGA specifications

√ Heavy duty brass stock

√ Tapped 1/2" FNPT on backside



Part No.	Size (")	O.D. to 1/10th	T.P.I.	Common Application	Replacement Seal No.
100-046	M30	1.2	13	Metric M30 x 2 for Foreign Luxfer Cylinder	58-066
100-048	M25	1	13	Metric 25E Thread for Foreign Manufactured Cylinders	58-062
100-049	M18	.7	16	Metric M18: Drager ReBreather & Luxfer/SCOTT SP15136 5500psi SCBA	58-058
100-050	7/8	.8	14	SCBA Steel	58-060
100-051	1	1.0	14	SCUBA Steel	58-063
100-053	1	1.0	14	SCUBA Aluminum	58-131
100-054	3/4	.7	16	2216 psi SCBA	58-060
100-055	3/4	.7	16	2216 psi SCBA & Aluminum Oxygen	58-059
100-056	1 1/8	1.1	12	Aluminum CO2	58-065
100-057	1 1/4	1.3	12	Aluminum CO2-Amerex Brand prior to 1974	58-067
100-058	7/8	.9	14	PST Steel SCUBA, 3500psi	58-061
100-059	7/8	.9	14	Composite SCBA 4500 psi	58-128
100-060	1 5/16	1.3	12	Naval SCUBA	58-065
100-062	1 1/8	Female	12	Kidde "T" Series CO2 - 5 Lb	58-609
100-063	1 3/8	Female	12	Kidde "T" Series 10-20 Lb	58-059
100-064	1 1/16	Female	20	CO2 Fire Extinguisher Cartridge (left hand thread)	58-060
100-065	1 1/16	Female	20	N2 Fire Extinguisher Cartridge (right hand thread)	58-060
100-070	1 3/8	1.4	12	Aluminum CO2 - Kidde European brand	58-068
100-079	1/2	.5	20	Paintball Gun Cartridge	58-033
100-080	5/8	.6	18	Paintball Gun Cartridge	58-033
100-081	5/8	.6	20	Paintball Gun Cartridge	58-059

**Alternative Teflon Seals for 7500 psi Testing: #58-129 for adapter #100-055
#58-133 for adapter #100-056**

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HYDROSTATIC TEST ADAPTER

For use in "Proof Testing" of Fire Extinguisher Cylinders

√ All threads machined to CGA specifications

√ Heavy duty **brass** stock

√ Tapped 1/4" FNPT on backside



Cartridge Receiver Removal Wrench for Ansul Red Line
Easily and Safely Removes Receiver Port for Testing Of Shell

Part No.	Thread Specifications			Used On	Replacement Seal No.
	Diameter-TPI	Male	Female		
100-216	7/8"-14	•		Pemall - Fyr-Fyter	58-059
100-232	1"-12	•		Badger-Amerex-Map-Kidde-Sentry	58-061
100-236	1 1/2"-16		•	Amerex - Badger	58-209
100-238	13/16"-16	•		Badger - FyrFyter - Norris - General - Flag	58-059
100-239	1 1/2"-12	•		Badger - New Style 10MB series	58-061
100-241	1 1/8"-12	•		Ansul Sentry Models New Style	58-063
100-244	1 1/4"-12	•		Amerex - Badger - Sentry - Pyrene - Stop Fire	58-065
100-248	1 1/8" - 16	•		Stop Fire	58-065
100-256	1 5/8" - 8	•		General	58-070
100-266	1" - 14	•		Buckeye - PowerPak - Stop Fire - Pemall	58-063
100-268	1 1/8" - 8	•		Kidde	58-067
100-272	1 3/8" - 12	•		Kidde	58-067
100-274	1 5/8" - 12	•		Kidde	58-071
100-280	1 5/16 - 18		•	Kidde	58-066
100-288	1 7/16" - 8	•		Kidde	58-065
100-204	2 1/4" - 12	•		Ansul Cartridge Operated Shell (5Lb)	58-208
100-202	3" - 12	•		Ansul Cartridge Operated Shell (10-30Lb)	58-090
100-203	2" - 8	•		Kidde & PyroChem Dry Powder Systems	58-020
100-205	2" - 12		•	Range Guard Fire Systems	58-021
100-206	1 1/2" - 8	•		PyroChem Wet Chemical Fire System	58-022
100-186	Ansul Cartridge Operated Test Fitting Kit - Includes Test Fittings For 5-30Lb Red Line Models				
230-005	Cartridge Receiver Removal Wrench for Ansul Red Line Cartridge Operated Units				
110-016	Quick Disconnect Nipple for Test Adapters - 1/4" NPT(M)				
110-015	Quick Disconnect Coupler, 1/4"NPT(F) - Mates to #110-106				

Part No. 100-298: *Set of Test Adapters 100-216 thru 100-288, includes 110-016 and 110-015*
(does not include cartridge operated or systems cylinder test adapters)

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TORQUE WRENCHES

Part No. 230-013

Utilizes a heavy duty cam and pawl mechanism, this reversible 1/2" drive click stop torque wrench provides precise torque.

- **Torque range:** 20 - 150 ft.lbs.
- **Accuracy:** +/- 4%
- **Length:** 18"
- Reversible

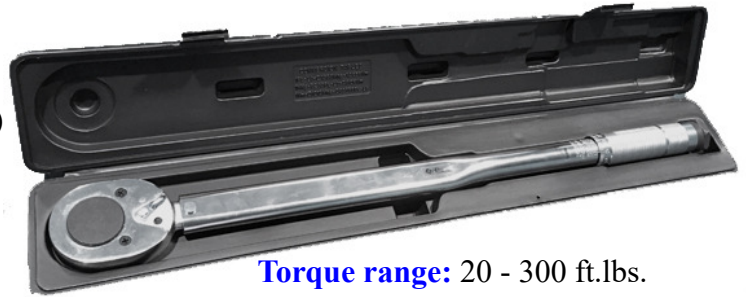


Torque range: 20 - 150 ft.lbs.



Part No. 230-013-300

- Heavy-duty adjustable torque wrench
- Wrench is shipped pre-calibrated (+/- 4% accuracy)
- **Drive:** 3/4 inch
- **Ratchet:** Cr-V, 24 tooth
- **Length:** 26-1/2 inches
- **Dual Range:** 50-300 ft./lb. / 70-420 N/m
- Includes 50 -300 foot pound range (70-420 Newton-meters) with adjustable ring design that locks in the torque
- Easily switches from forward to reverse and includes a no-slip handle for a firm grip
- Clutch mechanism makes an audible clicking noise and slips when the maximum torque level is reached
- Knurled handle provides a sure, non-slip grip



Torque range: 20 - 300 ft.lbs.



Part No. 230-013-ADAPTER

3/4" X 1/2" Adapter

For use with below "crowfoot" wrenches when using #230-013-300 Torque Wrench

Part No. 240-170-1 1/2

- Fully polished drop forged alloy steel
- 1-1/2-Inch jumbo crowfoot wrench
- 1/2-Inch drive



For those that require calibration of their valving / de-valving machine:

Use part no.'s **230-013-300**, **230-013-ADAPTER** and **240-170-1 1/2** to tighten a test adapter into a cylinder. Use the torque wrench value to confirm / verify proper psi setting on torque control of valving / de-valving machine.



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VALVE REMOVAL / INSERTION WRENCHES



Adjustable Slip Joint Wrench

Hardened steel adjustable wrench, designed for removing and tightening cylinder valves. Wrench is adjustable from a 1 5/16" to 2" gap. Will work on valves with two opposite flat sides.

Part No. 240-140



Wrench For Air Pak Valves

- Designed to fit snug over most SCBA valves
- 4 pin alignment to insure proper fit
- 3/4" male hex on top
- Fast and easy fitting

Part No. 240-145

3/4" Impact Socket x 1/2" Drive for use with SCBAwrench

- 6pt Black Finish
- Deep Style Socket
- Fits any 1/2" drive tool
- Fits onto Hydro-Test breaker bar and torque wrench

Part No. 240-162



Socket Wrench For Medical Post Valve

- Precision machined
- A real time saver
- Protects valve finish
- 1" male hex on top
- Fast and easy fitting
- Replaceable durable delrin insert

Part No. 240-143



Replacement Delrin Insert - Part No. 240-142

1" Impact Socket x 1/2" Drive for use with socket wrench for post valves

- 6pt Black Finish
- Deep Style Socket
- Fits any 1/2" drive tool
- Fits onto Hydro-Test breaker bar and torque wrench

Part No. 240-161



Torque Wrench

Utilizes a heavy duty cam and pawl mechanism, this reversible 1/2" drive click stop torque wrench provides precise torque.

- Torque range: 20 - 150 ft.lbs.
- Accuracy: +/- 4%
- Length: 18"
- Reversible

Part No. 230-013



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BREAKER BAR TOOL

Very Useful Tool For Inserting and Taking Off Tapered Thread Test Adapters and Socket Type Valves



Part No. 240-150

- 18" Total Length
- 1/2" drive ratchet head swivels 180°
- 376 ft-lbs. maximum Torque
- 3-Way ratcheting Action: Right or Left Handed Thread, or Lock



#240-150 breaker bar wrench

#240-160 socket



1 1/2" Impact Socket x 1/2" Drive
for inserting and removing hydro adapters - use with above breaker bar

- 6pt Black Finish
- Deep Style Socket
- Fits Hydro-Test Brand Test Adapters

Part No. 240-160

THREAD CLEANING TOOL

Designed To Clean - Not Cut New Threads



- Tool hardened construction
- Lightweight aluminum turn handle
- Easy - Fast - Efficient
- Removes thread sealant from cylinder threads
- Extend the life of your test adapters
- Available in a variety of thread sizes (see below)



Part No.	Thread Specs.	Typically Used On:
240-010	1/2" NGT Taper	<ul style="list-style-type: none"> • Industrial Gas • CO2 Carbonic steel • CO2 Fire Extinguishers, steel • Steel Cylinders with Taper Threads
240-011	3/4" NGT Taper	
240-012	1" NGT Taper	
240-017	3/4" NGT - 24 Thread Oversize	• Taylor Wharton (TW) 4500 psi Breathing Air Bank Cylinder
240-013	3/4"-14 straight	Older SCBA Steel Cylinders
240-014	1"-14 straight	Aluminum SCUBA Cylinders
240-015	3/4"-16 straight	Aluminum Medical & SCBA Cylinders
240-016	7/8"-14 straight	4500 psi SCBA & 3500 psi SCUBA
240-018	5/8"-18 straight	Paint Ball Gun & Spare Air Cylinders
240-019	M18-Metric	5500 psi (SP 15136) SCBA Cylinder & Drager Re-breather

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VALVE THREAD CLEANING TOOL

External Thread Repair Tool

An inexpensive-easy to use external thread cleaning tool for thread sizes of 11/16" - 1 1/2" (17-38mm)
Works great for compressed gas valves - SCUBA-SCBA-CO2-N2, etc...
Works on tapered or straight threads

Features:

- No Calibration required
- Self adjusting to any pitch and size within range
- Automatically chases good thread sections to clean the damaged threads
- Hardened cleaning blades
- Removes rust-burrs-old Teflon tape

Part No. 240-001



Designed to clean threads of burrs and debris - not cut new threads

Part No. 240-001-B

Replacement Blades



- Hardened tool blades
- Easily replaceable
- Set of two blades

*Works Great On
Test Adapters !!*

MISCELLANEOUS CYLINDER REQUALIFICATION TOOLS



Part No. 230-350

Cylinder Water Filling Nozzle

- ◆ Automatic Shutoff
- ◆ Lightweight Alum. Construction
- ◆ Plastic Overcoating
- ◆ 13/16" Nozzle O.D.
- ◆ 3 Gal per Min. Output
- ◆ Supplied With Garden Hose Connection
- ◆ Requires 30psi Inlet Water Pressure

Tremendous time saver for those companies testing 200 cu.ft. and larger cylinders. No more accidental overflow of cylinders - causing a potential employee injury.

Can also work on smaller size cylinders with an opening greater than 13/16"

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MISCELLANEOUS CYLINDER REQUALIFICATION TOOLS

Air Hose Reel with 50' of Hose

Retractable air hose reel has a spring located in the middle drum to ensure stability of the entire unit. Adjustable guide arm allows for ceiling, floor or wall mounting.

Stop tripping over air line hoses - get them off the floor



Part No. 200-133

Quality made
50' length of hose
Steel reel with plastic guides



Diameter x Length Measuring Tape

- ◆ Takes The Guess Work Out Of Measuring Cyls.
- ◆ Direct Reading Of Diameter By Wrapping Tape Around Circumference
- ◆ 60" Length x 19" Diameter
- ◆ Flexible
- ◆ Coated For Protection Against Water

Part No. 69-090

Anti Fatigue - Anti Slippage Mat

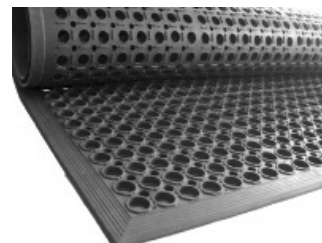
Drain through anti-fatigue safety mat is the perfect mat to put in front of your Hydro-Test machine. Helps prevent slippage and foot pain for the hydro operator.

Black mat is 1/2" thick and easy to clean.

Size: 36" x 60"

Part No. 130-300

Keep your hydro area safe from slips and falls



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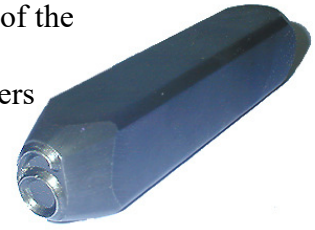
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STAMPS FOR MARKING OF CYLINDERS



Hydro-Test offers a variety of different sizes, sets and types of stamps used for properly marking a cylinder after completion of the re-qualification procedure.

Stamp sets are typically in stock - individual letters and numbers can take 2 weeks to ship.



Best Grade or Sharp Faced stamps can be used on all DOT specification cylinders (3A, 3AA, 3AL, 4B, ...) except for the specification 3HT and some Special Permits which requires low stress designed stamps.

BEST GRADE HEAVY DUTY GOTHIC



Example of a #5 character stamp in Best Grade

Character Size	Shank Size		9 pc Number Set (0-9) Part No.	27 pc Letter Set (A-Z) Part No.	Individual Characters	
	Square	Length			Number	Letter
1/8"	5/16"	2 1/2"	230-060	230-090	230-070-__	230-100-__
1/4"	7/16"	3"	230-062	230-092	230-072-__	230-102-__
5/16"	1/2"	3"	230-064	230-094	230-074-__	230-104-__
3/8"	9/16"	3 1/8"	230-066	230-096	230-076-__	230-106-__



Example of a #5 character stamp in Low Stress

Low Stress or Round Faced stamps are required to be used on DOT specification 3HT cylinders. Please refer to 49CFR §180.213(c)(2). Some special permits(SP) /Exemption (E) cylinders may also require the use of a low stress stamp.

LOW STRESS HEAVY DUTY GOTHIC

for use on 3HT specification cylinders

Character Size	Shank Size		9 pc Number Set (0-9) Part No.	27 pc Letter Set (A-Z) Part No.	Individual Characters	
	Square	Length			Number	Letter
1/8"	3/8"	2 3/4"	230-061	230-091	230-071-__	230-101-__
1/4"	1/2"	3"	230-063	230-093	230-073-__	230-103-__
3/8"	5/8"	3 1/8"	230-067	230-097	230-077-__	230-107-__

TOOLS FOR STAMPING OF CYLINDERS

STAMP HOLDER



Part No. 210-025

- ◆ Keeps Thumb Away From Impact Zone
- ◆ Adjustable For Any Size Stamp
- ◆ Lightweight - Durable Material

STAMP HAMMER



Part No. 230-002

- ◆ 2 Lb Steel Hammer
- ◆ Fiberglass Shaft
- ◆ Short 8" Shaft
- ◆ Rubberized Grip

STAMP GUN



Part No. 230-136

- ◆ Air Operated @ 40 psi
- ◆ Accepts 1/2" Shank Stamps Only
- ◆ Easier / Faster Stamping
- ◆ Saves The Life Of The Stamp
- ◆ Operates Similar to a Air Chisel

** See page 90 for replacement parts **



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SPECIALITY STAMPS

A full line of speciality stamps, commonly used for cylinder re-qualification are available and in stock. 49CFR §180.213 details the appropriate use of these speciality stamps.



Double Digit
Year / Month

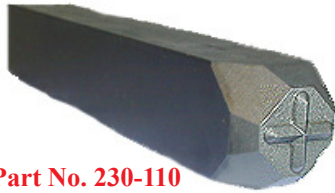
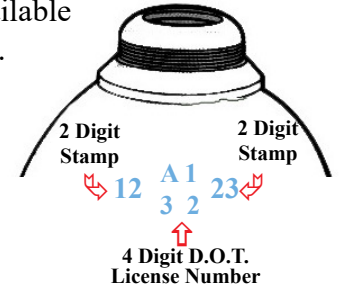
Part No. 230-131-__
Part No. 230-131-LS-__
Please specify number when ordering
Stocked item



Part No. 230-118
Part No. 230-130
Please specify number when ordering
Allow three weeks for delivery



Part No. 230-133
Part No. 230-133-LS
Please specify number when ordering
Allow three weeks for delivery



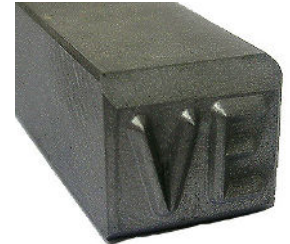
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Part No. 230-111
Stocked item



Part No. 230-113
Part No. 230-114
Stocked item



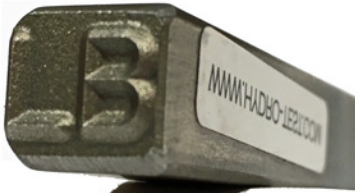
Part No. 230-131-UE
Stocked item



Part No. 230-131-VE
Stocked item



Part No. 230-131-TW
Stocked item



Part No. 230-131-LB
Stocked item



Part No. 230-134
Stocked item



Part No. 230-104-X
Stocked item

Part No.	Character Size	Shank Size		Description
		Square	Length	
230-131-__	1/4"	1/2"	3 1/2"	2 Digit Stamp, Heavy Duty Design (<i>please specify digits when ordering</i>)
230-131-LS-__	1/4"	1/2"	3 1/2"	2 Digit Stamp, Low Stress Design (<i>please specify digits when ordering</i>)
230-118	1/8"	1/2"	3 1/2"	4 Digit DOT License (RIN), Heavy Duty Design (<i>please specify RIN when ordering</i>)
230-130	1/8"	1/2"	3 1/2"	4 Digit DOT License (RIN), Low Stress Design (<i>please specify RIN when ordering</i>)
230-133	1/4"	1/2"	3 1/2"	3 Digit T.C. License Number, Heavy Duty Design (<i>please specify 3 digits when ordering</i>)
230-133-LS	1/4"	1/2"	3 1/2"	3 Digit T.C. License Number, Low Stress Design (<i>please specify 3 digits when ordering</i>)
230-110	1/4"	1/2"	3 1/2"	Plus (+) Stamp Symbol
230-111	3/8"	1/2"	3 1/2"	Plus (+) Stamp Symbol
230-113	1/4"	1/2"	3 1/2"	5 Point Star Symbol
230-114	3/8"	1/2"	3 1/2"	5 Point Star Symbol
230-131-UE	1/4"	1/2"	3 1/2"	Double Digit "UE" Stamp for Ultrasonic Testing
230-131-VE	1/4"	1/2"	3 1/2"	Double Digit "VE" Stamp for Eddy Current Visual Examination on 6351-T6 Cylinders
230-131-TW	1/4"	1/2"	3 1/2"	Double Digit "TW" Stamp for Stamping of Tare Weight on Cylinder
230-131-LB	1/4"	1/2"	3 1/2"	Double Digit "LB" Stamp for Stamping of LB on Cylinder
230-134	1/4"	1/2"	3 1/2"	3 Digit "3AL" Stamp for Stamping Previous Authorized Exemption Cylinders with 3AL
230-104-X	5/16"	1/2"	3"	X Stamp - Used for condemning a cylinder under CFR49 §180.205(i)(2)(i)
230-131-EX	1/4"	1/2"	3 1/2"	EX Stamp - Used for Stamping Foreign Export Cylinders

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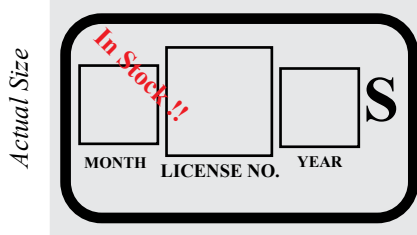
LABELS FOR MARKING OF CYLINDERS

A DOT ruling that went into effect on January 23, 2017 under §180.213(c) of 49CFR allows labels embedded in epoxy to be used for re-qualification markings on cylinders. Prior to this ruling, labels were authorized for use only on fire extinguisher and composite cylinders.

Low Stress Stamps Must Be Used On 3HT Specification Cylinders. See §180.213 for complete ruling

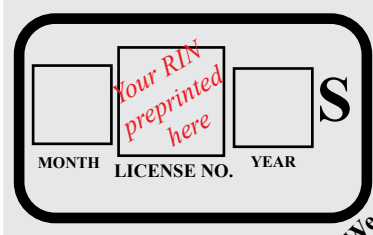
Hydro-Test Offers the Following Labels to Comply

For marking of DOT specification cylinders used as fire extinguishers. RIN# (license no.) must be in a clockwise format. If a proof test is used to requalify the fire extinguisher cylinder than the letter "S" must be placed after the year.



- ✓ 2" x 1.25" Die Cut Label
- ✓ Mylar Capped for Protection
- ✓ Self Destruct Void Feature
- ✓ Black Print On Silver Background

Sold in
rolls of 50
P/N 393-012

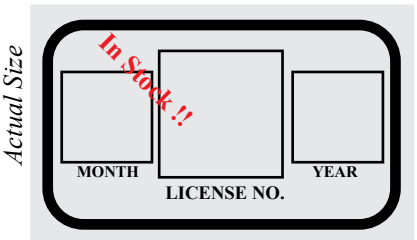


Sold in
rolls of 500
P/N 393-011

Proof is Sent for Your Approval

3 Week
Delivery

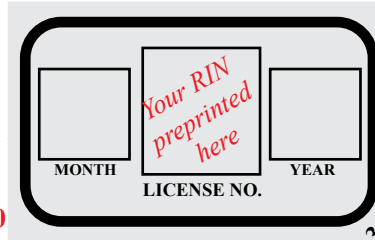
For marking of DOT specification cylinders, in lieu of stamping. Two size labels are offered. This smaller label is ideal for portable sized cylinders.



- ✓ 2" x 1.25" Die Cut Label
- ✓ Mylar Capped for Protection
- ✓ Self Destruct Void Feature
- ✓ Black Print On Silver Background

Sold in
rolls of 50
P/N 393-017

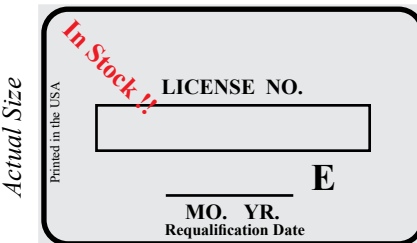
Sold in
rolls of 500
P/N 393-016



Proof is Sent for Your Approval

3 Week
Delivery

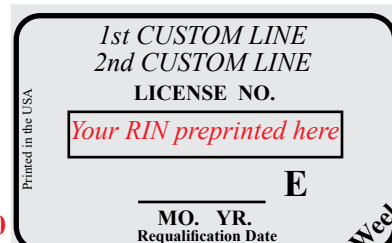
For marking of cylinders that are permitted to be re-qualified by the external visual inspection method (Propane)



- ✓ 2" x 1.25" Die Cut Label
- ✓ Mylar Capped for Protection
- ✓ Self Destruct Void Feature
- ✓ Black Print On Silver Background

Sold in
rolls of 50
P/N 393-015

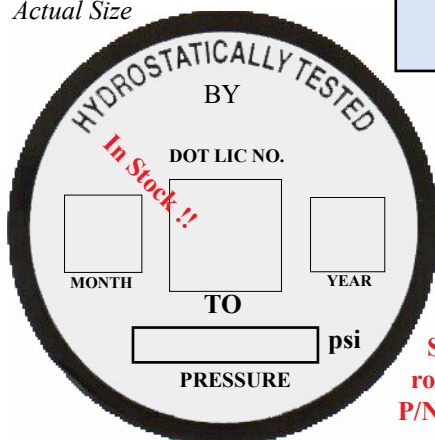
Sold in
rolls of 500
P/N 393-014



Proof is Sent for Your Approval

3 Week
Delivery

Actual Size

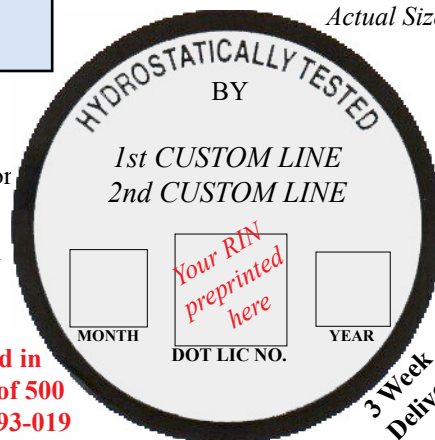


Have your Company Name & DOT license number preprinted.

- ✓ 2.25" Diameter Die Cut Label
- ✓ Mylar Capped for Added Protection
- ✓ Self Destruct Void Feature
- ✓ Black Print On Silver Background

Sold in
rolls of 50
P/N 393-018

Actual Size



Sold in
rolls of 500
P/N 393-019

Proof is Sent for Your Approval

3 Week
Delivery

Hydro-Test Products Inc.

e-mail: sales@hydro-test.com



www.hydro-test.com

Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942

NFPA 10 LABEL FOR MARKING OF FIRE EXTINGUISHERS

For hydrostatic testing and maintenance of non-DOT specification fire extinguishers a label meeting NFPA #10 requirements is used

- Meets NFPA 10 Specifications
- 3.5" x 2.25" in Size
- Black Type on Silver Background
- Coated for Protection
- Self Destruct Void Feature
- 500 Labels per Roll
- Price Includes 4 Line Imprint
- Fast 3 Week Delivery

Part No. 393-025

Month	1	2	3	4	5	6	7	8	9	10	11	12
2022 2023 2024 2025 2026	Company Name											
	Address											
	City, State, Zip											
	Tel #											
Tested	1	2	3	4	5	6	7	8	9	0	Hundreds	
To	1	2	3	4	5	6	7	8	9	0	Tenths	
(P.S.I.)	1	2	3	4	5	6	7	8	9	0	Units	
HYDROSTATIC						6 YEAR						BY: <input type="checkbox"/>
TEST						MAINTENANCE						

Marking Pens

Part No. 230-300-RPMFB



- Black Retractable Fine Point Marker
- Retractable marker for easy one-handed operation
- No cap to remove or lose
- Safety Seal&™ valve design helps prevents dry out
- Permanent on most surfaces
- Quick-drying ink
- AP certified nontoxic formula

Part No. 230-300-RPMFR



- Red Retractable Fine Point Marker
- Retractable marker for easy one-handed operation
- No cap to remove or lose
- Safety Seal&™ valve design helps prevents dry out
- Permanent on most surfaces
- Quick-drying ink
- AP certified nontoxic formula

Part No. 230-300-PMFB



- Black Fine Point Permanent Marker
- Permanent on most surfaces
- Fade and water resistant
- Quick-drying ink
- AP certified nontoxic formula

Part No. 230-300-PMFR



- Red Fine Point Permanent Marker
- Permanent on most surfaces
- Fade and water resistant
- Quick-drying ink
- AP certified nontoxic formula

Epoxy Kit

A room temperature curing epoxy is required to seal and protect the label from abuse encountered from rough usage cylinders typically experience between retest periods. *** Required When Labels Are Used on DOT Specification Cylinders ***

Part No. 393-020



- Epoxy, Hardener and Mixer in Kit
- 1 Kit Will Typically Cover 25 Labels
- Clear Coated So As Not To Interfere With Test Data
- Quick and Easy To Apply • Non Flammable

Not Available For Sale Outside Of Continetal USA or By Air Shipment Due To Hazardous Material Regulations.

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HYDROSTATIC "WATER JACKET" TEST SOFTWARE

Our customer spoke and we listened... Hydro-Test is pleased to announce a new version of our water jacket, volumetric expansion test record software. This latest software has been totally re-constructed from installation to printing. Incorporating many of your ideas in making this a more modern and easier input design.



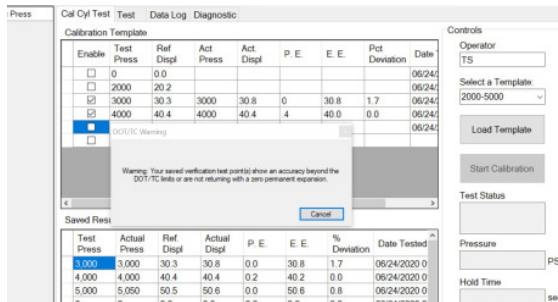
Part No. 393-507

Supplied on a USB Thumb Drive

- Requires Windows 7.0 or later operating system *(not compatible with apple/mac operating system)*
- Available USB port
- Printer
- 4GB RAM
- 20MB Available hard drive space

Use this software to replace your hand written forms

- Performs all of the math
- Allows DOT / TC warnings to display if not within regulations for verification
- Sortable and printable history field
- Store records on hard drive or print out

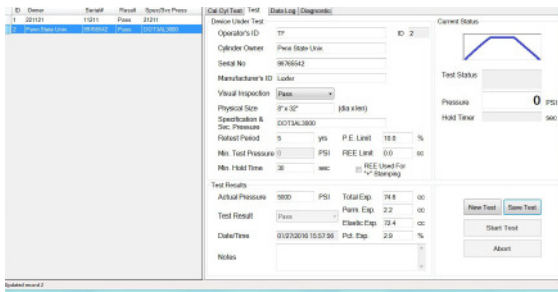


Verification Screen

- Allows unlimited calibrated cylinder templates
- Pick and choose what pressures you want to verify
- Performs all math calculations for system accuracy

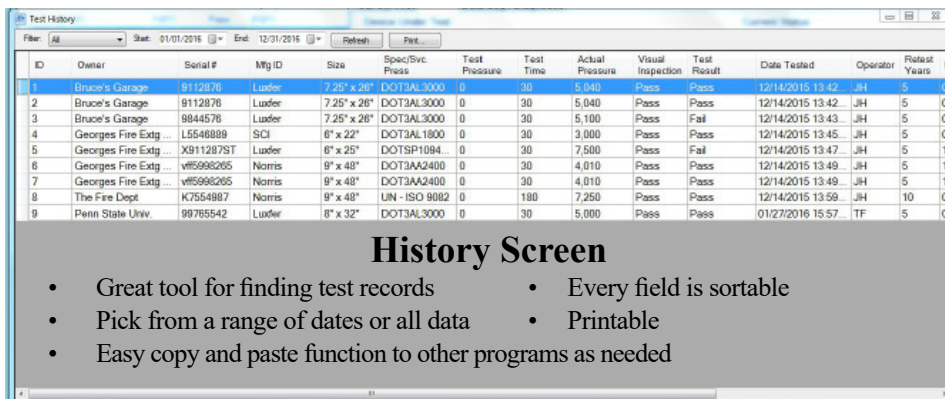
DOT / TC warning that is displayed if:

1. Pressures verified at do not meet the regulations
2. Calibrated cylinder does not return to zero expansion



Test Data Screen

- Type in test results and pass/fail criteria
- Automatically pass / fail based on test criteria
- Performs all math calculations
- Optional DOT / TC warning applied if test is not within verification points required in regulations
- Plus stamping results calculated and recorded
- REE testing input allows pass/fail on REE only



History Screen

- Great tool for finding test records
- Pick from a range of dates or all data
- Easy copy and paste function to other programs as needed
- Every field is sortable
- Printable

Improper record keeping and use of the calibrated cylinder remain the most fined occurrences during a DOT audit.

This test record software will help you in complying with these requirements.

Supplied on a USB Thumb Drive

- Requires Windows 7.0 or later operating system *(not compatible with apple/mac operating system)*
- Available USB port
- Printer
- 4GB RAM
- 20MB Available hard drive space

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e-mail: sales@hydro-test.com



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Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942

HYDROSTATIC "PROOF" TEST SOFTWARE

Hydro-Test makes available the proof test record software that operates our 504 series automated tester as a standalone product. This allows those companies that are using a manually operated proof test system to keep the required DOT records in a more professional and safer manner. DOT and other Authorities Having Jurisdiction (AHJ) require all test records to be complete - readable and kept for the life of the requalification period of the cylinder. This software allows easy archiving and retrieval of cylinder information in a clean and professional manner.

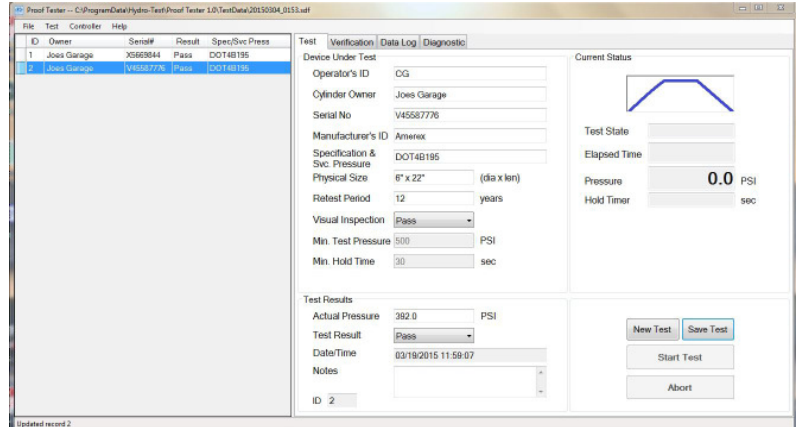


Part No. 393-504

Test Record Screen

- Allows easy input of all the required fields
- Add multiple test and save then test or test as you enter
- Left hand side of screen shows summary
- Box area for notes that pertain to test
- Straight forward easy to understand screen menu

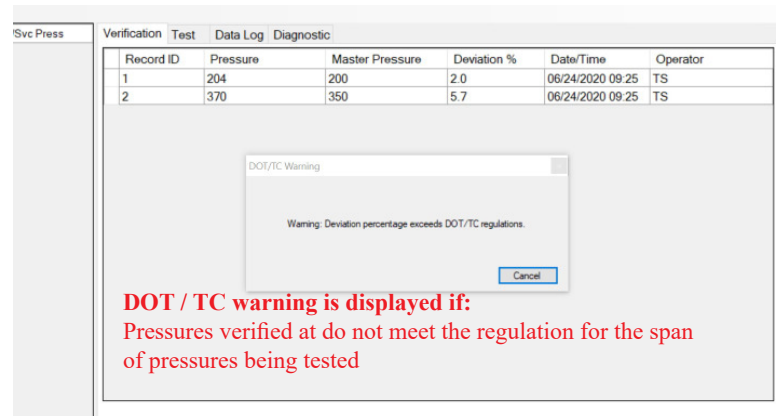
Don't Get Written Up For Improper Record Keeping Violations By An Enforcement Inspector



Verification Screen

- Allows easy input of all the required fields
- Calculates accuracy percentage and records it
- Allows unlimited amount of verification steps
- Straight forward easy to understand screen menu

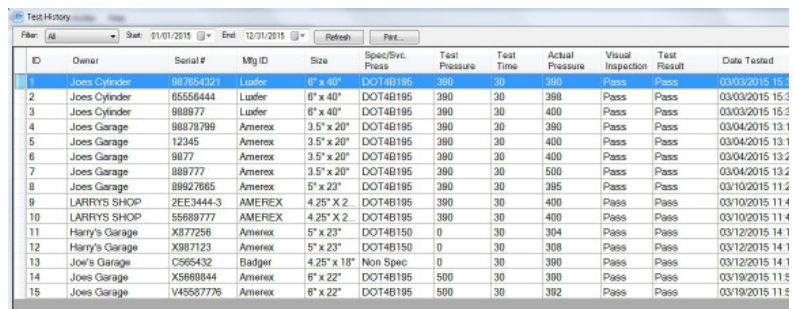
Improper Record Keeping Fines Are As High as \$3700.00!!



DOT / TC warning is displayed if:
Pressures verified at do not meet the regulation for the span of pressures being tested

History Screen

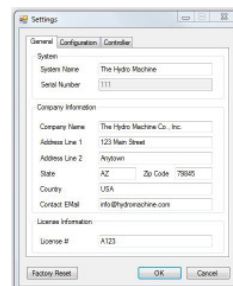
- Great tool for finding test records
- Every field is sortable
- Pick from a range of dates or all data
- Printable
- Easy copy and paste function to other programs as needed



Options Screen

- Designed to allow end user to specify required header information that prints out on each test record.
- Input of Company Name - Address and License (RIN) Number

Requires Windows 7.0 or later operating system



Supplied on a USB Thumb Drive

- Requires Windows 7.0 or later operating system (*not compatible with apple/mac operating system*)
- Available USB port
- Printer
- 4GB RAM
- 20MB Available hard drive space

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REQUALIFICATION AND VERIFICATION FORMS

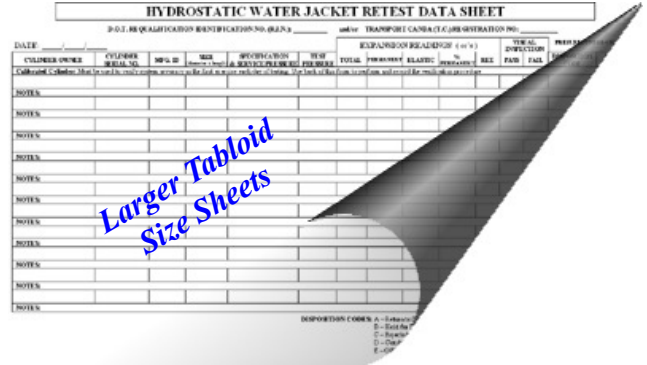
The U.S. Department of Transportation and Transport Canada require that records of cylinder requalification be kept on file for the length of the requalification period of that cylinder or until that cylinder is again requalified.

HAND WRITTEN FORMS

For Water Jacket Testing

Part No. 393-001

- ◆ 11" x 17" Tabloid Size Sheets
- ◆ 50 Sheets Per Pad
- ◆ 12 Test Per Sheet
- ◆ Verification Recording on Back of Each Sheet
- ◆ Detailed Instruction Sheet Included



For Proof Testing

Part No. 393-003

- ◆ 8.5" x 11" Size Sheets
- ◆ 50 Sheets Per Pad
- ◆ 13 Test Per Sheet
- ◆ Verification Recording on Back of Each Sheet



For Visual Inspection Requalification

Part No. 393-002

- ◆ 11" x 14" Legal Size Sheets
- ◆ 50 Sheets Per Pad
- ◆ 11 Inspections Per Sheet

For use by those that are re-qualifying cylinders solely by the visual inspection method (for example: Propane cylinders)



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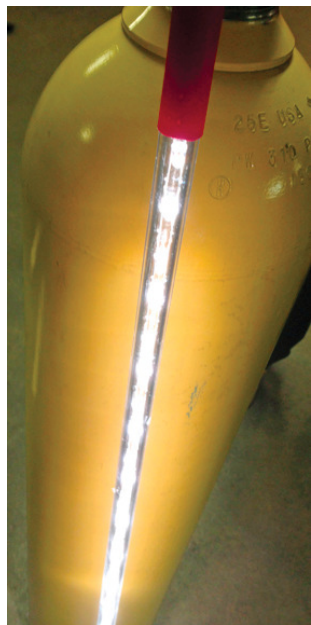
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VISUAL INSPECTION EQUIPMENT

LED Inspection Light For Full Size Cylinders

Hydro-Test has developed a new LED internal cylinder inspection light for "Full Size" industrial gas cylinders. Allows for complete illumination of cylinder to the CGA C-6 series standards.



Features:

- Warm white LED strand of 24" in length
- Bulbs encased in a clear polycarbonate wand
- Low voltage electrical transformer included, 5 VDC
- Includes US and European wall plug
- Total length of 96" - enough cord to use on full size industrial gas cylinders
- 5/8" diameter wand fits into most all cylinders (not recommended for use on small paintball or "spare air" cylinders)
- Will fully illuminate portable or full size cylinder interiors

PART NO. 69-098



Electric plug for North America and Europe included

Dual Ultra-Violet / White LED For Portable Cylinders

A unique and versatile light designed for companies filling or re-testing Oxygen enriched cylinders



The #69-099 light wand is actually two wands in one. As the toggle switch is actuated, either the warm white lights are lit or the ultra-violet LEDs.

Visual inspection using ultra-violet light is required as per the Compressed Gas Association regulation CGA G-4.1 on cylinders used for enriched oxygen delivery. Organic particulates such as oil or lint fibers will fluoresce when illuminated by ultra-violet



- Protected long life light emitting diode (LED) enabling complete illumination of cylinder.
- 13.5" Length of wand optimized for use on all common portable size cylinders.
- Warm white LEDs best simulate incandescent light.
- Has both white and ultra-violet light source in one.
- Ultra-violet light source meets CGA G-4.1
- Low voltage for use in hazardous locations.

A must have for those re-qualifying and filling O₂ cylinders

PART NO. 69-099



THREAD INSPECTION MIRRORS

To properly visually inspect a cylinder during the requalification process a means of checking the threads for cracks is required. These three size mirrors offer a inexpensive - time proven method of verifying thread integrity.

- ◆ Stainless Steel Construction
- ◆ 2X Magnification
- ◆ 6" Long Handle
- ◆ 3 Sizes

Part No.	Mirror Diameter
69-058	.456" (12mm)
69-059	.550" (14mm)
69-060	.632" (16mm)



12mm Mirror Allows For Thread Inspection Of Small O₂ - Paintball and Spare Air Cylinders

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VISUAL INSPECTION LIGHT

As Part Of The Re-Qualification Of Cylinders Process, A Complete Internal and External Visual Inspection Must Be Performed Per The Applicable CGA Pamphlets (C-6, C-6.1, C-6.2, C-6.3)

FIBER OPTICS CYLINDER INSPECTION LIGHT



- ◆ **The Brightest** Internal Inspection Light Available
- ◆ Keeps Bulb Away From Cylinder
- ◆ High Intensity Light
- ◆ Adjustable Light Strength Knob
- ◆ 150 Watt Bulb Life of 200 Hours at Full Intensity
- ◆ Fiber Optic Light Probes Offered in Two Lengths

Light Box and Probes Sold Separate.
Both items required for proper operation

Light Box

Part No.	Intensity	Electrical
69-102	150 Watt	115V-60Hz
69-103	150 Watt	220V-50Hz

Light Box and Probes Sold Separate.
Both items required for proper operation



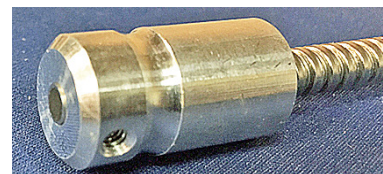
Light Probes

Part No.	Length	Diameter
69-110	60"	3/16"
69-111	120"	3/16"
69-112	60"	5/16"
69-113	120"	5/16"



Replacement Bulb for Light Box

Part No. 69-122



Replacement Adapter - Probe to Light Box

Part No. 69-108 for 3/16" diameter probe

Part No. 69-109 for 5/16" diameter probe

THREAD INSPECTION MIRRORS

To properly visually inspect a cylinder during the requalification process a means of checking the threads for cracks is required. These three size mirrors offer a inexpensive - time proven method of verifying thread integrity.

- ◆ Stainless Steel Construction
- ◆ 2X Magnification
- ◆ 6" Long Handle
- ◆ 3 Sizes

Part No.	Mirror Diameter
69-058	.456" (12mm)
69-059	.550" (14mm)
69-060	.632" (16mm)

12mm Mirror Allows For Thread Inspection Of Small O₂ - Paintball and Spare Air Cylinders



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BORESCOPE INSPECTION TOOL



Connect this borescope to your computer, tablet or smartphone with attached USB cable to perform a detailed visual inspection of compressed gas cylinders threads, sidewall and dome area. The 180 degree articulating 8.5mm diameter probe offers a panoramic view of the area being inspected. With 0.3M pixels CMOS sensor, and six built-in LED's for illumination, this product allows you to view images, take standard photos, and record videos. This borescope is designed to enhance the safety of the cylinder industry by allowing visual inspection in areas that were previously unattainable. Allows pictures and videos to be sent directly from the device by email or text.

Part No. 69-078

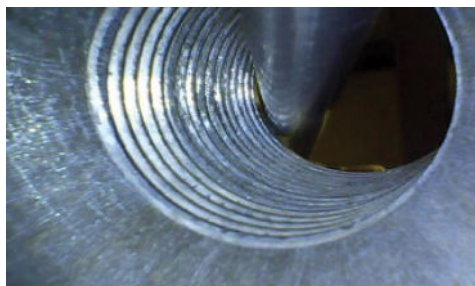
Features

- Articulation bendable angle: 0° to 180° continuously adjustable
- Very easy to operate: just push down the release button by bending the thumb to adjust the articulation angle
- The articulation angle can be locked/unlocked at any degree by opening/closing the lock
- Very small bending radius: 30mm
- Illumination: 6 white LED lights built-in
- High resolution image with CMOS sensor
- Focal Distance: 4cm – 40cm, fixed focus
- Power supply: by USB port of PC, Tablet, Android Smart Phone or standard USB Wall Charger (requires optional USB to WiFi adapter for use with iPhone or iPad products)

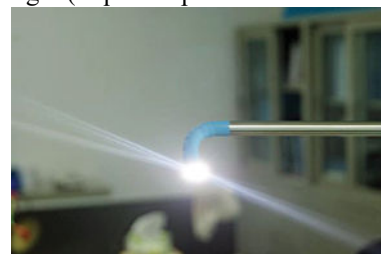
Inspect and record any surface of the cylinder in extremely clear quality

Technical Details

- Sensor: high-quality CMOS sensor
- Still Image Resolution: 640x480 pixels
- Format: JPG
- Video Resolution: 640x480 pixels
- Format: AVI
- Frame Rate: 30FPS
- Optical lens view angle: 60°
- Probe diameter: 8.5mm
- Probe length: 42cm (16.5")
- PC Interface: USB 2.0
- USB Cable Length: 200cm



Rotating light probe details under shoulder view - where most imperfections are found



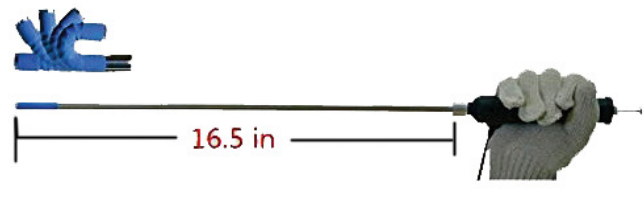
Close-up of threads

Product Details

- Dimension: 8.5mm in probe diameter and 42cm (16.5") in probe length
- Weight: 12oz
- Compatibility: Windows 8/7/Vista/XP with free software Oasis.exe, or Mac OS X (need PhotoBooth or FaceTime software)
- Package Includes: USB borescope (1x), CD (1x, with User's Manual and software)
- Manufacturer's Warranty: 1 year

Optional WiFi converter for those using any Apple smart device. Apple does not allow transfer of data from charging port. This WiFi adapter is required if using any Apple smart device

Part No. 69-079



Bottom of cylinder

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VISUAL INSPECTION EQUIPMENT

Optical Plus Thread Inspection Tool



Normal 2x



PART NO. 69-075



Optical Plus 4x



OPTICALPLUS has the highest magnification (4X), clarity and lighting capability available - surpassing anything you have used in the past.

OPTICALPLUS provides full vertical adjustment and 360-degree rotation within the threads. This allows for perfect alignment between the instrument and threads for ease of use and performance during inspection

Industry-leading features include:

Rugged, anodized, aluminum construction.

Adjustable focusing for clearer and brighter viewing.

Adjustable light intensity for differing surface reflectivity.

4X magnification for the closest thread view possible.

Single unit capable of inspecting: SCUBA, Medical, SCBA, AFV, Industrial Specialty Gas and CO₂.



PART NO. 69-074

Waterproof Case for Storing and Protecting the Optical Plus



Hydro-Test Products Inc.

e-mail: sales@hydro-test.com



www.hydro-test.com

Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942

VISUAL INSPECTION TOOLS



Pit Reference Plate and Probes

The damage reference plate is used to assess internal and external damage which an inspector locates on a cylinder. This specific plate is customized with damage depths from .01 to .100 and external probes to examine cylinder exterior damage from .02 to .06. This is a great tool to have by the filling station so filling station operator can do a quick check if any concerns are present. A safety tool at a low price - a necessity for all those dealing with cylinders. **Part No. 69-084**

Inspect gouges and pits in accordance with DOT and CGA publications C-6, 6.1 and 6.2. An invaluable tool for those that perform cylinder inspections and re-qualifications.

Designed for use with Pit Reference Plate #69-084. Allows cylinder inspectors and re-qualifiers to meet DOT and CGA requirements for measuring pits and gouges. **Part No. 69-085**



Combination Pit Gauge And Dial Caliper



- ◆ Two tools in one
- ◆ Allows measuring of pits on exterior of cylinder
- ◆ Machined point on caliper end allows for precise measures
- ◆ Also allows measuring of valve / thread diameter
- ◆ Includes Protective case

Part No. 69-050

The "O-Ringer" O-Ring Gland Resurfacing Tool



Part No. 69-080

A fast - easy way to restore the o-ring gland surface on Aluminum SCUBA cylinders. Authorized for use by cylinder manufacturers.

Set of 7 replaceable abrasive discs: **Part No 69-081**
Each disc last approximately 25 cylinders



Magnet

- ◆ Determines cylinder material
- ◆ Small Size
- ◆ Horseshoe shape
- ◆ Suggested by DOT inspectors

Part No. 69-091

Compressed Gas Association (CGA) Visual Inspection Pamphlets

Those that requalify or visually inspect cylinders must have the CGA guidelines on hand



Part No.	Description
393-306	C-6: Standards for visual inspection of steel cylinders
393-306-1	C-6.1: Standards for visual inspection of high pressure aluminum compressed gas cylinders
393-306-2	C-6.2: Guideline for visual inspection and requalification of fiber reinforced high pressure cylinders
393-306-3	C-6.3: Guidelines for visual inspection and requalification of low pressure aluminum compressed gas cylinders

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PRESSURE GAUGES

CALIBRATED PRESSURE GAUGES

Designed For Use With Cylinder Testing Equipment. Gauges Include a Certificate of Calibration.
 These Gauges Exceed Current Department of Transportation Specifications
Gauges are calibrated to 0.5% accuracy at stated pressures




Part No. 140-001

- 0-11,000 psi x 20 psi increments**
- Class 3A, 0.25% full range accuracy
- 8.5" diameter dial face
- Popular test pressures are highlighted
- Negative increments allows accurate adjusting of "true zero"
- 1/2" NPT(M) backside connection
- DOT usable range of 1120 - 10,000 psi
- Includes calibration certificate

Calibrated @ (psi)		
2000	6000	10,000
3000	7000	
4000	8000	
5000	9000	

Additional calibration points can be added upon request




Part No. 140-003

- 0-5000 psi x 10 psi increments**
- Class 3A, 0.25% full range accuracy
- 8.5" diameter dial face
- Negative increments allows accurate adjusting of "true zero"
- 1/2" NPT(M) backside connection
- DOT usable range of 550-4500 psi
- Includes calibration certificate

Calibrated @ (psi)	
1000	4000
2000	5000
3000	

Additional calibration points can be added upon request




Part No. 140-005

- 0-1500 psi x 2 psi increments**
- Class 3A, 0.25% full range accuracy
- 8.5" diameter dial face
- Negative increments allows accurate adjusting of "true zero"
- 1/2" NPT(M) backside connection
- DOT usable range of 112 - 1350 psi
- Includes calibration certificate

Calibrated @ (psi)		
200	500	1000
300	600	1200
350	700	1400
400	800	
450	900	

Additional calibration points can be added upon request




Part No. 140-018

- 0-1100 psi x 2 psi increments**
- Class 2A, 0.50% full range accuracy
- 6.0" diameter dial face
- Negative increments allows accurate adjusting of "true zero"
- 1/4" NPT(M) bottom connection
- DOT usable range of 112 - 1000 psi
- Includes calibration certificate

Calibrated @ (psi)		
200	450	800
300	500	900
350	600	1000
400	700	

Additional calibration points can be added upon request



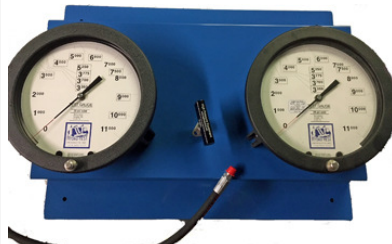
Part No. 140-415

Dual pressure gauge assembly for proof testing, includes:

- (2) Part No. 140-018 0-1100 psi x 2 psi increments gauges
- Steel-Enamel painted mounting plate
- Isolation valve to perform daily verification
- 8' Long outlet hose to connect to pump
- DOT usable range of 112 - 1000 psi
- Includes calibration certificates

Designed for proof testing of low pressure cylinders (**fire extinguishers, propane...**) where proof test is permitted

Easily adapts to any pump. Simply remove existing gauge on your pump and attach supplied hose. Instructional video supplied.



Part No. 140-417

Dual pressure gauge assembly for proof testing, includes:

- (2) Part No. 140-001 0-11,000 psi x 20 psi increments gauges
- Steel-Enamel painted mounting plate
- Isolation valve to perform daily verification
- 8' Long outlet hose to connect to pump
- DOT usable range of 1120 - 10,000 psi
- Includes calibration certificates

Designed for proof testing of high pressure cylinders (**ISO spec**) where proof test is permitted

Easily adapts to any pump. Simply remove existing gauge on your pump and attach supplied hose. Instructional video supplied.

PRESSURE GAUGES

CALIBRATED MASTER PRESSURE GAUGES

A Master Gauge Can Be Used To Recalibrate Your Existing Working Gauge Periodically as Required. It Is Not To Be Used In Everyday Testing. This Type Of Gauge Should Only Be Used By A Technician That Has Been Trained On Gauge Calibration



Part No.	Range (psi)	Increments (psi)	Useable Range (psi)	Diameter (inches)
140-402	0-11,000	20	1120-10,000	8.5
140-403	0-5000	10	550-4500	8.5
140-404	0-1500	2	111-1350	8.5
140-405	0-1100	2	111-1000	6

- Mounted on Aluminum frame
- Outlet hose with coupler
- Certificate of calibration

COMMERCIAL PRESSURE GAUGES

Below Are Pressure Gauges Which Can Be Used In Many Applications Where Calibration is Not Required



Part No.	Range (psi)	Diameter (inches)	Connection	Accuracy %	Liquid Fill
140-049	0-600	2.5"	1/4" Bottom	1.5	Yes
140-046	0-600	4.0"	1/4" Bottom	1.5	Yes
140-009	0-1000	2.5"	1/4" Bottom	3.0	No
140-048	0-1000	2.5"	1/4" Bottom	1.5	Yes
140-017	0-1000	3.5"	1/4" Bottom	1.0	No
140-008	0-1000	4"	1/4" Bottom	1.5	Yes
140-010	0-3000	2.5"	1/4" Bottom	1.5	No
140-040	0-5000	2.5"	1/4" Bottom	1.5	Yes
140-023	0-5000	4"	1/4" Bottom	1.5	No
140-036	0-10,000	4"	1/4" Bottom	1.5	Yes

CALIBRATED CYLINDERS

A Calibrated Cylinder is Used To Verify The Accuracy Of The Water Jacket Testing Equipment Everyday Prior to Testing. Accuracy Must Be Demonstrated To Within 1% Within 500psi Of Test Pressures Obtained That Day on Pressures at or Above 3000 psi, and To Within 10% of Pressures Being Obtained Under 3000 psi. **Calibrated Cylinders Include Test Adapter and Chart of Expansions**



Part No. 140-234

- **Construction:** Steel
- **Size:** 33" Tall x 9.25" Diameter
- **Empty Weight:** 180 Lbs
- **Typical expansion per 1000 psi:** 11cc

Expansion Points @ (psi)		
0	4000	8000
2000	5000	9000
2700	6000	10,000
3000	7000	

Additional verification points can be added upon request



Part No. 140-236

- **Construction:** Steel
- **Size:** 51" Tall x 9.25" Diameter
- **Empty Weight:** 160 Lbs
- **Typical expansion per 1000 psi:** 45cc

Expansion Points @ (psi)		
0	4000	7500
2000	5000	
2700	6000	
3000	7000	

Additional verification points can be added upon request



Part No. 140-225 (reconditioned)

- **Construction:** Carbon Fiber
- **Size:** Varies up to 25" Tall x 7.25" Diameter
- **Empty Weight:** Varies up to 35 lbs
- **Typical expansion per 1000 psi:** 11cc

Expansion Points @ (psi)		
0	4000	7500
2000	5000	
2700	6000	
3000	7000	

Additional verification points can be added upon request
This is a reconditioned cylinder, past its usable life as a transport cylinder but still able to be used as a verification cylinder.



Part No. 140-200

- **Construction:** Aluminum
- **Size:** 26" Tall x 7.25" Diameter
- **Empty Weight:** 35 Lbs
- **Typical expansion per 1000 psi:** 15cc

Expansion Points @ (psi)		
0	3000	
2000	4000	
2700	5000	

Additional verification points can be added upon request



Part No. 140-205

- **Construction:** Aluminum
- **Size:** 26" Tall x 7.25" Diameter
- **Empty Weight:** 35 Lbs
- **Typical expansion per 1000 psi:** 15cc

Expansion Points @ (psi)			
0	400	700	1200
200	450	800	1400
300	500	900	
350	600	1000	

Additional verification points can be added upon request

RE-CALIBRATION SERVICES

Pressure Gauges

Send Your DOT Gauges To A Company That Knows The DOT Regulations.

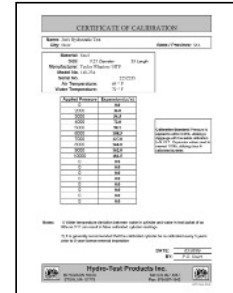


Hydro-Test Products has a State of the Art calibration lab that allows for re-calibration service of a variety of different style pressure gauges and calibrated cylinders. We can calibrate or re-calibrate not only gauges for hydrostatic testing but also filling gauges.



Reasons to send your pressure gauges to Hydro-Test:

- Exceed gauge accuracy requirements of U.S. Department of Transportation
- Ability to make any required internal adjustments to maintain gauge specification
- Repair of Hydro-Test brand pressure gauges
- Fast turnaround - typically have gauge ready within 3 days of receipt
- "Rush" service available with pre-arrangement
- A Certificate of Calibration is sent back with each gauge
- Ability to re-calibrate most gauges up to 10,000 psi
- If gauge is not adjustable (*as many fill gauges are not*) we provide a full range accuracy test
- Gauges are returned in packaging sent - reusable protective foam boxes are available at additional charge



No Need To Call - Just Send In The Gauge(s) With Your Purchase Order, Telephone No. and Shipping Address and Specify How You Want The Gauge(s) Shipped Back To You.

Calibrated Cylinders

Send Your Calibration Cylinders To A Company That Knows The DOT Regulations.



As the leading manufacturer of cylinder re-qualification equipment to U.S. Department of Transportation requirements, Hydro-Test is one of the few companies in the world that can re-calibrate your calibrated cylinder.

Although there is currently no requirement to have a calibrated cylinder re-calibrated, some inspectors will suggest this service prior to a 5 year inspection. Also, calibrated cylinders will wear out. They are being pressurized on a daily basis and it is recommended that they be re-calibrated at a minimum of 5 years and replaced every 10-15 years depending on use and pressure.

No Need To Call - Just Send In The Cylinder With Your Purchase Order, Telephone No. and Shipping Address and Specify How You Want The Cylinder Shipped Back To You.

Reasons to send your calibrated cylinders to Hydro-Test:

- Exceed accuracy requirements of U.S. Department of Transportation
- Prepare a new chart of expansions with each re-calibration
- Fast turnaround - typically have cylinder ready within 3 days of receipt
- "Rush" service available with pre-arrangement
- Ability to re-calibrate cylinders up to 14" diameter x 55" tall
- Ability to re-calibrate cylinders up to 10,000 psi



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e-mail: sales@hydro-test.com



www.hydro-test.com

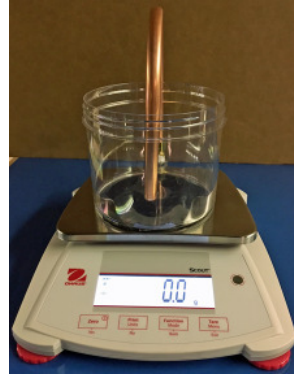
Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942

EXPANSION MEASURING DEVICES

DIGITAL SCALE ASSEMBLY

Available as an option for older test systems or can be purchased on a new test system as a replacement for the burette tubes assembly. Allows for expelled expansion water to be weighed rather than measured.

- ◆ 700g Net Capacity x 0.1g Increments
- ◆ Operates on 115V - With battery Backup
- ◆ Steel Shelf Plate Bolts to Side of Your Existing Cabinet
- ◆ Provides for Easier Reading of Cylinder Expansions
- ◆ Easily Retrofitted to Existing Test Systems
- ◆ Includes Set of Calibration weights for Periodic Calibration



Optional acrylic box available.
See page 79
Reduces temperature/elements effects on scale - which could alter readings.

Part No. 500-014

Easily replaces burette tubes on older test system. Just remove flexible tube from barb fitting on existing burette manifold and insert onto barb fitting on scale assembly. **No conversion required: 1gram = 1cc**

BURETTE TUBES

Hydro-Test Products burettes, outlined below, are manufactured to Class A accuracy in accordance with limits set forth in ASTM standards. Full range accuracy for burettes listed below fall between 0.08% - 0.16% which exceed the required DOT accuracy requirements of 0.5%.

Features:

- ◆ Pyrex Construction for Strength and Volumetric Stability
- ◆ Lower End Supplied With 1/4" ID Slip Fit Hose Connection
- ◆ Numbers and Marks are Etched and Filled With Baked On Permanent Filler



BURETTES FOR WATER JACKET EXPANSION TESTING					
Part No	Full Scale (cc's)	Marked Divisions (cc's)	Midpoint Interpolation Divisions (cc's)	Range of 1% Resolution (Readable Accuracy) (cc's)	Overall Length
180-002	0-25	0.05	0.025	2.5-25	30"
180-003	0-50	0.1	0.05	5-50	30"
180-004	0-125	0.2	0.1	10-125	30"
180-005	0-250	1.0	0.5	50-250	30"
180-006	0-360	1.0	0.5	50-360	30"
180-009	0-600	1.0	0.5	50-600	30"

Reservoir burettes are scaled up and down

RESERVOIR BURETTES FOR DIRECT EXPANSION TESTING					
Part No	Full Scale (cc's)	Marked Divisions (cc's)	Midpoint Interpolation Divisions (cc's)	Range of 1% Resolution (Readable Accuracy) (cc's)	Overall Length
180-008	0-1500	5.0	2.5	250-1500	30"
180-007	0-3000	10.0	5.0	500-3000	30"
180-015	0-5000	12.5	6.25	625-5000	30"
180-012	0-6000	50.0	25.0	2500-6000	30"



BURETTE TUBE CLEANING KIT

Includes soap and 3 size brushes

Part No. 180-045

BURETTE BANK

Part No.	Description
180-032	Set of 4 burettes (25,50,125,360cc) with on/off valved manifold - mounted on steel support frame with counter balance weight



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DRY CHEMICAL POWDER HANDLING EQUIPMENT



Features:

- ◆ Light Weight Polypropylene Tub
 - ◆ Standard Capacity to 150 Lbs.
 - ◆ Compact Design
- Operates on 80 psi of pre-regulated shop air or N2 gas
 - Designed for in shop or mobile use
 - Transfer rate of 1/4 lb per second
 - Refill and Re-claim all in one unit
 - No more corrosion - powder tub is made of Polypropylene
 - Preformed Poly-P lid cone funnel
 - Enamel painted support frame
 - Utilizes time proven vacuum venturi air operated system
 - Overfill filter bowl
 - 60" Long powder transfer hose
 - Incoming pressure and vacuum gauges

Picture shown with optional universal fill cone

Footprint: 36"T x 20"W x 20"L

Shippable via UPS

Model No. 550-200

FUNNELS-SCOOPS-PAIL OPENER

Offered for manual filling applications.

Heavy duty mesh screen in funnels helps eliminate clogging of powder.



Part No.	Description	Height	Dia.	Tip O.D.
550-040	Small Funnel	15"	6"	3/4"
550-041	Large Funnel	13"	10"	1 1/8"
550-042	X Large Funnel	10"	10"	2 1/4"
550-038	12 oz Capacity Scoop			
550-039	2 Lb Capacity Scoop			
550-035	Powder Pail Opener			



Dial Scale

Part No. 230-189

100 Lb. x 4 oz.
11" square stainless platform



Digital Scale

Part No. 230-150

500 Lb. x 0.05 Lb.
17" x 22" stainless platform

Please see page 58 for our full line of scales

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DRY CHEMICAL FIRE EXTINGUISHER RECHARGE EQUIPMENT

The below items will assist in making your powder filling operation cleaner and more efficient

AUTOMATIC SHUTOFF SCALE ASSEMBLY

DIGITAL SCALE ASSEMBLY ALLOWS FILLING OF DRY CHEMICAL FIRE EXTINGUISHERS WITH THE "TOUCH OF A BUTTON". ELIMINATES OVERFILLING AND UNDER FILLING OF CYLINDERS. HANDS FREE OPERATION ALLOWS TECHNICIAN TO PERFORM OTHER DUTIES WHILE CYLINDER IS BEING FILLED.

Includes:

Part No. 550-305



- ◆ 60 Lb Capacity Stainless Steel Digital Scale (14" x 16" platform)
- ◆ Tare Weight Adjustment
- ◆ Large - Easy to Read LED
- ◆ Requires 115V Electrical
- ◆ Wall Mountable Control Panel
- ◆ Unique Powder Cone Handler Stand
- ◆ Automatic Powder Settling Shut-off Prior to Exact Weight
- ◆ Push Button Filling of 5 -10 -20Lb Cylinders
- ◆ Manual Fill Button for Other Capacity Extinguishers
- ◆ Can be Used on all Hydro-Test Products Brand Powder Fillers



POWDER BENCH

Hydro-Test Has Redesigned and Improved the Popular Dry Chemical Powder Down Draft Bench.

Maintaining a clean and dust-free shop environment is a challenge in the fire extinguisher filling shop. This Down Draft Table is the perfect solution for eliminating harmful airborne dust and eliminating time consuming clean-ups. Features include large downdraft table, easy access filter bays, (2) 110 V outlet receptacles, accessory hanger, and a rubber grommet table surface for cylinder protection.



Part No. 550-301

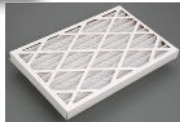
Specifications:

- Table surface area: 37" x 28"
- Motor: 1/2 HP, single-phase, 110V
- Amps: 9.5
- Suction Capacity: 1300 CFM
- Filter size: 16" x 25" x 1" and 2"
- Filter micron: 0.3
- Impeller size: 9" x 7"
- Base: 39-1/2" x 28"
- Overall Height: 40"
- Table Height: 33"
- Shipping weight: 250 lbs.



#160-046

Replacement pre-filter



#160-047

Replacement main filter

- Operates on 115V Electrical
- Mounted on Adjustable Padded Levelling Feet
- (2) 110V Receptacles on Bench
- Accessory Hanger - Great for Holding Powder Filling Hose!!
- Enamel Painted Steel Construction
- Easily Replaceable Filters

This Bench Is Not Designed for Recovery of Dry Chemical From a Fully Charged Extinguisher.

It is Designed Only for Capturing Residual Powder Typically Found When Servicing Dry Chemical Fire Extinguishers.

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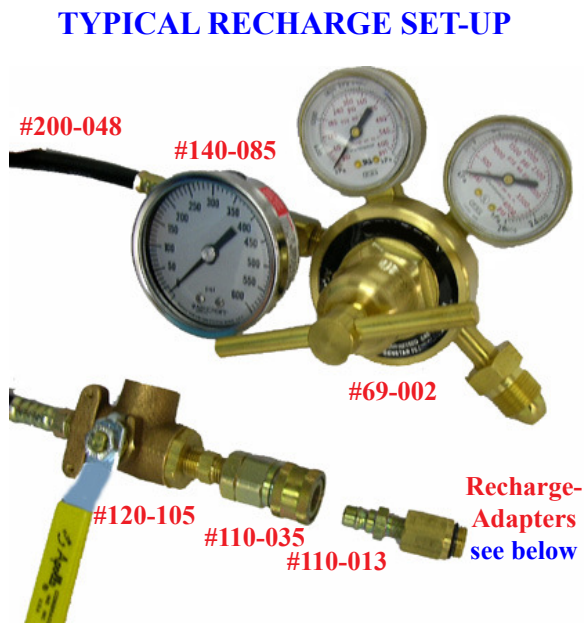
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DRY CHEMICAL FIRE EXTINGUISHER RECHARGE EQUIPMENT

TYPICAL RECHARGE SET-UP



Part No. 69-002 Nitrogen Regulator

- ◆ 0-450 psi Outlet Pressure
- ◆ CGA 580 Inlet
- ◆ 1/4" NPT Outlet

Part No. 140-085 Calibrated Gauge

- ◆ Required by NFPA #10
- ◆ 0-600 psi x 10psi Increments
- ◆ 2.5" Diameter Stainless Steel Case
- ◆ Includes Calibration Certs. to 1% Accuracy

Part No. 200-048 Nitrogen Outlet Hose

- ◆ 10' Long
- ◆ 1/4" (M)NPT Fittings

Part No. 120-105 3-Way Pressurizing Valve

- ◆ Positive Seat Ball Valve
- ◆ 1/4" (F)NPT
- ◆ Rated to 400 psi

RECHARGE ADAPTERS



Part No.	Used On:
100-420	Amerex, Badger, General, Kidde, Flag, RC
100-435	Sentry Coarse Thread
100-437	Buckeye, Pyronauts, Kidde Pro-Line
100-421	Amerx, Badger, General, Pemall, Strike, StopFire
100-439	RC Industries - Clip Type
100-415	Kidde - Nylon Valve With Nozzle
100-431	FyrFyter, Buffalo, Pyrene, Norris, StopFire
100-430	Sentry
100-416	Kidde Coarse Thread - AS Series
100-443	Kidde Pro Line, Sentry
100-440	Amerex 270, 272, B260 & B262
100-441	Ansul A02S & A02SVB

Part No.	Used On:
110-035	1/4" Quick Disconnect Coupling (closed center)
110-013	1/8" Quick Disconnect Nipple (mates to #110-035)
220-135	1/4" NPT(F) Air Chuck Nozzle
100-425	1/8" NPT(M) Air Valve
100-402	Set of Recharge Adapters Only
100-400	Set of Recharge Adapters with Air Valve #100-425
100-404	Set of Recharge Adapters with Quick Disconnect #110-035 and Quick disconnect Nipples #110-013
100-448	Blow Down Recharge Adapter for Ansul Red Line (LHT) (not incl in kits)
100-450	Blow Down Adapter for Ansul Red Line Cartridge Nozzle (not incl in kits)



Part No. 230-004 Air Gun

- ◆ 1/4" (F)NPT
- ◆ Rated to 100 psi



Part No. 200-370 Retractable Air Hose

- ◆ 1/4" (M)NPT Fittings
- ◆ Rated to 100 psi
- ◆ 25' Long

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MISCELLANEOUS FIRE EXTINGUISHER SHOP TOOLS

BREAK FREE



Part No. 230-310
4oz Aerosol Can



Part No. 230-314
1 Pint w/Sprayer



Part No. 230-312
Gallon Re-Fill

- ◆ Cleaner-Lubricant-Preservative
- ◆ Frees Corroded Parts
- ◆ Protects Against Rust and Corrosion
- ◆ Slashes Friction and Wear
- ◆ Non-Toxic. Non-Corrosive
- ◆ Long lasting Water Resistance Film
- ◆ For Use In All Climates
- ◆ Great For Fire Hose Couplings

A Must For All Fire Extinguisher Service Shops

O-RING LUBRICANT



Part No. 63-110

- ◆ Silicone Compound Base
- ◆ Temp range -65F to +400F
- ◆ 2 oz Tube

O-RING REMOVAL TOOLS

Part No. 69-052

Features chrome vanadium steel shafts with magnetic tips. High visibility PVC handles. Contains curved hook, 90 deg. hook, offset 45 deg. hook, 1/8" slotted screwdriver, #0 Phillips screwdriver, straight pick, T-15 star driver, T-20 star driver.



CO₂ HOSE CONTINUITY TESTER

Part No. 69-017

- ◆ Heavy Duty Design
- ◆ Bulb Up Front
- ◆ Complete With Batteries
- ◆ Pocket Size



VALVE CLEANING BRUSHES

Part No. 230-008

- ◆ Metal Britles



Part No. 230-011

- ◆ Nylon Bristles



PARTS BOX

- ◆ Ideal for Shop or Mobile Truck
- ◆ Keeps Parts Clean

Part No.230-200
24 Compartment
2"x 2"x2"



CO₂ REGULATOR

Part No. 160-030

- ◆ Quality Design
- ◆ Dual Gauges
- ◆ CGA 320 Inlet



RUBBER Mallet



Part No. 63-113

- ◆ 16 oz Size
- ◆ Hickory Handle

POWDER PAIL OPENER



Part No. 550-035

- ◆ Fits All Manufacturers Pails
- ◆ Lightweight Anodized Aluminum
- ◆ A Real Time Saver

TEFLON TAPE



Part No. 230-010

- ◆ 1/2" X 520"

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WEIGHING SCALES

Dial Scale



- ◆ 100 Lb x 4oz Capacity
- ◆ 10.5" Dial Face
- ◆ 11.5" Square Platform
- ◆ Chrome Plated Steel Platform
- ◆ Enamel Dipped Housing
- ◆ Overall Size: 10" W x 14.75" D x 14.5" T
- ◆ Temperature Compensated

Part No. 230-189

Hanging Scales

for weighing of portable CO₂ cylinders and cartridges



Part No. 230-170

100 Lb x 1 Lb



Part No. 230-166

4 Lb x 1oz

Digital Scale

- ◆ 500 Lb x 0.1 Lb capacity
- ◆ Operates on 115V
- ◆ 14" W x 16" L platform size
- ◆ Stainless Steel Platform
- ◆ Large LED Display
- ◆ Push Button Tare
- ◆ Auto Shutoff Feature

Part No. 230-150



Legal for Trade

Digital Scale

- ◆ 10 Lb x .005Lb Capacity
- ◆ Operates on 115VAC
- ◆ 6.75" x 5.25" Platform
- ◆ Stainless Steel Platform

Part No. 230-145



- ◆ 4 Digit LED Display
- ◆ Side Mount Tare Button
- ◆ Legal for Trade

For Cartridge Weighing / Filling

Legal for Trade

Beam Scale

- ◆ 1000 Lb x 0.5 Lb
- ◆ Study Construction & Compact Design
- ◆ Cast-iron Construction
- ◆ 18 x 27-inch Platform
- ◆ Corrosion Resistant Loops, Bearings and Nose Irons
- ◆ Wheels for Easy Mobility

Part No. 230-163



Legal for Trade

Digital Floor Scale

Weighing less than 100 pounds and featuring built-in handles and wheels, this scale is easy to lift and roll to wherever you need it. Whether it's multiple weighing locations at a single facility or the need to take a scale to special job sites, this scale gives you true portability.

Includes floor ramps for easy rolling on and off of cylinders

Specifications

- Capacity: 500 lb x 0.2 lb/225 kg x 0.1 kg
- Dimensions: 30"L x 40"W x 4 1/2"H
- Platform: 30"L x 30"W x 2 1/2"H, checkered safety plate
- Construction: Heavy-duty steel with baked-on powder paint finish
- Shipping Weight: 155 lb

Indicator

- Display: 5 digit, 7 segment, 1" high LCD
- Units Conversion: Keypad selectable
- Enclosure: General purpose, stainless steel
- Power: Six "C" cell or NiCad batteries, standard 12VDC or 115 VAC 60 Hz
- Temperature Range: 14 °F to +104 °F (-10 °C to +40 °C)



Part No. 230-146

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FIRE EXTINGUISHER CLEAN AGENT FILLING / RECLAIM SYSTEMS



Features of All Systems:

- Fills/Recovery rate @ 2Lb per Minute
- Particulate Matter Removal To 15 Microns
- 99% Transfer Of Liquid and Vapor
- Maximum Recovery Pressure of 400 psi
- Maximum Recharge Pressure of 1000 psi
- Recovery Side Incorporates 450 psi Safety
- Operates On 100 PSI Of Compressed Air
- Air Driven Double Acting Piston Pump
- Stainless Steel Check Valves And Springs
- Dual 30" Vacuum and 300psi Pressure Gauge
- Includes 120Lb Recovery Tank and Dual Port Valve
- Heavy Duty Steel Painted Console
- **Cabinet Size:** 51"T x 18"D x 24"L
- **Shipping Weight:** 280 Lbs

Due to the dangers and expenses of contamination, it is not recommended that different clean agents be used on the same filling and re-claiming machine. When a small amount of different agents are mixed, overpressurization and damage to seals can occur.

The UL listing of the fire extinguishing system may also be voided as the extinguishing rating will be altered.

****Picture shown with optional front plexiglass Part Number 180-103****

Model No.	Clean Agent Product	Chemical Name
570-055	Novec 1230	<i>perfluoro(2-methyl-3-pentanone), heptafluoroisopropyl pentafluoroethyl ketone (FK-5-1-12, C6F12O)</i>
570-050	FE25 / HFC-125	<i>ECARO-25 (Pentafluoroethane) (CHF2CF3)</i>
570-045	Halatron	<i>HCFC-123 (93%) mixed with tetrafluoromethane and argon</i>
570-040	FM200 / HFC227	<i>Heptafluoropropane (CF3-CHF-CF3)</i>
570-035	Halon 1301	<i>Bromotrifluoromethane (CF3Br)</i>
570-030	FE36	<i>Hexafluoropropane (C3H2F6)</i>
570-025	Halon 1211	<i>bromochlorodifluoromethane (CF2ClBr)</i>



Part No. 210-124
Recovery Tank W/Valve
 120 Lb Capacity
 DOT 4B 400 specification
 Physical Size: 10"dia.x 53" Tall



Part No. 120-065
Replacement Tank Valve
 3/4" NPT
 CGA 660 Dual liquid/vapor

Utilities Required to Operate

- 8 CFM @ 100 psi of Pre-Regulated Shop Air
- Weighing Scale
- Supply of Clean Agent



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CARBON DIOXIDE FILLING EQUIPMENT

ELECTRIC OPERATED CO₂ TRANSFER PUMP



Model SC-5

- ◆ Standard of The Industry
- ◆ Maximum Inlet Pressure Of 1000 psi
- ◆ Minimum Inlet Pressure of 300 psi
- ◆ Internal Spring and Ball By-Pass
- ◆ External Safety Relief
- ◆ Transfer Rate of 6-10Lbs per Minute
- ◆ Supplied With (2) 6' Long Hoses
- ◆ Outlet Hose Includes Filling Manifold Assy
- ◆ Includes Spare Parts Seal Kit
- ◆ 1 HP Motor Available in Various Configurations
- ◆ 180 Lb Net weight: Shipping weight of 200 Lbs
- ◆ Footprint: 30"L x 14"W x 24"H

Utilities Required to Operate

- Supply of liquid CO₂ (bulk of cylinder)
- Electrical supply (see chart below)
- Accurate weighing scale (see page 58)

This is a workhorse gear driven pump that has been used in the fire extinguisher and carbonic filling industries for over 70 years. Supplied to the U.S. military for over 50 years this is a Dependable-Low Maintenance-Cost Effective Liquid CO₂ Transfer Pump.

see page 58 for a complete selection of weighing scales

Model No.	Electrical Service			Allows pumping from:
	Voltage	Phase	Cycle(Hz)	
560-040A1	115	1	60	High Pressure Cylinder 50-100 Lb Standard CO ₂ Cylinder
560-040A2	230	1	60	
560-040B2	230	3	60	
560-040B4	460	3	60	
560-040C2	220	1	50	Low Pressure Supply Tank (ie; 1 Ton Refrigerated Bulk Tank) Minimum required outlet liquid pressure of tank is 300 psi
560-040D1	115	1	60	
560-040D2	230	1	60	
560-040E2	230	3	60	
560-040E4	460	3	60	
560-040F2	220	1	50	

PNEUMATIC OPERATED CO₂ TRANSFER PUMP

Model No. 560-080A



- ◆ Designed For Mobile or Shop Application
- ◆ Allows Pumping From High Pressure Cylinders Only
- ◆ Internal Soft Seated Check Valves
- ◆ Transfer Rate of 4-6 Lbs per Minute
- ◆ Supplied With (2) 6' Long Hoses
- ◆ Outlet Hose Includes Filling Manifold Assy
- ◆ Requires 100 psi @ 8CFM of Pre Regulated Shop Air

Utilities Required to Operate

- Supply of liquid CO₂ in high pressure cylinder
- 8CFM @ 100 psi pre-regulated air supply
- Accurate weighing scale (see page 58)

Hydro-Test Products Inc.

e-mail: sales@hydro-test.com



www.hydro-test.com

Tel: 800-225-9488 / 978-897-4647 Fax: 978-897-1942

OPTIONAL AUTOMATIC SHUT OFF SCALE ASSEMBLIES



150 Lb Capacity
Model No. 560-305

Model 560-305
Automatic Filling of
5-10-20 Lb. Cylinders



Model 560-310
Automatic Filling of
5-10-15-20-50-100 Lb.
Cylinders

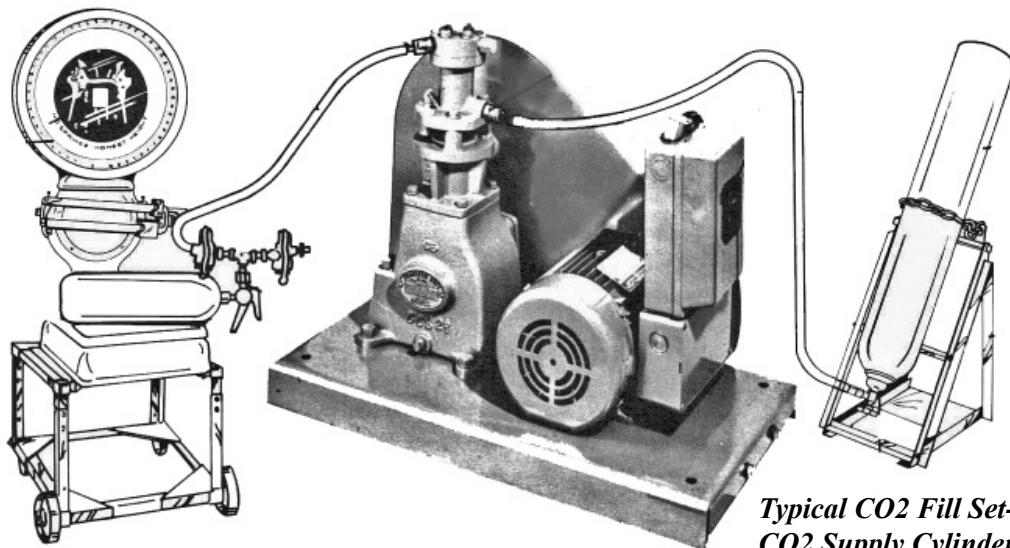


500 Lb Capacity
Model No. 560-310

Stainless Steel Digital Scale
(30" x 40" platform with ramp)

Either System Includes:

- 150 Lb or 500Lb Capacity Digital Scale
- Tare Weight Adjustment
- Large - Easy to Read LED Display
- Wall Mountable Control Panel
- **#560-305 System:** Automatic Filling of 5-10-20 Lb. Cylinders
- **#560-310 System:** Automatic Filling of 5-10-15-20-50-100 Lb. Cylinders
- Manual Fill Button for Other Capacity Cylinders
- Designed for Use With Hydro-Test Model SC-5 CO₂ Pump



*Typical CO₂ Fill Set-Up Utilizing Inverted
CO₂ Supply Cylinder Without Siphon Tube*

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email: sales@hydro-test.com

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CARBON DIOXIDE FILLING ADAPTERS AND LINES

FILLING / RECHARGE ADAPTERS FOR CO₂ FIRE EXTINGUISHER & SYSTEMS CYLINDERS



For Portable and Wheeled
CO₂ Fire Extinguishers



Part No.	Thread Spec.	Used for filling:
100-553	1/8"-27NPT(F) x CGA 320	5 Lb CO2 Fire Extinguisher
100-554	1/4"-18NPT(F) x CGA 320	10-20 Lb CO2 Fire Extinguisher
100-555	3/8"-18NPT(F) x CGA 320	10-20 Lb CO2 Fire Extinguisher
100-556	1/2"-14NPT(F) x CGA 320	50-100 Lb Wheeled CO2 Fire Extinguisher
100-557	1 5/16"-12NS(F) x CGA 320	AP-7H System Valve
100-558	3/4"-16UNF(F) x CGA 320	AP-10 System Valve
100-560	1 1/4"-19NS(F) x CGA 320	AP-8 System Valve
100-561	CGA320(M) x CGA320(M)	PS-2, PS-4 System Valve
100-563	3/4"-27NS(F) x CGA 320	Pack Raft, C2 Army Raft Cartridge
100-566	1 1/8"(F) x CGA 320	4706 Kidde System Valve
100-575	1"-20(F) x CGA 320	Left Hand Thread CO2 Cartridges
100-577	1"-20(F) x CGA 320	Right Hand Thread N2 Cartridges
100-580	3 Point Stem for Fire Extinguisher Cartridges #100-575, #100-577	
58-032	Replacement o-ring for #100-580	

FILL LINES AND MISC. ITEMS FOR CO₂ FILLING



Extended Length Handwheel Fill Adapter for Beverage Tanks With Carrying Handle

Part No. 220-020

- Allows faster connection between CO₂ Valve and Fill Line.
- Easier to connect to carbonic cylinders with carrying handle.
- Large Aluminum hand-wheel for easier-faster connections
- Stainless CGA 320 threaded stem
- O-ring seal connection

Dimensions:

- **Handwheel:** 4.75" diameter
- **CGA 320 stainless nipple:** 4.0"
- **Overall length of assembly:** 6.25"

Replacement seal & brass tip kit

Part No. 220-021



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e-mail: sales@hydro-test.com



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PAMPHLETS FOR CYLINDER RE-QUALIFICATION

If you are re-qualifying (testing) cylinders in the USA or Canada, required pamphlets that must be on hand, reviewed and understood. The pamphlets required is determined by what type of cylinders you are re-qualifying under your license.

As an example, a company that is re-qualifying DOT specification 4B dry chemical stored pressured fire extinguishers, will need: CFR Title49, C-1, C-6 and NFPA #10. Whereas a shop that is re-qualifying industrial gas, SCUBA, SCBA, Carbon Fiber, O2 cylinders, will need the CFR Title49, C-1, C-6, C-6.1, C-6.2 pamphlets.

Cited indicates that this pamphlet is written into the U.S. Department of Transportation Code of Federal Regulations.

If you are re-qualifying or filling these types of cylinders, you are required to have the cited pamphlets on hand.



CGA Pamphlet C-1
Part No. 393-301

CGA Pamphlet C-5
Part No. 393-305

CGA Pamphlet C-6
Part No. 393-306

CGA Pamphlet C-6.1
Part No. 393-306-1

CGA Pamphlet C-6.2
Part No. 393-306-2

CGA Pamphlet C-6.3
Part No. 393-306-3

CGA Pamphlet C-8
Part No. 393-308

CGA Pamphlet C-7
Part No. 393-307

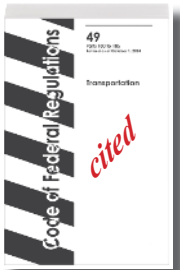
CGA Pamphlet C-9
Part No. 393-309

CGA Pamphlet C-10
Part No. 393-310

CGA Pamphlet C-13
Part No. 393-313

CGA Pamphlet C-17
Part No. 393-317

Part No.	<i>All Publications Are Latest Editions</i> Description
393-301	CGA C-1 Methods of Hydrostatic Testing
393-305	CGA C-5 Cylinder Service Life - Seamless Steel Cylinders
393-306	CGA C-6 Visual Inspection of Steel Compressed Gas Cylinders
393-306-1	CGA C-6.1 Visual Inspection of High Pressure Aluminum Cylinders
393-306-2	CGA C-6.2 Visual Inspection and Requalification of Fiber Reinforced Cylinders
393-306-3	CGA C-6.3 Visual Inspection of Low Pressure Aluminum Cylinders
393-308	CGA C-8 Requalification of DOT 3HT Seamless Steel Cylinders
393-295	Set of C-1, C-5, C-6, C-6.1 and C-6.2 (Hydro-Test set of 5)
393-290	Set of C-1, C-5, C-6, C-6.1, C-6.2, C-6.3 and C-8 (Hydro-Test set of 7)
393-307	CGA C-7 Labeling and Marking of Compressed Gas Containers
393-309	CGA C-9 Standard Color Marking of Compressed Gas Containers for Medical Use
393-310	CGA C-10 Recommended Procedures for Changes of Gas Service
393-313	CGA C-13 Periodic Visual Inspection and Requalification of Acetylene Cylinders
393-317	CGA C-17 Methods to Avoid and Detect Internal Gas Cylinder Corrosion
393-185	DOT Title 49 CFR, Sections 100-185



DOT Title49
Part No. 393-185

All Publications Are Latest Editions

Hydro-Test Products has availability to all of the CGA pamphlets that are published. The above pamphlets are stocked in the latest editions. Other pamphlets can be specially ordered upon request. Please contact us with your CGA pamphlet needs.

www.hydro-test.com

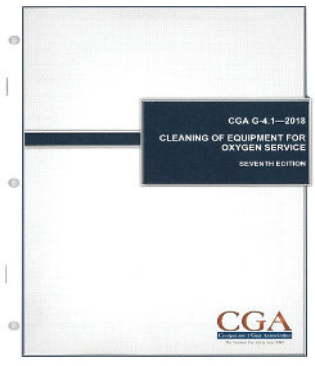
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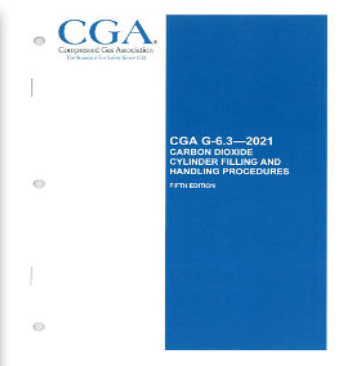
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email: sales@hydro-test.com

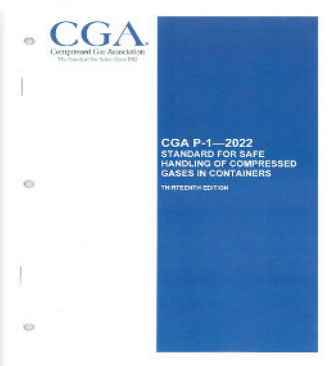
ADDITIONAL PAMPHLETS FOR CYLINDER RE-TESTERS



CGA Pamphlet G-4.1
Part No. 393-G4-1



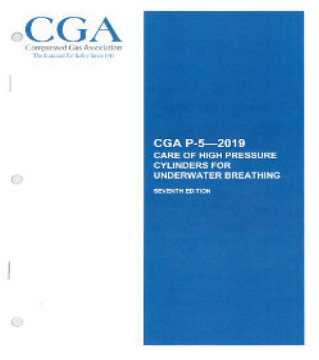
CGA Pamphlet G-6.3
Part No. 393-G6-3



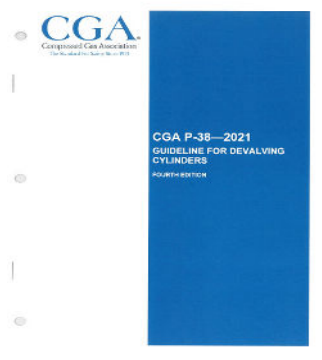
CGA Pamphlet P-1
Part No. 393-P-1



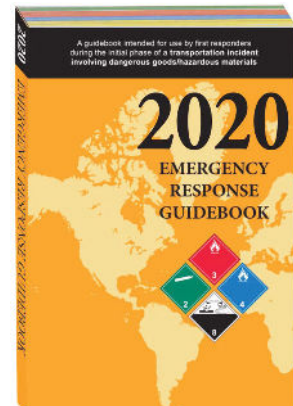
CGA Pamphlet P-2
Part No. 393-P-2



CGA Pamphlet P-5
Part No. 393-P-5



CGA Pamphlet P-38
Part No. 393-P-38



Part No 393-325 Full Size (English)
Part No. 393-326 Pocket Size (English)

Part No.	<i>All Publications Are Latest Editions</i>	Description
393-G4-1	CGA G-4.1	CFR, Cleaning Equipment for Oxygen Service
393-G6-3	CGA G-6.3	Carbon Dioxide Cylinder Filling and Handling Procedures
393-P-1	CGA P-1	Safe Handling of Compressed Gases in Containers
393-P-2	CGA P-2	Characteristics and Safe Handling of Medical Gases
393-P-5	CGA P-5	Suggestions for the Care of High Pressure Air Cylinders for Underwater Breathing
393-P-38	CGA P-38	Guidelines for Devalving Cylinders
393-325	Emergency Response Guidebook	Standard Bound Full Size
393-326	Emergency Response Guidebook	Standard Bound Pocket Size
393-325-SP	Emergency Response Guidebook	Standard Bound Full Size - Spanish Edition

All Publications Are Latest Editions

Below is a excerpt from a written interpretation given to Hydro-Test Products by the D.O.T. dated May 13, 2008 concerning the use of cited edition pamphlets against latest edition pamphlets

Question from Hydro-Test: Does the HMR allow for a cylinder requalifier to have and use the most current edition of a referenced CGA publication when the referenced CGA publication in section 171.7 is an older edition?

Answer from DOT: Yes. Sections 107.805(f) and 180.21 5(a)(6) specify that each cylinder requalifier must be trained and have "the information contained in each applicable CGA or ASTM standard incorporated by reference in 171.7 of this subchapter applicable to the requalifier's activities." Therefore, the requalifier does not need the actual CGA publication referenced as long as the requalifier has a document that contains the same information as the referenced CGA publication, which may include an updated version.

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ISO SPECIFICATIONS



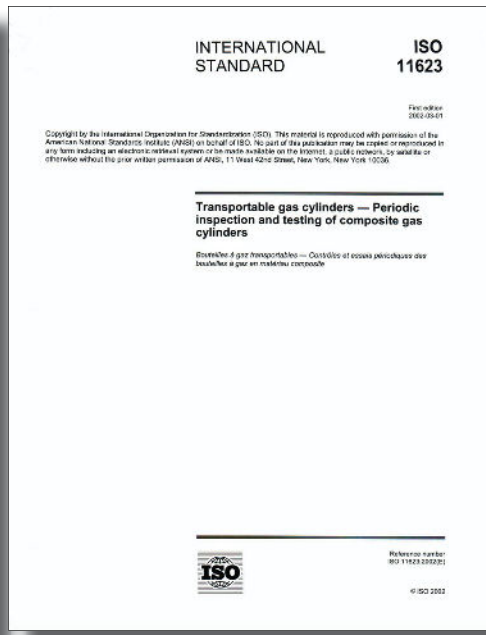
As outlined in the CFR Title 49, section 180.207, these ISO standards are required

A DOT authorized re-qualifier, is allowed to re-qualify DOT, ICC or UN specification cylinders. UN specification cylinders (also commonly called ISO spec cylinders) have been allowed to be used to transport hazardous material in the USA since 2005. If you will be testing these cylinders you must be properly trained, have the cylinder specifications listed on your license and have the corresponding ISO standards.

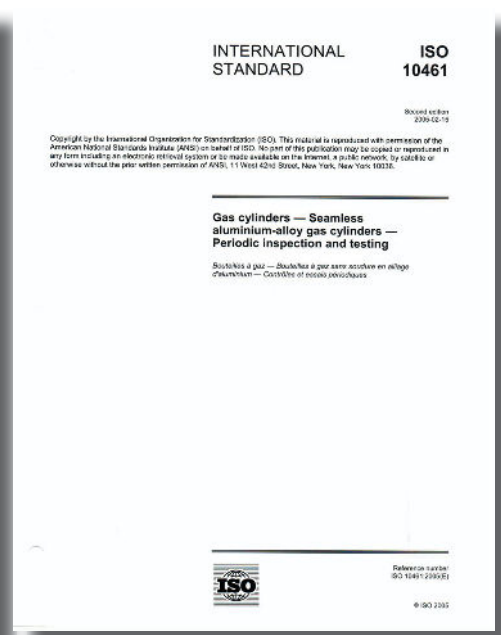
Sections 178.71 and 180.207 of 49CFR should be reviewed for proper understanding of markings and re-qualification procedures.



ISO Specification 6406



ISO Specification 11623



ISO Specification 10461

Hydro-Test has negotiated a license agreement with ANSI to publicize these ISO publications. They are available as downloads only - *hard copies are not available.* Go to www.hydro-test.com - search for ISO Pamphlets and you will be able to link to the ANSI website to purchase.

Description
ISO 6406 Gas Cylinders - Seamless steel gas cylinders - Periodic inspection and testing
ISO 11623 Transportable gas cylinders - Periodic inspection and testing of composite gas cylinders
ISO 10461 Gas cylinders - Seamless aluminum-alloy gas cylinders - Periodic inspection and testing

Is Your Company Re-qualifying UN Specification Cylinders? If So Make Sure That...

- You Include UN cylinder re-qualification in your training
- Your license includes UN cylinder specifications
- You Have the correct ISO standards on hand
- Refer to 49CFR §178.71 to familiarize yourself with the cylinder markings

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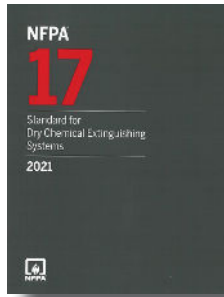
email: sales@hydro-test.com

NFPA PUBLICATIONS

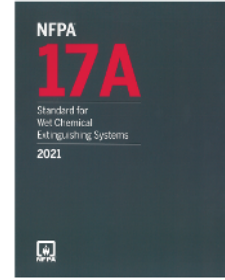
Hydro-Test is pleased to expand our line of available NFPA pamphlets
 Most all states and regulatory offices have adopted the NFPA standards as part of their guidelines



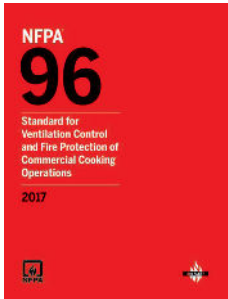
NFPA #10
Part No. 393-350



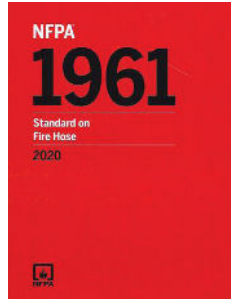
NFPA #17
Part No. 393-357



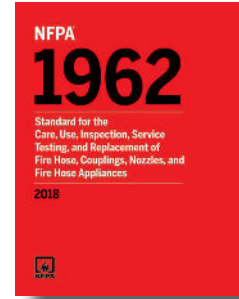
NFPA #17A
Part No. 393-357A



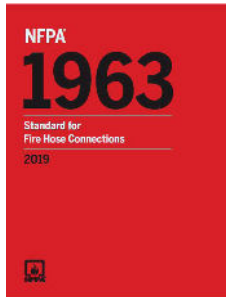
NFPA #96
Part No. 393-396



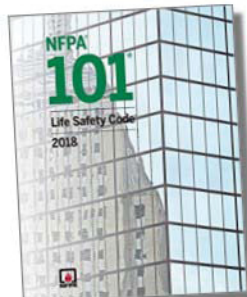
NFPA #1961
Part No. 393-361



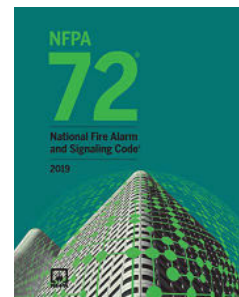
NFPA #1962
Part No. 393-362



NFPA #1963
Part No. 393-363



NFPA #101
Part No. 393-351



NFPA #72
Part No. 393-352

Part No.	<i>All Publications Are Latest Editions</i>	Description
393-350	NFPA #10	Standard for Portable Fire Extinguishers
393-357	NFPA #17	Standard for Dry Chemical Extinguishing Systems
393-357A	NFPA #17A	Standard for Wet Chemical Extinguishing Systems
393-396	NFPA #96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
393-361	NFPA #1961	Standard on Fire Hose
393-362	NFPA #1962	Standard for Inspection, Care, Use of Fire Hose, Couplings, Nozzles and Service Testing of Fire Hose
393-363	NFPA #1963	Standard for Fire Hose Connections
393-351	NFPA #101	Life Safety Code
393-352	NFPA #72	National Fire Alarm Code

All Publications Are Latest Editions

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CYLINDER RE-QUALIFICATION TRAINING

Hydro-Test Products has offered training for cylinder retesters for over 40 years. With more regulations being written and DOT enforcement inspections on the rise, we want to be sure that all of our customers are prepared and ready for a DOT audit. One of the more frequent fines that are imposed by DOT enforcement is lack of, or improper training, as required under §172.704 of CFR Title 49.

Hydro-Test Training is offered in a variety of ways:

Training at Hydro-Test Facility in Massachusetts - Training at Your Facility - On-Line Training - Mail Out Training Guide

Option 1

Part No. 393-400

TRAINING AT HYDRO-TEST PRODUCTS IN STOW, MASS.

Come visit us at our manufacturing plant in Stow, Massachusetts for an in depth training seminar. A classroom environment and working manual or automated test systems are used as part of the training class.

Contact our training department at training@hydro-test.com to discuss your companies needs and schedule a training date.

Benefits:

- Learn under a controlled atmosphere - no distractions
- Take advantage of the knowledge of an experienced staff
- Provides exact training for your companies needs
- A more relaxed atmosphere because you are training with your coworkers
- Discuss cylinders and regulations that are unique to your company
- Focus in on only what cylinder specs your company is testing



What is covered ?

One of the great advantages of one on one company training is we can tailor the training to fit your needs.

Available training components are:

Operational training

- Proper testing procedures
- Proper record keeping requirements
- Daily verification operation
- Troubleshooting
- Understanding the theory and reasons for hydrotesting cylinders

Required HazMat Training

- General Awareness & Familiarization
- Function Specific (regulations for cylinder re-qualification)
- Safety
- Security Awareness



What you will receive ?

- Required certificate of Hazmat Training covering above required components
- Backup training material (written training manual, CD and DVD)
- Knowledge and confidence to do your job better

Any questions concerning the training requirements or to receive a quote - please contact us at (800)-225-9488 or by email: training@hydro-test.com.

Give us a call - we will set up a curriculum that meets your needs:
800-225-9488 or email: training@hydro-test.com

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email: sales@hydro-test.com

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CYLINDER RE-QUALIFICATION TRAINING

Option 2

Part No. 393-450

TRAINING AT YOUR FACILITY

The Best Option Available for those companies that have five or more employees that need training **or** for those companies that have new cylinder testers. Have one of our trainers come to **your** facility and train **your** employees on **your** equipment. Contact our training department at (800) 225-9488 to discuss and schedule your on-site training class.

Benefits:

- Be taught on your equipment
- Training held in a familiar environment
- Provides exact training for your companies needs
- A more relaxed atmosphere because you are training with your coworkers
- Discuss cylinders and regulations that are unique to your company
- Focus in on cylinder specs your company is testing
- If you have Hydro-Test brand equip, our trainers can also review maintenance and fixing common problems
- In most cases, this option is less expensive then sending employees away for training

What is covered ?

One of the great advantages of one on one company training is we can tailor the training to fit your needs

Available training components are:

Operational training

- Proper testing procedures
- Proper record keeping requirements
- Daily verification operation
- Troubleshooting
- Understanding the theory and reasons for hydrotesting cylinders

Required HazMat Training

- General Awareness & Familiarization
- Function Specific (regulations for cylinder re-qualification)
- Safety
- Security Awareness

What you will receive ?

- Required certificate of Hazmat Training covering above required components
- Backup training material (written training manual, CD and DVD)
- Knowledge and confidence to do your job better



Cost: In continental U.S., typically \$2500 - \$6,000 depending upon your location.

Cost outside of the continental U.S. will be significantly higher.

Email: training@hydro-test.com with your location and requirements and a formal quotation listing all cost will be generated for your review.

Give us a call - we will set up a curriculum that meets your needs: **800-225-9488** or email: **training@hydro-test.com**

Can Your Hydrotest Technician Answer These Questions Correctly ?

- 1) What section of the CFR is required to be on hand for cylinder requalifiers ?
a) 180 b) 173.34(e) c) 185
- 2) What is the difference between a "SP" (special permit) and a "E" (exemption) cylinder ?
a) Test years b) No difference c) "SP" designates carbon fiber cylinders and "E" designates aluminum cylinders
- 3) Eddy Current inspection is required on what specification cylinders made out of 6351 alloy ?
a) 3AL b) 3AA c) 3HT
- 4) A facility must notify the DOT approvals branch of any change in retester personnel within:
a) 90 days b) 30 days c) 20 days
- 5) A DOT3HT specification cylinder that passes requalification is required to be marked with a:
a) Label b) Permanent marker c) Low stress steel stamp



Correct Answers: 1(a) 2(b) 3(a) 4(c) 5(c)

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CYLINDER RE-QUALIFICATION TRAINING

Option 3

Part No. 393-460

ON-LINE TRAINING

A very popular and innovative way to meet the requirements of §172.704. This first in the industry on-line training program has successfully trained hundreds of retesters over the past 5 years. Designed and monitored by our knowledgeable training staff - this provides a economical and convenient way to meet the training requirements for cylinder retesters.

Benefits:

- Learn at your own pace
- Log on and start training wherever and whenever you have an internet connection
- Allows the trainee to start, stop and start again as many times as you like within 30 days
- The most economical training available
- Saves the hassle and aggravation of travelling
- Your own personal on-line coach to answer questions that may come up during training
- Meet all of the requirements of §172.704 from your own office or home

Order On-Line 24/7 at www.hydro-test.com

What is covered ?

Required HazMat Training for Cylinder Retesters

- General Awareness & Familiarization (supplied CD and DVD)
- Function Specific (regulations)
- Safety (supplied DVD)
- Security Awareness Supplied (supplied CD and DVD)

Operational Training

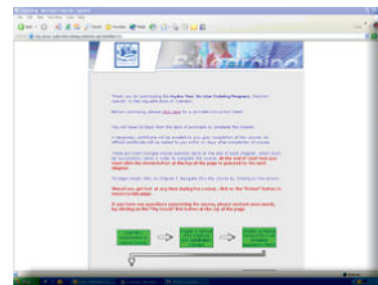
- Supplied via YouTube videos and DVD

How Does it Work ?

Once the training is purchased - an email will be sent to you with a link to the training website. Also a Username and Password will be supplied. At that time you will have 30 days to complete the course.

After completion a certificate, written backup material and CD's and a DVD will be mailed to each trainee.

**Suggested for those that have a understanding of cylinder re-qualification but need to meet the §172.704 requirements.*



Option 4

Part No. 393-440

MAIL OUT TRAINING PROGRAM

An inexpensive and easy way to meet the requirements of §172.704. This mail out training program will give you all of the information and materials to put on your own training program at your company. Allows your trainer to use Hydro-Test Products knowledge and design to integrate into your training requirements for cylinder retesters.

Benefits:

- Allows your in-house trainer to provide retester training
- Can be done at anytime that is convenient for your company
- Training material updated yearly
- One of the most economical training aides available
- Saves the hassle and aggravation of travelling
- Have your retesters trained at your location by your trainer with the help of this training material
- Easy to understand detailed cylinder specification explanations

What is covered ?

Required HazMat Training for Cylinder Retesters

- General Awareness & Familiarization (supplied CD and DVD)
- Function Specific (regulations)
- Safety (supplied DVD)
- Security Awareness Supplied (supplied CD and DVD)

Operational Training

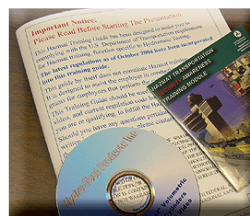
- Supplied via DVD

How Does it Work ?

Once the training is purchased - the training material package consisting of training manual, DVD and CD's will be sent to you. It is then your responsibility to put on your training program for your retesters.

**This type of training is recommended for those companies that have a person capable of administering a training class for your employees.*

**This is not a recommended training option for those companies with little or no experience in retesting cylinders.*



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email: sales@hydro-test.com

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REGULATION GUIDELINES & INFORMATION

Frequently asked questions about pamphlets / books:

(Q) Why am I required to have these pamphlets?

(A) As a licensed cylinder re-qualifier you must follow the regulations in the CFR Title 49. §171.7 of CFR49 dictates what pamphlet must be on hand for cylinder re testers.

(Q) Do I have to have all of them?

(A) You must have the CFR Title 49, other pamphlets required depend on what type of cylinders you are testing

(Q) Must I have the latest edition(s)

(A) For the CFR Title 49 - Yes. The required CGA pamphlet dates are listed in CFR Title 49 §171.7

CFR TITLE 49 REFERENCE SHEET FOR CYLINDER RE-QUALIFIERS

A list of popular re-tester topics with corresponding sections in Title 49 CFR

Subject	Section of 49CFR
Guidance and Interpretations	105.20
Requesting a change in the regulations	106.95
Application for approval for cylinder re qualification	107.805
Cited pamphlets (CGA, ASTM, ANSI, ASME, ISO, UN, ...)	171.7
Filling and re-qualifying of foreign cylinders	171.23(a)(4)
Hazmat Table, Defining hazard class, packaging specs, identification no.'s, etc...	172
Training requirements	172.704
Previously authorized packaging including cylinders under previous special permits	173.23
General requirements for shipping of compressed gasses	173.300
Plus (+) stamping for 10% overfill	173.302(a)
Definition of fire extinguisher	173.309
Cylinder manufacturing specifications	178.35
UN cylinder manufacturing specifications and markings	178.71
General requirements for cylinder re-qualifiers	180.1 - 180.3
General requirements for re-qualification of cylinders	180.205
Re-qualification table for DOT specification cylinders	180.209 Table 1
Star stamping (10 year hydrotest) requirements	180.209(b)
Re-qualification markings and procedure	180.213
Reporting and record retention requirements	180.215
Eddy current examination procedure and requirements	Appendix C of 180

MOST FREQUENT VIOLATIONS OF DOT CYLINDER RE-QUALIFIERS

A complete list can be found in the CFR49 section 107.D appA

Violation	Cited Section
Performing hydrostatic test without confirming accuracy of test system	180.205(g)(3)
Failure to provide required training every three years	172.704
Failure to maintain current copy of CFR49 and applicable exemptions/special permits	180.215(a)
Improper marking of RIN or date on cylinder	180.213(d)
Failure to keep complete and accurate records of cylinders being tested	180.215(b)
Failure to report in writing any change in address, ownership, personnel or equipment	171.2(c) & (e)
Failure to conduct a complete internal and external visual inspection	180.205(f)
Marking a star or plus on a cylinder that does not meet these requirements	180.209(b) & 173.302(a)
Failure to properly condemn a cylinder	180.205(i)

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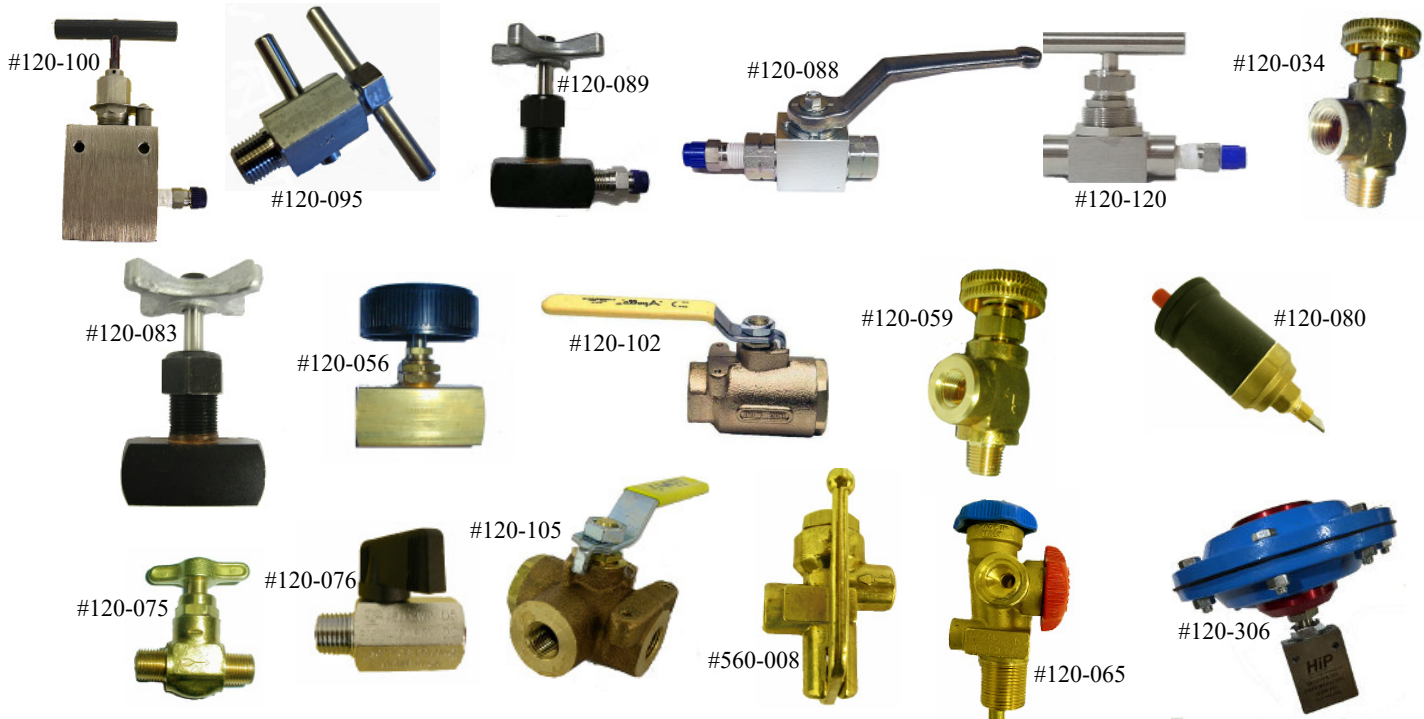
COMMON PARTS - QUICK DISCONNECTS

Quick Disconnects and Mating Nipples Are Utilized On A Variety Of Different Equipment Manufactured By Hydro-Test Products, Including But Not Limited To Cylinder Test Systems - Dry Chemical Filling Equipment - Clean Agent Filling Equipment - Proof Test Pumps ...



Part No.	Description	Typically Used On:	Pressure Rating (psi)
110-001	1/2" Female Quick Disconnect (plated steel)	Underside of water jacket lid Dryer tubes on full size drying racks	10,000
110-041	1/2" Female Quick Disconnect (stainless steel)	Underside of water jacket lid	8000
110-015	1/4" Female Quick Disconnect (plated steel)	Outlet hose from test console to lid Outlet hose of test pumps to test adapters	10,000
110-045	1/4" Female Quick Disconnect (stainless steel)	Outlet hose from test console to lid Outlet hose of test pumps to test adapters	10,000
110-035	1/4" Female Quick Disconnect (plated steel) (closed center)	Nitrogen hose for charging fire extinguishers	6500
110-002	1/2" Male quick disconnect nipple (plated steel) Mates to #110-001/-041	High pressure water jacket test adapters	10,000
110-042	1/2" Male quick disconnect nipple (stainless steel) Mates to #110-001/-041	High pressure water jacket test adapters	9000
110-016	1/4" Male quick disconnect nipple (plated steel) Mates to 110-015/-035/-045	Water jacket lid low pressure proof test adapters	10,000
110-046	1/4" Male quick disconnect nipple (stainless steel) Mates to 110-015/-035/-045	Water jacket lid low pressure proof test adapters	9000
110-013	1/8" Male quick disconnect nipple (plated steel) Mates to 110-015/-035/-045	Fire extinguisher pressurizing adapters	5000
Replacement Seals and Springs for Quick Disconnects			
110-005-S	Replacement rubber o-ring seal used on 1/2" couplers		
110-005-B	Replacement backup teflon washer used on 1/2" couplers		
110-019-S	Replacement rubber o-ring seal used on 1/4" couplers		
110-019-B	Replacement backup teflon washer used on 1/4" couplers		
110-004	Replacement spring for 1/2" couplers		
110-018	Replacement spring for 1/4" couplers		

COMMON PARTS - VALVES



Part No.	Description	Material	Thread Size	Typically Used On:	Rating (psi)
120-100	Pressure bleed off valve	Stainless	1/8" male	Water jacket lid to relieve cylinder pressure	10,000
<i>120-098</i>	<i>Replacement seals for #120-100 valve</i>				
<i>120-099</i>	<i>Replacement stem for #120-100 valve</i>				
120-095	Pressure bleed off valve	Stainless	1/8" male	Water jacket lid to relieve cylinder pressure	10,000
120-089	Pressure bleed off valve	Plated steel	1/8" male	Water jacket lid to relieve cylinder pressure	10,000
120-088	Pressure bleed off valve	Plated steel	1/8" male	Water jacket lid to relieve cylinder pressure	7350
120-120	Pressure bleed off valve	Stainless	1/8" male	Water jacket lid to relieve cylinder pressure	10,000
<i>120-121</i>	<i>Repair kit for #120-120 valve (Stem & Packing)</i>				
120-034	Pressure bleed off valve	Brass	1/4" male	Proof test pumps to relieve pressure	1000
120-083	Isolation valve (panel mount)	Plated steel	1/4" female	Isolates pressure gauges on water jacket testers	10,000
120-056	Air control valve (panel mount)	Brass	3/8" female	Inlet air control on test pumps	200
<i>120-053</i>	<i>Replacement plastic handle for #120-056 valve</i>				
120-102	Water control valve	Brass	1/4" female	Inlet water control on water jacket testers	200
120-059	Low pressure air bleed valve	Brass	1/8" male	Water jacket lid to bleed air from test jacket	200
120-080	Automatic air bleed valve	Brass	1/8" male	Water jacket lid to bleed air from test jacket	200
120-075	Low pressure needle valve	Brass	1/8" male	Burette manifold on volumetric tester (prior 1997)	200
120-076	Low pressure ball valve	Plated steel	1/4" male	Burette manifold on volumetric tester (after 1997)	200
120-105	3-Way ball valve	Brass	1/4" female	N2 Charging hose for dry chemical fire extg's.	400
560-008	CO ₂ Flip Valve	Brass	1/4" female	CO ₂ Charging hose for filling CO ₂ cylinders	2700
120-065	Refrigeration 3/4"NPT Valve	Brass	CGA	Tank valve for clean agent recovery cylinders	600
120-306	Automated pressure bleed off valve	Stainless	1/4" female	Automated 507-series test system	10,000
<i>120-309</i>	<i>Repair kit for #120-306 valve. Only for valves put into service after 9/2008</i>				

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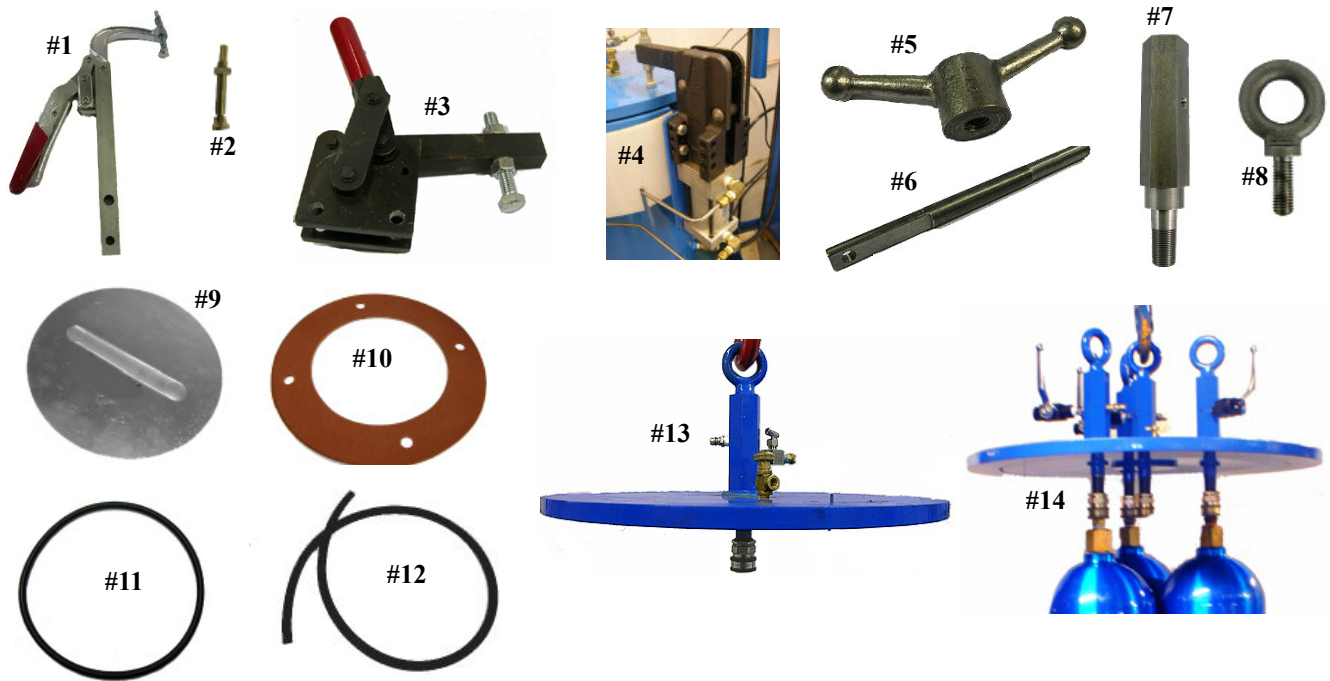
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WATER JACKET REPLACEMENT PARTS



Key	Part No.	Description	
LID CLOSURES			
1	210-040	Quick acting cam style clamp used on 10" & 14" diameter water jackets	
2	210-041	Replacement threaded swivel tip adjustment for 210-040 clamp	
3	210-043	Quick acting cam style clamps (heavy duty design) used on 18" & 24" diameter water jackets	
4	210-115	Pneumatic operated replacement clamp	
N/S	58-115	<i>Replacement seal kit for pneumatic clamp #210-115</i>	
5	240-129	Wing nut for Hydro-Test Products manufactured water jackets	
6	240-131	Swing bolt for Hydro-Test Products manufactured water jackets (3/4"-10 thread x 10" long)	
COMPONENT ITEMS FOR WATER JACKETS			
7	240-124	Replacement spud, 1/2"(M)NPT, with threaded ports for valve and nipple	
8	240-133	Eyebolt (lifting eye)	
9	300-055	Aluminum rupture disc for all Hydro-Test Products manufactured water jackets	
10	130-015	Rubber gasket for all Hydro-Test Products manufactured water jackets, 4 bolt hole pattern	
11	58-200	O-ring lid seal for 10" diameter water jacket: <i>Actual size of o-ring 11 5/8" ID x 12 5/8" OD</i>	
11	58-201	O-ring lid seal for 14" diameter water jacket: <i>Actual size of o-ring 14 7/8" ID x 15 7/8" OD</i>	
11	58-202	O-ring lid seal for 18" diameter water jacket: <i>Actual size of o-ring 19" ID x 20" OD</i>	
11	58-203	O-ring lid seal for 24" diameter water jacket: <i>Actual size of o-ring 25" ID x 26" OD</i>	
12	130-017	Non-collapsible rubber tubing, from jacket to expansion device (<i>sold by the foot</i>)	
COMPLETE LID ASSEMBLIES			
13	500-880	Water Jacket Lid Assembly <i>Includes:</i> Steel lid cover Spud & eyebolt Enamel painted finish	For 10" diameter water jacket
13	500-882		For 14" diameter water jacket
13	500-884		For 18" diameter water jacket
13	500-886		For 24" diameter water jacket
MULTI SPUD LID ASSEMBLIES			
14	500-889	14" Lid assy for 3 cylinders to 4.25" diameter	For 14" diameter water jacket
14	500-220	18" Lid assy for 3 cylinders to 7.5" diameter	For 18" diameter water jacket
14	500-225	24" Lid assy for 3 cylinders to 10.0" diameter	For 24" diameter water jacket
14	500-230	24" Lid assy for 4 cylinders to 8.0" diameter	For 24" diameter water jacket
14	500-235	24" Lid assy for 6 cylinders to 6.125" diameter	For 24" diameter water jacket
14	500-890	24" Lid assy for 7 cylinders to 5.0" diameter	For 24" diameter water jacket

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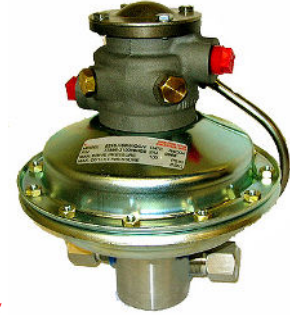
AIR OPERATED FLUID TEST PUMPS

These Style Pumps Are Typically Used In Water Jacket and Direct Expansion Cylinder Test Systems. They Are Also Used In High Volume Proof Test Pumps.



STYLE "A"

- ◆ Air operated on 100psi @ 8CFM
- ◆ Stainless steel water section
- ◆ Stainless steel soft seated check valves



STYLE "B"

See page 75 for parts breakdown on these pumps

Contaminant Free Design
(for use with testing of O₂ cylinders)

*Pumps Can Be Operated In Either Vertical or Horizontal Position
Displacement Based On 100psi @ 8CFM Inlet Air Pressure*

STYLE "A"			STYLE "B"		
Part No.	Rating (psi)	Displacement per Stroke	Part No.	Rating (psi)	Displacement per Stroke
190-416	16,000	.20 cubic inch	190-414	16,000	.20 cubic inch
190-415	10,000	.33 cubic inch	190-413	10,000	.33 cubic inch
190-412	8800	.36 cubic inch	190-410	8800	.36 cubic inch
190-408	6100	.52 cubic inch	190-406	6100	.52 cubic inch
190-404	1850	1.75 cubic inch	190-402	1850	1.75 cubic inch
			190-400	1000	3.3 cubic inch

INLET AIR ACCESSORIES KIT FOR ABOVE PUMPS



Includes the following items:

- ◆ Air Lubricator
- ◆ Air Filter
- ◆ Air Regulator with Gauge
- ◆ Air Control Valve
- ◆ 8' of Copper Tubing
- ◆ Copper Tubing Compression Fittings
- ◆ Quart of Lubricating Oil

If you are purchasing one of the above Style A or B test pumps - you will need this accessory kit for proper installation and operation.

Part No. 190-450



**Pump rebuild kits
See next page**

AIR OPERATED SMALL VOLUME TEST PUMPS



This Style Pump Is Used On Proof Test Hydro Pump Assemblies, Typically Used For Testing Of Smaller Volume Cylinders (dry chemical fire extinguisher cylinders). It Can Also Be Used For Low Volume Water Jacket Cylinder Testing.

Displacement Based On 100psi @ 8CFM Inlet Air Pressure

Part No.	Rating (psi)	Displacement per Stroke	Pump Body Material
190-030	6000	0.085 cubic inch	Aluminum
190-031	10,000	0.053 cubic inch	Stainless Steel
190-129	Rebuilding kit for air operated section of either pump <i>includes o-rings, seals and main spring</i>		
190-130	Rebuilding kit for water section of 6000 psi pump (#190-030) <i>includes o-rings, retaining ring, backup rings, gasket, lip seal</i>		
190-131	Rebuilding kit for water section of 10,000 psi pump (#190-031) <i>includes o-rings, retaining ring, backup rings, gasket, lip seal</i>		

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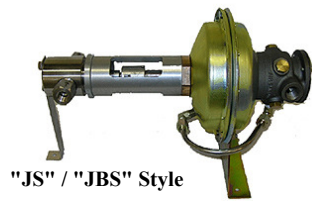
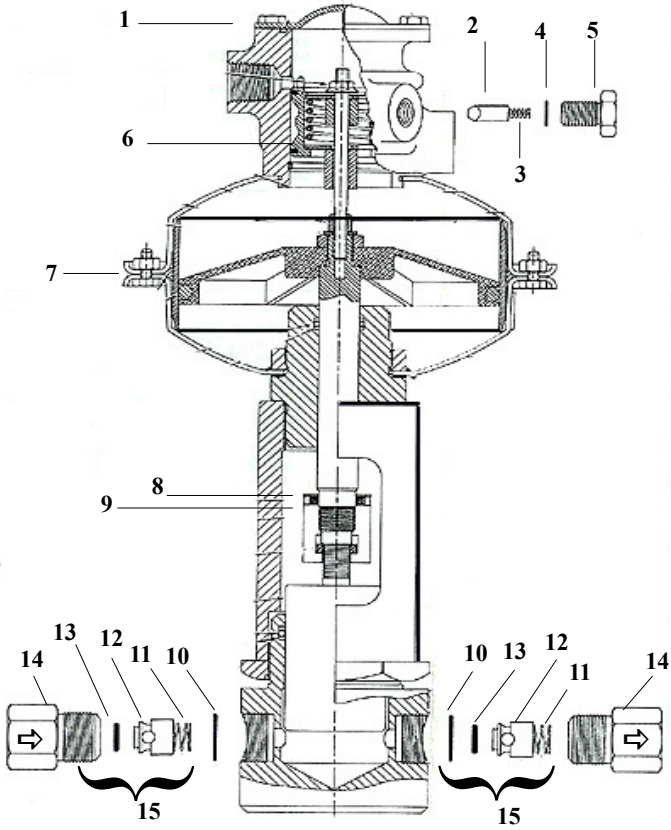
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AIR OPERATED TEST PUMP PARTS BREAKDOWN

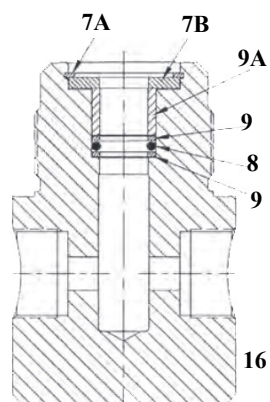


"JS" / "JBS" Style



"J" / "JB" Style

Pumps utilize the same internal parts except for piston o-rings and backups, diagrams shown for illustrational purposes only



Newer Style "JB" / "JBS" Style Pump Body.
Is a direct replacement for older "J" / "JS" style



#17 Rebuild Kit consist of:

Key #	Qty	Key #	Qty
1	1	8	1
2	4	9	2
3	4	10	2
4	4	11	2
5	4	12	2
6	4	13	2
7	2		

For Pump Rated To: (psi)

Key	Part No.	Description	Qty Rqd'	1000	1850	6100	8800	10,000	16,000			
Model No. shown on label of pump: "JS" or "J" or newer model "JBS" or "JB" used since mid 2017				JS / J	JS / J	JS / J	JBS/JB	JS / J	JBS/JB	JBS/JB	JS / J	JBS/JB
1	190-554	Gasket, top cover	1	•	•	•	•	•	•	•	•	•
2	190-080	Detent pin	4	•	•	•	•	•	•	•	•	•
3	190-079	Detent spring	4	•	•	•	•	•	•	•	•	•
4	190-560	Detent o-ring	4	•	•	•	•	•	•	•	•	•
5	190-559	Detent bolt	4	•	•	•	•	•	•	•	•	•
6	190-417	Spring	1	•	•	•	•	•	•	•	•	•
7	190-566	O-ring, housing	1	•	•	•	•	•	•	•	•	•
7A	190-420	Retaining ring, piston body	1									
7B	190-421	Retainer, piston body	1									
8	See Chart	O-ring, piston	1	190-589	190-590	190-591	190-430	190-592	190-431	190-431	190-593	190-432
9	See Chart	Teflon backup o-ring, piston	2	190-582	190-583	190-584	190-426	190-585	190-427	190-428	190-586	190-429
9A	See Chart	Teflon bushing for JBS/JB style piston body	1				190-422		190-423	190-424		190-425
10	190-068	Brass washer for check valve body	2	•	•	•	•	•	•	•	•	•
11	210-067	Spring, check valve	2	•	•	•	•	•	•	•	•	•
12	240-115	Poppet shuttle, check valve	2	•	•	•	•	•	•	•	•	•
13	58-031	O-ring for poppet shuttle	2	•	•	•	•	•	•	•	•	•
14	240-114	Check valve body	2	•	•	•	•	•	•	•	•	•
15	120-090	Check valve assembly - includes items 10-14	2	•	•	•	•	•	•	•	•	•
N/S	120-091	Check valve rebuild kits - includes items 10-13	2	•	•	•	•	•	•	•	•	•
N/S	120-094	Check valve seal kit - includes items 10,13	2	•	•	•	•	•	•	•	•	•
16	See Chart	Body / Piston assembly	1	190-124	190-123	190-121	190-121	190-119	190-119	190-126	190-081	190-081
17	See Chart	Rebuild kit-contains common replaceable parts		190-480	190-481	190-482	190-482	190-483	190-483	190-487	190-484	190-484

Starting in 2017, the older style JS and J model pumps were phased out. If replacing piston o-rings it is important to check the model no. on the pump label, so that proper parts are ordered.



Typical label:
"JBS" series rated to 16,000 psi

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INLET AIR ACCESSORIES (for all air driven test pumps)



#160-064



#160-060



#160-010



#160-021



#160-011



#160-061



#160-062



#230-135

Part No.	Description
160-064	Outlet muffler, 1/2" Male NPT
160-060	Incoming air filter, 3/8" Female NPT
160-010	Incoming air filter and regulator, 1/4" Female NPT
160-021	Pressure gauge for #160-010, 1.5" diameter, 1/8" Male NPT
160-011	Incoming air lubricator, 1/4" Female NPT
160-061	Incoming air lubricator, 3/8" Female NPT
160-062	Incoming air regulator, 3/8" Female NPT
230-135	Oil for lubricators, Quart size

WATER CONTROL & FILTRATION



#160-103



#160-104



#210-125



#160-102



#160-101



#230-350

Part No.	Description
230-350	Cylinder water filling nozzle with automatic shutoff
160-103	In-Line water filter housing with cartridge, 3/8" Female NPT
160-104	Replacement water filter cartridge for #160-103
210-125	Water strainer with screen, 3/8" Female NPT
160-102	Water pressure regulator, Garden hose inlet/outlet <i>Recommended where inlet water pressure to test console is greater than 60 psi</i>
160-101	Hot and cold water mixing valve <i>Recommended when incoming water temperature is dramatically different than ambient air temperature</i>

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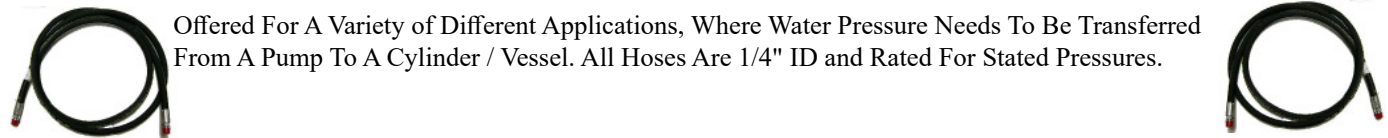
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SAFETY RELIEFS - PRESSURE SNUBBERS - CHECK VALVES



Part No.	Description	Material	Thread Size	Typically Used On:	Rating (psi)
120-110	Adjustable safety relief	Brass/Stainless	1/4"(M)NPT	High pressure test systems	2000-5000
120-112	Adjustable safety relief	Brass/Stainless	1/4"(M)NPT	High pressure test systems	5000-10,000
120-020	Fixed safety relief	Brass	1/4"(M)NPT	Low pressure test systems	500
120-018	Fixed safety relief	Brass	1/4"(M)NPT	Low pressure test systems	950
120-019	Fixed safety relief	Brass	1/4"(M)NPT	Low pressure test systems	1450
140-044	Pulsation dampener (snubber)	Brass	1/4"(M)NPT	Pressure dampening of gauge	2000
240-076	Pulsation dampener (snubber)	Brass	1/4"(M)NPT	Pressure dampening of gauge	10,000
120-200	In-Line check valve	Brass	1/4"(M)NPT	Low pressure proof test system	1000
120-090	Check Valve	Stainless	1"-20 Male	High pressure test pumps	10,000

TEST LINES - HOSES



Offered For A Variety of Different Applications, Where Water Pressure Needs To Be Transferred From A Pump To A Cylinder / Vessel. All Hoses Are 1/4" ID and Rated For Stated Pressures.

Part No.	Rating (psi)	Length	Threads	Typical Use:
200-100	10,000	8'	1/4" (M)NPT	<ul style="list-style-type: none"> Connects test console to water jacket Outlet pressure hose on proof test pumps
200-150	10,000	12'	1/4" (M)NPT	<ul style="list-style-type: none"> Same as above but where additional length is needed
200-150-20	10,000	20'	1/4" (M)NPT	<ul style="list-style-type: none"> Same as above but where additional length is needed
200-130	10,000	4'	1/4" (M)NPT	<ul style="list-style-type: none"> Pigtail connection inside multi cylinder support frame
200-101	5000	8'	1/4" (M)NPT	<ul style="list-style-type: none"> Connects test console to water jacket on 5000 psi systems Outlet pressure hose on proof test pumps to 5000 psi

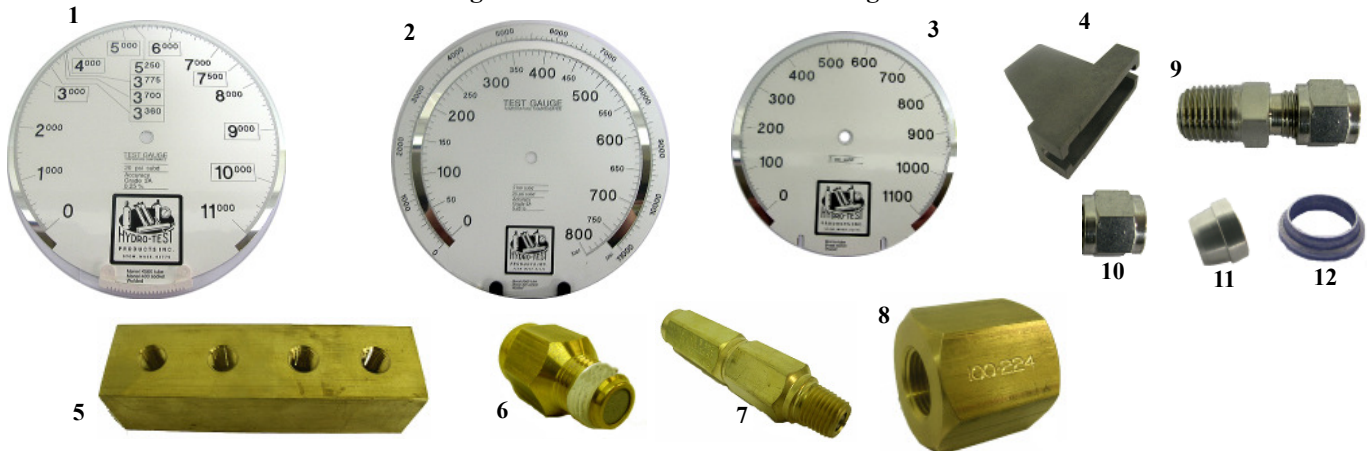
2000 and 5000 psi Hose Assemblies Can Be Supplied From Stock, In Any Length Required.
To Order: Specify Hose Part No. And Type Of 1/4" (m)npt Fitting Required (rigid or swivel).

Pressure Rating (psi)	Hose Part No. (order by ft)	Fittings 1/4" (M)NPT (order 1 for each end)
2000	200-111	Rigid: #200-113 Swivel: #200-112
5000	200-108	Rigid: #200-110 Swivel: #200-109



PRESSURE GAUGE PARTS AND ACCESSORIES

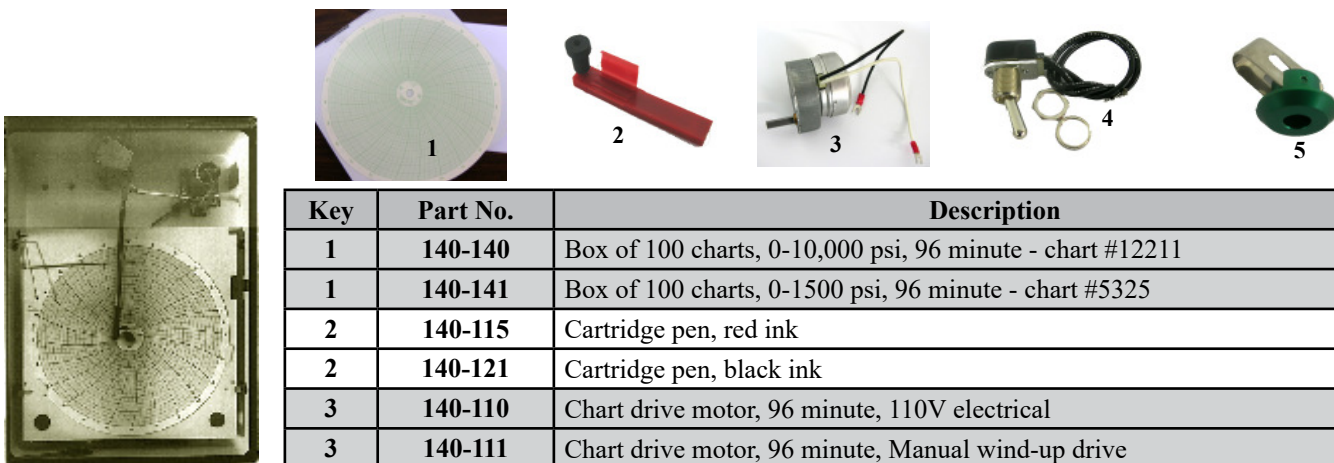
Please See Page 51 For Calibrated Pressure Gauges



Key	Part No.	Description
1	140-045	Replacement gauge face for 0-11,000 psi, 8.5" diameter gauge
2	140-047	Same as above with dual Bar / PSI markings on gauge face
3	140-019	Replacement gauge face for 0-1100 psi, 6" diameter gauge
N/S	140-030	Replacement glass front for Hydro-Test manufactured 8.5" diameter gauges
N/S	140-020	Replacement glass front for Hydro-Test manufactured 6" diameter gauges
4	140-014	Replacement mounting foot for Hydro-Test manufactured 8.5" diameter gauge
5	240-080	High pressure manifold for water jacket test systems
6	240-076	Pressure snubber for high pressure (5000 psi+) gauges, 1/4"M x 1/4"F
7	140-044	Pressure pulsation dampner for low pressure (-2000 psi) gauges, 1/4"M x 1/4"F
8	100-224	Brass gauge block (adapter) 1/2"(F)NPT x 1/4"(F)NPT
9	220-104	Stainless steel tube fitting, 1/4"(M)NPT - screws into gauge block
10	220-124	Replacement nut for tube fitting
11	220-125	Replacement back ferrule for tube fitting
12	220-126	Replacement front ferrule for tube fitting
N/S	290-004	1/4" OD Stainless steel tubing (sold by ft)

PRESSURE RECORDERS PARTS AND ACCESSORIES

Time vs Pressure Chart Recorders Were Standard Equipment On Water Jacket and Direct Expansion Manually Operated Cylinder Test Systems manufactured by Hydro-Test from 1970 thru 1990. The Recorder Assembly is No Longer Available, However the Parts Shown Below Are Available for Those That Continue To Use These Recorders.



Key	Part No.	Description
1	140-140	Box of 100 charts, 0-10,000 psi, 96 minute - chart #12211
1	140-141	Box of 100 charts, 0-1500 psi, 96 minute - chart #5325
2	140-115	Cartridge pen, red ink
2	140-121	Cartridge pen, black ink
3	140-110	Chart drive motor, 96 minute, 110V electrical
3	140-111	Chart drive motor, 96 minute, Manual wind-up drive
3	140-112	Chart drive motor, 15 minute, 110V electrical
3	140-113	Chart drive motor, 15 minute, Manual wind-up drive
4	170-023	Electric toggle on/off switch
5	140-114	Hubb chart holder

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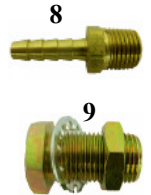
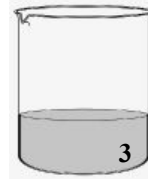
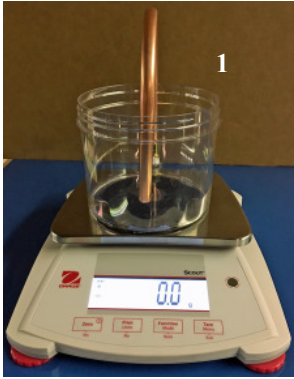


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EXPANSION DEVICE PARTS AND ACCESSORIES

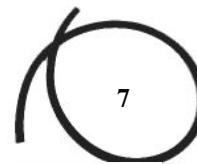
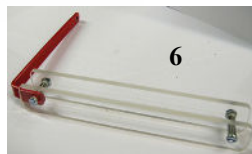
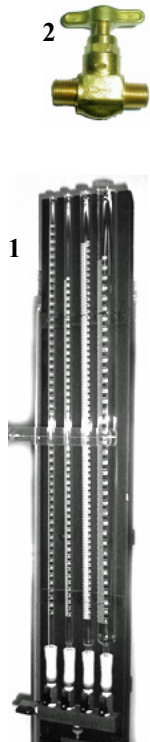
DIGITAL READOUT EXPANSION SCALE PARTS AND ACCESSORIES



Key	Part No.	Description
1	500-014	Digital Expansion Readout Assembly (700 gram (cc) net capacity) <i>includes:</i> electronic scale - shelf plate - beaker - calibration weights - dip tube assembly - calibration certs
1	501-014	Digital Expansion Readout Assembly (3000gram(cc) net capacity) <i>includes:</i> electronic scale - shelf plate - beaker - calibration weights - dip tube assembly - calibration certs
2	230-501	Replacement digital scale only - 2000g(cc) gross - 700g(cc) net capacity, <i>Does not include calibration weights - this is a scale only</i>
2	230-501-A	Replacement digital scale package - 2000g(cc) gross - 700g(cc) net capacity, includes calibration weights and RS232 to USB connection. <i>For use on Hydro-Test 505 & 507-series automated test systems</i>
2	230-501-M	Replacement digital scale package - 2000g(cc) gross - 700g(cc) net capacity, includes calibration weights <i>For use on Hydro-Test 500-series manual operated test systems</i>
2	230-405	Replacement digital scale only - 6000g(cc) gross - 3000g(cc) net capacity, <i>Does not include calibration weights - this is a scale only - typically used for direct expansion testing</i>
3	180-062	Plastic beaker for 230-501 scale
3	180-061	Glass beaker for 230-405 scale
4	180-080	Acrylic cover for scale - reduces effects of elements and temperature deviation
5	230-404	Calibration weight - 1gram
5	230-408	Calibration weight - 5gram
5	230-403	Calibration weight - 200gram
5	230-407	Calibration weight - 1000gram
5	230-404-2000	Calibration weight - 2000gram
6	110-015	1/4" quick coupler for dip tube
7	110-016	1/4" quick disconnect nipple
8	220-099	1/4" barb fitting for hose hook up from water jacket to dip-tube
9	210-151	Bulk head fitting, 1/4"

BURETTE PARTS AND ACCESSORIES

See Page 53 For Selection Of Burettes



Key	Part No.	Description
1	180-032	Burette Bank Assembly: 25cc,50cc,125cc,360cc burettes with valved manifold-mounted on a steel support frame with balance weight
2	120-075	Brass needle valve used on manifold. 1/8" (M)NPT (used prior to 1997)
3	120-076	Plated steel ball valve used on manifold, 1/4" (M)NPT (used on/after 1997)
4	240-081	Brass burette manifold, (4) 1/4"(F)NPT on top - 1/4"F on side - 1/4"F on bottom
5	130-016	Set of 6 rubber sleeves to connect glass burettes to on/off valves
6	300-017	Zero reference marker for 4 burette bank assembly
6	300-016	Zero reference marker for 6 burette bank assembly
7	130-017	Non collapsible rubber tubing (sold by ft) connects burette to water jacket outlet line
8	220-099	Barb fitting, 1/4" (M)NPT at bottom of manifold
9	180-045	Burette cleaning kit - 3 brushes and detergent

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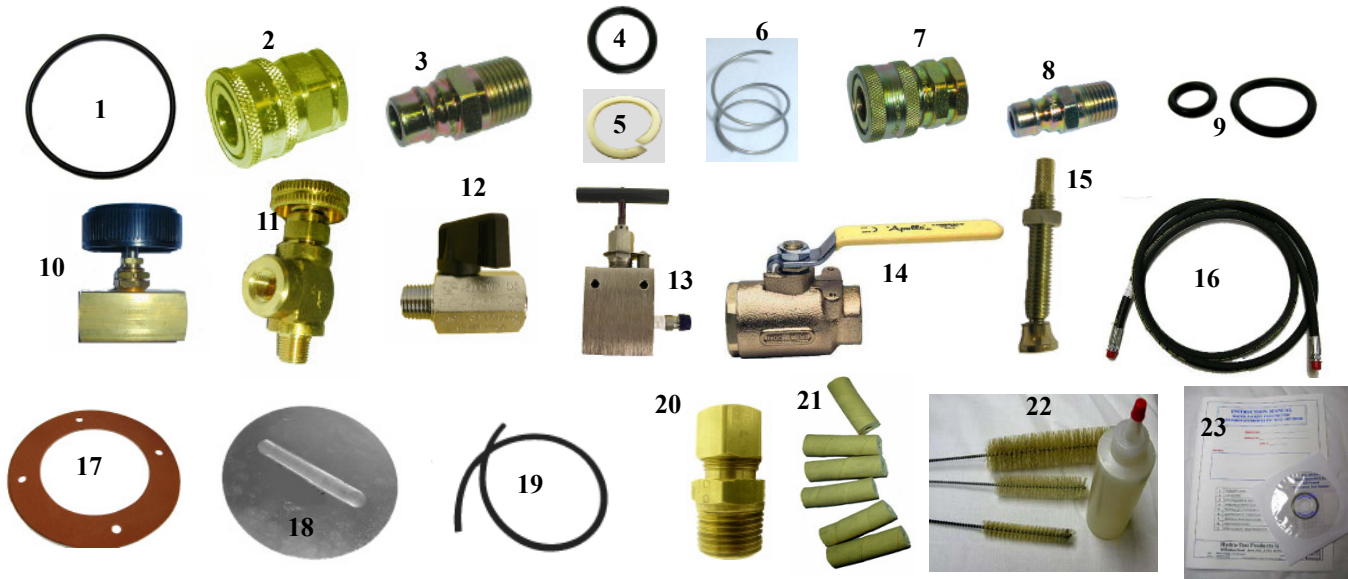
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REBUILDING KITS FOR 500-SERIES WATER JACKET TEST STATIONS

Rebuilding Kits With The Most Commonly Replaced Consumable Items. Simply Pick The Water Jacket Size That You Have. All Parts Included In The Kits Are Interchangeable With Most All Manually Operated Water Jacket Type Cylinder Test Systems Offered By Hydro-Test Products Over The Past 40+ Years.



				<i>Part No. of Kit:</i>			
				500-RBLD-10	500-RBLD-14	500-RBLD-18	500-RBLD-24
<i>Spare Parts Kit For Water Jacket Diameter of:</i>				10"	14"	18"	24"
Key	Part No.	Qty/Kit	Description				
1	58-200	1	O-ring, water jacket	•			
1	58-201	1	O-ring, water jacket		•		
1	58-202	1	O-ring, water jacket			•	
1	58-203	1	O-ring, water jacket				•
2	110-001	4	1/2" Quick disconnect coupler	•	•	•	•
3	110-002	1	1/2" Quick disconnect nipple	•	•	•	•
4	110-005-S	2	Replacement seal for 1/2" quick coupler	•	•	•	•
5	110-005-B	2	Replacement teflon seal for 1/2" quick coupler	•	•	•	•
6	110-004	2	Replacement spring for 1/2" quick coupler	•	•	•	•
7	110-015	2	1/4" Quick disconnect coupler	•	•	•	•
8	110-016	1	1/4" Quick disconnect nipple	•	•	•	•
9	120-094	4	Check valve seal kit for test pump	•	•	•	•
10	120-056	1	Pump control valve	•	•	•	•
11	120-059	1	Low pressure jacket air bleed valve	•	•	•	•
12	120-076	1	Burette control valve, 1/4"(M)NPT	•	•	•	•
13	120-100	1	High pressure release valve	•	•	•	•
14	120-102	2	Inlet water control panel mount ball valve	•	•	•	•
15	210-041	3	Replacement tips for water jacket clamps	•	•		
16	200-100	1	High pressure outlet hose, 8' long	•	•	•	•
17	130-015	1	Gasket for burst disc	•	•	•	•
18	300-055	2	Aluminum burst disc for water jacket	•	•	•	•
19	130-017	4'	Non collapsible rubber tubing	•	•	•	•
20	220-069	2	3/8"compression fitting x 3/8"(M)NPT	•	•	•	•
21	130-016	1	Set of 6 rubber sleeves for burettes	•	•	•	•
22	180-045	1	Burette cleaning kit	•	•	•	•
23	393-102	1	Instructional DVD and written manual	•	•	•	•

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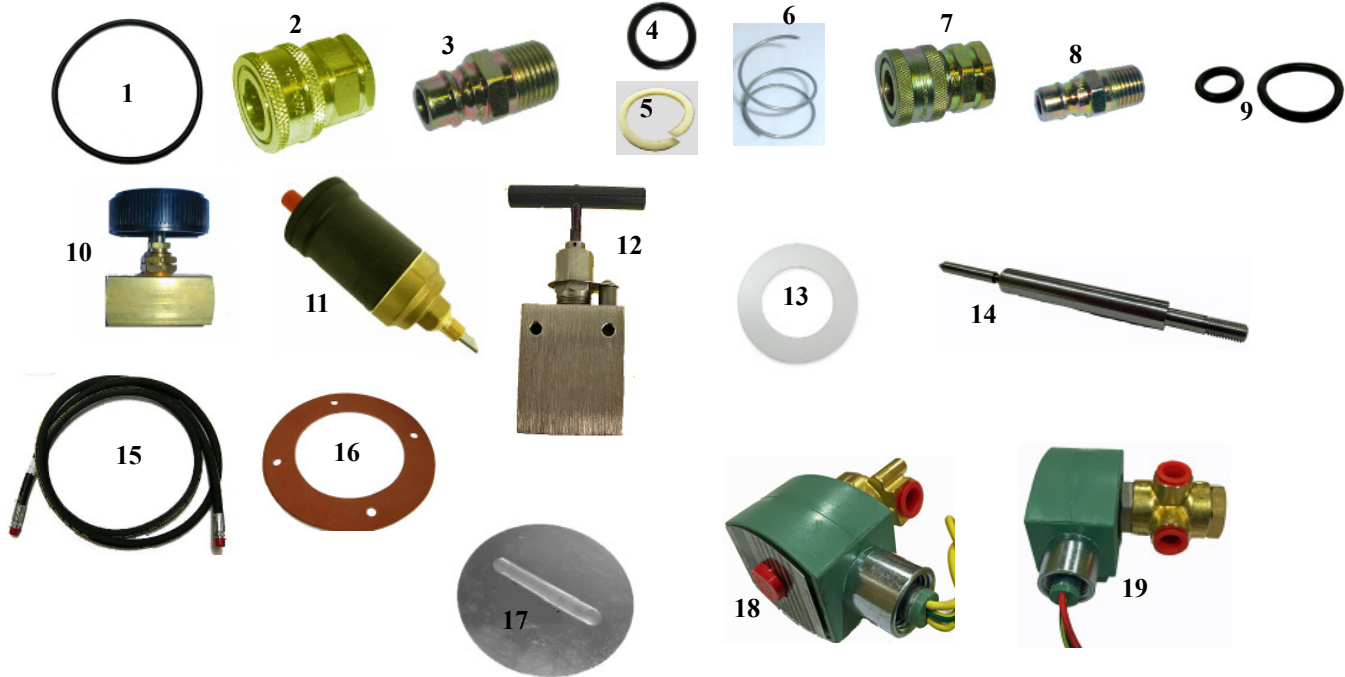


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REBUILDING KITS FOR 507-SERIES WATER JACKET TEST STATIONS

Rebuilding Kits With The Most Commonly Replaced Consumable Items. Simply Pick The Water Jacket Size That You Have. All Parts Included In The Kits Are Interchangeable With Most All Automated Operated Water Jacket Type Cylinder Test Systems Offered By Hydro-Test Products Over The Past 20+ Years.



				Part No. of Kit:	507-RBLD-10	507-RBLD-14	507-RBLD-18	507-RBLD-24
				<i>Spare Parts Kit For Water Jacket Diameter of:</i>	10"	14"	18"	24"
Key	Part No.	Qty/Kit	Description					
1	58-200	1	O-ring, water jacket	•				
1	58-201	1	O-ring, water jacket		•			
1	58-202	1	O-ring, water jacket			•		
1	58-203	1	O-ring, water jacket				•	
2	110-001	4	1/2" Quick disconnect coupler	•	•	•	•	•
3	110-002	1	1/2" Quick disconnect nipple	•	•	•	•	•
4	110-005-S	2	Replacement seal for 1/2" quick coupler	•	•	•	•	•
5	110-005-B	2	Replacement teflon seal for 1/2" quick coupler	•	•	•	•	•
6	110-004	2	Replacement spring for 1/2" quick coupler	•	•	•	•	•
7	110-015	2	1/4" Quick disconnect coupler	•	•	•	•	•
8	110-016	1	1/4" Quick disconnect nipple	•	•	•	•	•
9	120-094	4	Check valve seal kit for test pump	•	•	•	•	•
10	120-056	1	Pump control valve	•	•	•	•	•
11	120-080	1	Low pressure jacket air automatic bleed valve	•	•	•	•	•
12	120-097	1	High pressure isolation valve	•	•	•	•	•
13	120-307	1	Replacement seal for #120-097 valve	•	•	•	•	•
14	120-308	1	Replacement valve stem for #120-097 valve	•	•	•	•	•
15	200-100	1	High pressure outlet hose, 8' long	•	•	•	•	•
16	130-015	1	Gasket for burst disc	•	•	•	•	•
17	300-055	1	Aluminum burst disc for water jacket	•	•	•	•	•
18	120-300-24	1	2 - way Solenoid Valve	•	•	•	•	•
19	120-301-24	1	3 - way Solenoid Valve	•	•	•	•	•

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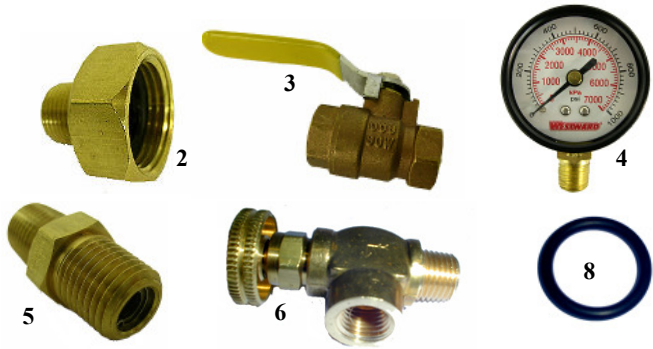
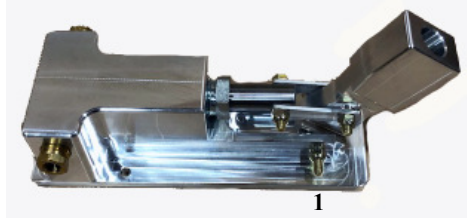
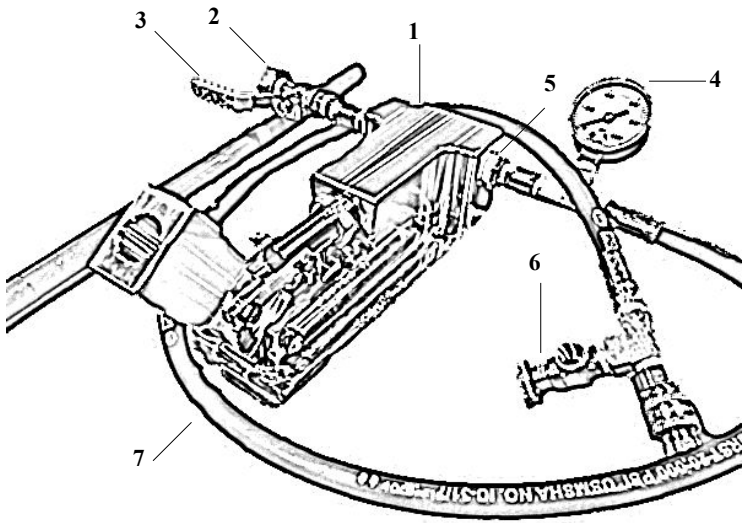
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PARTS FOR MANUAL OPERATED TEST PUMPS

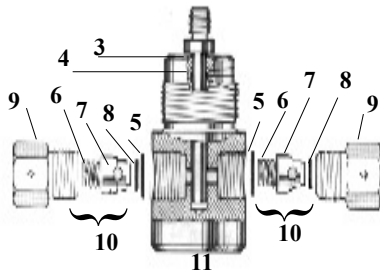
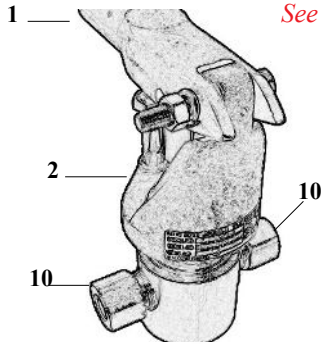


See Page 16 For Complete Manual Pump Assemblies

Key	Part No.	Description
1	190-024	Replacement pump only
2	220-018	Inlet water garden hose fitting, 3/8" (M)NPT
3	120-004	Inlet water control ball valve, 3/8" (F)NPT
4	140-009	Pressure gauge, 1000 psi, 2" diameter
5	120-200	Outlet in-line check valve, 1/4"(M)NPT
6	120-034	Pressure bleed off valve
7	200-130	Outlet pressure hose, 1/4"(M)NPT fittings x 4' long
8	58-039	Main piston o-ring seal

PARTS FOR HIGH PRESSURE MANUAL OPERATED TEST PUMPS

See Page 16 For Complete Manual Pump Assemblies



For Pump Rated To: (psi)

Key	Part No.	Description	For Pump Rated To: (psi)			
			500-150	500-155	500-160	500-165
Pressure Rating (psi):			3020	4350	6800	12,000
1	190-063	Replacement handle	•	•	•	•
2	190-056	Cast housing fixture	•	•	•	•
3	190-594	O-ring, piston				•
3	190-593	O-ring, piston			•	
3	190-592	O-ring, piston		•		
3	190-591	O-ring, piston	•			
4	190-587	Teflon backup o-ring, piston				•
4	190-586	Teflon backup o-ring, piston			•	
4	190-585	Teflon backup o-ring, piston		•		
4	190-584	Teflon backup o-ring, piston	•			
5	190-068	Brass washer for check valve body	•	•	•	•
6	210-067	Spring, check valve	•	•	•	•
7	240-115	Poppet shuttle, check valve	•	•	•	•
8	58-031	O-ring for poppet shuttle	•	•	•	•
9	240-114	Check valve body	•	•	•	•
N/S	120-091	Check valve rebuild kits - includes items 10-13	•	•	•	•
N/S	120-094	Check valve seal kit - includes items 10,13	•	•	•	•
10	120-090	Check valve assembly - includes items 10-14	•	•	•	•
16	190-120	Body / Piston assembly				•
16	190-081	Body / Piston assembly			•	
16	190-119	Body / Piston assembly		•		
16	190-121	Body / Piston assembly	•			

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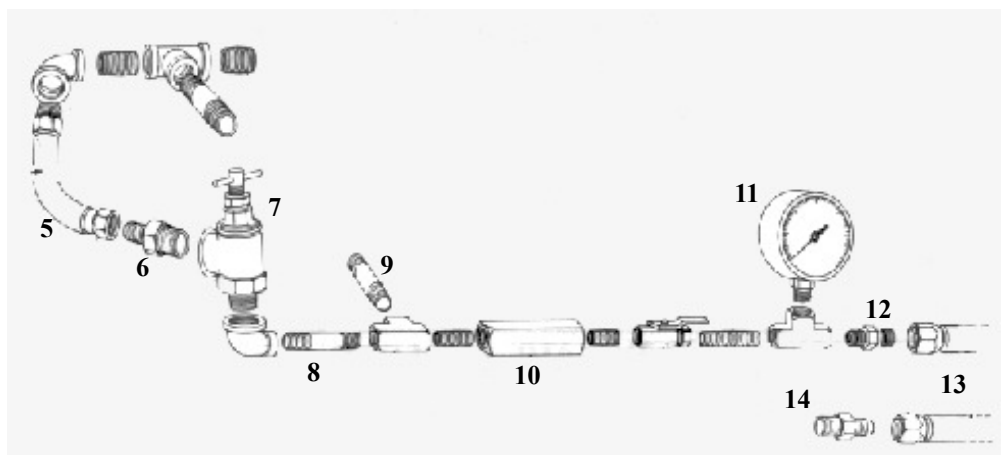
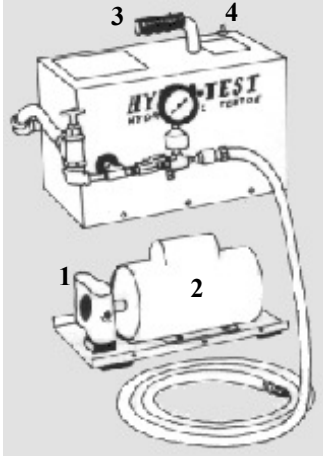
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PARTS FOR ELECTRIC OPERATED TEST PUMPS



Key	Part No.	Description	For Use On Pump Rated To (psi):				
			250	350	500	750	1000
1	190-904	Replacement Pump	•	•			
1	190-905	Replacement Pump			•		
1	190-906	Replacement Pump				•	
1	190-907	Replacement Pump					•
2	190-908	Electric Motor (115V)	•				
2	190-909	Electric Motor (115V)		•	•		
2	190-910	Electric Motor (115V)				•	
2	190-911	Electric Motor (115V)					•
3	190-913	Handle Grip	•	•	•	•	•
4	190-912	Toggle On/Off switch	•	•	•	•	•
5	190-914	By-Pass Hose	•	•	•	•	•
6	190-929	Brass Fitting	•	•	•	•	•
7	190-915	Relief Valve	•	•			
7	190-916	Relief Valve			•		
7	190-917	Relief Valve				•	
7	190-918	Relief Valve					•
8	190-927	Stainless Steel Nipple	•	•	•	•	•
9	190-928	Stainless Steel Nipple	•	•	•	•	•
10	190-919	Check Valve	•	•	•	•	•
11	140-049	Gauge, 600 psi	•	•	•		
11	140-048	Gauge, 1000 psi				•	•
12	190-930	Fitting	•	•	•	•	•
13	190-922	Outlet Hose	•	•	•		
13	190-923	Outlet Hose				•	•
14	190-931	Outlet Fitting	•	•	•	•	•

See Page 17 For Electric and Air Operated Test Pumps



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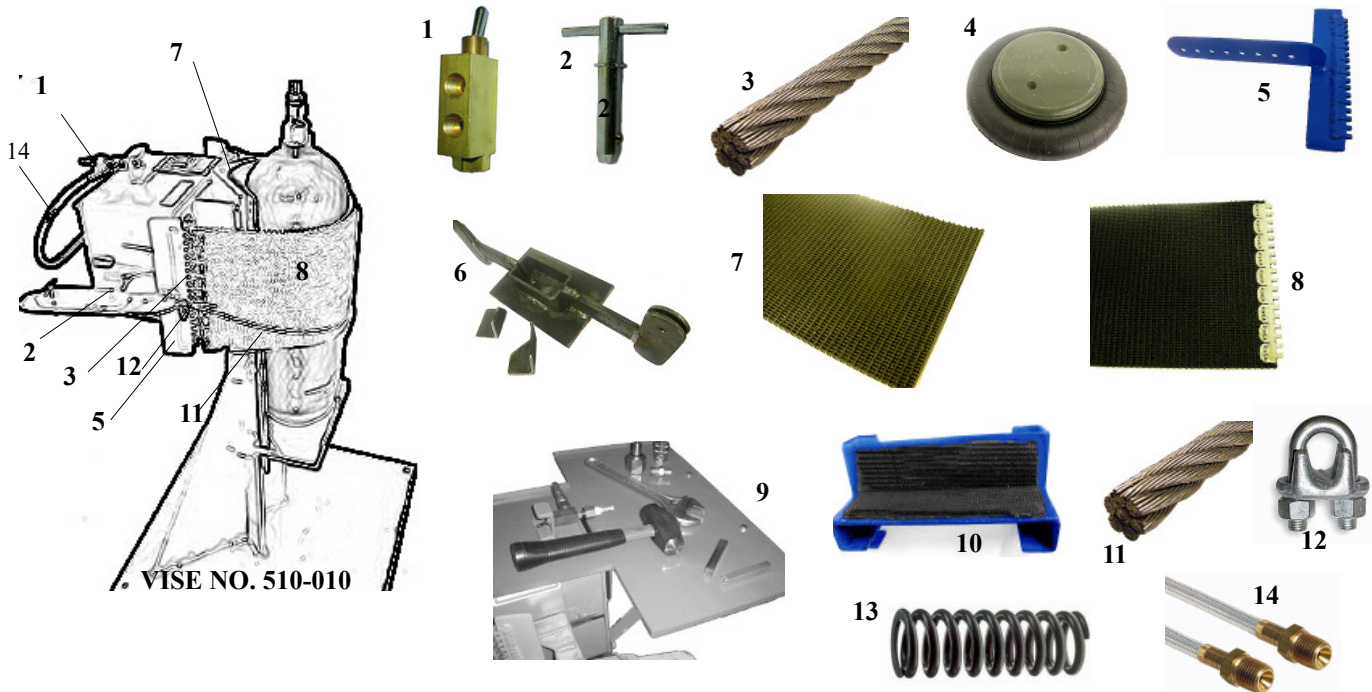


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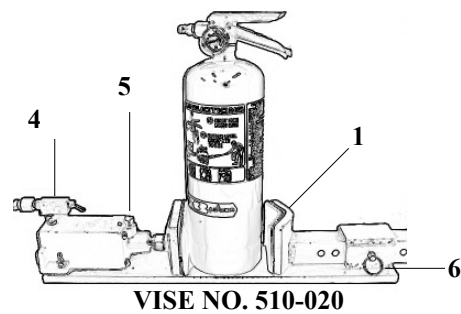
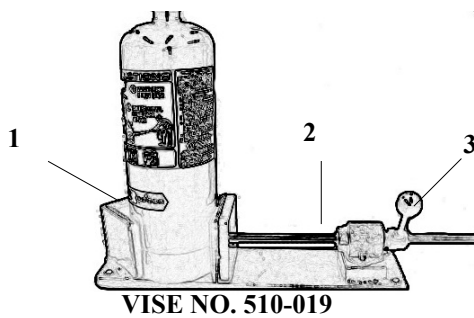
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PARTS FOR CYLINDER VISE STATIONS

See Page 19 For Complete Vise Station Assemblies



Key	Part No.	Description	Key	Part No.	Description
1	120-025	Air inlet toggle valve	7	130-020	Rubber back pad (sold by foot)
2	210-030	Pull Pin	8	210-054	Replacement retaining belt with lacing
3	210-058	Nylon cable for belt, attaches lacing to pull bar, 18" length	9	510-045	Optional tool tray
4	210-028	Internal air bladder	10	510-012	Small cylinder fixture
5	210-106	Pull Bar (attaches to belt)	11	210-046	Safety cable for belt (order by ft)
6	210-230	Pull arm assembly (requires welding of guide)	12	210-047	U-Type clamp for wire safety cable (2 required)
			13	210-132	Spring located inside air box
			14	200-119	Air Hose, 18" length x 1/4" fittings (M)
				210-232	Complete air box assembly (less pull arms)



Key	Part No.	Description
1	130-020	Rubber back pad (sold by foot)
2	210-331	Push / Pull rod
3	210-330	Mechanical screw seal
4	120-025	Air inlet supply toggle valve
5	210-162	Air cylinder
6	215-256	Pull pin

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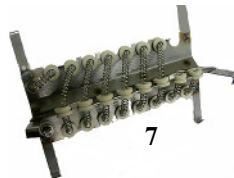
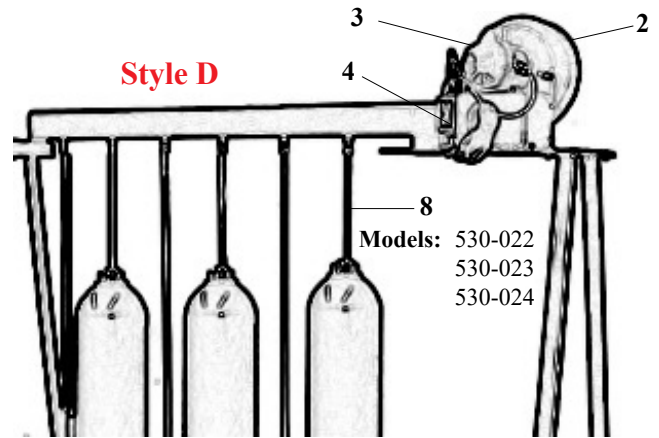
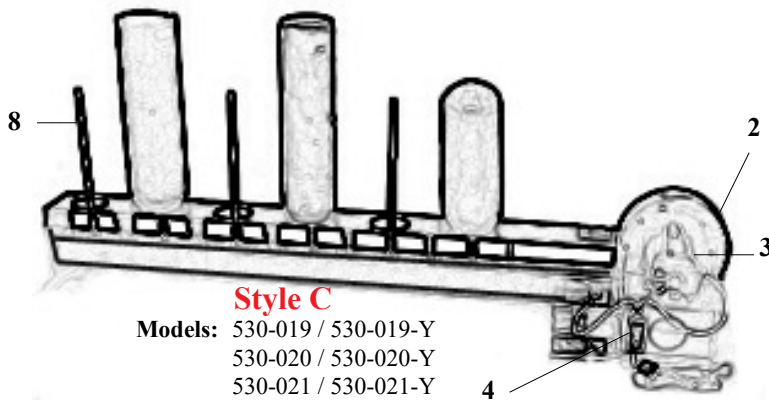
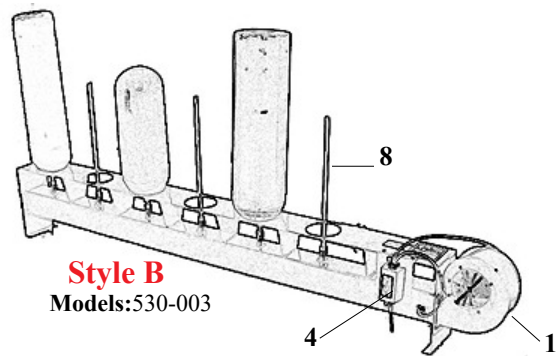
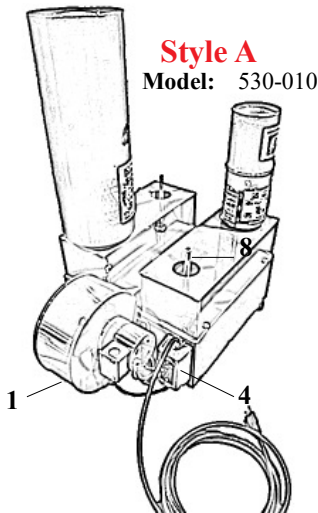


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PARTS FOR CYLINDER HOT AIR DRYERS

See Page 21 For Complete Hot Air Dryer Assemblies



Key	Part No.	Description	For Use On Dryer Style:							
			A		B		C		D	
			110V	110V	110V	220V	110V	220V		
1	210-097	Motor and Blower Assembly	•	•						
2	210-096	Blower Assembly			•	•	•	•		
3	170-013	Electric Motor, 1/2 HP			•	•	•	•		
4	170-026	Electrical Switch	•	•	•	•	•	•		
5	170-044	Thermal Unit for Electrical Switch	•	•	•		•			
5	170-052	Thermal Unit for Electrical Switch				•			•	
6	210-093	Fan Guard	•	•	•	•	•	•		
7	170-130	Heating Element			•		•			
7	170-131	Heating Element	•	•		•			•	
8	210-249	Drying Tube, 6" Long	•							
8	210-250	Drying Tube, 18" Long		•	•	•				
8	210-251	Drying Tube, 60" Long					•		•	
9	530-012	Small Cylinder Frame Adapter	•	•	•	•				

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PARTS FOR VALVING / DE-VALVING MACHINES



Other major components are available, ie; hydraulic motor, hydraulic pump, gear motor, etc ... please contact our sales office for details
See Page 20 For Complete Valving / De-Valving Machine Specifications

Key	Part No.	Description
1	120-007	Torque control valve
2	120-022	Hydraulic control valve assembly
3	140-022	Torque control gauge
4	210-035	Spline for wrench
5	520-025	Complete adjustable wrench assembly (includes spline)
6	210-044	Pulley for counter balance weight (4 per unit)
7	130-020	Replacement vise pad (used on vise angle iron)
8	210-054	Replacement retaining belt for vise
9	210-028	Air bladder for vise station
10	120-024	Vise control air valve
11	210-106	Pull bar for vise belt (2 required)
12	210-030	Pull pin for vise
13	120-021	Pivot point fixture for hydraulic valve assembly
14	210-046	Safety cable for counter balance weight and vise belt (sold by ft)
15	210-047	U-Type clamp for safety cable
16	510-012	Small cylinder vise fixture
17	210-058	Nylon cable for belt, attaches lacing to pull bar, 18" length

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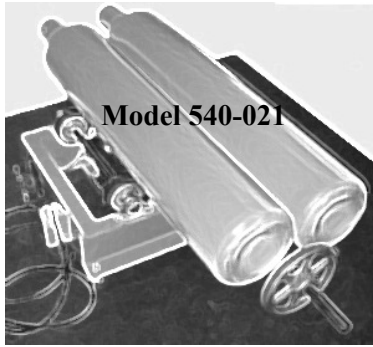
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PARTS FOR CYLINDER ROLLERS



Common replacement parts for Hydro-Test manufactured cylinder rollers are shown. Other parts not listed are available.



Used on Model No: (qty)

Key	Part No.	Description	540-022	540-020	540-021	540-100	540-101
1	330-007	1" Steel rod (sold by the ft)	-	8'	8'	25'	40'
2	210-170	Roller drive wheels	2	6	6	10	14
3	210-214	Free spinning wheel	2	-	-	-	-
4	170-015	Gear drive motor (115V)	-	1	1	1	1
5	210-210	Gear drive motor	1	-	-	-	-
6	210-182	Chain (sold by the ft)	-	2'	2'	4'	8'
7	210-183	Master link for chain	-	1	1	2	4
8	210-180	Bushing for sprocket	-	1	1	2	6
9	210-185-50	Sprocket	-	1	1	2	2
10	210-179	Sprocket	-	1	1	2	6
11	210-177	Mounted ball bearing pillow block	-	1	1	2	6
12	210-212	Coupling	1	-	-	-	-
13	210-211	Coupling (attaches to motor drive shaft)	1	-	-	-	-
14	210-213	Spider insert for coupling	1	-	-	-	-
15	210-175	Roller ball caster	1	6	-	8	12
16	170-023	Toggle on/off electrical switch	1	-	-	-	-
17	170-026	Electrical switch	-	1	1	1	1
18	210-184	Collar with set screw for shaft	-	8	-	-	-
19	210-173	Levelling foot pad for roller frame	-	4	4	-	-
20	210-135	Directional control valve	-	-	-	1	1
21	190-621	Brass on/off toggle air valve	-	-	-	3	3
22	120-106	Replacement button for valve	-	-	-	3	3

See Page 26,27 For Complete Cylinder Roller / Tumbler Assemblies

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PARTS FOR CLEAN AGENT FILL SYSTEMS

See Page 59 For Complete Clean Agent Recovery Systems



Picture shown with optional front plexiglass Part Number 180-103

Common replacement parts for Hydro-Test manufactured clean agent recovery systems are shown. Other parts not listed are available.

Used on Model No:

Key	Part No.	Description	570-025 Halon 1211	570-030 FE36	570-035 Halon 1301	570-040 FM200	570-045 Halotron	570-050 FE25	570-055 Novec 1230
1	190-476	Replacement air driven transfer pump	•	•	•	•	•	•	•
1	190-476-EDPM	Replacement air driven transfer pump, EDPM style		•		•	•		
2	120-056	Air control to pump valve	•	•	•	•	•	•	•
3	210-102	Liquid / Vapor control valve	•	•	•	•	•	•	•
4	140-042	Dual pressure / vacuum gauge 300 psi x 30" vacuum	•	•	•	•	•	•	•
5	140-041	Pressure gauge, 1000 psi	•	•	•	•	•	•	•
6	140-043	Pressure gauge, 600 psi	•	•	•	•	•	•	•
7	210-103	Moisture sight gauge	•	•	•	•	•	•	•
8	210-105	Replacement filter element	•	•	•	•	•	•	•
9	210-104	Filter canister housing	•	•	•	•	•	•	•
10	210-111	In-Line strainer	•	•	•	•	•	•	•
11	120-200	In-Line check valve			•			•	•
12	120-065	Recovery tank valve, 3/4"(M)NPT	•	•	•	•	•	•	•
13	210-124	Recovery tank with valve, 120 Lb Capacity	•	•	•	•	•	•	•

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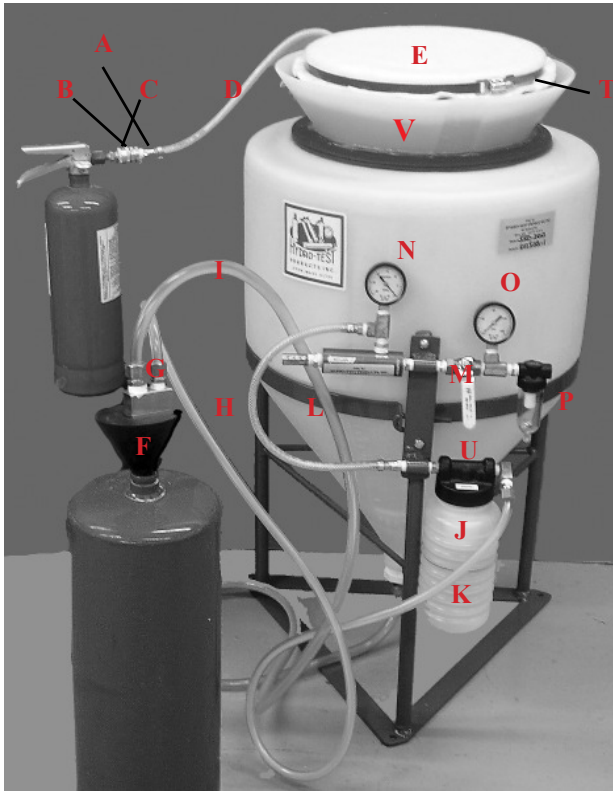


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PARTS FOR DRY CHEMICAL FIRE EXTINGUISHER FILL SYSTEM

See Page 54 For Powder Filling Equipment



Key	Part No.	Description
A	110-015	Quick Disconnect
B	100-402	Discharge Adapter Set
C	110-013	Quick Disconnect Nipple
D	200-120	Discharge Hose, 3' Long
E	160-026	Discharge Screen (Cloth)
F	130-003	Rubber Fill Cone
G	210-555	Manifold with Tubes and Rubber Cone
H	150-004	Clear Vacuum Hose with Fittings - 5'
I	150-005	Clear Powder Hose with Fittings - 7'
J	160-016	Overflow Powder Bowl
K	160-017	Filter Assy Inside Powder Bowl
L	160-042	Muffler
M	120-003	Ball Valve
N	140-012	Vacuum Gauge
O	140-011	Inlet Air Pressure gauge
P	160-008	Inlet Air Moisture Trap
Q	220-034	Sleeve for Powder Hose
Q	220-035	Sleeve for Vacuum Hose
R	220-036	Insert for Powder Hose
R	220-037	Insert for Vacuum Hose
S	190-001	Venturi Manifold
T	160-024	Steel Strap for Discharge Cloth Filter Screen
U	160-001	Holder for Overflow Filter
V	550-203	Optional universal fill cone



See Page 56 For Discharge / Recharge Adapters

Improved design changes over the years have been made to enhance the Hydro-Test brand fire extinguisher powder filling and discharging equipment. The basic concept has remained the same. The first powder system manufactured by Hydro-Test in 1973 utilize many of the same parts as today's model.

Dry chemical fire extinguisher powder by nature is manufactured to flow in a fashion similar to water. However, when moisture is present the powder will become "caked" and not flow easily. It is imperative that the powder be stored closed in a cool dry area. The most common operational problem with powder handling equipment is that the powder will not transfer because moisture has been present at or near the powder. Hydro-Test introduced the aerating principle to help with this problem.

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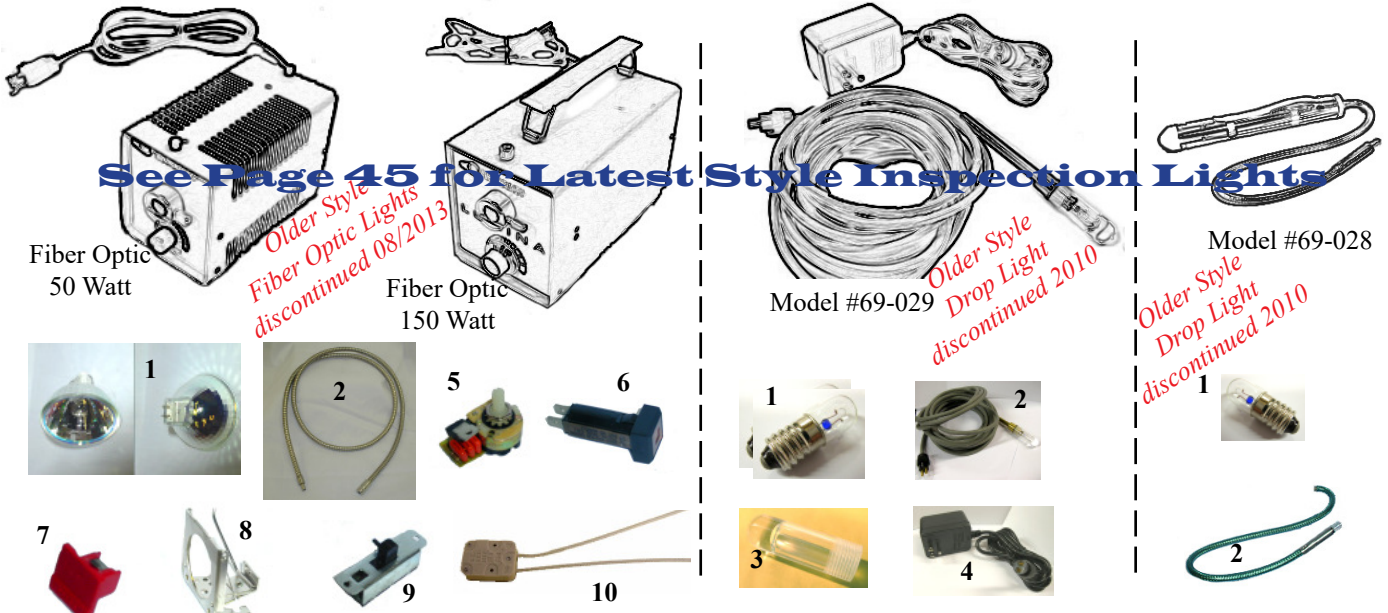
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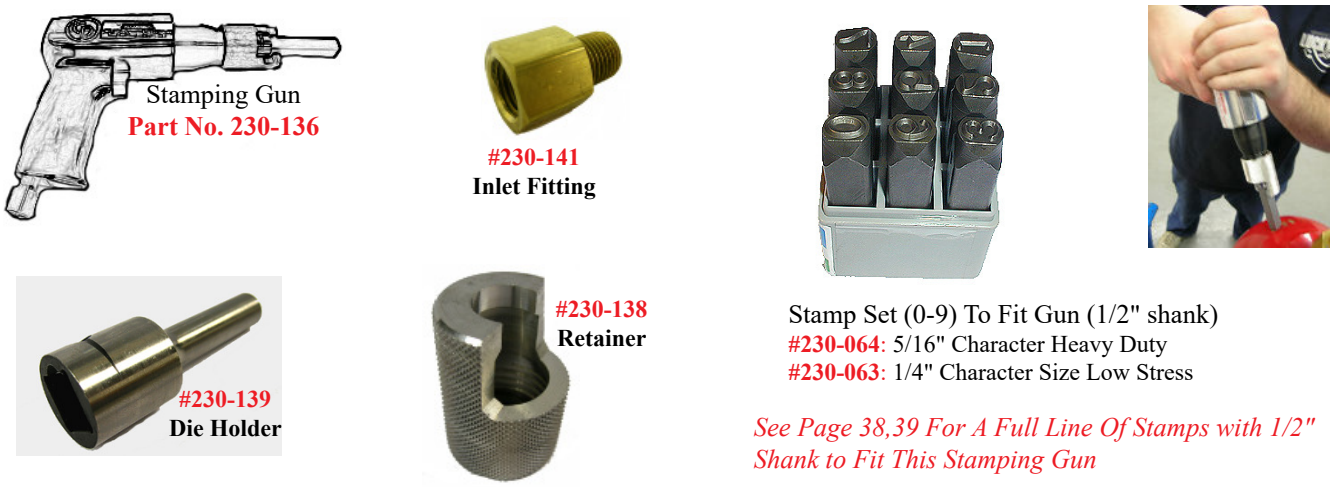
PARTS FOR CYLINDER INSPECTION LIGHTS

See Pages 45-49 For A Complete Line of Current Model Cylinder Inspection Lights



Key	Description	50 Watt Fiber Optiv	150 Watt Fiber Optic	#69-029 Drop Light	#69-028 Drop Light
		Part No.			
1	Replacement Bulb	69-120	69-122	69-033	69-049
2	Replacement Probe	69-110: 60" 69-111: 120"	69-110: 60" 69-111: 120"	Discontinued	69-048
3	Protective Dome for Bulb	---	---	69-032	---
4	Power Supply	---	---	Discontinued	---
5	Dimmer Switch	69-130	Discontinued	---	---
6	Circuit Breaker	69-131	Discontinued	---	---
7	Fuse Holder	69-133	69-133	---	---
8	Lamp (bulb) Holder	69-129	69-132	---	---
9	Slide Switch	---	69-128	---	---
10	Lamp Socket	---	Discontinued	---	---

PARTS FOR CYLINDER STAMPING GUN



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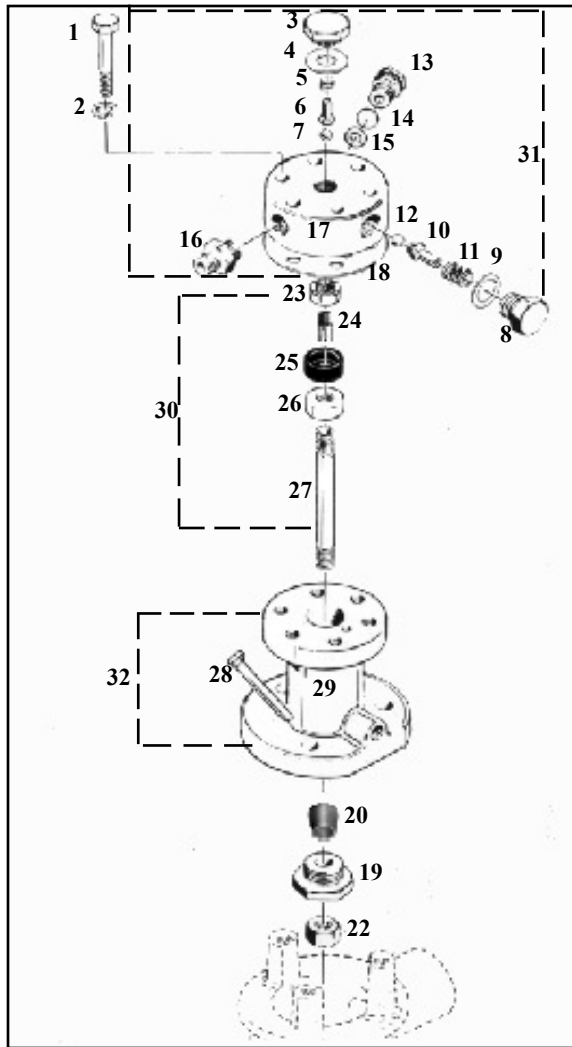


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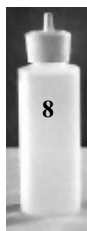
PARTS FOR MODEL SC-5 CO₂ RECHARGE PUMP

See Page 60 For Complete CO₂ Pump Assemblies



Key	Part No.	Description
1	215-007	Bolt
2	215-203	Lock washer
3	240-035	Plug
4	240-031	Washer
5	210-007	Spring
6	240-055	Cam
7	210-018	Ball
8	240-041	Body
9	215-301	Washer
10	240-040	Retainer
11	210-019	Spring
12	210-020	Ball
13	240-049	Plug
14	210-002	Disc
15	240-032	Washer
16	220-007	Adapter
17	240-030	Head
18	58-606	Gasket
19	240-043	Nut Assembly
19A	58-603	O-ring
20	240-044	Packing
21	220-007	Adapter
22	215-010	Nut
23	240-039	Retainer
24	240-038	Check
25	58-605	Packing
26	240-042	Piston
27	240-037	Rod
28	220-006	Cup
29		Body (use #32)
30	560-005	Piston Rod Assembly (22-27)
31	560-006	Head Assembly (3-17)
32	560-007	Body Assembly (28-29)
30-32	560-003	Pump Assembly

MOST COMMON PARTS AND TOOLS FOR SC-5 PUMP



Key	Part No.	Description
1	240-038	Check
2	210-002	Safety Disc
3	58-605	Leather Packing
4	240-044	Teflon Packing
5	240-032	Washer, Safety Disc
6	240-047	Piston Packing Wrench
7	58-604	Fibre Hose Washer
8	210-017	Piston Rod Lubricant (4 oz.)
1-8	560-025	Spare Parts for Cold Section (1 of each)
9	210-024	Spanner Wrench for Packing Nut
10	230-135-SC5	Oil for SC-5 Crankcase, Quart

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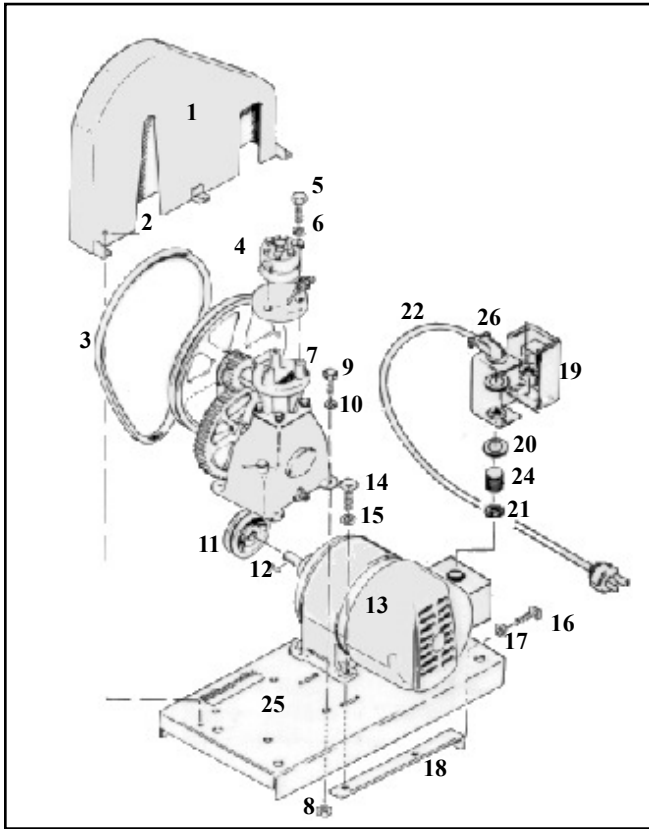


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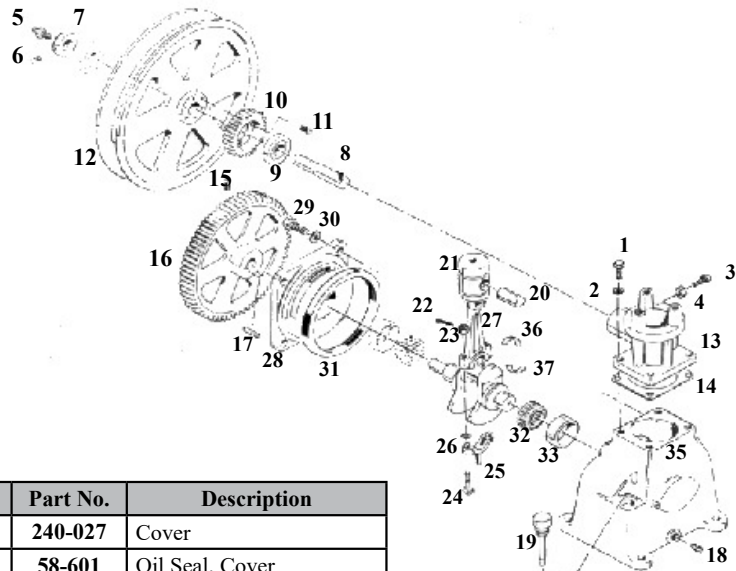
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PARTS FOR MODEL SC-5 CO₂ RECHARGE PUMP



Key	Part No.	Description
1	300-002	Belt Guard
2	215-012	Screw
3	130-001	Belt
4	See Detail	Pump Assembly
5	215-005	Bolt
6	215-300	Lockwasher
7	See Detail	Crosshead Guide & Crank Assembly
8	215-202	Nut
9	215-006	Bolt
10	215-302	Lockwasher
11	210-016 210-026	Pulley, Motor (3" Dia.) Pulley, Motor (5" Dia.)
12	240-058	Key
13	170-001 170-003 170-002	115/230V-1PH-60Hz Motor 230/460V-3PH-60Hz Motor 220V-1PH-50Hz Motor
14	215-013	Bolt
15	215-303	Lockwasher
16	215-008	Bolt
17	215-203	Lockwasher
18	300-005	Bracket
19	170-026	Switch
20/21	215-200	Locknut
22	170-066	Cord W/Plug, 115V, 12' Long
24	220-008	Nipple
25	300-003	Base Plate
26	170-100	Connector

Key	Part No.	Description
1	215-001	Bolt
2	215-203	Lockwasher
3	215-003	Screw
4	215-201	Nut
5	220-001	Fitting
6	215-004	Screw
7	240-034	Collar
8	240-033	Shaft
9	210-006	Bearing
10	210-005	Gear
11	215-002	Screw
12	240-062	Pulley
13	240-028	Guide
14	58-607	Gasket
15	215-004	Screw
16	210-003	Gear
17	210-022	Key
18	560-021	Plug Assembly
19	560-020	Dipstick Assembly
20	240-036	Pin
21	240-029	Crosshead
22	215-011	Pin
23	240-052	Nut
24	240-053	Bolt
25	(See #27)	Cap
26	240-054	Shim
27	560-004	Connecting Rod Assembly
n/s	210-023	Bushing (for #27)



Key	Part No.	Description
28	240-027	Cover
n/s	58-601	Oil Seal, Cover
29	215-001	Bolt
30	215-203	Lockwasher
31	58-608	Seal
32	210-012	Cone
33	210-013	Cup
35	240-026	Crankcase
36	210-014	Upper Shell Bearing
37	210-015	Lower Shell Bearing













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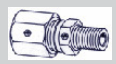




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MISCELLANEOUS THREADED FITTINGS				Part Number		
Style	Description	Size		Brass		Stainless Steel
		Male	Female	1000 psi rated	3000 psi rated	6000 psi rated
	Hex Head Plug Male	1/8 1/4 3/8 1/2		220-045 220-046 220-166 220-168	220-316 220-318 220-320 220-322	220-123
	Adapter F x M	1/8 3/8 1/2	1/4 1/4 3/8	220-131 220-050 220-026	220-314 220-324	
	Bushing M x F	1/4 3/8 3/8 1/2 1/2	1/8 1/8 1/4 1/4 3/8	220-051 220-164 220-052 220-053 220-128	220-328 220-326 220-332 220-334 220-330	220-117 220-118 220-121
	Coupling F x F		1/8 1/4 3/8 1/2	220-192 220-058 220-302 220-160	220-336 220-338 220-340 220-342	220-102
	Reducing Coupling F x F		1/4 x 1/8 3/8 x 1/4 1/2 x 1/4	220-072 220-162 100-224	220-344 220-346 220-348	220-122
	Hex Nipple M x M	1/8 x 1/8 1/4 x 1/4 1/8 x 1/4 3/8 x 3/8 1/4 x 3/8 1/2 x 1/2		220-191 220-030 220-055 220-054	220-350 220-002 220-304 220-352	220-100 220-101 220-107 220-139 220-116
	Street Elbow 90° M x F	1/8 1/4 3/8 1/2	1/8 1/4 3/8 1/2	220-189 220-031 220-027 220-075	220-354 220-356 220-358 220-360	220-141
	Elbow 90°		1/8 x 1/8 1/4 x 1/4 3/8 x 3/8	220-066 220-308	220-306 220-362 220-364	220-120
	Male Branch Tee F x F x M	1/4	1/4	220-033	220-366	
	Tee F x F x F		1/4 3/8 1/2	220-067 220-310 202-076	220-005 220-368 220-370	220-103 220-143 220-144
	Street Tee F x M x F	1/4 3/8	1/4 3/8	220-032 220-074	220-372	220-147
	Cross F x F x F x F		1/8 1/4 3/8	220-190 220-042 220-312	220-374 220-376	220-146

Style	Description	Part No.
	Male Adapter, stainless steel, 1/4" tube x 1/4" (M)NPT	220-104
	Male Adapter, stainless steel, 1/4" tube x 3/8" (M)NPT	220-105
	90° Street Elbow, stainless steel 1/4" tube x 1/4" tube	220-114
	Coupling, stainless steel, 1/4" tube x 1/4" tube	220-108
	Tee, stainless steel, 1/4" tube x 1/4" tube x 1/4" tube	220-127

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DOT LICENSING AND INSPECTION PROCEDURE

An Independent Inspection Agency (IIA) must visit your facility and make recommendations to the Approvals Branch for your RIN number. The inspector will review the equipment for 1% accuracy and make sure that all of the operators listed on the facility license are capable of performing the re-qualification procedure properly and that they have been trained and tested to §172.704 requirements.

Inspection Company	E-mail	Telephone	Fax
Steigerwalt Associates	ees2@ptd.net eescylinders@ptd.net	610-437-1704	610-437-4545
Authorized Testing, Inc	t.hin@authorizedtesting.com	951-682-4110	951-682-6090
Cylinder Services, Inc.	cylserv@msn.com	414-479-0500	414-328-0500
Arrowhead Industrial Services	rgwilson@arrowheadindustrial.com rherbert@arrowheadindustrial.com	336-578-2777 941-924-0109	336-578-2929 941-924-6626
Professional Services, Inc.	paul.medwig@psiusa.com	412-922-4000	412-922-4043
T.H. Cochrane Laboratories, Ltd	john@cochranelabs.com	414-476-2500	414-464-1870

- *There is a cost involved with this inspection. Pricing depends on many circumstances and should be negotiated directly with the Independent Inspection Agency providing the service.*
- *It is suggested that you contact all of the above for the best price / value for the inspection.*
- *It is recommended that you secure an IIA that will assist you with any DOT questions or regulations that may occur during your 5 year license period.*

What will the Independent Inspection Agency (IIA) be looking for?

- Test machine accuracy of 1%
- Certificates of calibration for pressure gauge(s) and calibrated cylinder
- All equipment to re-qualify cylinders (dryers, test adapters, vise, visual inspection parts, etc...)
- Proper record keeping of verification and retest.
- Compliance with requirements for hazmat training
- Proper operational training and understanding of test system operation
- Certificate of training and training material for all cylinder re-testers
- Understanding of the regulations of section 180
- Proper CGA pamphlets cited under §171.7
- Current title 49 CFR

Most IIA's will provide a check off list prior to the inspection.

If the IIA does not offer a check off list - ask for one - you want to make sure that you are properly prepared for the inspection that you are paying for

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