

CLEAR VISION

SOUND STRATEGIES

SOLID PERFORMANCE



AMETEK Calibration Instruments

Type T Pump/Deadweight Tester Setup

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AMETEK M&G Type T Installation

- Basic steps
 - **Use the manual**
 - **Ensure that you have the full compliment of parts**
 - » If the unit has already been unpacked check for
 - Manifold
 - Piston/cylinders
 - Tools
 - Manual
 - Accessory fittings and additional cap screws
 - » If the unit has not been unpacked carefully remove the packing material from the case
 - **Follow the set up instructions**
 - » Remember that the column connection parts are on the manifold
 - **Prepare for use**
 - » Make sure to prime the pump
 - » If installing a piston/cylinder assembly, make sure the system is air-free
 - » **Use cleanliness controls when handling the piston/cylinder assemblies**

Receipt

Piston/Cylinder Assemblies

Column

Pump

Tools

Manifold



Unpacked



Piston/Cylinder Assembly



Piston/Cylinder Assembly



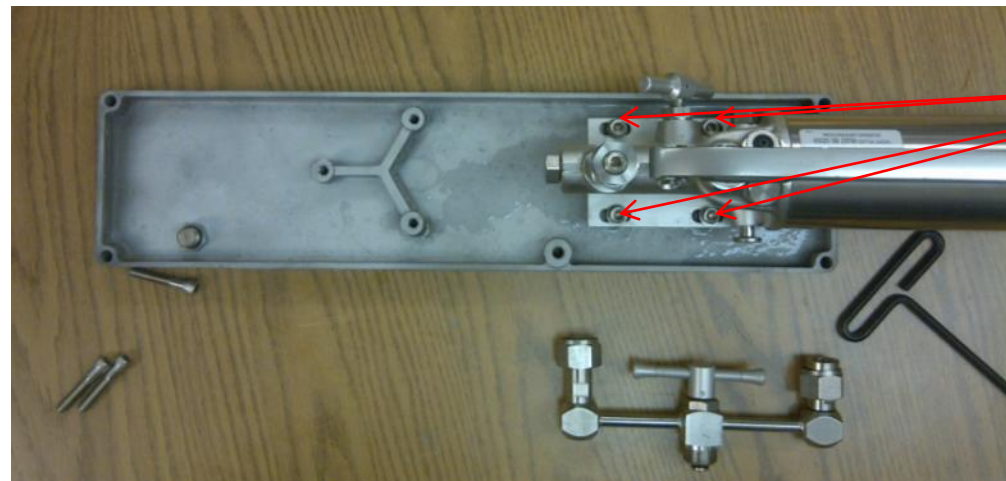
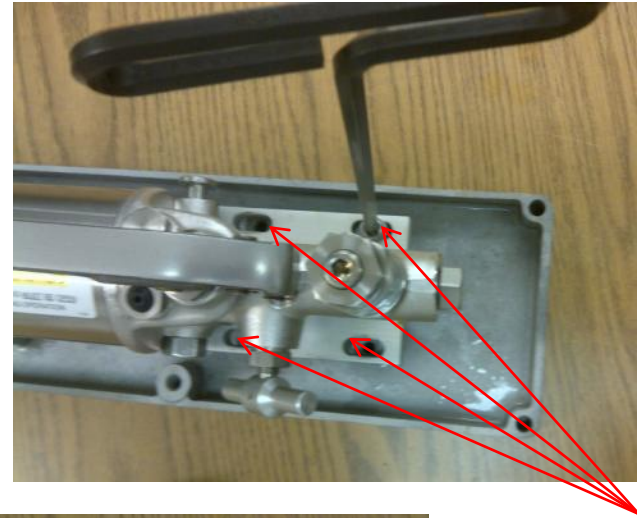
Inside the envelope
Plastic vial



Inside the vial
Piston/Cylinder

Pump setup

- Turn the pump on the pan
 - Section 3.1-1 in manual
 - Loosen (4) cap screws and remove
 - Rotate pump 180° on same mount
 - Reinstall (4) cap screws
 - » Loosely – keep from misplacing them
 - » Allow for column alignment
 - Not necessary for dual column units



Cap screws

Column setup

- Remove fittings from manifold
 - Section 3.2-2/3 in manual
 - Remove plug from the front of the pump
 - Remove fittings from one side of the manifold
 - Install into the front of the pump
 - Install plug onto manifold where fittings were removed
 - » Customer may have additional fittings to use on manifold



Plug

Fitting/Nut



Manifold
As Shipped



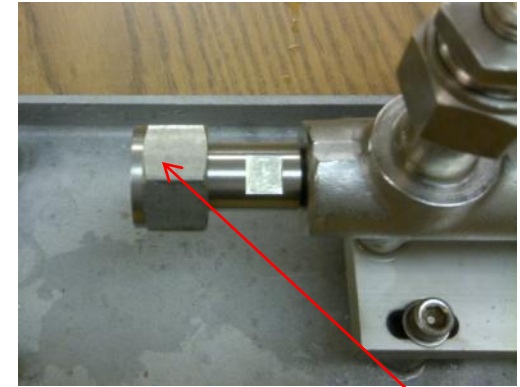
Manifold
Fittings Removed



Manifold
Ready for Use

Column setup

- **Connect and mount column**
 - Section 3.2-4 to 6 in manual
 - Install fitting from manifold into front of pump
 - Set column onto pan
 - Thread column fittings into nut on front of pump
 - Tighten fittings
 - » **Use a backing wrench**
 - Install (3) cap screws to complete mounting of column
 - Tighten (4) cap screws on pump to secure in place



Fitting/Nut



Column
As Shipped



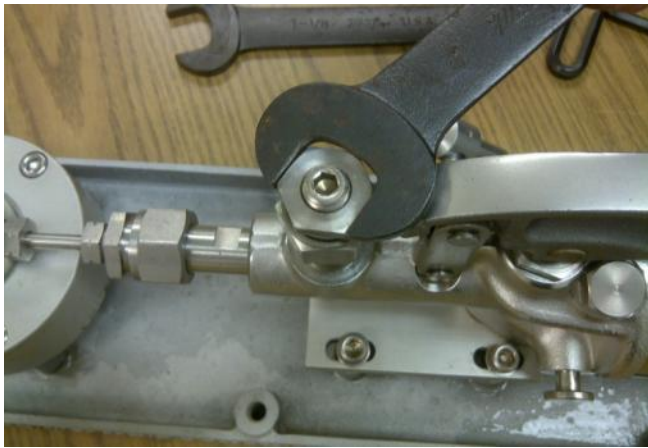
Column and Pump
Connected



Column
Mounted to Pan

Mount Manifold

- Install manifold onto pump
 - Remove the plug from the top of the pump
 - » This may be used on the manifold during the column fill process
 - Place manifold on top of the pump in place of the plug
 - Thread nut onto manifold and tighten
 - » Use a backing wrench
 - Install plug into open side of manifold and tighten



Plug on
Pump



Tighten Manifold
onto Pump



Install Plug

Install Piston/Cylinder Assembly

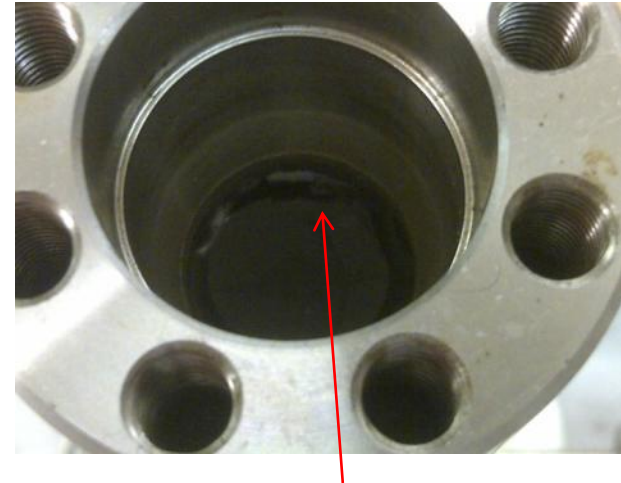
- Prepare system for the installation of the piston/cylinder assembly
 - Section 3.2-7/8 (partial) in manual
 - Remove the (8) cap screws from the top of the carrier on the column
 - Lift off the cylinder cap
 - » Lift the pump handle and pull the displacement selector out
 - This is the High Volume / Low Pressure position
 - » Close the vent valve and pump until water is above the cylinder bevel in the column



Cylinder Cap



Displacement Selector



Liquid in Column

Install Piston/Cylinder Assembly

- Install cylinder
 - Section 3.2-8 in manual
 - Install cylinder into column
 - Replace cylinder cap
 - Tighten (4) cap screws
 - » Use a cross pattern when tightening to prevent undue stress on parts
 - This seats the cylinder



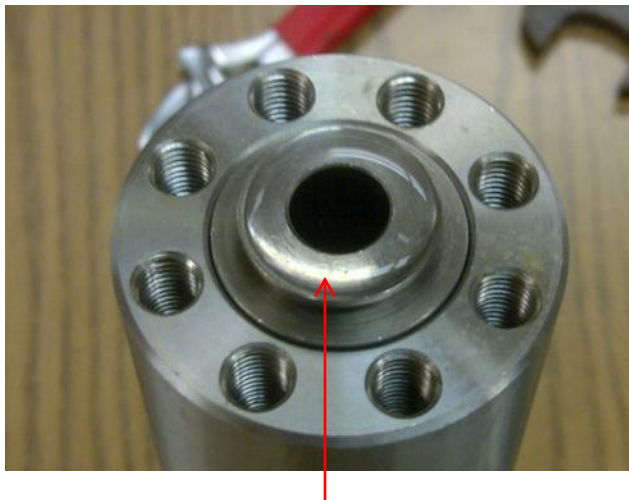
Cylinder in Column



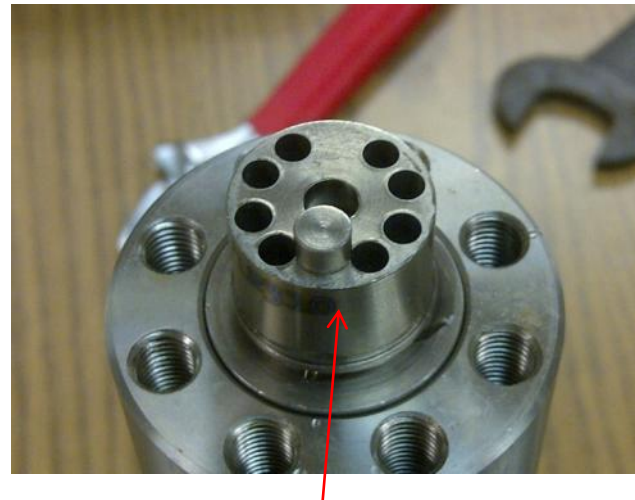
Cylinder Seated

Install Piston/Cylinder Assembly

- Install Piston
 - Section 3.2-8/10 in manual
 - Remove (4) cap screws and remove cylinder cap
 - Pump until water is above the level of the cylinder
 - Work piston into cylinder bore while using vent valve to release water
 - » Film of oil not necessary for water applications



Water above Cylinder



Piston Installed

Install Piston/Cylinder Assembly

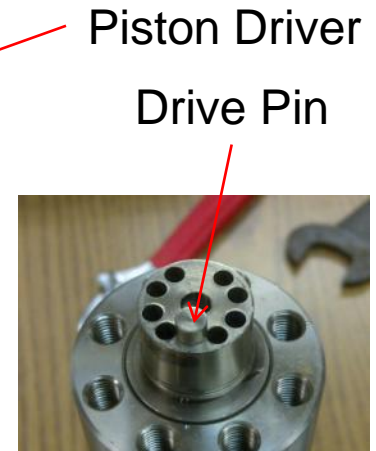
- Replace cylinder cap
 - Section 3.2-11/12 in manual
 - Replace cylinder cap
 - Tighten all (8) cap screws
 - » Loosely install (4) cap screws and then the alternating (4) cap screws
 - » Tighten opposing screws in an alternating pattern
 - Rotate piston driver until it engages with drive pin on the piston



Cap Screws Loose



Tightening Screws

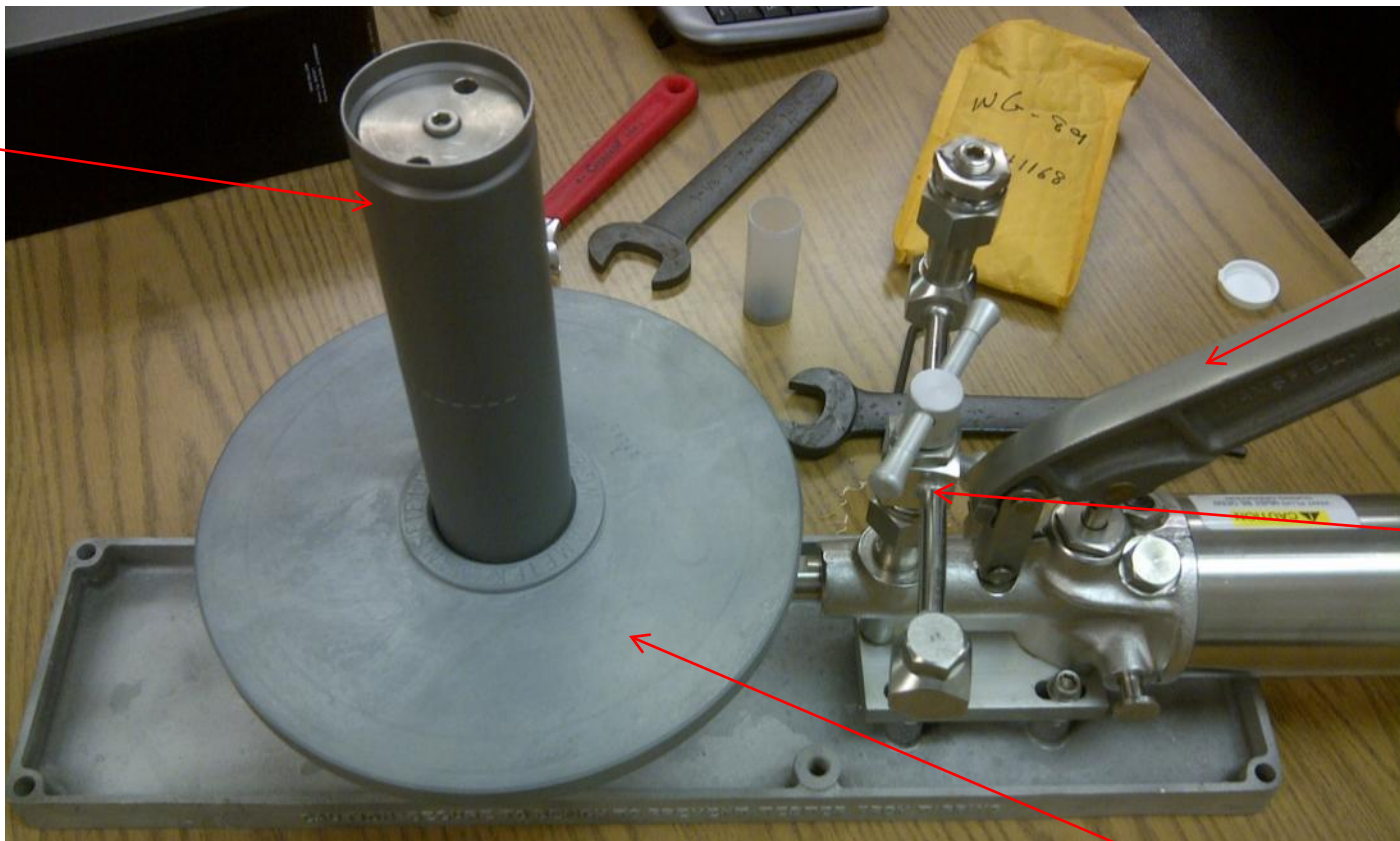


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Ready for Testing

Carrier
Tube



Pump

Manifold

Weight #1
Conversion Weight

Follow section 4.3 in the manual