

FMC Technologies Measurement Solutions, Inc. **Sphere Inflation Pump (Model SP-PBI-160)** is used to manually inflate spheroids to a desired diameter using a liquid solution such as an ethylene glycol water mix. The inflation pump can be used to inflate spheroids from most manufacturers. The sphere inflation pump incorporates a hand operated pump, check valves, a liquid reservoir and five feet of hose with a disconnect. All components are attached to a base plate for stability and ease of operation. Additional components required for spheroid inflation are sphere wrenches and inflation needles, which vary with spheroid manufacturers. Inflation needles are designed to attach to the quick disconnect furnished on the end of the inflation hose.

### Parts Required

SP-PBI-160 Sphere Pump Assembly

One set of sphere tools:

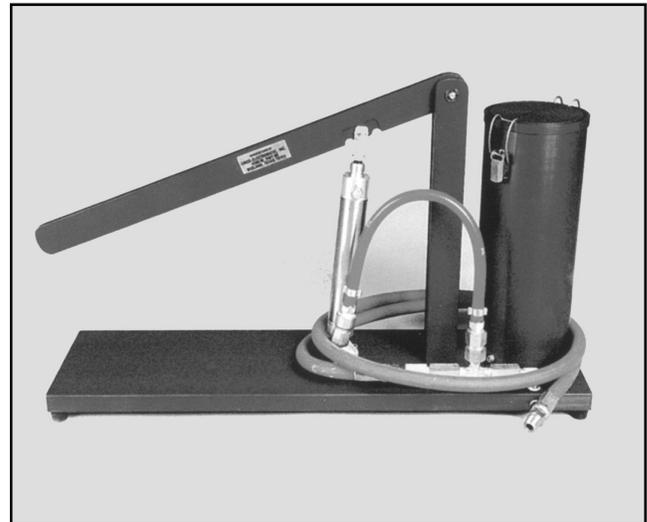
ST-101 Valve Core Wrench

ST-201 Inflation Needle

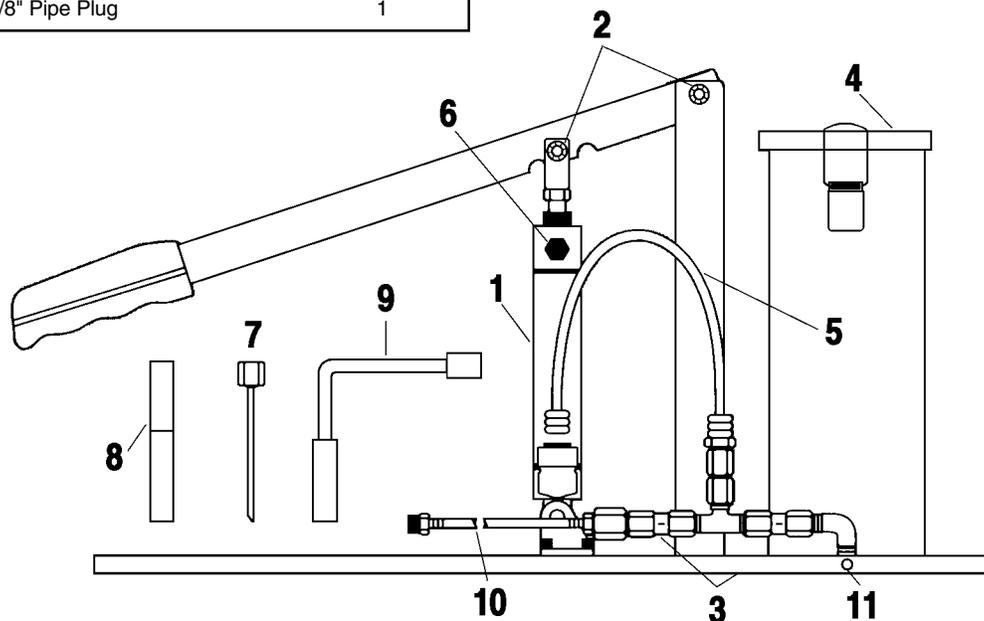
ST-301 Inflation Adapter

### Parts List

Item	Description	Qty.
1	Cylinder and Clevis Assembly	1
2	1/4" Pin and Clip	1
3	1/8" Check Valve	2
4	Tank Cap	1
5	Hose (5 Foot)	1
6	1/8" Breather Vent	1
7	Inflation Needle	1
8	Inflation Adapter	1
9	Valve Core Wrench	1
10	Flex Hose (12" Long)	1
11	1/8" Pipe Plug	1



**Sphere Inflation Pump Model SP-PBI-160**



## Operating Instructions

### Step 1: Remove Sphere Valve (Shrader Type)

Remove the valve cap with the small end of the valve core wrench (ST-101). Depress core stem to verify there is no pressure inside the sphere. With no pressure on the sphere, remove shrader valve with the large end of the valve core wrench.

### Step 2: Filling the Sphere with Liquid

Fill the sphere with a liquid (water, glycol or glycol and water mixture) using the inflation needle (ST-201) or a funnel depending on the size of the sphere. Next attach the inflation needle to the quick coupling on the pump hose, and insert into the sphere. Fill the receiving tank with a liquid and pump the liquid into the sphere until the sphere is full, liquid will be running out of the valve hole.

**Note:** It may be necessary to refill the receiving tank several times until the sphere is full. When the sphere appears full, gently bump the sphere on a hard surface to assure that there is no air trapped in the sphere cavity. If the sphere is too large to pick up, tap the sphere on the side with a object that will not damage the surface of the sphere. If the liquid in the valve hole settles into the sphere, more liquid is required due to entrapped air pockets. Repeat this process until the liquid remains in the valve hole outside the sphere cavity.

**Note:** It is important that all of the air is removed from the sphere cavity and replaced with liquid.

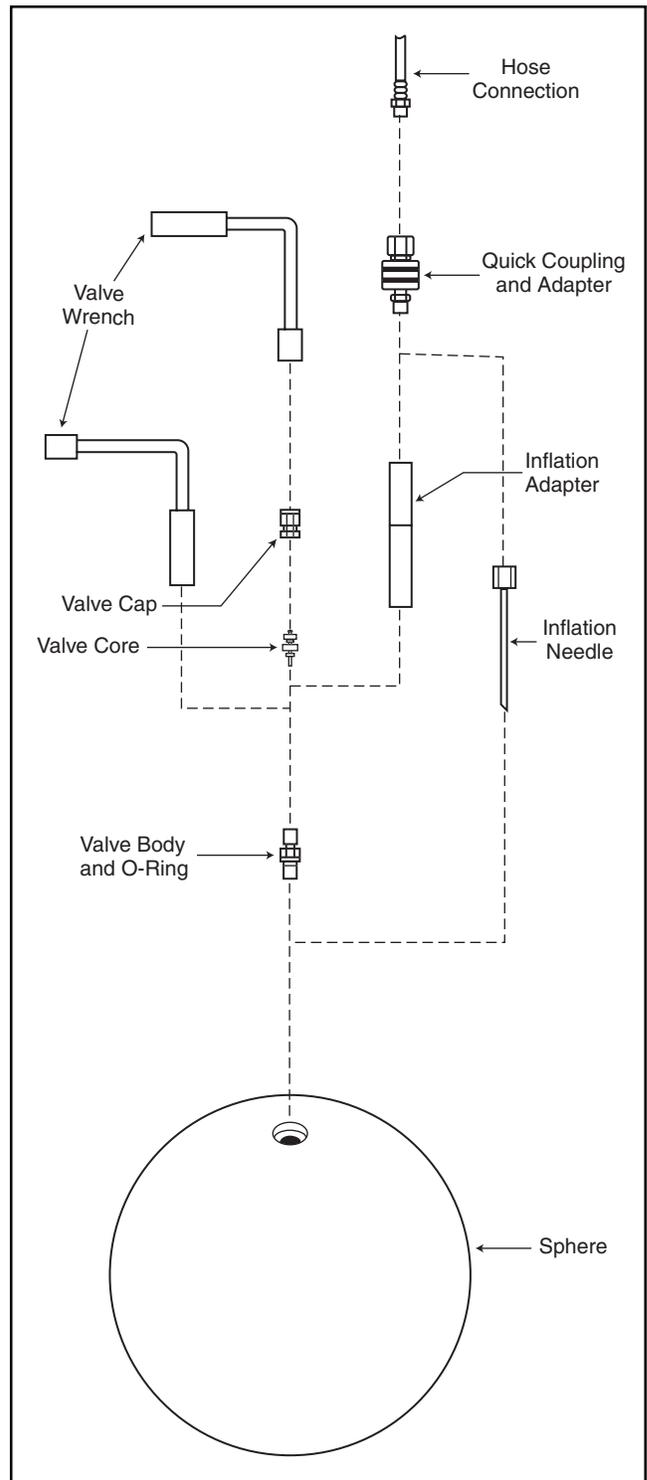
### Step 3: Sizing the Sphere

Install shrader valve securely in the sphere, making sure the O-ring is not damaged, using the large end of the valve core wrench (ST-101) to the quick coupling on the pump hose assembly. Screw the inflation adapter to the shrader valve body. Pump the additional liquid into the sphere until it expands to desired diameter. Remove inflation adapter from the shrader valve. Replace the valve cap using the small end of the valve core wrench (ST-101). The sphere is now ready for service.

**Note:** Always check for sufficient liquid in the receiving tank. Make sure the tank is not pumped dry.

## Storing Instructions

Before storing the sphere inflation pump, make sure all of the liquid is removed from the receiving tank and that the tank is clean. Fill the receiving tank with a small amount of clean water, point the hose assembly away from you and pump the handle a few times to remove any liquid in the hose. Replace the tank cover.



**Sphere Inflation Pump Diagram**

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

#### Headquarters:

1803 Gears Road, Houston, TX 77067 USA, Phone: 281/260-2190, Fax: 281/260-2191

#### Gas Measurement Products:

Erie, PA USA Phone 814/898-5000

Thetford, England Phone (44) 1842-82-2900

Kongsberg, Norway Phone (47) 32/286-700

Buenos Aires, Argentina Phone 54 (11) 4312-4736

#### Integrated Measurement Systems:

Corpus Christi, TX USA Phone 361/289-3400

Kongsberg, Norway Phone (47) 32/286-700

San Juan, Puerto Rico Phone 787/274-3760

United Arab Emirates, Dubai Phone 971 +4/331-3646

#### Liquid Measurement Products:

Erie, PA USA Phone 814/898-5000

Los Angeles, CA USA Phone 661/702-8660

Slough, England Phone (44) 1753-57-1515

Ellerbek, Germany Phone (49) 4101-3040

Barcelona, Spain Phone (34) 93/201-0989

Moscow, Russia Phone (7) 495/564-8705

Melbourne, Australia Phone (61) 3/9807-2818

Beijing, China Phone (86) 10/6500-2251

Singapore Phone (65) 6861-3011

Chennai, India Phone (91) 44/450-4400

Visit our website at [www.fmctechnologies.com](http://www.fmctechnologies.com)