

# WIDDER TOOLS



## HPIC-10000-A Hydrostatic Test Unit



### *PRODUCT INFORMATION AND OPERATING INSTRUCTIONS*

**Description:** The **HPIC-10000-A** Test Unit is a portable, air driven, hydrostatic test system. This test unit features a rugged powder coated steel body construction, and screen printed informational graphics for long-life. This unit also features our standard, stainless steel, 140 Mesh (100 Micron) water inlet filter, as well as full air filtration and lubrication. The standard Isolation Valve allows complete isolation from the pump check valve when higher system integrity is required.

**IMPORTANT: READ MANUAL CAREFULLY BEFORE OPERATING THIS TOOL.  
FOLLOW ALL SAFETY PRECAUTIONS LISTED AND ALL OSHA REGULATIONS  
PERTAINING TO THIS TOOL.**

## ***SAFETY PRECAUTIONS:***

1. Be sure all pressure on air and water fittings is relieved before dis-connecting any hoses or fittings
2. Wear eye protection
3. Pressurization of any materials is dangerous- follow OSHA procedures for stored energy and any pressurization cautions pertaining to the fluids used
4. This system can develop pressure up to the nameplate pressure- do not over pressure test vessels as damage can occur.
5. Do not run air pump without water input as you can damage the pump
6. Oil lubricator on air input must be filled with standard air tool oil before operating. Operating without oil voids tool warrantee

## ***OPERATING INSTRUCTIONS:***

### **A. Leak Test Only**

1. Attach water (Front of Unit) and air input (Rear of Unit) with water and air supply turned off.
2. Attach water output to test vessel (pre-fill if necessary for faster fill).
3. Turn on input water supply at street pressure and check for any obvious hook-up leaks.
4. Bleed the system through the needle relief valve until no more water comes out.
5. Close needle valve firmly. **Do not over tighten.**
6. With Regulator opened all the way (counter clock-wise) turn on the air input valve.
7. Slowly close the regulator (clock-wise) causing the system pressure to build. The unit will stroke a few times quickly to build pressure and will slow as the system charges and fills.
8. Observe system output pressure gage carefully. **Do not over pressure test vessel.**
9. As desired pressure is approached, slow air input by backing off regulator. The system will hold this pressure within about 1% and will make-up any drop by recycling the pump.
10. Inspect pressurized system for leaks.
11. Once the leak test inspection is complete, refer to section C to shut down the system.

### **B. Isolated Pressure Leak Test**

For tighter control of pressures, the **HPIC-10000-A** Test Unit includes a secondary high pressure Isolation Valve. This valve is downstream from the pressurizing pump and allows the operator to isolate the pressurized test loop from the pump check valves. At high pressures, the pump check valves can leak some system pressure. Usually, this is well within test pressure drop parameters (API 6A on annex F.1.1.10 b. for example, states: "Pressure shall remain within 5% of the test pressure or 3,45 MPa (500 psi), whichever is less, during the test period.")

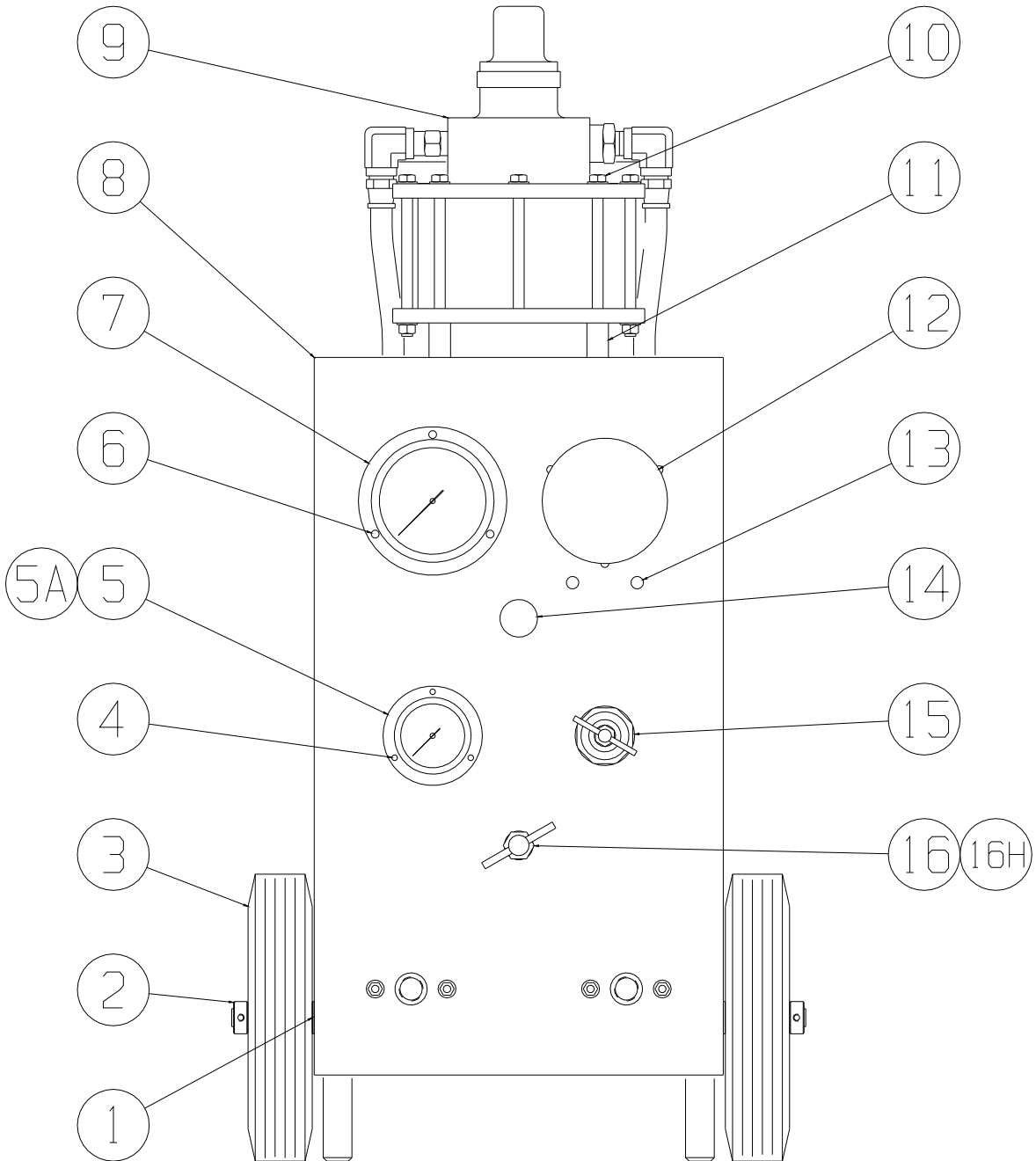
1. To isolate pressure, follow section A until system is pressured to desired pressure.

2. Close the Isolation Valve. **Closing the isolation valve may raise test pressure slightly as the isolation valve displaces fluid in the system.**
3. Once the isolation valve is closed, the test area is isolated from the pump and check valves.
4. Monitor pressure gage for drop in pressure over allotted time.
5. When test is complete, be sure to turn off input air, open regulator completely, crack bleed valve and re-open isolation valve. Do not store system under pressure- always be sure bleed valve is cracked and isolation valve is open.

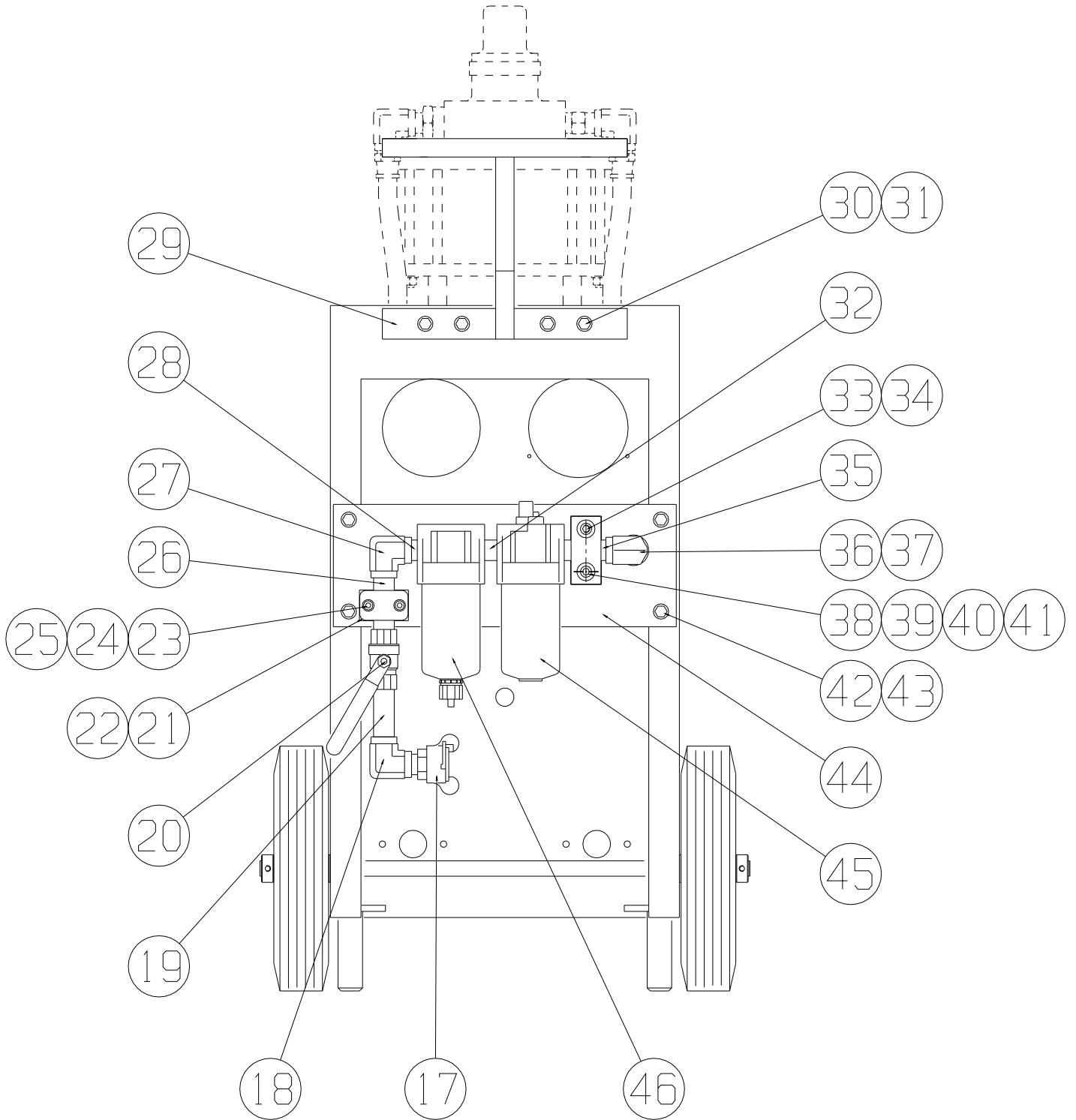
### **C. System Shut Down and Storage**

1. Once tests and inspections are complete, shut down the system by first opening the regulator to relieve air pressure (counter clock-wise) until gage reads “0”.
2. Turn off water and air input.
3. Gently crack the needle bleed valve until output pressure drops to “0”.
4. Once all pressure gages read “0” and inputs are off, drain and disconnect test vessel.
5. To store unit, add a small amount of water displacing oil to the water input and hook-up an airline to the water input.
6. With all needle valves open, blow air through the water input. Water and air will come out the discharge side of the unit.
7. Blow off until mostly dry.

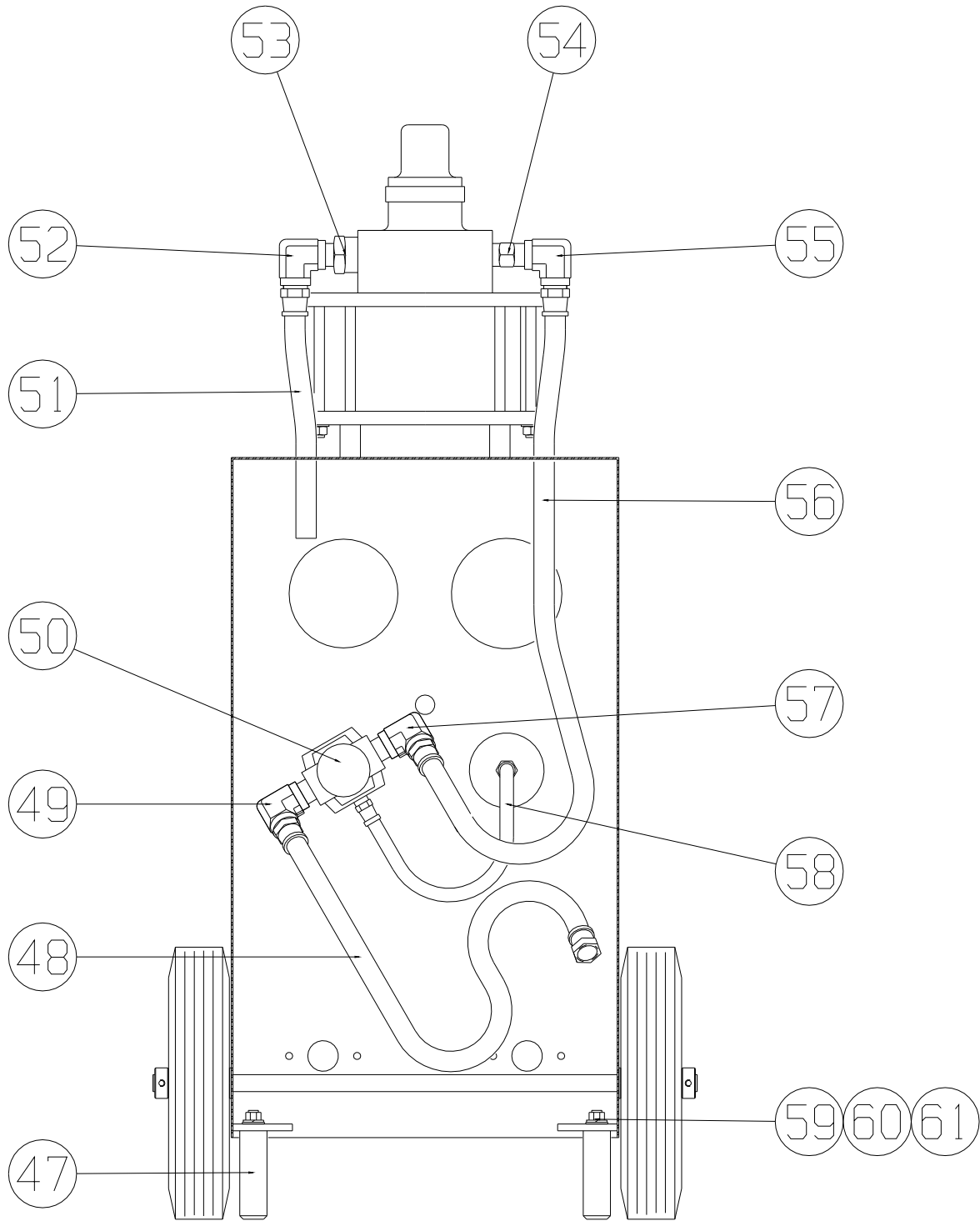
# WIDDER HPIC Hydrostatic Test Pump Front View



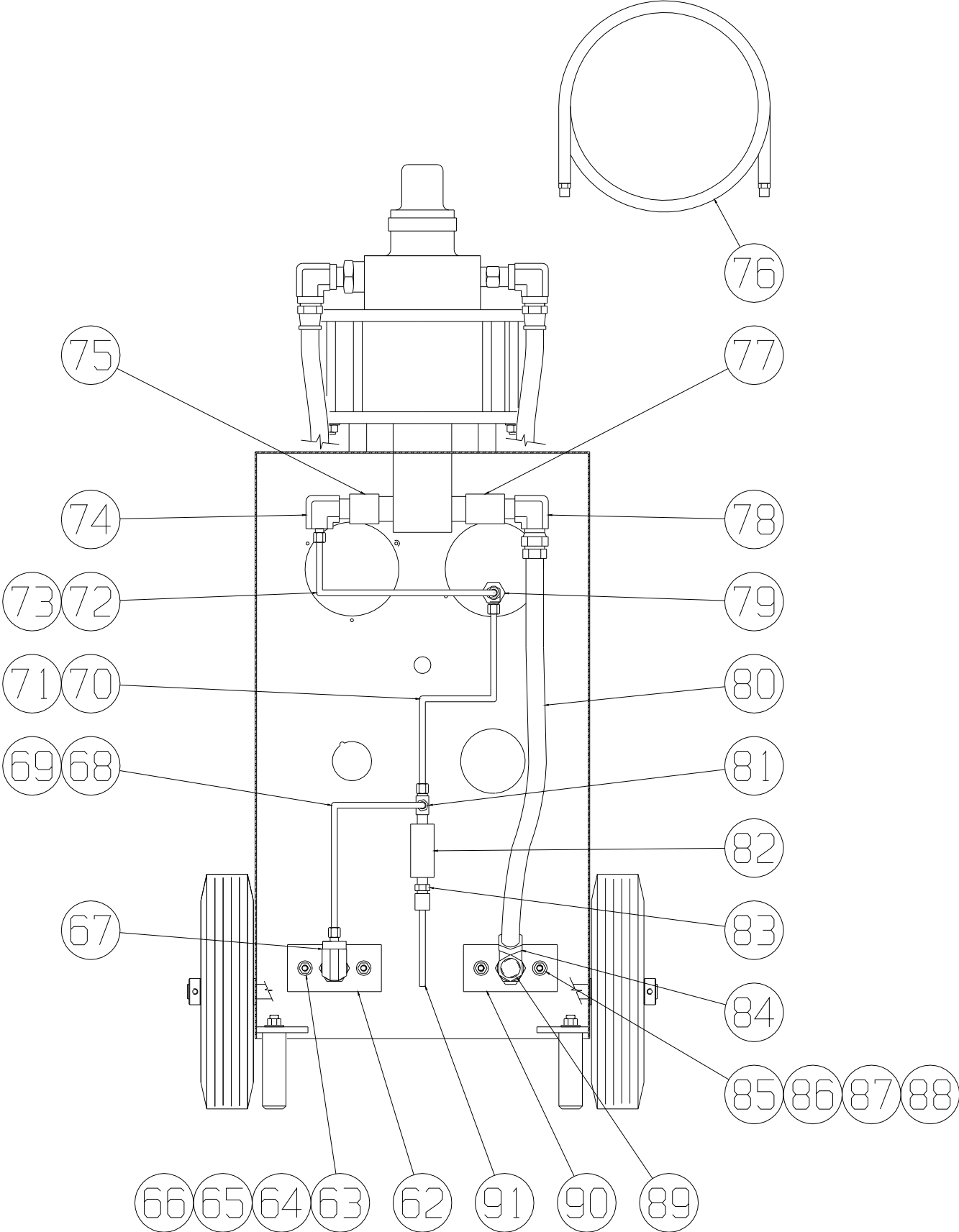
# Back Panel View



# Inner Air System



# Hydraulic Fluid System



Item	Description	Part #
<b>Front View</b>		
1	Wheel Spacer	03-1014
2	Wheel Collar	PI7000-29
3	10" Wheel	PI7000-21
4	Flange Screw, 2 ½" Gage	PI7000-20
5	2 ½"-160 psi Gage	PI7000-11
5A	2 ½" Flange	PI7000-11A
6	Flange Screw, 4" Gage	PI7000-19
7	4"-15k psi Gage	PI7000-06
8	Cabinet	PI7000-38
9	10k psi Pump	PI7000-01
10	Pump Hex Bolt	PI7000-41
11	Pump Standoff	PI7000-88
12	Gage Hole Cover	PI7000-150
13	Finishing Plug	PI7000-208
14	Valve Hole Cover	PI7000-151
15	Regulator	PI7000-16
16	Bleed Needle Valve	PI7000-36
16H	Replacement Handle, Bleed Valve	PI7000-36-RH
<b>Back Panel View</b>		
17	Universal Coupling	36-1010
18	90° Elbow	PI7000-96
19	½ x 3" Brass Nipple	PMI014
20	Ball Valve	PI7000-14
21	Small Clamp	PI7000-59
22	Small Clamp Spacer	PI7000-61
23	Small Clamp Screw	PI7000-50
24	Washer	PI7000-26
25	Locknut	PI7000-27
26	½ x 3" Brass Nipple	PMI014
27	90° Elbow	PI7000-96
28	½ x Close Brass Nipple	PMI035
29	Handle	PI7000-31
30	Handle Mounting Bolt	PI7000-23
31	Washer	PI7000-24
32	½ x Close Brass Nipple	PMI035
33	Large Clamp	PI7000-60
34	Large Clamp Spacer	PI7000-62
35	½ x 2-1/2" Brass Nipple	PMI037
36	90° Elbow	PI7000-96
37	1/2 x 2" Brass Nipple	PMI023
38	Large Clamp Screw	PI7000-51
39	Washer (Outer)	PI7000-54
40	Washer (Inner)	PI7000-53
41	Locknut	PI7000-52
42	Panel Mounting Bolt	PI7000-23
43	Washer	PI7000-26
44	Back Panel	PI7000-39
45	Lubricator	PI7000-18
46	Filter	PI7000-17



<b>Inner Air System</b>		
47	Foot	PI7000-33
48	Hose Assy., Air Inlet to Regulator	PI7000-84
49	90° Elbow	PI7000-63
50	Regulator	PI7000-16
51	Hose Assy., Pump Exhaust	PI7000-87
52	90° Elbow	PI7000-63
53	Hex Adapter	PI7000-45
54	Hex Nipple	PI7000-73
55	90° Elbow	PI7000-63
56	Hose Assy., Regulator to Pump Inlet	PI7000-86
57	90° Elbow	PI7000-63
58	Hose Assy., Regulator to Gage	PI7000-83
59	Hex Jam Nut, Foot	PI7000-32
60	Split Lock Washer, Foot	PI7000-34
61	Washer, Foot	PI7000-30
<b>Hydraulic Fluid System</b>		
62	Bulkhead Plate Assy., Outlet	PI7000-28
63	Hex Bolt	PI7000-23
64	Washer (Outer)	PI7000-26
65	Washer (Inner)	PI7000-24
66	Locknut	PI7000-27
67	90° Elbow	PI7000-101
68	Flare Tube Assy., Bleed Valve to Outlet	PI7000-232
69	1/4" Flare Seal (2 per Tube Assy.)	PI7000-221
70	Flare Tube Assy., Gauge to Bleed Valve	PI7000-232
71	1/4" Flare Seal (2 Per Tube Assy.)	PI7000-221
72	Flare Tube Assy., Pump to Gauge	PI7000-231
73	1/4" Flare Seal (2 per Tube Assy.)	PI7000-221
74	90° Elbow	PI7000-101
75	Check Valve, Outlet	PI7000-223
76	1/2" x 15 Foot HP Hose	PI7000-89
77	Check Valve, Inlet	PI7000-222
78	90° Elbow	PI7000-74
79	Tee	PI7000-102
80	Hose Assy., Strainer to Pump Inlet	PI7000-85
81	Tee	PI7000-94
82	Bleed Needle Valve	PI7000-36
83	Flareless Adapter	PI7000-78
84	Strainer – 100m	PMI017
85	Hex Bolt	PI7000-23
86	Washer (Outer)	PI7000-26
87	Washer (Inner)	PI7000-24
88	Locknut	PI7000-27
89	1/2" x Close Brass Nipple	PMI035
90	Bulkhead Plate Assy., Inlet	PI7000-28
91	Bleed Tube	PI7000-82