TITAN
TECHNOLOGIES INTERNATIONAL, INC

SUPERIOR TECHNOLOGIES • SUPERIOR SOLUTIONS™

OPERATING INSTRUCTIONS

Air Hydraulic Pump

TITAN
TECHNOLOGIES INTERNATIONAL, INC
SUPERIOR TECHNOLOGIES • SUPERIOR SOLUTIONS™

technofast
precision engineered solutions

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Safety

BEFORE ATTEMPTING INSTALLATION OF HYDRABOLT IS IMPERATIVE OPERATORS UNDERSTAND THE INSTALLATION AND TENSIONING PROCEDURES CONTAINED IN THIS MANUAL.

DO NOT ALLOW UNTRAINED STAFF TO ATTEMPT INSTALLATION!!

DO NOT ALLOW PERSONNEL INTO THE INSTALLATION AREA WITHOUT FIRST INSTRUCTING THEM ON THE SAFETY HAZARDS OF HYDRAULIC COMPONENTS.

PRE-INSTALLATION SAFETY CHECKLIST.

1. ☐ *Are all persons in the installation area aware of safety procedures contained in this manual?*
2. ☐ *Have all persons in the installation area been issued with adequate eye and hearing protection devices?*
3. ☐ *Have all persons in the installation area been issued with suitable protective clothing?*
4. ☐ *Are installation personnel trained in the dangers of misuse of high-pressure hydraulic equipment?*
5. ☐ *Is the installation area free of unnecessary obstructions, which could endanger personnel, performing their assigned tasks?*
6. ☐ *No person should be allowed in close proximity to hydraulic components while pressurising the system.*
7. ☐ *When pressurising the system the pump operator must remain at their station, at the pressurising pump, in case of emergency.*
8. ☐ *Set air regulator to achieve the correct oil pressure for the product **before** coupling and tensioning begins.*

IMPORTANT!

Do Not back pressurise male nipples on hydraulic tensioning equipment. If the second nipple is fitted it must be connected to another hydraulic hose, not used as the terminus of the harness!

REMEMBER!

Fluids under high pressure can cause damage or injury if the equipment is improperly used.

Incorrect installation procedures may cause safety hazards & void warranty.

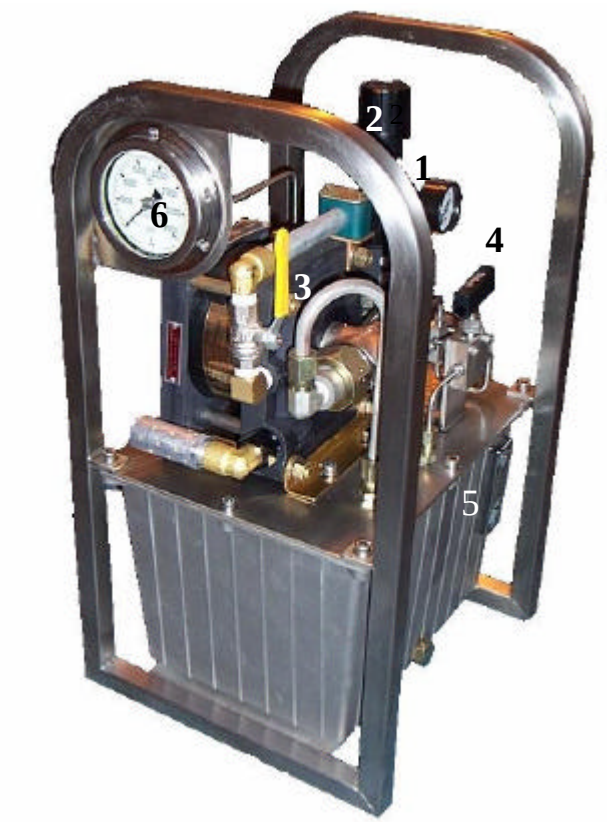
Air Hydraulic Pumps

Titan Air operated hydraulic pumps uses the proven method of a large air piston to drive a smaller hydraulic piston to produce the required pressure. Titan offers two pumps in the standard range with the option of modifcation to meet the customers requirement. We also offer high pressure hoses capable of 38,000 psi working pressure, fitted with quick release coupling to suit the pressure.

Features

*All Alloy Reservoir With Level Gauge and Filler Breather.
*Stainless Steel Roll Cage .
*Filtered Regulator with Input Pressure Gauge and Speed Control.
*Liquid Filled Gauge for Accurate Reading of Output Pressures

Description	PU-AH1500		PU-AH3000	
	Metric	Imperial	Metric	Imperial
Working Pressure	2,551 Bar	37,000 psi	3,448 Bar	50,000 psi
Pressure Ratio	1 to 260		1 to 346	
Max Air Supply	10.3 Bar	150 psi	10.3 Bar	150 psi
Tank Capacity	16 Litres	4.2 Gallon	30 Litre	7.9 Gallon
H.P. Gauge	2,400 Bar	35000 psi	3,500 Bar	50,000 psi
Gauge Size	100 mm	4 in	150 mm	6 in
Dimensions				
Width	38 cm	14.96 in	38 cm	14.96 in
Depth	36 cm	14.17 in	36 cm	14.17 in
Height	65 cm	25.59 in	65 cm	25.59 in
Weight (Dry)	25 kg	55 Ib	28 kg	62 Ib

1.	**Pump Set Up:**  **Recommended oil is Castrol AWS10 or equivilant.** • **Note** Use of a heavier oil will cause problems in the depressurising of multi linked tools. • Check sight glass (5) on hydraulic tank is showing full. If not top up with oil. • Ensure the air on/off valve (3) on the pump is off (vertical position), otherwise the pump will start when the plant air is turned on. • Connect the plant air to the pump unit (1), using plant Std Air Hoses ensuring safety clips are fitted. • Ensure that the air regulator (2) is fully open. • Connect the high pressure hydraulic link hose to the quick connect coupling. **Confirm collar on quick release coupling is fully home**.
2.	**Pump Operation:** • Start the pump by using the air valve (3) slowly rotating the handle in a clockwise direction. This valve also acts as a regulator to control pump speed. • Shut the high-pressure hydraulic relief valve (4). • The hydraulic pressure gauge (6) will now begin to register a pressure. • Hydraulic pressure can be increased or decreased by opening the Air Supply Valve (2). **Caution** **Do Not Exceed Maximum Tool Pressure on The Oil Pressure Gauge (6).** • The pump will stop automatically when the required hydraulic pressure is obtained and hold it indefinitely. If the hydraulic pressure drops, the pump will start automatically.

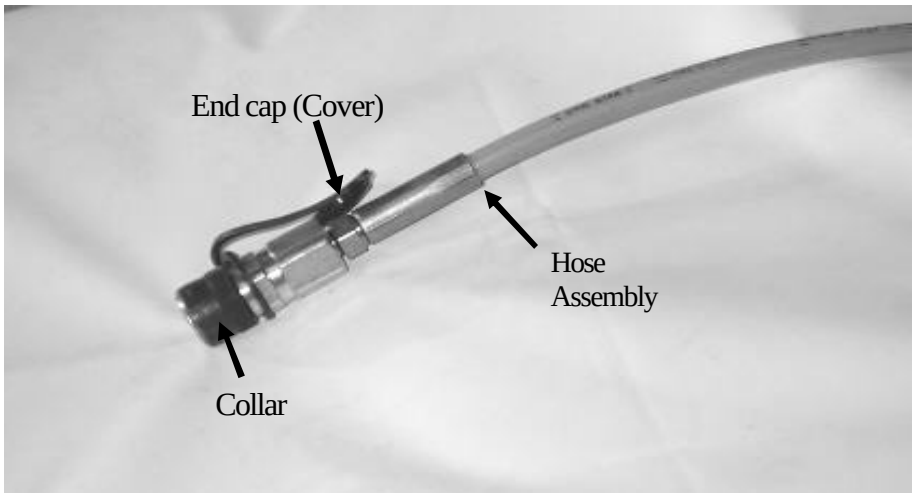
3.	**Tightening the Nuts:** • Activate the hydraulic pump and pressurise the load cell to the required pressure. **Note** **Do not over stroke beyond the stated capacity**. • Wind the nuts down using the nut rotator, and nip tight with the tommy bar. • Set the air valve (3) into the off position and slowly open the release valve (4) on the pump to allow the system to depressurise. • Screw the thread puller down the stud (into the load cell) using the tommy bar until it is fully home. • This will reset the Hydrajacs for their next operation. • If further tensioning of the stud is required, repeat the above steps.
4.	**Stopping the Pump:** • Set the air supply valve (3) to the off position. • Slowly release the pressure in the hydraulic system by opening the relief valve (4). • The hydraulic system will depressurise and the gauge will read zero pressure. **Confirm The Hydraulic Pressure Is Zero.** • The hydraulic hoses can now be disconnected. • Replace all protection caps on the end of the hoses.

Task Details:

Step No.	Pump set up
	Recommended oil is Castrol AWS10 or equivalent. Heavier oils will cause problems in depressurising of multi-linked tools.
1	Check sight glass on hydraulic tank is showing full, if not top up with oil at filler cap.
2	Ensure the air on/off valve 3 on the pump is in the horizontal or off position; otherwise the pump will start when the plant air is turned on.
3	Connect the plant air to the pump unit ensuring safety clips are fitted.
4	Connect the high pressure hydraulic hose to the quick connect coupling. Confirm collar on quick release coupling is fully home, and rotates freely.

Step No.	Pump Operation
1	Start pump; observe the reading of the air pressure gauge.
2	Turn on the air valve 3 slowly to start the pump. This valve also acts as a regulator to control pump speed.
3	Shut the high-pressure hydraulic relief valve 4.
4	The hydraulic pressure gauge 6 will now begin to register a pressure.
5	Set hydraulic pressure by increasing or decreasing the air pressure 6 to the pump. **WARNING: DO NOT EXCEED MAXIMUM TOOL PRESSURE ON OIL PRESSURE GAUGE!! REFER TO LOAD vs. PRESSURE GRAPH FOR REQUIRED HYDRAULIC PRESSURE.**
6	The pump will stop automatically when the required hydraulic pressure is obtained and hold it indefinitely. If the hydraulic pressure drops, the pump will start automatically.

Step No.	Stopping the Pump
1.	Set the air supply valve 3 to the horizontal or off position.
2.	Release the pressure in the hydraulic system by opening the relief valve 4 VERY SLOWLY.
3.	The hydraulic system will depressurise and the gauge will read 0 pressure
4.	The hydraulic hoses can now be disconnected. NOTE; DO NOT ATTEMPT TO DISCONNECT ANY HYDRAULIC HOSES UNTIL THE HYDRAULIC PRESSURE GAUGE IS READING ZERO.



Step No.	Attaching hose assembly
1.	Inspect hose for visual signs of damage and loose connections.
2.	Inspect hose fitting and jack male hydraulic fittings are clean.
3.	Push quick release fitting onto jack, to do this the collar is pulled back to allow the coupling to go over the male hydraulic fitting. Ensure collar returns back to the end of the coupling and rotates freely.

For technical Advice, please contact your nearest agent or any of our helpful staff direct.

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