OFITE®

DRILLING FLUIDS EQUIPMENT

For over 30 years OFI Testing Equipment (OFITE) has provided instruments and reagents for testing drilling fluids, well cements, completion fluids, and wastewater. In addition to these product lines we also offer a range of instruments for core analysis. From our manufacturing facility in Houston, TX we provide customers all over the world with quality products and exceptional service.

Our drilling fluids product line includes innovative designs such as the Model 900 Viscometer, which showcases our ability to develop new technology to meet customer and industry demands. We also offer Retorts, Aging Cells, Roller Ovens, Mud Balances, Filter Presses, and all other instruments required to evaluate drilling fluid properties according to API Recommended Practice 13B-1 and 13B-2.

As an independent manufacturer and supplier, OFITE has one priority, our customers.

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Automatic Pressure Control System for PPT

The Automatic Pressure Control System can provide and maintain a constant pressure on up to four Permeability Plugging Testers. It consists of two air-driven pumps and four hydraulic, self-venting regulators. Replacing the manual hand pump, the air-driven pump automatically engages when you start the test and maintains a constant pressure for the duration.

Features

- Incorporates pressure relief valves for safety
- Maintains constant pressure

Technical Specifications and Requirements

- #171-89 Automatic Pressure Control System for PPT

Specifications

- Maximum Pressure: up to 4000 PSI
- Pressure medium: hydraulic fluid

Requirements

- Air Supply: 130 PSI

Dependable Products From People You Trust

Automatic Pressure Control System for PPT

Part No. 171-89

Instruction Manual

Updated 2/10/2016
Ver. 2.0

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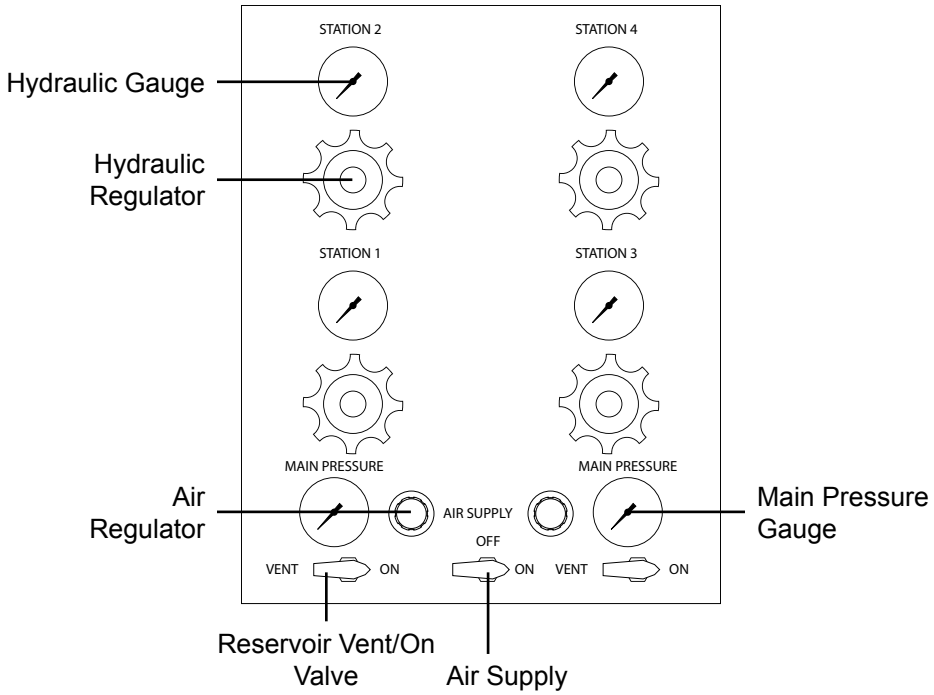
Intro

The Automatic Pressure Control System provides and maintains a constant pressure on up to four Permeability Plugging Testers simultaneously. It consists of two air-driven pumps and four hydraulic, self-venting regulators. Replacing the manual hand pump, the air-driven pump automatically engages when you start the test and maintains a constant pressure for the duration.

Description

The Automatic Pressure Control System has four stations. Each station has a hydraulic regulator and a hydraulic gauge. Each side of the unit (stations 1 and 2 on the left and stations 3 and 4 on the right) has its own pump, air regulator, Main Pressure gauge, and Reservoir Vent/On valve. Both sides share a common air source.

Air Regulator - Controls air pressure to the pump.
Main Pressure Gauge - Shows the total pressure available to the two regulators on that side.
Reservoir Vent/On Valve - Supplies Nitrogen to the top of the reservoir, which forces hydraulic fluid through the pump and to the hydraulic regulators.
Hydraulic Regulator - Supplies pressure to the test cell.
Hydraulic Gauge - Indicates the pressure inside the test cell.



Installation

1. Connect a source of compressed air (100 - 120 PSI) to the ¼" NPT female port on the back of the unit.

2. Connect the pressure lines:

   a. Connect the short lines to the front ports on the bottom of the unit (Stations 1 and 3).

   b. Connect the longer lines to the rear ports on the bottom of the unit (Stations 2 and 4).

3. Fill the reservoirs about ¾ full with hydraulic oil (#171-96-1). Use the level gauges on the sides of the unit to determine the fluid level.

Setup

1. Make sure all regulators are turned fully counter-clockwise and that no valves are in the “On” position.

2. Prepare the PPT cell as usual. Using the supplied T-handle wrench, insert the piston into the bottom of the cell. Leave the T-handle wrench connected to the piston.

3. Connect the pressure line to the PPT cell.

4. Turn the hydraulic regulator clockwise until you see the T-handle wrench start to rise. When the T-handle has risen approximately 1", turn the hydraulic regulator back counter-clockwise to stop the flow of hydraulic fluid.

Note

This procedure will ensure that some fluid is below the piston. This is necessary to allow for thermal expansion during heating.

Operation

1. Assemble the PPT cell and prepare it for a test. Refer to the PPT instruction manual for details.

2. Connect the pressure line from the Automatic Pressure Control System to the lower valve stem on the test cell.

3. Make sure the hydraulic regulator and the air regulator are turned fully counter-clockwise. Make sure the Reservoir Vent/On valve is set between “On” and “Vent”.

4. Turn the Air Supply on.

5. Turn the Reservoir Vent/On valve on.

6. Turn the air regulator clockwise until the Main Pressure gauge reads between 3,000 and 4,000 PSI. Leave the air regulator at this setting.

7. When it is time to add pressure to the test cell, turn the hydraulic regulator clockwise until the hydraulic gauge reads the desired pressure.


Note

The regulator has a self-venting feature that will maintain the pressure close to the setpoint even while heating.

8. Follow the test procedure described in the PPT instruction manual.


Note

During the spurt loss, the pressure in the cell will momentarily drop. After the spurt loss is complete and the filter cake has formed, the pump will reach a stead state condition and maintain the pressure for the rest of the test.


Tip

For best results, stagger the start times of each tests so that only one spurt loss is occurring at any given time.

9. At the end of the test:

    a. If you will be running another test right away, or a second test is running on the same side of the unit, back off (counter-clockwise) the hydraulic regulator completely.

    b. If you have no further tests to run, back off (counter-clockwise) the air regulator completely. Turn the Reservoir Vent/On valve to “Vent”. Then back off the hydraulic regulator completely. This will ensure no pressure remains on the system.

10. Disassemble the test apparatus according to the PPT instructions.

Warranty and Return Policy

Warranty:

OFI Testing Equipment, Inc. (OFITE) warrants that the products shall be free from liens and defects in title, and shall conform in all respects to the terms of the sales order and the specifications applicable to the products. All products shall be furnished subject to OFITE's standard manufacturing variations and practices. Unless the warranty period is otherwise extended in writing, the following warranty shall apply: if, at any time prior to twelve (12) months from the date of invoice, the products, or any part thereof, do not conform to these warranties or to the specifications applicable thereto, and OFITE is so notified in writing upon discovery, OFITE shall promptly repair or replace the defective products. Notwithstanding the foregoing, OFITE's warranty obligations shall not extend to any use by the buyer of the products in conditions more severe than OFITE's recommendations, nor to any defects which were visually observable by the buyer but which are not promptly brought to OFITE's attention.

In the event that the buyer has purchased installation and commissioning services on applicable products, the above warranty shall extend for an additional period of twelve (12) months from the date of the original warranty expiration for such products.

In the event that OFITE is requested to provide customized research and development for the buyer, OFITE shall use its best efforts but makes no guarantees to the buyer that any products will be provided.

OFITE makes no other warranties or guarantees to the buyer, either express or implied, and the warranties provided in this clause shall be exclusive of any other warranties including ANY IMPLIED OR STATUTORY WARRANTIES OF FITNESS FOR PURPOSE, MERCHANTABILITY, AND OTHER STATUTORY REMEDIES WHICH ARE WAIVED.

This limited warranty does not cover any losses or damages that occur as a result of:

- Improper installation or maintenance of the products
- Misuse
- Neglect
- Adjustment by non-authorized sources
- Improper environment
- Excessive or inadequate heating or air conditioning or electrical power failures, surges, or other irregularities
- Equipment, products, or material not manufactured by OFITE
- Firmware or hardware that have been modified or altered by a third party
- Consumable parts (bearings, accessories, etc.)

Returns and Repairs:

Items being returned must be carefully packaged to prevent damage in shipment and insured against possible damage or loss. OFITE will not be responsible for equipment damaged due to insufficient packaging.

Any non-defective items returned to OFITE within ninety (90) days of invoice are subject to a 15% restocking fee. Items returned must be received by OFITE in original condition for it to be accepted. Reagents and special order items will not be accepted for return or refund.

OFITE employs experienced personnel to service and repair equipment manufactured by us, as well as other companies. To help expedite the repair process, please include a repair form with all equipment sent to OFITE for repair. Be sure to include your name, company name, phone number, email address, detailed description of work to be done, purchase order number, and a shipping address for returning the equipment. All repairs performed as "repair as needed" are subject to the ninety (90) day limited warranty. All "Certified Repairs" are subject to the twelve (12) month limited warranty.

Returns and potential warranty repairs require a Return Material Authorization (RMA) number. An RMA form is available from your sales or service representative.

Please ship all equipment (with the RMA number for returns or warranty repairs) to the following address:

OFI Testing Equipment, Inc.
Attn: Repair Department
11302 Steeplecrest Dr.
Houston, TX 77065
USA

OFITE also offers competitive service contracts for repairing and/or maintaining your lab equipment, including equipment from other manufacturers. For more information about our technical support and repair services, please contact techservice@ofite.com.