



Dependable Products From People You Trust



Complete Half-Area Filter Press

Part No. 140-60

Instruction Manual

Updated 10/2/2025

Ver. 7

OFI Testing Equipment, Inc.

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Intro

The OFITE Half Area Filter Press, or Mini-press, consists of a modified low-pressure regulator with a CO₂ bulb pressurizing assembly and a filtration cell body. A rubber diaphragm boot contains the fluid and separates it from the pressurizing gas. This enables the unit to be operated while inverted, which negates the effect of particles settling on the filter medium prior to pressurization. The top edge of the boot acts as a gasket to provide a seal to the filter paper and the end cap.

As the name implies, the filtration area is only half the API standard, 7.1 ± 0.1 in² (4580 ± 60 mm²) so all filtrate volumes must be doubled in order to comply with standard low-pressure filtration analyses. The compactness of the OFITE Mini-press allows it to be easily carried in all of the field kits, and it provides an accurate means of determining the filtration and wall-building characteristics of a drilling fluid.

Components

#140-60-01	O-ring for Bleeder Valve, Qty: 3
#140-60-03	C-ring for Bleeder Valve, Qty: 2
#140-60-04	E-ring for Base Cap
#140-60-05	Sample Boot
#140-60-06	Spring Housing Cap
#140-60-08	Pop Valve Body
#140-60-09	Gasket
#140-60-10	Friction Washer
#140-60-13	Spring Button
#140-60-14	Adjusting Spring
#140-60-15	T-screw
#140-60-16	Spring for Pop Valve
#141-20	Frog Bracket
#141-21	Wall Bracket
#142-38	Nozzle
#142-41	Gland
#142-46	Valve Spring
#142-47	Seat Assembly
#142-48	Diaphragm Assembly
#142-49	Slip Ring
#143-00-6	¼" Stainless Steel Ball for Airco Regulator
#143-01-1	Gauge, 200 psi, ⅛" Back
#143-02-10	CO ₂ Puncture Head Assembly
#143-03	Barrel for CO ₂ Cartridge
#153-18	Graduated Cylinder, 10 mL × ⅓ mL, Glass
#170-19	Filter Paper 2½" (6.335 cm), Specially Hardened for Filter Presses
#170-23	60 Mesh Screen

Optional:

#140-84	Filter Press Stand
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#140-60-SP

Spare Parts for #140-60:

#140-60-01	O-ring for Bleeder Valve, Qty: 4
#140-60-03	C-ring for Bleeder Valve, Qty: 2
#140-60-04	E-ring for Base Cap, Qty: 2
#140-60-05	Sample Boot
#140-60-12	Screen Retainer with Filtrate Tube
#140-60-16	Spring for Pop Valve
#143-02-13	O-ring for Puncture Pin Holder, CO ₂ Cartridge, Qty: 4
#143-02-14	O-ring for Puncture Pin Holder Assembly, Qty: 4
#143-05	*CO ₂ Bulbs, EZ Puncture, Package of 10 (8 Gram) (UN #1013), Qty: 30
#143-19	Repair Kit for Victor Regulator
#153-18	Graduated Cylinder, 10 mL × ⅓ mL, Glass, Qty: 2
#153-40	Pipet, 10 mL × ⅓ mL, Glass, Qty: 4
#170-19	Filter Paper 2½" (6.335 cm), Specially Hardened for Filter Presses, Qty: 3

Operation

1. Unscrew the cell cap from the cell body.
2. Seat the rubber boot inside the cell to ensure a tight seal.



Rubber Boot

3. Fill the rubber boot with test fluid. Do not fill to closer than $\frac{1}{4}$ " from the top of the boot. Be careful not to spill any fluid on the edge of the boot.

Exercise care when handling the cell when it is filled with fluid so that the valve is not accidentally opened before the cell cap is screwed into place.

4. Place a sheet of filter paper across the top of the boot.
5. Hand tighten the cell cap firmly.
6. Mount the cell assembly on a wall bracket and place a 10-mL graduated cylinder under the filtrate tube to catch the filtrate.

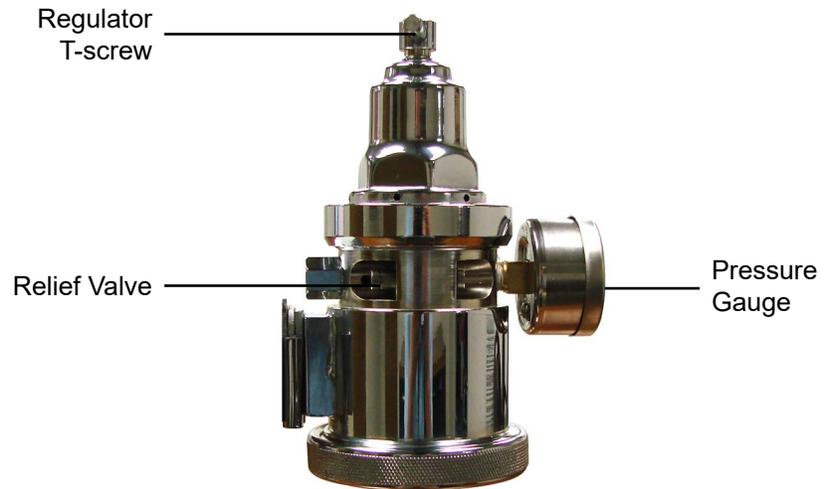
An optional stand is also available to provide more convenient, portable access to the filter press.



Important



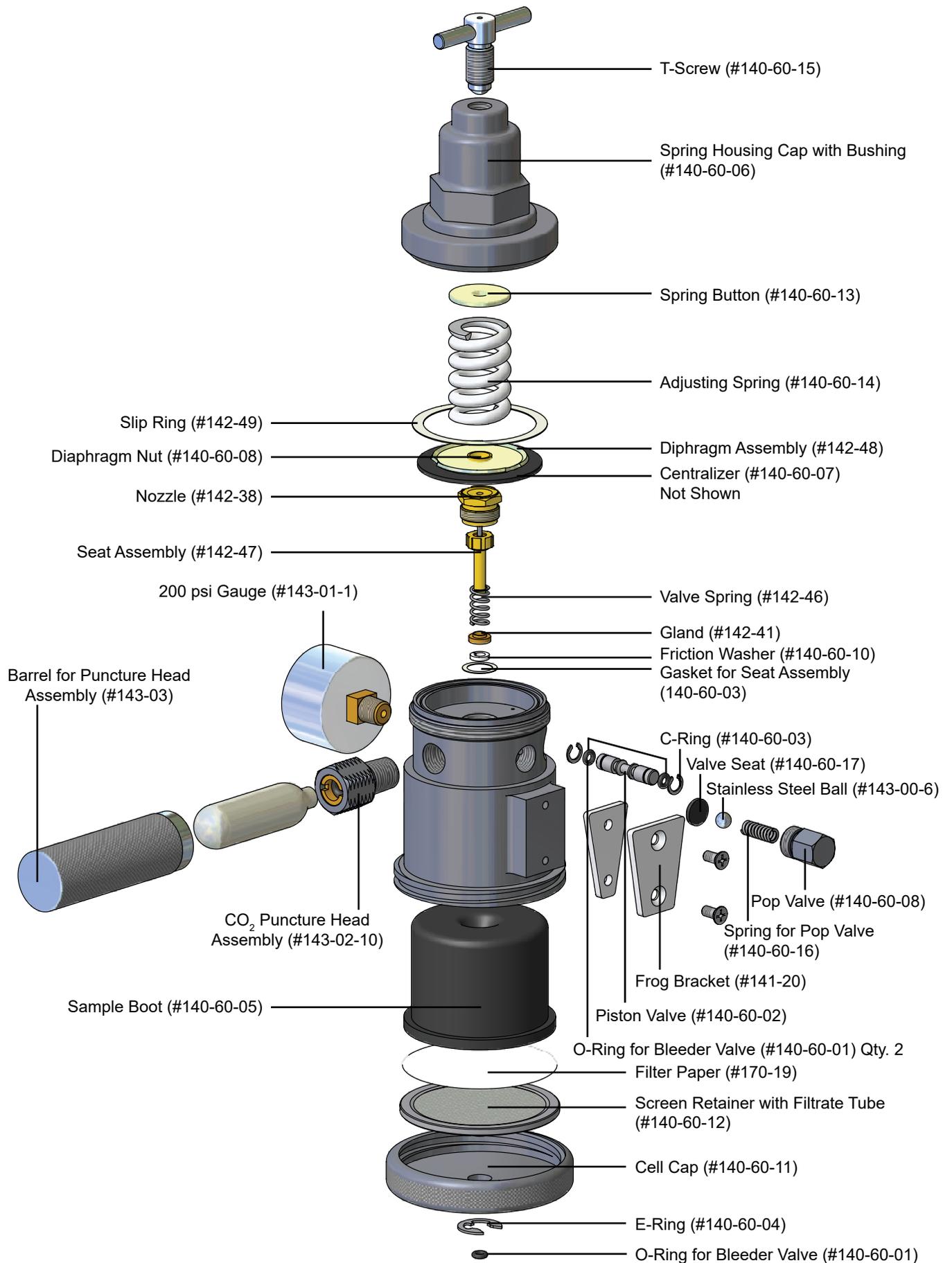
Tip



7. Push the Relief Valve forward toward the front of the unit. Place a CO₂ (sold separately) cartridge into the cartridge barrel and screw it onto the filter press body until the cartridge punctures.
8. Pressurize the cell by pushing the relief valve toward the back of the cell and rapidly screwing the regulator T-screw into the regulator so that 100 ± 5 psi (690 ± 35 kPa) is applied in 30 seconds or less to the cell body. The test time period begins when pressure is applied.
9. Record the volume of filtrate collected to the nearest 0.1 cm³ as the API filtrate. Correct the filtrate volume collected to a filter area of 7.1 in² by multiplying the volume by 2. Also record the temperature of the fluid, the time of the test, and the pressure used.
10. When the test is complete, release the pressure inside the test cell by unscrewing the T-screw on the regulator. When the pressure gauge reads 0 psi, push the relief valve forward.
11. You can now remove the end cap. Save the filtrate for chemical testing.
12. Be very careful to save the filter paper without disturbing the cake. Gently wash the filter cake on the paper and measure the thickness to the nearest 1/32" (9.8 mm). Report cake characteristics as hard, spongy, firm, etc.
13. To perform additional tests, simply refill the rubber boot with new test fluid and tighten the cap in place.
14. Then, push the relief valve toward the back of the unit to pressurize the cell and initiate the test.
15. When you are finished testing, unscrew the cartridge barrel and discard the spent cartridge.

Maintenance

1. If the pressure gauge registers insufficient pressure after the T-screw has been screwed into the regulator, the CO₂ bulb is probably exhausted. Push the relief valve toward the front of the cell and return the T-screw to its maximum outward position. Remove the barrel from the pressure unit and discard the spent bulb. Place a new CO₂ bulb into the barrel and screw the barrel back into the puncture assembly. Do not over tighten, as this will result in a loss of CO₂ gas.
2. Thoroughly clean and dry the filter press unit immediately after each use.
3. Protect CO₂ bulbs from sunlight and other sources of heat.
4. Lubricate the bleeder valve o-rings with a film of silicone grease for extended life.
5. Periodically check for leaks:
 - a. Fill the cell with drilling fluid and add pressure as described in steps 1 through 8 on page 4.
 - b. Let the cell sit for 15 minutes and verify that the pressure does not drop.
 - c. If you do see a pressure drop, spray soapy water on the cell to identify any leaks.



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.