

# Model 12BL Filter Press, Multi Unit

**Part No:   #140-41 - 4-Unit  
              #140-42 - 6-Unit  
              #140-43 - 2-Unit**

## Instruction Manual

Updated 08/25/2015

Ver. 2.0

**OFI Testing Equipment, Inc.**  
11302 Steeplecrest Dr. · Houston, Texas · 77065 · U.S.A.  
Tele: 832.320.7300 · Fax: 713.880.9886 · [www.ofite.com](http://www.ofite.com)

©Copyright OFITE 2015

# ***Table of Contents***

|                                  |   |
|----------------------------------|---|
| Introduction.....                | 2 |
| Description.....                 | 2 |
| Components .....                 | 3 |
| Procedure.....                   | 5 |
| Diagram .....                    | 8 |
| Warranty and Return Policy ..... | 9 |

## ***Introduction***

Measurements of the filtration behavior and wall cake-building characteristics of a drilling fluid are fundamental to control and treatment of drilling fluids, as are various characteristics of the filtrate such as oil, water or emulsion content. These factors are affected by the types and quantities of the solids in the fluid and their physical and chemical interactions, which in turn are affected by changing temperatures and pressures.

## ***Description***

The pressure cell is designed so that a 3 ½" (9 cm) sheet of filter paper can be placed in the bottom of the chamber to remove particles from the fluid. The filtration area is  $7.1 \pm 0.1$  square inches ( $4,580 \pm 60$  mm<sup>2</sup>) with the seal provided by the o-ring seating with the cell plate and held in place by the yoke screw. Pressure may be applied with any non hazardous regulated medium, either gas or compressed air. The multi-unit filter press is especially useful for laboratory environments where it is desirable to run several tests simultaneously.

# Components

## #140-41 - 4-Unit Filter Press

| Part Number | Description                                     | Qty |
|-------------|---|-----|
| 140-41-01   | Allen Wrench, 1/8" L Shaped                     | 1   |
| 140-44      | Valve Body Assembly, 12 BL                      | 4   |
| 140-55      | Filter Paper, Diameter 3 1/2" (8.9 cm), 100 Pk. | 1   |
| 141-19      | Air Hose Adapter                                | 1   |
| 142-54      | O-Ring, -010, Nitrile 70D For T-Fitting         | 8   |
| 142-56      | O-Ring, -012, Nitrile 70D For Coupling          | 4   |
| 142-59      | Cell Assembly                                   | 4   |
| 143-01-1    | Gauge, 1 1/2", 0-200 PSI, 1/8" Back Connection  | 1   |
| 153-16      | Graduated Cylinder; 25 mL x .2 mL. Glass        | 4   |

## #140-42 - 6-Unit Filter Press

| Part Number | Description                                     | Qty |
|-------------|---|-----|
| 140-44      | Valve Body Assembly, 12 BL                      | 6   |
| 140-55      | Filter Paper, Diameter 3 1/2" (8.9 cm), 100 Pk. | 1   |
| 140-60-01   | O-Ring, -006, Nitrile 70D For Bleeder Valve     | 12  |
| 141-19      | Air Hose Adapter                                | 1   |
| 142-54      | O-Ring, -010, Nitrile 70D For T-Fitting         | 12  |
| 142-56      | O-Ring, -012, Nitrile 70D For Coupling          | 6   |
| 142-59      | Cell Assembly                                   | 6   |
| 143-01-1    | Gauge, 1 1/2", 0-200 PSI, 1/8" Back Connection  | 1   |
| 153-16      | Graduated Cylinder; 25 mL x .2 mL. Glass        | 6   |

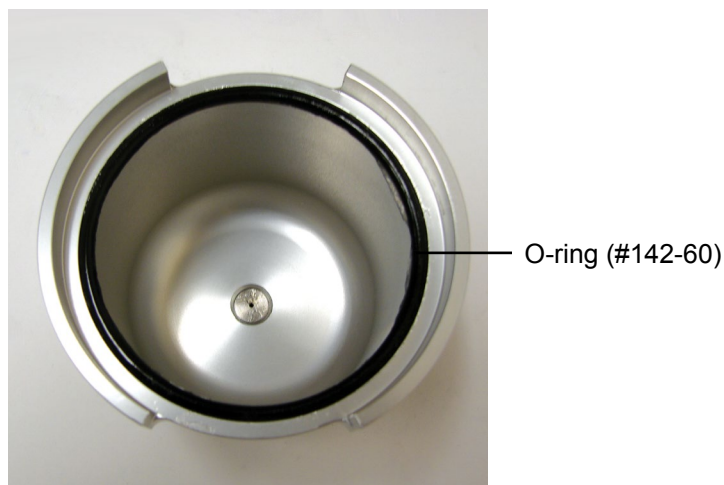
## #140-43 - 2-Unit Filter Press

| Part Number | Description                                     | Qty |
|-------------|---|-----|
| 140-41-01   | Allen Wrench, 1/8" L Shaped                     | 1   |
| 140-44      | Valve Body Assembly, 12 BL                      | 2   |
| 140-55      | Filter Paper, Diameter 3 1/2" (8.9 cm), 100 Pk. | 1   |
| 141-19      | Air Hose Adapter                                | 1   |
| 142-54      | O-Ring, -010, Nitrile 70D For T-Fitting         | 4   |
| 142-56      | O-Ring, -012, Nitrile 70D For Coupling          | 2   |
| 142-59      | Cell Assembly                                   | 2   |
| 143-01-1    | Gauge, 1 1/2", 0-200 PSI, 1/8" Back Connection  | 1   |
| 153-16      | Graduated Cylinder; 25 mL x .2 mL. Glass        | 2   |

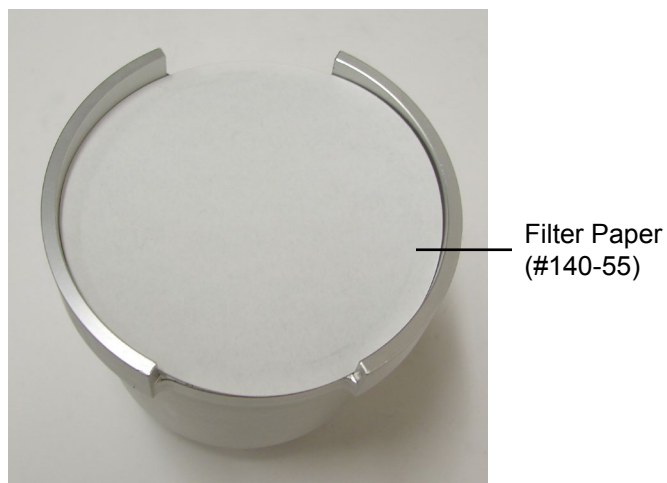
| <b>#140-41-SP - Spare Parts Kit</b> |  |            |
|-------------------------------------|--|------------|
| <b>Part Number</b>                  | <b>Description</b>                           | <b>Qty</b> |
| 140-55                              | Filter Paper, Diameter 3½" (8.9 cm), 100 Pk. | 12         |
| 140-60-01                           | O-Ring, -006, Nitrile 70D For Bleeder Valve  | 12         |
| 142-54                              | O-Ring, -010, Nitrile 70D For T-Fitting      | 8          |
| 142-56                              | O-Ring, -012, Nitrile 70D For Coupling       | 8          |
| 142-60                              | O-Ring, -234, Nitrile 70D, For Cells         | 8          |
| 153-16                              | Graduated Cylinder; 25 mL × .2 mL Glass      | 4          |
| 153-18                              | Graduated Cylinder; 10 mL × .2 mL Glass      | 4          |

## Procedure

1. Be sure each part of the cell is clean and dry, particularly the cell plate, and that the o-rings are not distorted or worn. The cell plate should be free of sharp edges, burrs or tears.
2. Assemble the cell as follows:
  - a. Install the cell o-ring (#142-60) so that it is seated evenly in the cell body groove.



- b. Pour the freshly stirred sample of fluid into the cell to within  $\frac{1}{2}$ " (13 mm) to the top, using a finger over the cell coupling hole to prevent leakage of the fluid. Again check the top cap to insure the rubber o-ring is in place and seated all the way around.
  - c. Place a sheet of filter paper evenly on top of the o-ring and complete the assembly of the cell.

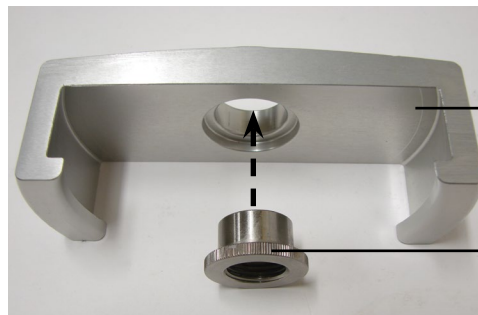


- d. Place the top cap onto the filter paper with the screen faced down



Top Cap  
(#142-59-2)

- e. Assemble the filter press yoke ensuring that the insert is oriented properly as shown below.



Filter Press Yoke  
(#142-59-3)

Insert (#142-59-4)

- f. Interlock the yoke onto the cell assembly and secure it with the filter press cell handle.



Filter Press  
Cell Handle  
(#142-59-5)



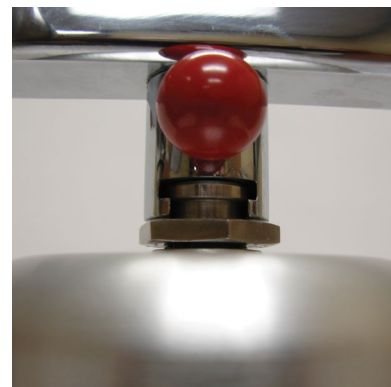
Tip

Hand tightening the filter press handle provides enough pressure for a good seal.

3. Check the o-rings in both the cell coupling and the valve body for excessive wear.
4. Align the cell coupling with the valve body and carefully slide the cell into place.



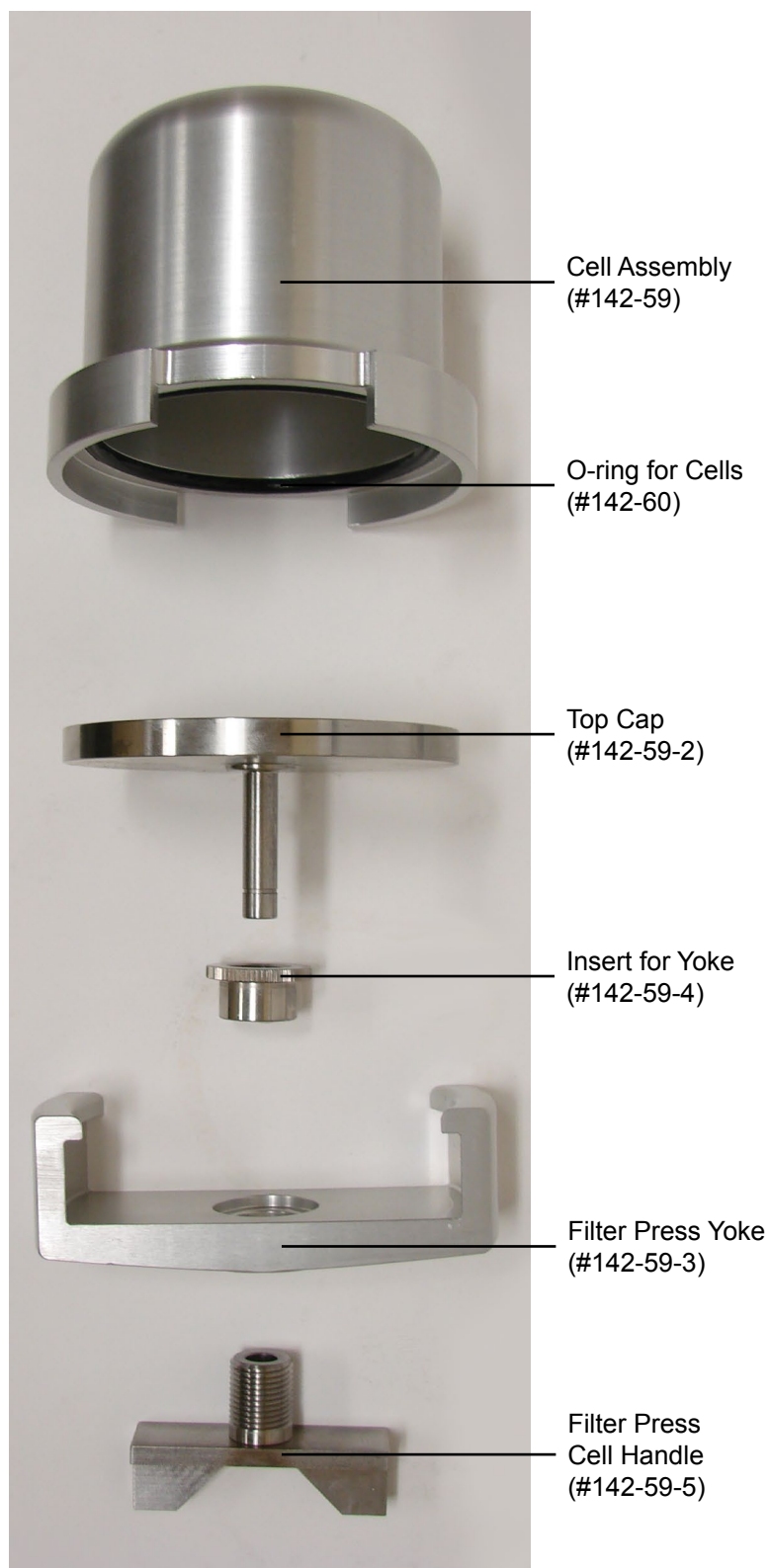
O-ring for  
T-Fitting  
(#142-54)



5. Place a clean dry graduated cylinder under the filtrate exit tube.
6. Close the relief valve and adjust the regulator so that a pressure of  $100 \pm 5$  pounds per square inch ( $690 \pm 35$  kilopascals) is applied in 30 seconds or less. The test period begins at the time of initial pressurization.
7. At the end of 30 minutes, measure the volume of filtrate collected. Shut off the air flow through the pressure regulator and open the relief valve carefully.
8. Report the volume of filtrate collected in mL to the nearest .1 mL as the API filtrate. Report the time interval and the mud temperature in °F (°C) at the start of the test. Save the filtrate for running chemical analysis.
9. Check to see that all pressure has been removed from the cell, and then remove the cell from the frame. Disassemble the cell, discard any remaining mud and using extreme care save the filter paper and deposited cake with a minimum of disturbance to the cake. Wash the filter cake on the paper with a gentle stream of water or with diesel oil if oil mud is being tested.
10. Measure and report the thickness of the filter cake to the nearest  $\frac{1}{32}$ " (0.8 mm). A cake thickness less than  $\frac{3}{32}$ " is usually considered acceptable. Observations as to the quality of the cake should be noted. Notations such as hardness, softness, toughness, slickness, rubberiness, firmness, flexibility and sponginess are appropriate descriptions.



## Diagram



# 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](mailto:techservice@ofite.com).