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Lost Circulation Material Receiver

Part No. #171-193-101

Instruction Manual

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Ver. 6

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Intro

In lost circulation tests, slotted disks are often used to simulate the varying pore sizes found in downhole environments. Many slotted disks are permeable to large particles, which eventually end up in the back pressure receiver. These large particles can clog the narrow openings in standard back pressure receivers, valve stems, and bleeder valves. The Lost Circulation Receiver is designed to replace the traditional back pressure receiver when testing drilling fluids with large particles.

The Lost Circulation Material Receiver is compatible with existing PPT units. It includes a modified outlet cell cap with a wider opening for filtrate. A filter inside the receiver protects the filtrate collection valve from getting clogged by large particles. And with the standard valve stem on the top, the receiver can be pressurized with either N_2 or CO_2 pressure assemblies.

Components

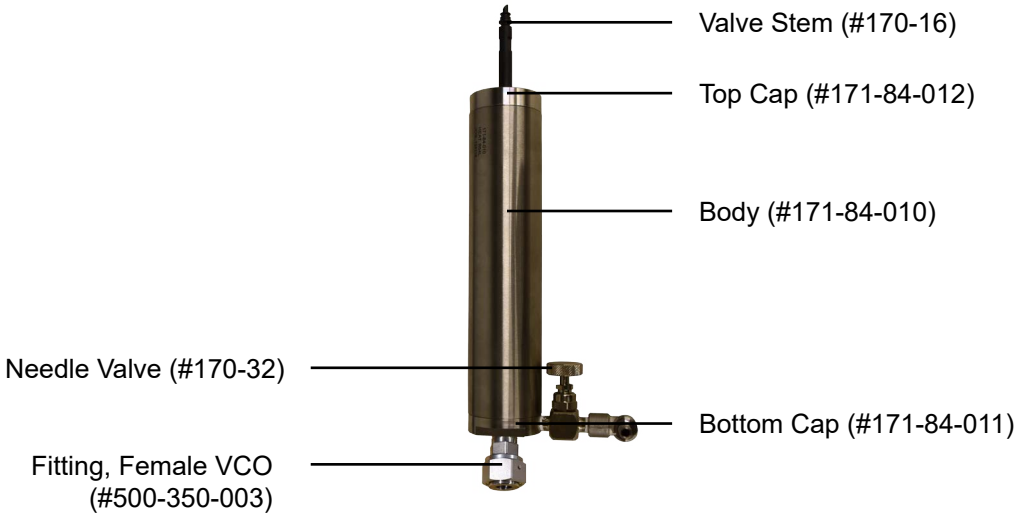
#170-16	Valve Stem
#170-32	Needle Valve, Male
#171-190-057	O-ring for Valve Stem, Viton 90D
#171-84-010	Receiver Body
#171-84-011	Bottom Cap
#171-84-012	Top Cap
#171-84-014	Filter
#171-84-015	O-ring for Receiver Cap, Viton 75D
#171-90-11	Female Elbow, 1/8" NPT
#171-90-14	Hose Barb, 1/8" NPT × 1/4"
#500-350-003	Fitting, Female VCO

Optional:

#171-84-013	LCM Cell Cap for 4000 psi PPT
#171-190-037-S	LCM Cell Cap for 5000 or 6000 psi PPT
#500-350-001	Fitting, Male VCO

Specifications

Maximum Temperature: 500°F (260°C)
Maximum Pressure: 500 psi (3.4 MPa)
Material: 316 Stainless Steel



Operation

Important

1. Prepare the test cell and fill it with test fluid according to the procedure described in the instruction manual for the Permeability Plugging Tester.

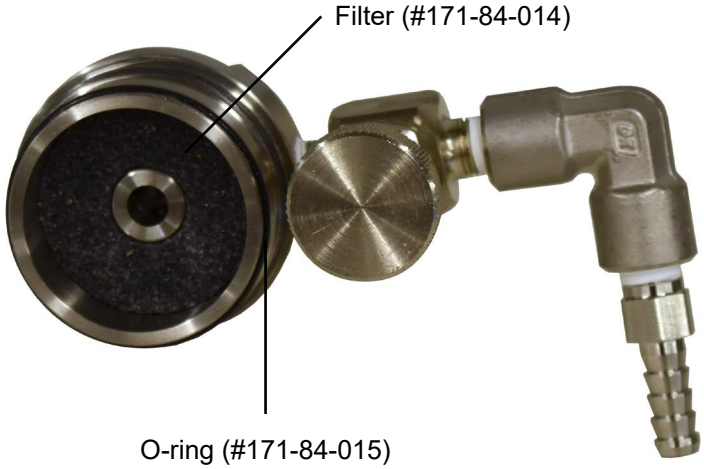
   The receiver body has a maximum volume of 250 mL. To prevent overflow, do not add more than 250 mL to the PPT test cell.

2. Place a slotted disk into the outlet side of test cell.

3. Screw the cell cap assembly (cell cap and male fitting) into the cell body and tighten completely.

Cell Cap Assembly

4. Connect the LCM Receiver bottom cap assembly (bottom cap, needle valve, and port connector) to the male fitting on the cell cap assembly. Make sure the filter is in place inside the receiver bottom cap.



5. The space between the filter media and the receiver bottom cap should be filled with water to ensure that the volume of filtrate passing through the filter will displace an equal volume of filtrate into the receiver.

    a. Pour enough water into the hole in the LCM Receiver bottom cap to fill the void space.

    b. Open the needle valve and allow the excess water to drain.

    c. Close the need valve.

6. Apply a thin coat of grease to the receiver cap o-rings (#171-84-015).

7. Place one o-ring around each cap.

8. Screw the top cap into one end of the cell body (the ends of the body are interchangeable).

9. Screw the receiver body onto the bottom receiver cap.

10. Screw a valve stem into the port in the top receiver cap.

11. Attached the CO_2 Pressure Assembly (#170-04) to the top valve stem and secure it with the safety pin (#171-23-1).

12. Apply pressure to the LCM Receiver as described in the PPT instruction manual.

13. When the cell reaches the test temperature, apply pressure with the hand pump as described in the PPT instruction manual.

Note

If the LCM fails to plug the filter media, it is unlikely the pressure in the cell will build. If the cell pressure has not increased after approximately 20 strokes of the pump, stop the test and record the results as “Total Fluid Loss”.

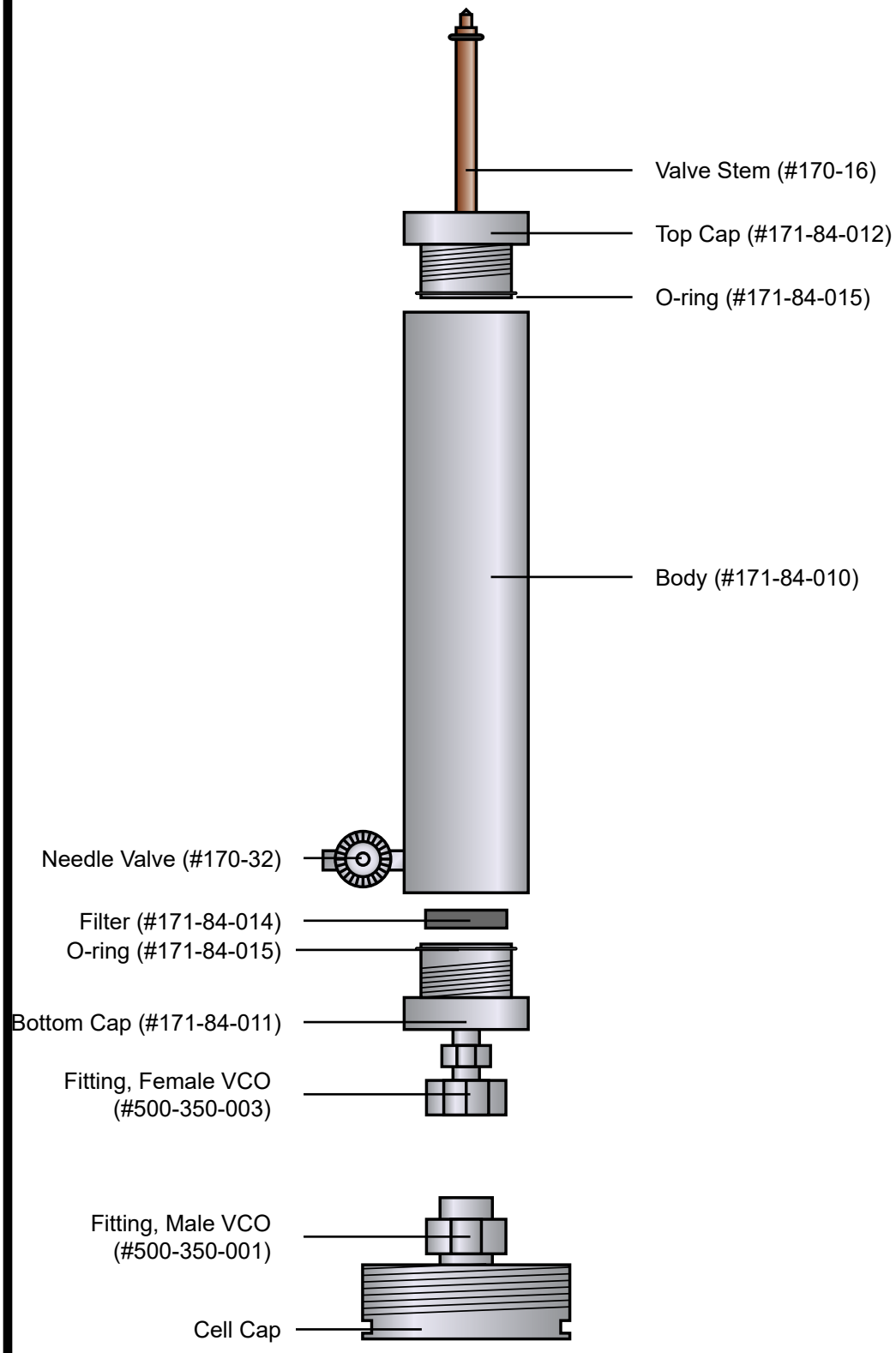
14. Collect filtrate as necessary by holding a graduated cylinder to the needle valve and opening the valve to allow fluid to drain. Then close the valve again.

15. When the test is complete, allow the cell and receiver to cool completely.

16. Unscrew the receiver body from the bottom cap. Inspect and remove any remaining solid particles left behind in the receiver body.

17. Thoroughly clean and dry all components of the cell and receiver. Replace any o-rings that show signs of damage or wear.

Diagram


Valve Stem (#170-16)
Top Cap (#171-84-012)
O-ring (#171-84-015)
Body (#171-84-010)
Needle Valve (#170-32)
Filter (#171-84-014)
O-ring (#171-84-015)
Bottom Cap (#171-84-011)
Fitting, Female VCO
(#500-350-003)
Fitting, Male VCO
(#500-350-001)
Cell Cap

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.