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# Dead-Weight Hydraulic Filter Press

**Part No. 140-75**

## Instruction Manual

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## ***Intro***

Measurements of 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.

The OFITE low pressure filter press helps determine filtration and wall cake-building properties of drilling fluids. The filter press design features a cell body to hold the mud sample, a pressure inlet, and a base cap with screen and filter paper.

The pressure cell is designed so that a 3½" (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  $7.1 \pm 0.1 \text{ in}^2$  ( $4,580 \pm 60 \text{ mm}^2$ ). Pressure may be applied with any non-hazardous fluid medium, either gas or liquid. Some models are equipped with pressure regulators and may be pressurized with portable pressure cylinders, midjet pressure cartridges, or hydraulic pressure.

The Dead Weight Hydraulic Assembly provides the operator of a standard API Filter Press with a convenient source of hydraulic pressure. This alleviates the need for a regulator, separate pressure source, or outside connections.

The assembly is composed of a water reservoir that requires a pint of fresh water for each test, a piston and cylinder, a dead weight gauge, two check valves, and a bleed-off valve. When the system is closed, the dead weight causes the piston to exert a continuous pressure of 100 PSI against the fluid inside the filter press cell. Pressure on the cell is released promptly at the completion of the test with a bleed-off valve. The hydraulic system has sufficient volume to run the complete 30-minute filtration test without further attention from the operator, and the assembly requires a minimum amount of maintenance.

# Components

#140-55 Filter Paper for Low Pressure; 3½" (9.0 cm); Box of 100

**#140-70 Dead-Weight Hydraulic Assembly:**

- #140-71 O-ring
- #141-13 Low-Pressure Air Hose; 15"
- #143-01 200-PSI Gauge; ⅛" Bottom Connection
- #144-14 ⅛" × ⅛" Hex Nipple; Plated
- #170-32 ⅛" × ⅛" NPT Male Needle Valve

- #141-00 Test Cell
- #141-01 Base Cap
- #141-02 Top Cap
- #141-04 Screen; 60 Mesh
- #141-05 Neoprene Gasket; Qty: 3
- #141-08 Bench-Mount Frame
- #141-09 Threaded Insert with Set Screw
- #141-10 T-Screw
- #141-11 Support For Graduated Cylinder
- #141-12 Support Rod
- #141-18 Thumb Screw
- #141-19 Air Hose Adapter
- #141-22 Felt Filter; Qty: 2
- #153-16 Graduated Cylinder; Glass; 25 mL × ⅓ mL

**Optional:**

#140-75-SP Spare Parts for #140-75:

- #140-55 3½" (9.0 cm) Filter Paper; Low Pressure; WLP; Box of 100; Qty: 3
- #140-71 O-ring; Qty: 6
- #141-04 60-Mesh Screen; Qty: 2
- #141-05 Neoprene Gasket; Qty: 9
- #141-22 Felt Filter; Qty: 4
- #153-16 Glass Graduated Cylinder; 25 mL × ⅓ mL