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Filter Press With CO₂ Assembly

Bench Mount: #140-30

Wall Mount, Basic: #140-00

Wall Mount with CO₂ Pressure Assembly: #140-10

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 and is a useful tool for trend analysis in a wide range of applications.

Ideally a thin, low permeability filter cake is preferred which normally produces less filtrate or water lost to formation. Field experience has shown that the amount and physical state of the colloidal content of the fluid is of paramount importance. Muds that are low in colloidal content but high in inert solids (cuttings) will produce a thick filter cake on the wall of the hole. A thick filter cake restricts the passage of tools in the well and allows an excessive and often expensive amount of filtrate to pass into permeable formation. Improper filtration control often results in numerous undesirable effects some of which include wellbore instability, caving of formations, difficulty in running casing, and enhanced surge and swabbing effects. The OFITE filter press is a valuable tool to predict and prevent such effects.

The filter press design features a cell body to hold the mud sample, a pressure inlet, a base cap with screen and filter paper, and a drain tube to discharge filtrate into a graduated cylinder. 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 the standard American Petroleum Institute (API) recommended filtration area of $7.1 \pm 0.1 \text{ in}^2$ ($4,580 \pm 60 \text{ mm}^2$). 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 (Nitrogen), midget pressure cartridges (Carbon Dioxide), or hydraulic pressure (clean tap water). The API recommends a standard cell pressure of $100 \pm 5 \text{ PSI}$ ($690 \pm 35 \text{ kPa}$) be applied to the fluid for a time period of 30 minutes. Suitable for field and laboratory use, OFITE Filter Presses have become the industry standard for low pressure/low temperature filtration testing for field and laboratory use.

Specifications

Working Pressure:	100 PSI (689.5 kPa)
Working Temperature:	Ambient
Filtration Area	$7.1 \pm 0.1 \text{ in}^2$ ($45.8 \pm 0.6 \text{ cm}^2$)
Working Volume:	400 mL
Size:	9" × 8" × 19" (23 × 20 × 48 cm)
Weight:	12 lb 7 oz (5.6 kg)

Components

#140-55	Filter Paper for Low Pressure; 3½" (9.0 cm); Box of 100
#141-00	Test Cell
#141-01	Base Cap
#141-02	Top Cap
#141-04	Screen; 60 Mesh
#141-05	Neoprene Gasket; Qty: 3
#141-09	Threaded Insert with Set Screw
#141-10	T-Screw
#141-12	Support Rod
#141-18	Thumb Screw
#141-22	Felt Filter
#143-00	Regulator
#143-01	Gauge; 200 PSI; ⅛" Bottom Connection
#143-02-10	CO ₂ Puncture Head Assembly
#143-03	Barrel for CO ₂ Cartridge
#143-06	Safety Bleeder Valve
#153-16	Graduated Cylinder; Glass; 25 mL × ⅒ mL

Bench-Mount Version (#140-30)

#141-08	Bench-Mount Frame
#141-11	Support For Graduated Cylinder
#141-12	Support Rod
#141-18	Thumb Screw

Wall-Mount Version (#140-00, #140-10)

#141-07	Wall-Mount Frame (for #140-00)
#141-16	Support Arm with Clip for Graduated Cylinder
#141-20	Frog Bracket
#141-21	Wall Bracket

Optional:		
#140-30-SP Spare Parts for #140-30:		
Part Number	Description	Qty.
#140-55	Filter Paper for Low Pressure; 3½" (9.0 cm); Box of 100	3
#140-60-01	O-ring for Bleeder Valve	2
#141-04	Screen, 60 mesh	2
#141-05	Gasket, Neoprene	6
#141-22	Felt Filter	4
#143-00-1	Diaphragm for Concoa Regulator	1
#143-02-13	O-Ring for Puncture Pin Assembly	4
#143-02-14	O-Ring for Puncture Pin Assembly	4
#143-05	CO ₂ Bulbs, 8-gram, 10/box (UN1013)	30
#143-07	Repair Kit for Concoa Regulator	1
#153-16	Graduated Cylinder, Glass, 25 mL × ⅒ mL	1

Spare parts listings are intended to be used as a reference for future purchases. Everyone's consumable requirements will be different and replacement quantities needed will depend upon the number of tests performed on a daily or weekly basis.