

**Components:**

- #110-02 Vacuum Pump with Gauge
- #141-05 Gasket, Neoprene
- #142-54 O-Ring for T-Fitting
- #152-85 Shaft Collar
- #153-55 Silicone Stopcock Grease
- #171-90-14 1/8" NPT x 1/4" Hose Barb

**Recommended Accessories:**

- #205-50 Defoamer, Silicone, 2oz (60 mL)



**Mud Deaerator**

**Item# 110-00**

**Instruction Manual**

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**Ver. 1.2**

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**Introduction:**

To accurately measure the density of drilling mud, air and other gases must be removed from the sample. This process is called deaerating the mud.

The majority of drilling fluids requires no special equipment to remove entrained air or gas prior to testing. Usually a gentle agitation together with a few drops of an appropriate defoamer is all that is necessary. Stirring with a spatula or pouring back and forth is also sufficient in many cases.

When a mud is encountered that retains air or gas after the preceding steps have been taken, the Mud Deaerator has proven to be an effective instrument for air or gas removal.

The Mud Deaerator combines the action of a stainless steel paddle (to agitate the mud sample) and a hand-operated vacuum pump, working together to draw off air and other gases.

A true fluid density reading may then be obtained using a conventional style mud balance.

**Procedure:**

1. After ensuring the mud chamber is clean and dry, fill the chamber about one-half full with the air or gas-cut fluid.
2. Add 2 to 3 drops of Silicone defoamer to the surface of the fluid.
3. Insert the paddle crank assembly and secure the lid tightly in place. A thin film of vacuum grease (#153-55) on the lid will help ensure an airtight seal.
4. Attach the vacuum line from the pump to the instrument and hold about 5 inches Hg (-17 kpa) vacuum. Check the lid for a seal.
5. Increase and hold the vacuum to about 25 to 27 inches Hg (-84 to -91 kpa) and turn the paddle crank assembly at a moderate rate of speed for 3 to 5 minutes.
6. Reduce the vacuum to 5 to 10 inches Hg (-17 to -34 kpa) and observe the fluid for any air or gas bubbles.
7. If deaeration is not sufficient, repeat steps 5 & 6 until the air has been removed from the sample.
8. With the cylinder on end, release the vacuum completely and remove the mud sample for testing.

**Maintenance:**

Clean and thoroughly dry the instrument after each use.