

Caframo Real Torque Digital Stirrer

Power and Control



New

Zero Torque Feature

 **Caframo**[®]

Zero Torque Feature in Mixing Applications.

Theory

Simply put, torque (turning force) is a measure of the force on an object such as a shaft or a propeller. For example, pushing or pulling the handle of a wrench connected to a nut or bolt produces a torque (turning force) that loosens or tightens the nut or bolt. The units used to quantify torque are Newton Meters or foot pounds.

In **Mixing Applications** the magnitude of torque depends on three quantities: First, the speed in revolutions per minute; second, the diameter of the propeller; and third, the viscosity of the material being mixed. Additionally, a small amount of torque is required to move the mixing device. This additional or *overhead* torque is generally independent of the force required to mix material and can cause some non-linear results when a torque measurement is used to compare viscosities of material being mixed.

Zero Torque Feature

The torque zero feature allows the operator to null out the additional overhead torque of the Stirring apparatus similar to a tare feature on a scale. After a *Torque Zero* only the effect of change in mixture viscosity will be reflected in the torque reading.

If used during the mixing process the zero feature allows the operator to see change in torque caused by the change in material viscosity.

Step by Step Process

1. Material Mixing Torque

The stirring apparatus is assembled complete with shaft and propeller required. The speed is selected and the stirrer is allowed to reach full speed.

Press the RPM / N-cm button



The stirrer overhead torque is now displayed.

Press the Zero Torque button. The display now reads zero.



In this mode the N-cm LED will flash to indicate that the stirrer is in zero torque mode.



The stirrer is now stopped and the vessel is filled with the material to be mixed. Bring the stirrer back up to previous speed.

Press the RPM / N-cm button.



The material mixing torque alone is now displayed.

2. Change in Material Viscosity Torque

The stirring apparatus is assembled with shaft and propeller required and placed in the mixing vessel complete with material to be mixed. The speed is selected and the stirrer is allowed to reach full speed.

Press the RPM / N-cm button



The overhead and initial material mixing torque is now displayed

Press the Torque Zero button. The display now reads zero



The display will now show the change in torque as the viscosity of the material changes. A negative number indicates a reduction in viscosity and a positive number indicates an increase in viscosity