BRINE CRYSTALLIZATION KIT

The Brine Crystallization Kit is a field-portable unit designed for measuring the crystallization temperature of high-density oilfield brine-fluids used in completion, workover and drilling operations. This kit allows laboratory-quality, easy-to-perform temperature measurements at the well-site. The Brine Crystallization Kit provides the following data, in printed format, according to ***API Recommended Practice 13J:*** FCTA (first crystal to appear), TCT (true crystallization temperature) and LCTD (last crystal to dissolve).

Brine Crystallization Kit
No. 208720

A detailed discussion of brine crystallization and the relationships of the measured parameters is found in section 2 of **API** publication RP 13J, *Recommended Practice for Testing Heavy Brines* (June 1, 1986).

API defines the values for crystallization temperature as follows:

FCTA (First Crystal to Appear): During the cooling cycle, the temperature at which visible crystals start to form. FCTA will generally include some super-cooling effect (cooling below actual crystallization temperature).
TCT (True Crystallization Temperature): During the cooling cycle, the maximum temperature reached following the super-cooling minimum, or the inflection point in cases with no super-cooling.
LCTD (Last Crystal to Dissolve): In the heating cycle, the temperature at which crystals disappear, or the inflection point on the heating curve.

- ***Eliminates thermal stratification***
- ***Improves reproducibility of crystallization points***
- ***Allows accurate control of cooling and heating rates***
- ***Provides precise and accurate temperature printouts***

The Cold Plate Magnetic Stirrer literally pumps thermal energy down the drain. As power is applied to the rugged thermoelectric modules, heat is transferred from the cold plate to the heat exchanger. The heat exchanger is maintained at tap water temperature by a hose connection to the 1/4 inch tubing at the rear of the instrument. A flow of one liter of tap water per minute through the heat exchanger is sufficient to carry excess heat down the drain.

The Cold Plate Stirrer has a low temperature limit approximately 40°C below that of the tap water, e.g. using 20°C tap water the cold plate will cool to -20°C; with 10°C tap water the plate cools to -30°C. Equilibrium at a given power setting is reached in 2-3 minutes for temperatures from +25°C to -20°C.

This Cold Plate, recommended for solution volumes up to 200 ml, uses a three inch cold plate from which heat is extracted at an initial rate of 130 BTU/hr.

Specifications:

Power required	110 VAC, 1.0A
Dimensions	7.25 X 5.50 X 4.75 inches
Weight	8 pounds
Top Plate	3" diameter
Cooling Power	130 BTU/hr

Order No. 208720 - Brine Crystallization Kit

Kit includes the following components:

Description	*Part No.*
Cold Plate Magnetic Stirrer	206014
Electronic Printing Thermometer	206048
Stirring Bar	206000
Thermometer Probe	206045
High Intensity Light	208431
Nucleating Agent	209953
Instructions	204232
High Impact Plastic Case	203622

*Fann offers a complete line of instrumentation for testing **completion fluids** in accordance with **API** Recommended Procedures*

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