Compass Directional Guidance, Inc.

Your Source for Reliable & Modular MWD Technology Systems

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TECHNICAL DATA SHEET

Gamma Calibration Block

Description

Compass provides a gamma calibrator that is directly tied into the API test pits. In less than half an hour, one can obtain an API calibration for the probe. As the tools are run downhole repeatedly, pre-set calibrations from the factory become obsolete. The calibrator makes relying on these a thing of the past and instead places the accuracy of your tools in your hands.

Spreadsheets are provided that allow for the easy calculation and tracing of the API/cps ratios. Easily compare before and after calibration and track tool histories with a few clicks of the mouse.

Even a perfectly calibrated probe will not give the correct formation API values when run downhole. One must take into account the very complex environment in which the tool is run. This is where the calibration software takes over.

Gamma Calibration Block Specifications	
Borehole Size	3.5” - 20”
Collar OD	3.5” - 9”
Collar Thickness	0.5” - 3”
Mud Types	Light muds ranging from 0 - 13 lb/gal (0 - 1.56 g/cc) Barite muds ranging from 8.34 - 18 lb/gal (1 - 2.16 g/cc) Hematite muds ranging from 8.34 - 20 lb/gal (1 - 2.4 g/cc)

Software Features

- Uses as input the thickness and weight per foot of a drill collar and produces a drill collar correction factor as an output. Presently uses 7.81 g/cc default collar density.
- Uses as input the borehole size, the eccentering of the tool, the collar OD & ID, and the KCl concentration of the mud to obtain the count rate due to mud as output. This count rate is subtracted from the total count rate.
- Uses as input the borehole size, the eccentering of the tool, the collar OD & ID, and the mud weight and type to obtain a correction factor for borehole absorption as an output.
- Utilizes the calibration factor and the software listed above to obtain the following three curves:
  - A calibrated probe API value
  - A calibrated collar API value
  - A calibrated environmental corrected API value