



WD-Series Coils - AC Option



Ganged DC/AC
Paddle Switch

The AC Option has been available on WD-Series Coils for many years. The development started with the hope of having an AC End Area Coil that would be suitable for both Pin and Box end threads, due to the ease of inspection (particle mobility) of an AC Magnetic Field. However, even after building a special Coil with a 10,000 Amp Turn Output of AC it was proven that AC could not be used on Box Ends.

As a result of this development program, the AC Option was introduced because of the enhanced Demagnetization capability. We found it was cost effective to be able to provide the AC Option with a 4000 Amp Turn output on a standard 15 Amp Breaker (115VAC) and 5000 Amp Turns on an 8 Amp Breaker (230VAC).. This output is higher than any other portable AC Coils (WA-Series), which are limited to about 3000 Amp Turns. WD-Series Coils, with AC Option can be equipped with even higher output, but they would need to be

connected to 20 Amp (115VAC) or 12 Amp (230VAC) outlets with special receptacle plugs.

Several versions of controls have been used for activating the AC version, but we have come back to the original method of 3 "Ganged" toggle switches (AC/DC Paddle) illustrated to the left.

While the AC Option might be used for inspection, it is really intended to enhance the Manual Reversing / Reducing DC Demagnetization capabilities that have made WD-Series Coils so popular. Originally, the AC Option's output was fixed at the maximum output, however today the variable amperage knob allows the operator to start at maximum and progressively lower the AC Output as a Ring Down feature. The AC Option is not intended as a primary Demagnetization feature, as the weaker AC Field only produces a "Skin Effect" and Reversing / Reducing DC is recognized as the most effective way to remove a magnetic field.

When the operator has finished testing the workpiece, he normally performs a reversing DC Demag Cycle. When he is finished, and the work piece has a low residual field (+/-3 Gauss), he can fully demagnetize the workpiece by placing the coil in AC Mode, by simply changing the paddle position. The AC amperage is not indicated on the LCD, however operators are instructed to activate AC at the maximum setting and with the Energized Button pressed, slowly turn the Amperage Intensity Knob to Zero.

The Duty Cycle of a WD-Series Coil, while in AC mode, is 75%, which means the unit can be operated for extended periods of time without overheating the Core. This time should not exceed 5 minutes on, followed by a 2 ½ minute cool down cycle.