Western Instruments
Established 1965

November, 2016

WDV-25PD

WDV-25-PD centered on a 16” Pipe. The operator first measures the field strength at the end of the pipe, noting if the polarity is positive or negative. He switches the controls so the opposite polarity will be induced. Based on the field strength he adjusts the amperage control to one he knows will remove the field.

Many Engineers question how the operator knows what the field strength should be, as there is little empirical data other than field strength and polarity. This can be compared to how a side boom operator knows how fast to change the angle of his boom, and how quickly he stops the raise or decent. With a Demag Coil operators simply develop a feel for the Response of the control inputs and the corresponding response to these inputs.

Cycle time to Demag two abutting ends is less than 2 minutes, which is mainly due to handling the Coil. After these ends are Demagnetized, the Coil is moved to the next joint. Larger Coils such as the WDV-25-PD require a light utility crane to handle as they weigh 80kg (175 pounds). Large Demag Coils can be used on small diameter pipe. During training, these operators could Demagnetize 4 ½” (114mm) or smaller pipe, as the limitation is based on the ability to handle a Coil on and around smaller Pipe. In more practical terms it makes sense to use smaller Coils on smaller pipe.

Western’s Demag Coils can be operated from a Mobile Power Supply that produces clean AC Power. Coils for Pipeline Pre-Weld Demagnetization are purchased for 230 Volt Power, with a coil that has been manufactured for the typical domestic frequencies.

Both pictures shown here have the operator with their hand next to the bevel of the Pipe, holding their Gauss Meter (Pocket Magnetometer), which provides them with a macro-reading of the field strength and direction at the land of the bevel. Readings from Digital Magnetometers (Hall Effect) jump very rapidly, confusing the operator, as magnetic fields change rapidly from one position to the next. Welders have no problems (or complaints) welding with a field strength of +/-3 Gauss. With faster production and less chance of Radiographic or UT indications, translating into faster and better quality welds!