

Western Instruments Pipeline Pre-Weld Demagnetization



<https://youtu.be/AmINgwbJCHM>

Western's WDV-PD Series Coils are developed for pre-weld demagnetization. If pipes are magnetized, welders will experience Arc Blow, which will lead to weld defects.

Coil Model	Minimum OD Size	Maximum OD Size
WDV-8-PD	1.9" (48mm)	7 1/2" (190mm)
WDV-10-PD	2 3/8" (60mm)	9 5/8" (244mm)
WDV-14-PD	4 1/2" (114mm)	12 3/4" (324mm)
WDV-16-PD	9 5/8" (244mm)	14" (356mm)
WDV-18-PD	10 3/4" (273mm)	16" (406mm)
WDV-25-PD	16" (406mm)	24" (610mm)
WDV-32-PD	24" (610mm)	30" (762mm)
WDV-38-PD	30" (762mm)	36" (914mm)
WDV-44-PD	36" (914mm)	42" (1067mm)
WDV-50-PD	42" (1067mm)	48" (1219mm)
WDV-60-PD	48" (1219mm)	56" (1422mm)

The cycle time to Demag, after the Coil is placed on the end of a Pipe, is less than 30 seconds. The Reversing and Reducing DC Demag lasts for over a week, requiring a Demag Crew work ahead of the Welders, not slowing production.

Coil Models from the WDV-14-PD and below weigh less than 60 Pounds (27kg) and are intended to be handled manually by the operator. The WDV-16-PD weighs just over 100 Pounds (45kg) and is intended to be positioned with a utility crane. The WDV-60-PD weighs just over 1000 Pounds (455kg),

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requiring the use of a dual wheel truck with a bumper mount crane. The same truck will require a generator appropriately sized for the Coil. A WDV-8-PD requires 1500 watts, while the WDV-60-PD requires 15 Kilowatts, making a 1 ton truck acceptable. Most modern engine driven Welders as used on a Pipeline Right of Way, have sufficient AC Power for even the largest WDV-PD Coils.

To ensure Demagnetization has been achieved, operators need to use a gauss to check the pipes weld bevel. Generally an acceptable level of magnetization for welding (manual or automatic) is a field of +/- 3 Gauss.