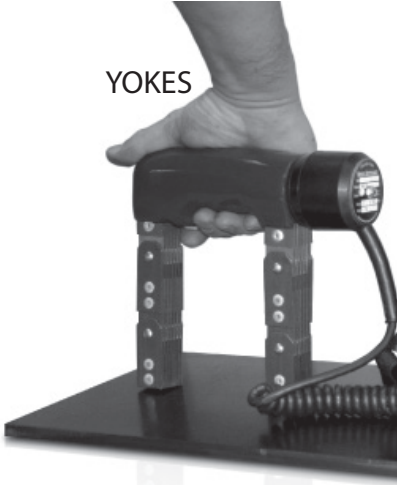


# W-Series

## Portable MPI Equipment Kits & Accesories

YOKES



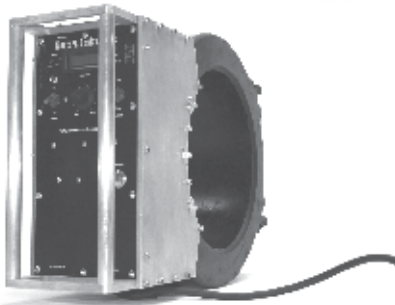
### FEATURES

- Compact
- Light Weight
- Comfortable to Handle
- High Quality Power Cord
- Rugged Strain Relief / Cord Protector
- Sealed Switch
- Urethane Rubber Housing
- CE / UL / CSA Approval

### ACCESSORIES

- Inspection Booths
- Pocket Magnetometers
- Pull Test Bars
- Pie Gauges
- QQI's
- Castrol Strips
- Centrifuge Tubes
- MTU Blocks

COILS



KITS



# Western Instruments

Established 1965

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The W-Series of Portable Magnetic Particle Inspection Equipment is manufactured by Western Instruments. These portable tools consist of 14 models of Yokes, 10 Models of Coils, Mobile Inspection Stations, and Accessories.

## **INTRODUCTION TO W-SERIES YOKES**

Virtually all of our Yokes are Compact in size, making them lighter and more comfortable to hold than other competitive models, but still meeting industry specifications. Our Yokes are offered in 2 Basic Design Types, the WC and WE-Series. Construction materials and techniques used in the manufacture of W-Series Yokes ensure they outlast any competitive products.

WC-Series Yokes are not like traditional designs of Yokes. Switching the power load is done with an easily replaceable electronic Power Module, housed between the Power Cord and the Yoke's internal coil. As the Module handles the load, the finger activation switch only handles half a watt of power and is why we warranty this switch for 2 years.

WE-Series Yokes are only similar to traditional designs of Yokes in that we use a typical switch found in most competitive Yokes. Unlike competitive designs, WE-Series Yokes use Western's superior Power Cord Strain Relief assembly. This same series of Yoke has resulted in our WE-3LT, which is the Worlds Lightest and most comfortable Yoke.

## **AC YOKES**

### **WC-6 AC Safety Yoke**

The WC-6 is the W-Series AC Safety Yoke, as it is totally grounded (Switch, Module, Frame, and Coil), giving the operator confidence in his electrical protection.

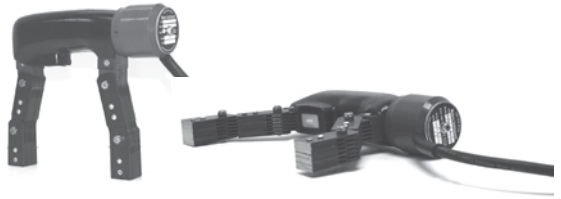
Western offers models similar to the WC-6, but designed for low voltage operation common in Europe (42 and 48 VAC). The success of the WC-6 lead to the development of Western's WC-6x2, designed for testing coated workpieces, as it lifts over 20 pounds (9kg). The WC-6 is available in Water Resistant and Underwater versions.



Models: WC-6 (115V)  
WC-6K (230V)  
Current: 4 Amps (115V/60Hz), 2 Amps (230V/50Hz)  
Weight: WC-6 - 6.5 Pounds (3Kg)  
Voltage: 115 (WC-6) and 230 (WC-6K)  
Frequency: 50 or 60 Hz  
Lift: 10 Pounds (4.6Kg) Minimum  
Capacity: 0-11" (280mm)  
Cord: 8', 3-18 SOOW  
Finish: Red Urethane Rubber

## WE-3HD

### Heavy Duty Standard AC Yoke



Voltage:	115 and 230 VAC Nominal (12VDC)	Cord Length:	8'(2.5m), AWG3-16 SOW
Models:	WE-3HD (115 Volt) WE-3HDK (230 Volt)	Lift:	10 pounds (4.6kg) minimum
Current:	4.0 Amps (115V), 2 Amps (230V)	Capacity:	0 to 11" (280mm)
Frequency:	50 or 60Hz	Finish:	Black Urethane Rubber
		Weight:	7.2 pounds (3.3kg)

The WE-3HD is not our lowest price Yoke, that position is held by the WE-3, which uses the same low cost power cord and strain relieve as competitive Yokes.

## WE-3LT

### Light Weight AC Yoke



Standard Yoke

Voltage:	115 or 230 VAC Nominal
Models:	WE-3LT (115 Volt) WE-3LTK (230 Volt)
Current:	4.0 Amps (115V), 2 Amps (230V)
Weight:	5.2 Pounds (2.4Kg)
Cord Length:	8' (2.5m), 3-18 SOOW
Frequency:	50-60 Hz
Lift:	10 pounds (4.6kg) minimum
Capacity:	0 to 11" (280mm)

The WE-3LT lifts over 5kg (10 Pounds), but is far more compact than any other AC Yoke. This model uses Grain Oriented Iron Laminations, so there is 40 less weight and size than any other AC Yoke.

## W-6CS

### Cavity Access AC Yoke (WE-Series)



Model:	W-6CS or W-6CSK
Voltage:	115VAC @ 60Hz or 230VAC @ 50Hz(K)
Current:	4 Amps(115VAC) or 2 Amps(230VAC)
Lift:	10 Pounds (4.6kg) minimum
Pole Spacing:	0 - 15" (0 - 380mm)
Weight:	8 Pounds (3.6kg)
Power Cord:	8 feet, 3-16 SOW
Housing:	Urethane Rubber

This Yoke was developed was due to customer requests for safer and faster Wet Method Inspection in tight spaces or unusual work piece configurations, such as inside pump housings, castings, etc.

## AC/DC Yokes

### WE-7 • AC/DC Yoke



Models:	WE-7 (115V) WE-7K (230V)
Voltage:	115V/60Hz or 230V/50Hz
Current:	4.0 Amps (WE-7) 2.0 Amps (WE-7K)
Cord Length:	12'(3.7m), 3-18 SOOW
Lift:	AC-10 pounds (4.6kg) DC-50 pounds (23kg)
Capacity:	0 to 11" (0-280mm)
Finish:	Black Urethane Rubber
Weight:	7.5 pounds (3.5kg)

The WE-7 is Western's 5th generation of AC/DC Yoke, and finally the industries most rugged and reliable unit. The output field is changed from AC to DC with a simple toggle switch, however DC intensity can be infinitely adjustable for operator convenience.

## DC Yokes

### WC-8 • 12 Volt DC Yoke



Weight:	6.5 pounds (3kg)
Voltage:	12 Volts DC
Current:	1 Amps
Capacity:	0 to 11" (280mm)
Lift:	50 Pounds minimum (23kg)
Cord:	2' Coil, extends to 6'
Finish:	Red Urethane Rubber
Charger (Gel Cells):	100 to 250VAC, 50 to 60 Hz
Batteries:	3, 7, & 12 Amp Hour

Offered with 3 different models of Battery Packs, and a universal 100 to 240VAC Charger. The WC-8 draws less than 1 Amp, so even the smallest battery pack gives an inspector a full day of testing capability. A dual output battery pack allows the connection of a 12 Volt UV Lamp.

## WC-9 Cordless DC Yoke



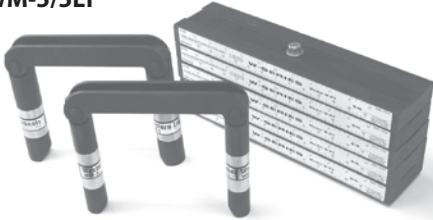
Models:	WC-9
Voltage:	Battery - 13.2 VDC
Charger:	100 to 250 VAC, 50 to 60 Hz
Amperage:	Yoke - 0.5 Amps @ 13.2 VDC
Battery:	3 AMP Hour, NiMH
Capacity:	0-11" (280mm)
Lift:	50 Pounds (23Kg) Min
Weight:	7.8 Pounds (3.5kg)

The WC-9 draws 1 Amp, so the 13.2 Volt Battery (3 Amp Hours) provides a full 3 hours of continuous operation, or a full working day for most inspectors. The individual cells of the WC-9's Battery Pack are not 'potted', so the Pack can be rebuilt. The universal 100 to 240VAC Charger allows the WC-9 to be used anywhere in the World.

## PERMANENT MAGNET YOKES

The W-Series product line includes 3 different models of Permanent Magnet Yokes. These models consist of two traditional hinged frame models and a Cable type configuration, for high performance needs. All 3 models use Rare Earth Magnets, that lift 60 pounds (27kg), so recharging isn't required.

### WM-5/5LT



Capacity: All are >50 Pounds (23 Kg)	
Field Strength with Tips in Contact:	
WM-5	9200 Gauss
WM-5LT	8500 Gauss
Field Strength with 2" (50mm) Air Gap:	
WM-5	510 Gauss
WM-5LT	380 Gauss
Pole Spacing:	
WM-5	0-14" (0-350mm)
WM-5LT	0-14" (0-350mm)
Weight:	
WM-5	5 Pounds (2.3 Kg)
WM-5LT	3 Pounds (1.4 Kg)

The Hinged Frame Models have exclusive Dual Contact Surface contact feet, that rotate to ensure a maximized contact field. The WM-5 is of a similar size to competitive models, with the WM-5LT being far lighter and smaller.

### WM-5C



This cable configuration allows a great deal of flexibility to conform to many different workpieces, with the ergonomic hand grips ensure easy removal from the workpiece.

Capacity: >50 Pounds (23 Kg)	
Field Strength with Tips in Contact:	
WM-5C	10900 Gauss 2mm (0.80") Air Gap
Field Strength with 2" (50mm) Air Gap:	
WM-5C	5700 Gauss (Single Pole Only)
Pole Spacing:	
WM-5C	0-24" (0-610mm)
Weight	
WM-5C	2 Pounds (0.9 Kg)

## Portable MPI Kits

Wetsern Instruments offers 6 different MPI Kits, which are available in 4 different sizes of cases. Kits consists of; case, consumables, and accessories.



Basic Dry Method, (W-DMB)



Basic Wet Method (W-WMB)



Wet Visible (W-WM)



Deluxe Dry Method (W-DM)



Wet/Dry Method (W-WD)



Wet Fluorescent (W-WF)

## INTRODUCTION TO W-SERIES COILS

The W-Series includes 2 general groups of Coils, WA-Series of light duty Coils, and the WD-Series of powerful heavy duty Coils. WA-Series Coils are built around a standard 10" (250mm) ID AC platform and are offered in AC output and AC/DC Output. WD-Series Coils are powerful DC Coils offered in 6 ID Sizes, that out power even the largest Power Packs.

### WA-SERIES

WA-Series Coils are offered as the WAC-10 (AC Output) and the WAD-10 with an operator selectable AC and Variable DC Output. WA-Series Coils are intended to be hand held, and are activated by a Push Button pressed by the operators thumb. WA-Series Coils are also offered with a Foot switch and molded feet for bench top use.

WA Series Coils operate from either 230/50 or 115/60 power. Outputs are over 3000 Amp Turns in AC and 4000 Amp Turns in DC. WA Series Coils operate form similar electronic Power Modules that are used on WC-Series Yokes.

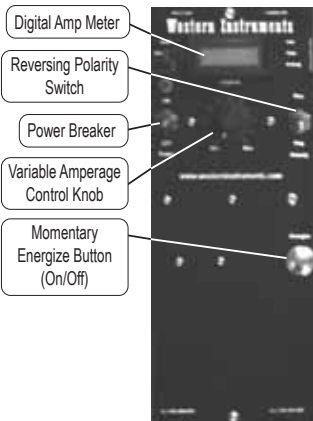


	WAC-10	WAD-10
Voltage:	115 or 230 VAC (WAC-10K)	115 or 230 VAC (WAD-10K)
Frequency:	50 or 60Hz	50 or 60Hz
Output AC	3000 Amp Turns	3000 Amp Turns
Output DC	-----	4000 Amp Turns
Size	10" ID (250mm)	10" ID (250mm)
Current	13 Amps @ 115 VAC 7 Amps @ 230 VAC	13 Amps @ 115 VAC 7 Amps @ 230 VAC
Weight	14.5 pounds (6.6kg)	14.8 pounds (6.7kg)

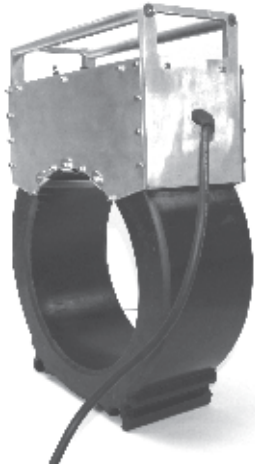
\*Options: Cast Feet, Handle, Foot Switch.

### WD-SERIES

WD-Series Coils are Western's premier products, that have gained a World Wide reputation. The WD-Series Power Supply, mounted to the top of the Coil, offers the operator Infinite Variable Control on the DC Output of the Coil. All WD-Series Coils have a DC output greater than 1,000 Amp Turns per inch of ID, meeting the most stringent specifications. WDV-Series Coils have gained a very favorable reputation for their manual Reversing DC Demagnetization capability.



Model:	WDV-Series: 60 Hz Models – WDV-8, WDV-10, WDV-14, WDV-16, WDV-18, & WDV-25 50 Hz Models – WDV-8K, WDV-10K, WDV-14K, WDV-16K, WDV-18K, & WDV-25K.
Voltage:	115 VAC – 60 Hz or 230 VAC – 50 Hz (Nominal). *WDV-16, WDV-18, and WDV-25 are 230V (50 or 60Hz) only.
Current:	60 Hz Models WDV-8 and WDV-10: 0 to 13 Amps, WDV-14: 0 to 15 Amps WDV-16: 0 to 18 Amps, WDV-18: 0 to 20 Amps, WDV-25: 0 to 26 Amps. 50 Hz Models WDV-8K and WDV-10K: 0 to 7 Amps, WDV-14K: 0 to 8 Amps WDV-16K: 0 to 10 Amps, WDV-18K: 0 to 11 Amps, WDV-25: 0 to 14 Amps.
Output Capacity:	WDV-8 and WDV-10, 0 to 11,000 Amp Turns, WDV-14, 0 to 14,000 Amp Turns WDV-16, 0 to 16,000 Amp Turns, WDV-18, 0 to 18,000 Amp Turns, WDV-25, 0 to 25,000 Amp Turns. *With the AC Option, the output for all models is over 5000 Amp Turns.
ID Size:	8 1/2" (219mm), 10 1/2" (270mm), 14" (355mm), 16" (406mm), 18" (457mm), and 25" (635mm).
Depth:	All Coils are 6" (152mm), Control Panel is 6 1/2" (165mm).
Weight:	WDV-8, 40 Pounds (18kg), WDV-10, 45 Pounds (21kg), WDV-14, 55 Pounds (25kg), WDV-16, 110 Pounds (50kg), WDV-18, 205 Pounds (94kg), and WDV-25, 352 Pounds (160kg).
Options:	AC Option, Pulsed DC, ID Wear Bars (Upper & Lower), Automatic Ring Down, Removable Power Cord, an Foot Switch.



Reversing DC Demag is accomplished by Reversing the Polarity Switch, Reducing the Amperage followed by a brief shot, by Energizing the Coil. This Reducing - Reversing step is repeated, until the Field is reduced to a desirable level. The AC Option can be selected if the operator wants to Demag small parts, or must inspect in an active AC Field. The AC Option is also variable and provides an output of 0 to over 5000 Amp Turns.

The output from WD-Series Coil might be referred to as Rectified DC, but as the current passes through over 1000 Turns of wire, the field is virtually Full Wave DC. To aid particle mobility, WD-Series Coils are also offered with a Pulsed DC Option, for a true Active Field inspection. When set on Pulsed, the Coil is turned off and on at over 80 times per minute, again with a fully variable output.

These powerful WD-Series Coils operate from just 230/50 or 115/60 AC power. As an example, the popular WDV-10 provides over 10,000 Amp Turns, with a current draw of only 6 Amps (230/50), and weights less than 21kg (45 pounds).

### **W-IC INSPECTION BOOTHS**

W-Series Products include mobile and fixed Inspection Booths. These W-IC Booths are offered in a standard width of 800mm (32"), and in lengths of 1000mm (40"), 1.8m (6'), 2.4m (8'), or longer. Specifications for W-IC have not been listed as configurations are numerous. Inspection Booths are used in conjunction with Yokes and Coils, on either a batch or production basis. However, they have been fitted with small Power Packs and fixed or split coils.

Inspection Booths are typically supplied with a Wet Fluorescent Bath Agitation and Supply (recirculation) System. Inspection Booths include White, and UV Light sources under there Hood and Exhaust Fan. Hoods can be either fixed or with a retraction system. To supply these features a power bar, with individual switches, is mounded under the hood to independently control inspection equipment (Yoke, Coil, UV Lamp) and accessories (White Light, Fan, Bath Pump).

To assist in an effective inspection or to aid the operator, Inspection Booths can be supplied with workpiece support fixtures, such as Steady Rests for round or cylindrical parts or parts shelves to for small parts. Due to the portable nature of the equipment (Yoke and/or Coil), parts can simply be supported by the operator during magnetizing, application of bath, inspection or demagnetization. However, Coils are often suspended from the ceiling of the booth, or fixed to Coil Carts on longitudinal travel rails.



## MPI Accessories

The W-Series Product Line offers numerous Magnetic Particle Operating Accessories, to evaluate magnetism, equipment performance, defect sensitivity, etc.



W-FI, Pocket Magnetometers  
W-FI-10, W-FI-20, W-FI-50



W-PT, Pull Test Bars  
10 Pounds (4.6kg), Stack of 4 or 5 w/Fastener  
W-PT-DB, 10 Pound Bar w/Artificial Defects



W-PG, Pie Gauges



W-CT, Centrifuge  
Tubes  
and Stands



MTU No. 3,  
ISO 9934-2 Type 1



QQI's (all 5 types)



Castrol Strips (Type I & II)



W-KT, Ketos Ring

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