



# Western Instruments

Established 1965

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## Yoke Housing/Hand Grip

When entering the Portable MPI Equipment market Western Instruments set out to develop; safer, more compact, rugged, and reliable Yokes. End Users wanted Yokes to be lighter and more comfortable to hold. The comment was “try holding this thing over your head all day”, so we listened.

Due to the use of the relatively large switch used in competitive Yokes and very little attention to ergonomic design of the hand grip, traditional Yokes tend to be bulky and uncomfortable to hold. WC-Series Yokes use a small, low profile switch combined with ergonomic design practices resulting in a smaller hand grip. This makes WC Series Yokes comparatively more comfortable to hold, and reduces operator fatigue. Furthermore, the throw of the WC-Series switch is less than 1/3 of a Licon Series 11 switch, combined with less than half of the operating force provides the operator with less finger strain.

Many end users desire lower cost equipment, compromising safety, reliability, and comfort, so Western introduced the WE-Series of Yokes. Cost reduction was achieved by utilizing the standard Licon Series 11 snap action switch, however internally they are based on our Compact WC-Series Frame. While not as comfortable to hold as the WC-Series, due to the bulky switch, they do offer some of the same benefits due to the size of the compact frame. The new WE-3LT also uses the Licon switch, but when combined with its substantially smaller frame, it becomes the Worlds Smallest and Lightest Yoke. The small frame size was achieved with a proprietary iron lamination material and specially selected wire.



Housing Damage has been a complaint of End Users for many years, as the housings of competitive Yokes are made from Hard Plastics. Typical handling of Yokes tends to be rough and will result in cracking of the housing, followed by spalling, as illustrated, on the Yoke to the left. These problems were put to rest by all W-Series products, as the Housing and Hand Grip are made from Hard Urethane Rubber. The end result is W-Series Yokes bounce when they fall onto concrete, even if the ambient temperature is -40°C, as it often is in Western Canada.

Some competitive Yokes have the Lamination Frame and Wire Coil housed in an assembled plastic housing. Here the housing is made of two separate halves that are fastened together. The more robust of these have the halves glued together, followed by filling the internal annulus with a pourable potting compound. Over time, the adhesive holding the halves together can fail, resulting in large split seams and safety concerns.

The most common method of connecting the housing halves uses mechanical fasteners, in line with the holes located in lamination frame. The fasteners extend from one housing half, through the holes in the lamination frame, to the second housing half. Great care is taken to fit the halves as well as possible, but there are many components that are held in place by the poor clamping force of the plastic halves. Some manufacturers have attempted the use of aluminum housings, but combined with the close proximity to the wire core and internal auxiliary wiring, creates an unnecessary hazard.

These clamped components are; the Activation Switch (1), Field Selection Switch (2), DC Intensity Potentiometer (3), Control Circuit Board (4 - internal). the Power Cord Strain Relief (5), and finally the adjustable Pole Pieces (6). This mechanical method provides no seal from the outside environment, thus using this assembly technique and the use of Wet Method media is inherently very dangerous.

