Western Instruments

Established 1965

LP-5C

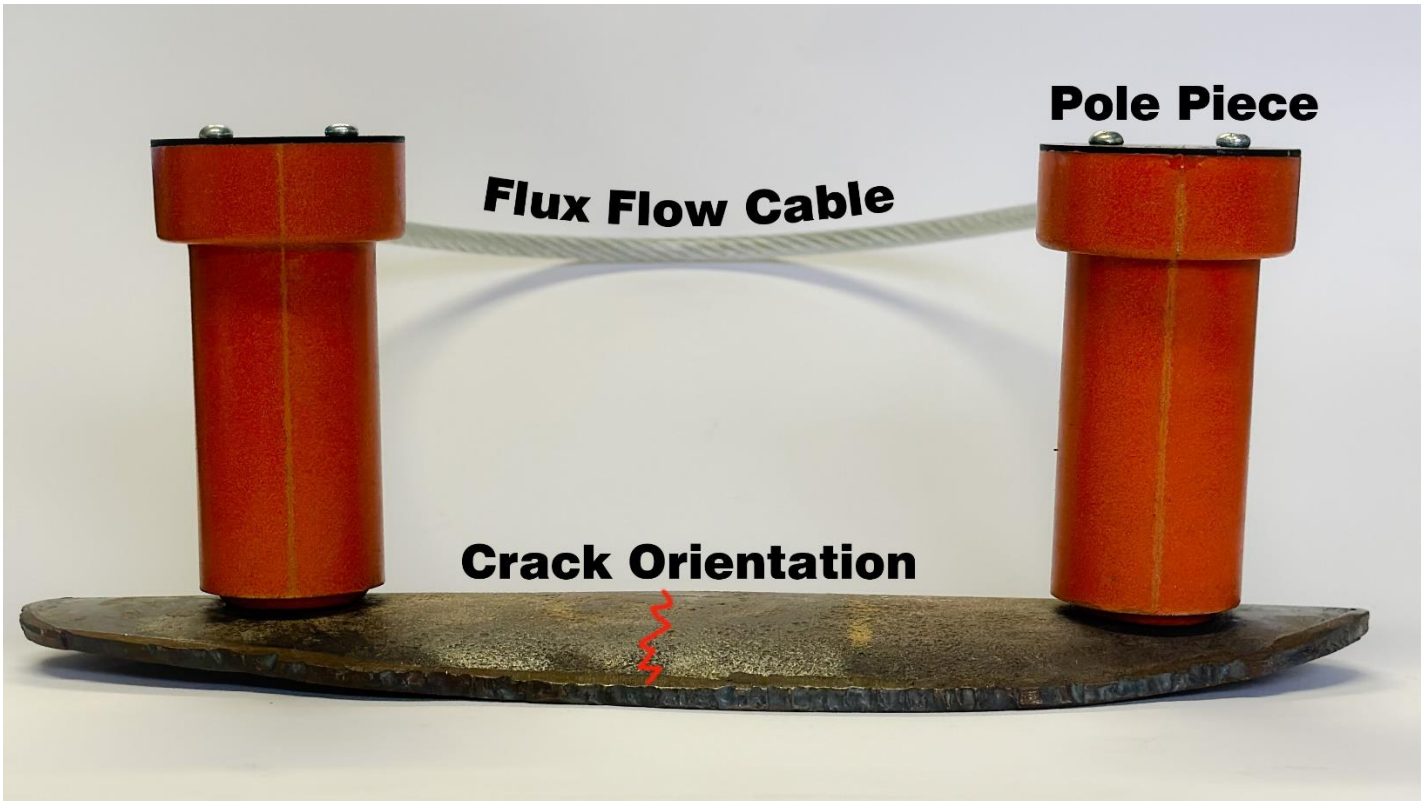
Operating Instructions

Permanent Magnet Yokes

NDT Supply.com, Inc.
7952 Nieman Road
Lenexa, KS 66214-1560 USA

Phone: 913-685-0675, Fax: 913-685-1125
e-mail: sales@ndtsupply.com, www.ndtsupply.com

***Cable Type Permanent Magnet Yokes (LP-5C, WM-5C)**, induce a magnetic field into the ferrous material being tested. These Yokes should be used within the parameters set in this specifications and guide.*



1. Operational Parameters

The 5C-Series utilizes the highest specification of Rare Earth Permanent Magnet Cartridges available, so re-magnetization is never required. These cartridges are housed in the illustrated Magnet Housings, and under normal operating conditions, can be expected to maintain their strength for many years.

Magnet strength can be diminished if the Yoke is exposed to extremely high magnetic fields, high temperatures, or impact. Magnet strength can be reduced if the cartridges are scratched or cracked so rough handling should be avoided.

When new, 5C-Series Yokes are tested to over 50 Pounds (23kg) lift, so over an extended period, or with slightly worn Pole Pieces they will continue to meet applicable specifications. For traceability, the Serial Number is placed on each unit.

2. Operation

The area between the pole pieces is your target area, which also extends laterally out, approximately 1.5” (38mm), from the centerline between the Pole Pieces. The Field will expose defects that are transverse to the centerline between the Pole Pieces. The Pole Pieces should be positioned, so that as much of their contact surfaces are on the work piece. Magnetic particles are applied. Dry Method Particles are dusted between the Pole Pieces and over the target area, while Wet Method Particles are sprayed in a similar manner.

All Cable Type Permanent Yokes lift more than required by industry specifications, however these same specifications will reference maximum pole spacing. This pole spacing is more critical than lift for testing, As the magnetism travels from the negative field on one pole, it then flows through the workpiece to the opposite or positive pole and retunes through the cable to the first pole. The maximum pole spacing can not exceed 150mm (6”), however the extra pole spacing on WM-5C allows convenient positioning of poles for maximum contact to the workpiece, while maintaining a specified pole spacing. The LP-5C’s poles are rotated to maintain the pole spacing’s. The Inspector would have to try to exceed this maximum 150mm (6”) pole spacing on the LP-5C.

To remove Cable Type Permanent Yokes from the workpiece, rock the Poles so the Pole Pieces are slightly angled against workpiece. This drastically diminishes the lifting power of the Yoke, so it is easily removed with a gentle pull.

3. Field Characteristics

The DC Magnetic Field is stronger than an AC Field and tends to penetrate the work piece more deeply, however DC is still sensitive to surface defects. Inspection media tends to adhere to the entire target area of the work piece, due to the reduced particle mobility, and may need to be ‘blown off’ to fully reveal an indication.

4. Storage

All Cable Type Permanent Yokes, when not in use, should be left with the Pole Pieces together. With the WM-5 and WM-5LT, this means simply allowing the Pole Pieces to come together. The WM-5C has more than sufficient length to bring the face of the Pole Pieces together.

5. Maintenance

After extended use the Yoke should be cleaned with a mild soap solution. We recommend using *LPS 3® Heavy Duty Corrosion Inhibitor* and an old toothbrush. The unit should be visually inspected for any damage that could cause harm to the operator, or the material being inspected. Any potential problems to a WM-Cable Type Yoke must be reported to the Distributor or Western Instruments for instructions on corrective action.

Whether industrial specifications are being observed or not, the Yoke should be tested periodically, using certified Pull Test Bars such as the W-Series W-PT®, to ensure it continues to lift the specified amount of weight. If the unit fails such a test, first inspect the Pole Pieces to ensure they fully contact the test weight. If the unit continues to fail, contact the Distributor or Western Instruments for instructions on corrective action.

Warranty

Western Instruments warrants all of its products, against defects in materials and workmanship for a period of 1 year from receipt by the end user. Consumable items are warranted against defects in materials and workmanship for 30 days from receipt by the end user. If Western Instruments receives notice of such defects during the warranty period, Western Instruments will either, at its option, repair, replace, or condemn products that prove to be defective. Any warranty is void if the unit has been modified in any way, mistreated, or if it has been repaired by an unqualified individual or agency. The end user agrees that any equipment's disposition, when returned for warranty work, is at the full discretion of Western Instruments as to whether a claim is under warranty or due to misuse. Western Instruments warranty shall overlook normal wear, however, does not include operation outside the environmental specification of the product. Any warranty work is FOB Western Instruments, and any returned units shall include a written description, by the end user, of the fault. Western Instruments makes no other warranty, either expressed or implied, with respect to this product. Western Instruments specifically disclaims any liability arising from the use of this equipment. For the correct use of Western Instruments WS-Series Coils, refer to the Operating Instructions, furthermore we recommend formal training by qualified personnel. Western Instruments highly recommends the end user exercises all possible safety precautions, including the use of protective equipment, while operating this or other industrial equipment.

Specifications:

- Model: LP-5C
- Capacity: LP-5C – 23kg (50 lbs)
- Field Strength with Poles in Contact: LP-5C = 10,900 Gauss, 2mm (0.80”) Air Gap
- Field Strength with 2” (50mm) Air Gap: LP-5C = 5,700 Gauss
- Pole Spacing: LP-5C, 0 – 6” (0 – 150mm)

  *Specifications Limit Pole Spacing to 6” (150mm)

- Weight: LP-5C, 1.3 Pounds (0.6 Kg)

Specifications subject to change without notice

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