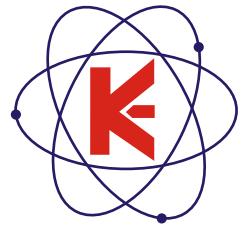


K-ELECTRONICS

MPI CROSS COIL



Multidirectional Magnetization MPI Solution



The K-Electronics MPI Cross Coil is a high-performance multidirectional magnetizing coil assembly designed for contactless Magnetic Particle Inspection (MPI) of ferromagnetic components. It is especially suitable for pipe-end inspection and complex geometries, where defect orientation is unknown.

The optimized cross-coil configuration generates a uniform multidirectional magnetic field, enabling reliable detection of surface and sub-surface discontinuities in all orientations without repositioning the component. This significantly enhances inspection reliability, productivity, and repeatability in industrial environments.

Key features

- Contactless magnetisation for surface and sub-surface crack detection
- Ideal for pipe ends and complex component geometries
- Multidirectional magnetic field generation through optimized cross-coil design
- Stationary UV LED lighting for fluorescent MPI (optional)
- PLC + HMI-based control system for precise and repeatable operation
- Coil sizes available from 100 mm to 2500 mm diameter
- Heavy-duty power source capacity from 12,000 A to 20,000 A
- Optional material handling system for industrial automation
- Suitable for high-throughput production lines
- Smart digital ammeter for real-time current monitoring
- Selectable shot time
- In-built AC decay demagnetization

Magnetizing Power Source

The KELLP Cross Coil system is integrated with a low-voltage, high-amperage power transformer, engineered for continuous-duty MPI applications.

Key Highlights

- Thyristorized control circuit for infinitely variable current adjustment
- Precise magnetization for varying pipe diameters and material grades
- PLC-controlled operation with intuitive HMI interface
- Stable and consistent output conforming to industrial safety standards
- Rugged, heavy-duty design ensuring reliable & durable performance

Magnetic Ink Tank Assembly

- 40 / 60-litre stainless steel tank
- VFD-controlled circulation pump
- Adjustable flow rate and spraying pressure
- Ensures consistent magnetic particle suspension during inspection

Safety & Controls

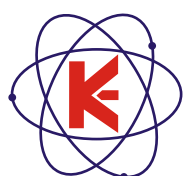
- Emergency stop and integrated safety interlocks
- Foot-pedal operation for enhanced operator safety
- Clear Mag-ON indication
- Ergonomically positioned and clearly labeled controls
- Stable and vibration – free performance is maintained even during full capacity operation

Specifications

	UNIT	MT-12K2	MT-16K2	MT-20K2
Input Supply	Volts	415VAC	415VAC	415VAC
Frequency	Hz	50	50	50
Phase	Ph	3 Ph, N & E	3 Ph, N & E	3 Ph, N & E
Class of Insulation	Class	F	F	F
Duty Cycle	%	50	50	50
Output Current	Amps	12000Amps + - 10%	16000Amps + - 10%	20000Amps + - 10%
PLC & HMI		PLC + 7"HMI	PLC + 7"HMI	PLC + 7"HMI
Shot Time	Sec	Digitally Adjustable 0.5 Sec to 7 Sec + - 0.1Sec	Digitally Adjustable 0.5 Sec to 7 Sec + - 0.1Sec	Digitally Adjustable 0.5 Sec to 7 Sec + - 0.1Sec
Magnetizing Current	Amps	AC & HWDC	AC & HWDC	AC & HWDC
Current control system		Thyristorised Step-less Solid state current control using a smart digital controller	Thyristorised Step-less Solid state current control using a smart digital controller	Thyristorised Step-less Solid state current control using a smart digital controller
Display		7" Display	7" Display	7" Display
Safety Features		Over Heating Protection	Over Heating Protection	Over Heating Protection
Standards		ASTM E709, ASTM E1444/E1444M, ISO 9934, ISO 10893 - 5	ASTM E709, ASTM E1444/E1444M, ISO 9934, ISO 10893 - 5	ASTM E709, ASTM E1444/E1444M, ISO 9934, ISO 10893 - 5

Options & Accessories

- AC cabin for mobile power source
- Black hood with rexine covering for fluorescent MPI inspection
- 40 / 60-litre magnetic ink tank with circulation pump
- Interconnecting power and control cables
- Complete range of MPI consumables and accessories
- Optional material handling system
- Tool kit



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