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Zeromag Probes

ZCOOL Measures the magnetic field

Features of the Zeromag Probe

- ***Standard probe supplied with Zeromag***
- ***Air cooled option - discount if purchased with Zeromag***
- ***Uses DIVERSE Magmeter technology***
- ***Air vent silenced and directed away from weld zone***
- ***Rugged construction***
- ***Standard Pneufit connection***
- ***The Zcool probe can be used in conjunction with preheat***
- ***Compressor option - line voltage supply must be specified on purchase***
- ***Can be used with previous version of Zeromag****
- ***Probe extension cable***

** may need internal adjustment*

Applications

- *Tube to tube weld preparation demagnetisation*
- *Linear seam weld demagnetisation*
- *Use with TIG, MIG, MMA and Sub-arc processes*

An Overview

A range of probes has been developed for the Zeromag. The regular Zeromag is shipped with the standard probe which provides a robust magnetic probe that can be attached to the welding equipment. It is suitable for all applications where welding is conducted at normal ambient temperatures.

If your welding application uses pre-heat, then a cooled probe is required. This is because magnetic sensors are susceptible to problems when run at elevated temperature, and can fail catastrophically at temperatures >180C, so working with preheated components can cause problems.

The *ZCOOL* probe uses a compressor to provide a continual cooling air supply through an umbilical cable to the magnetic probe. The cool air is then dispersed and vented away from the weld preparation so that there is no cooling effect on the joint. The result is that the system will work with preheated components up to 100C, and up to 200C for short periods with the probe insulation jacket.

The umbilical plugs directly into the Zeromag unit providing the electrical sensing. Pressurised air supply can be provided via the 'Pneufit' connector on the supply manifold.

Alternatively, Diverse can supply a suitable compressor.

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About Zeromag

The Zeromag system finds its key application in arc welding. Magnetic fields may cause arc instability, and at worst can cause magnetic arc blow. The fields can be caused by induction of the earth's magnetic field in large structures and pipes. Alternatively, the steel may be magnetised at manufacture or by the use of magnetic clamps or magnetic pipe pigs or even magnetic NDT.

The demagnetising field is measured using the Zeromag probe. A controlled current is then generated in loops of cable around the steel object to be welded. The Zeromag automatic system tests the effect of the de-magnetising arrangement and sets the polarity of the control system so that the field can be reduced to zero throughout the welding operation.

Diverse have a number of articles, FAQ and hints for arc blow and related issues on our web site.

Specification

Measurement range:	0 to 1800 Gauss, resolution 10 Gauss (Higher fields have sign retained)
Active area	0.2x0.2 mm
Magnetic Probe Size:	190mm x46 mm. Weight 400gm
	probe end 55x20x5.5 mm
Construction:	Nickel plated brass.
Air supply:	2 Bar over pressure
	1 CFM
Pressure connector:	Pneufit or 1/8" BSP
Air vent:	Air silencer and distributor
Umbilical length:	1.5m
Temperature -	
standard probe operating:	0C to 35C
Aircooled probe operating:	0C to 150C
storage:	-20C to 50C
Humidity:	0 - 95% non-condensing
Compressor:	Continuous use
Input Power:	115V or 230V 50/60 Hz
	specify on order
	1KW
Compressor size:	5x7x8 inches

About Arc Blow

Arc blow occurs when welding is attempted in the presence of a magnetic field. Some processes are more prone to arc blow than others, but TIG welding is particularly sensitive.

Disruption of the welding arc generally occurs in a magnetic field of 20 gauss. Arc blow can be expected with magnetic fields of 40 gauss.

Ordering Options

Zeromag System	ZM100A
Standard probe	ZM2P
Air cooled probe	ZM2PG
Compressor	ZM2COM
50m cable extension	ZM1CE
Probe extension	ZM1PE

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