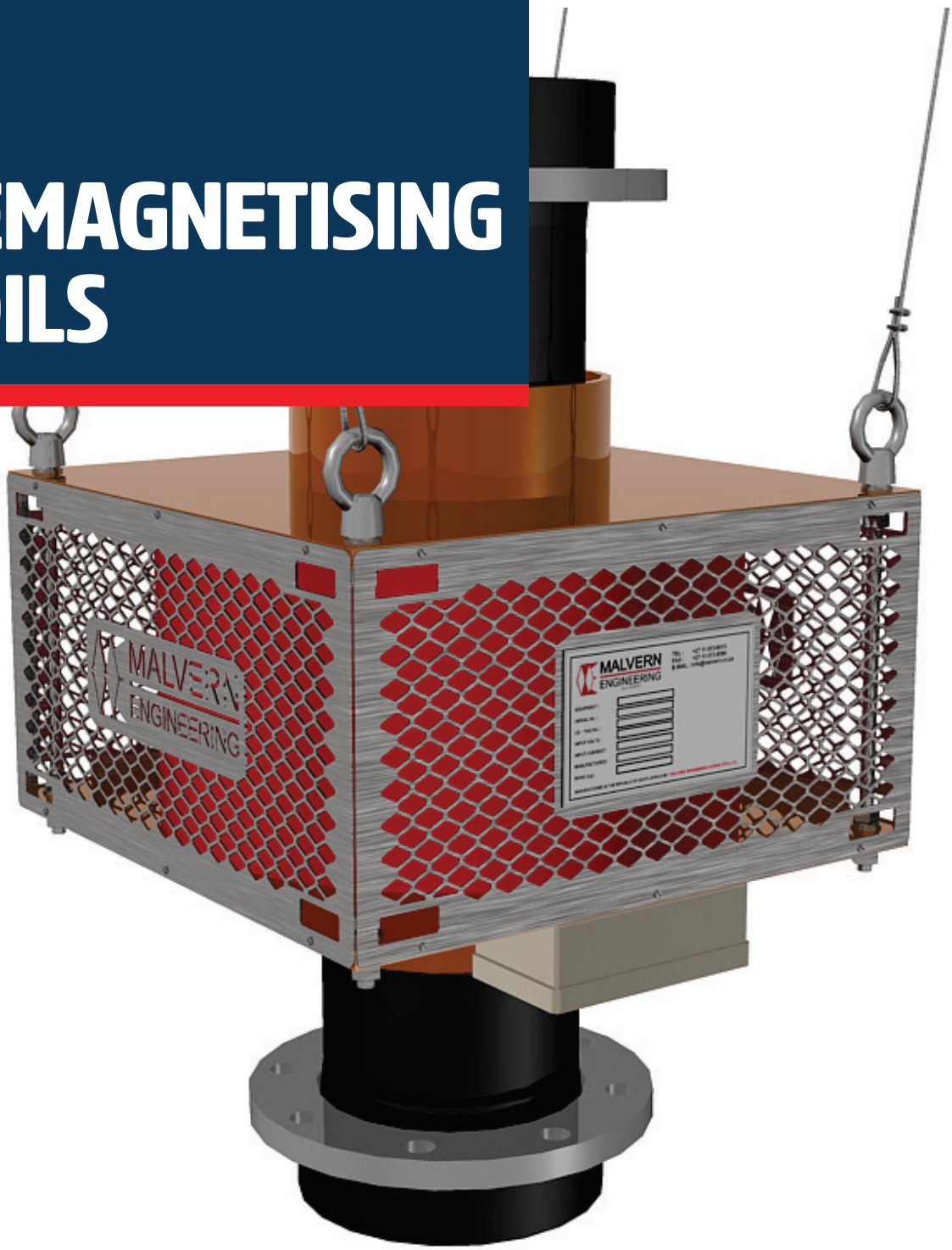
DEMAGNETISING COILS



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MALVERN ENGINEERING

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DEMAGNETISING COILS

Demagnetising Coils have been developed to demagnetise Magnetite and Ferro-magnetic medium flowing in a slurry form through vertical pipelines, as in the case of concentrate exiting from a Wet Drum Magnetic Separator.

Demagnetising Coils are available in internal diameters of 4, 5, 6, 8 & 10 inch. Other sizes are available on request. Standard coil designs cater for 380/525V-50hz AC supply, however units can be designed to suit other voltages and frequencies. Demagnetising coils operate by applying an AC supply at a given frequency. The changing frequency effectively scrambles the polarised material flowing through the unit thereby demagnetising it.

CONSTRUCTION

The coils, made from varnished copper wire which is wound around a bobbin, are protected from moisture ingress and physical damage by epoxy resin and laser cut stainless steel guards.

The bobbin is made from electrical grade non- metallic material. The coil winding is suitable for operating temperatures of 80° to 95° C and is protected from overheating by thermistors wound into the coil. The thermistors have a maximum cut-off point, pre-set at 105° C and are terminated in an I.P. 55 terminal box.

A separate (Optional) HDPE pipe is used to transport the slurry medium through the centre of the coil

GENERAL

Whilst demagnetising coils are relatively maintenance free, they should be inspected regularly to ensure they are free of mechanical damage.

If any debris (magnetic / non-magnetic particles) have collected between the bobbin and the pipe conveying the slurry, these must be removed. The magnetic slurry must not be allowed to solidify within the slurry line passing through the demagnetising coil.

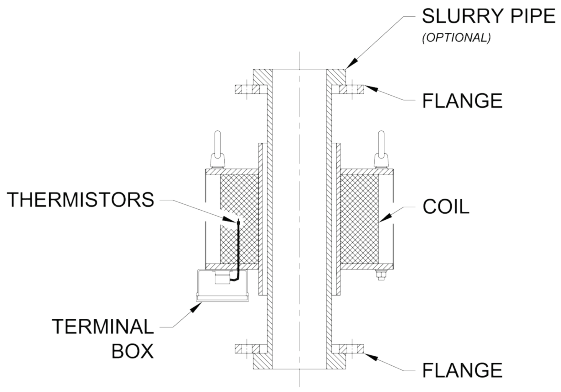
INSTALLATION

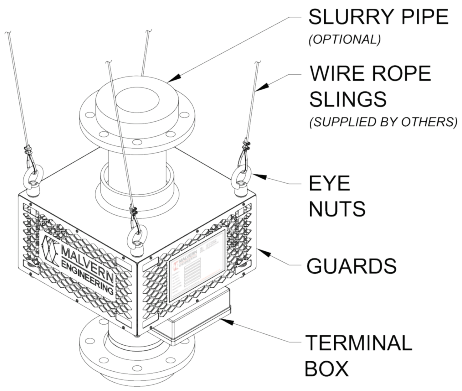
The demagnetising coil must be mounted so that the pip conveying the slurry which is to be demagnetised passes through the centre of the coil. The pipeline conveying the slurry medium must be of non-metallic material i.e., HDPE, plastic or rubber etc. As the unit is uniform in design, either end can be used as the in let. The demagnetising coil can be suspended using wire ropes slings or by flanging the slurry line directly to the (Optional) HDPE pipe.

All Connetions are made via a waterproof terminal box mounted on the underside of the coil. The thermistors may be connected to a thermistor relay. Failure to connect in conjunction with a thermistor relay will eliinate any form of overheating protection and may result in possible damage to the coil. The demagnetising coil should be mounted / suspended in such a way that it is protected from falling objects or splashing water.

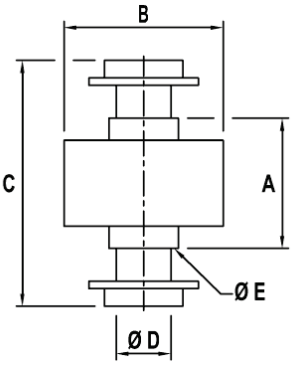
PRODUCT RANGE

Item No.	Description	I/D DMC Pipe (mm)	O/D Slurry Pipe (mm)	Mass (kg)	Current (A) @380VAC	Current (A) @525VAC	Frequency (Hz)
1	4” DMC	Ø100	Ø75 or 90	42	6.2	6.8	50
2	5” DMC	Ø125	Ø100	47	6.5	6.9	50
3	6” DMC	Ø150	Ø125	75	11.8	14.8	50
4	8” DMC	Ø200	Ø175	92	18.2	24.2	50
5	10” DMC	Ø250	Ø225	130	29.8	34.6	50



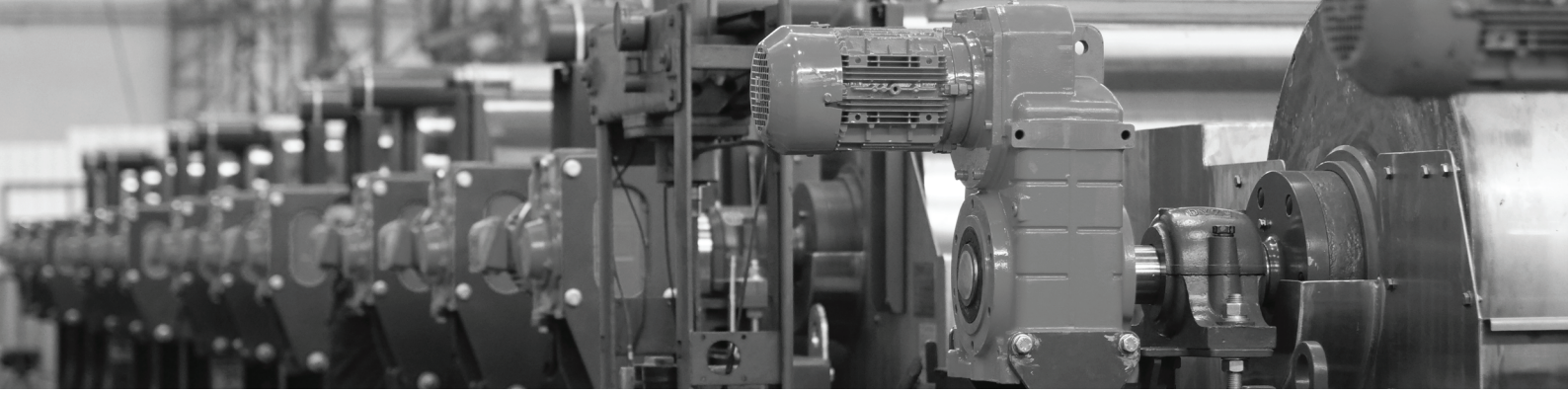


Item No.	Description	A	B	C	O.D HDPE Pipe Ø D	I.D DMC Ø E
1	4” DMC	290	280	520	75 or 90	100
2	5” DMC	290	320	610	100 or 110	125
3	6” DMC	370	342	710	125 or 140	150
4	8” DMC	380	440	760	175 or 180	200
5	10” DMC	390	482	790	225	250



SIZE GUIDE

Item No.	Information Required	Units	Information Input			
1	Size of Slurry Line	O.D (mm)				
2	HDPE Pipe Specifications	Class		PE		PN
3	Mounting Position	Horizontal / Vertical				
4	Slurry Medium	e.g. FeSi or Magnetite				
5	Flow Rate	m/sec				
6	Supply Voltage Available	380/525VAC		Frequency	60Hz	50Hz
7	Control Voltage Available	110/220V				
8	Components Required	Demagnetising Coil	Yes/No			
		HDPE Pipe	Yes/No			
		Control Panel	Yes/No			



LABORATORY TEST FACILITIES

Malvern Engineering has a well equipped laboratory at their Johannesburg office. This facility allows for the quick and efficient testing of customer samples in a controlled environment.

FIELD TRIALS

Malvern Engineering is able to supply tailor made pilot scale machines for onsite field trials fully supported by trained and experienced technical staff.

MALVERN ENGINEERING

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