

DEMAGNETISATION DEVICES

Demagnetisation is an important component of electro-magnetic crack testing. Residual magnetism in test samples is an issue for many users and the industry demands increasingly better demagnetisation values.

Where workpieces are subjected to a magnetic field due to a magnetisation process - as part of a testing method, processing, or from magnetic lifting equipment - a residual magnetic field will remain in the component after the field-generating source has been disabled (remanence), which must be neutralised. Eliminating this magnetic residue will help avoid negative effects during later processing or when using the workpieces.

The demagnetisation of AC-supplied spools that have a frequency of 50 Hz, occurs by way of the slow retraction of the test object from the field-filled space of the demagnetisation spool, in direction of the spool axis.

At the start of demagnetisation, the field strength must be at least equal to the field strength of the magnetisation. Similarly, the entire area for demagnetisation must be captured. While a field saturation depth of approx. 2mm can be expected in magnetic particle testing with alternating magnetic field, for components that were manipulated with lifting equipment, the entire cross section of the test object must be covered. In the latter case, demagnetisation is achieved with an increased field saturation depth, whereby the field intensity is decreased with low-frequency AC or reversing DC current.

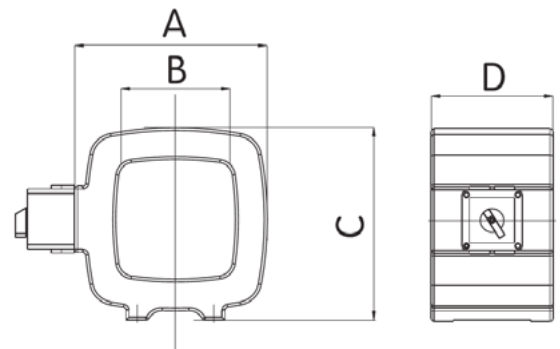
The most important basis for achieving good demagnetisation results is:

- for parts that were AC-magnetised: demagnetisation at 50 or 60 Hz AC or low-frequency AC.
- for parts that were DC-magnetised: demagnetisation with low-frequency AC only (e.g. 16 2/3 Hz).

ETT - TABLETOP DEMAGNETISATION TUNNEL



The demagnetisation tunnels of the ETT model series are designed for tabletop use. The spool current is activated by an ON/OFF switch in the device types ETT 150 to ETT 550. The saturation depth of the 50 Hz alternating field is approx. 2mm.



TECHNICAL DATA

(in compliance with EN ISO 9934-3 / DGZfP guideline EM-0)

		Standard model					Reinforced model				
		ETT 150	ETT 250	ETT 350	ETT 450	ETT 550	ETT 150	ETT 250	ETT 350	ETT 450	ETT 550
Ref. No.		101150	101250	101350	101450	101550	101155	101255	101355	101455	101555
Field strength	kA/m	11	9	8	6.5	5.4	13.5	10	10	8	6.2
Mains connection	V	230	230	230	230	230	400	400	400	400	400
Current consumption	I (A)	1.85	5.5	10	14	16.5	1.6	4.4	8.5	11	12
Power consumption	kVA	0.5	1.2	2.2	3.1	3.6	0.7	1.8	3.4	4.5	4.7
Frequency	Hz	50	50	50	50	50	50	50	50	50	50
Dimensions (approx.)											
Measurement A	mm	260	390	480	580	680	260	390	480	580	680
Measurement B	mm	150	250	350	450	550	150	250	350	450	550
Measurement C	mm	260	390	475	577	695	260	390	475	577	695
Measurement D	mm	166	173	339	330	332	166	173	339	330	332

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ETW - DEMAGNETISATION UNIT WITH TROLLEY

For the demagnetisation of larger and heavier workpieces, which cannot be passed through a demagnetisation spool manually, we recommend the use of an ETW demagnetisation unit with trolley.

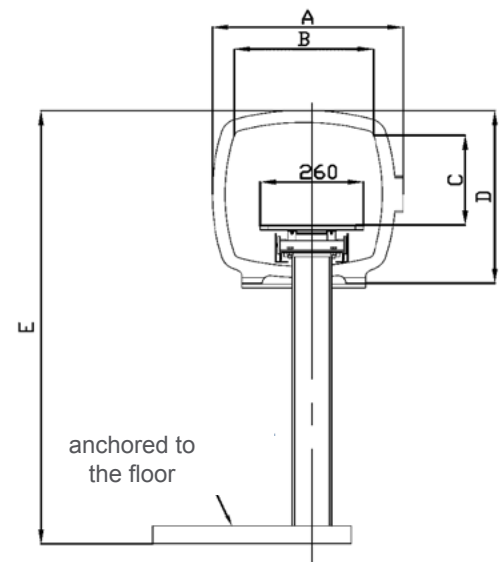
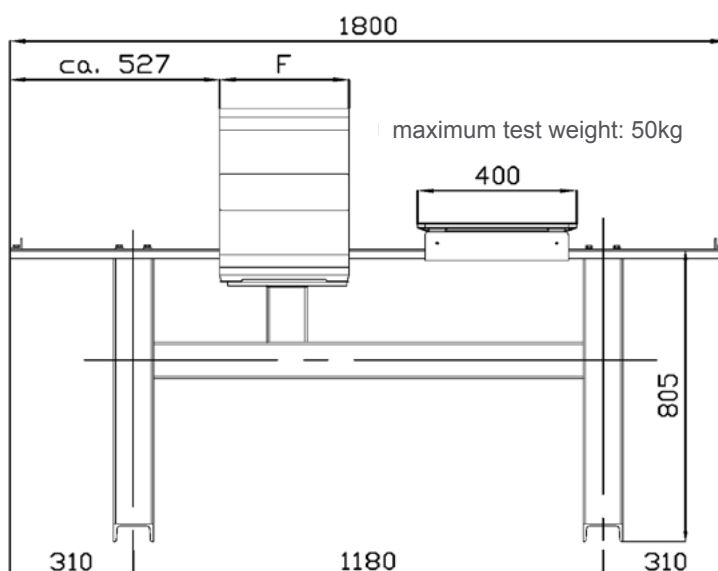
The workpieces for demagnetisation are placed onto the trolley on the shorter outrigger side, and manually pushed through the tunnel towards the longer side. The demagnetisation spools generate a strong magnetic field, which requires a specific safety distance in accordance with BGV B11.

We will be happy to supply appropriate loading aides and distancers or safety grids on request.



TECHNICAL DATA (in compliance with EN ISO 9934-3 / DGZfP guideline EM-0)

		Standard model				Reinforced model			
		ETW 250	ETW 350	ETW 450	ETW 550	ETW 250	ETW 350	ETW 450	ETW 550
Ref. No.		102250	102350	102450	102550	102255	102355	102455	102555
Field strength	kA/m	9	8	6.5	5.4	10	10	8	6.2
Mains connection	V	230	230	230	230	400	400	400	400
Current consumption	I (A)	5.5	10	14	16.5	4.4	8.5	11	12
Power consumption	kVA	1.2	2.2	3.1	3.6	1.8	3.4	4.5	4.7
Frequency	Hz	50	50	50	50	50	50	50	50
Dimensions (approx.)									
Measurement A	mm	390	480	580	680	390	480	580	680
Measurement B	mm	250	350	450	550	250	350	450	550
Measurement C	mm	130	260	360	460	130	260	360	460
Measurement D	mm	390	475	557	695	390	475	577	695
Measurement E	mm	1105	1190	1292	1410	1105	1190	1292	1410
Measurement F	mm	173	339	330	332	173	339	330	332



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ETB - DEMAGNETISATION UNIT WITH CONVEYOR

Demagnetisation units of the model series ETB are used primarily in connection with automated systems, where demagnetisation is to be done externally due to a testing issue, i.e. after a visual check. The test objects can be placed manually on the conveyor or with the aid of manipulators. Where the test objects are large and have to be placed on the conveyor with an ejector, the system can be supplied as a reinforced version. Optional lateral guides can allow for exact alignment along the entire length of the conveyor.



TECHNICAL DATA (in compliance with EN ISO 9934-3 / DGZfP guideline EM-0)

		Standard model				Reinforced model			
		ETB 250	ETB 350	ETB 450	ETB 550	ETB 250	ETB 350	ETB 450	ETB 550
Ref. No.		103250	103350	103450	103550	103255	103355	103455	103555
Field strength	kA/m	9	8	6.5	5.4	10	10	8	6.2
Mains connection	V	230	230	230	230	400	400	400	400
Current consumption	I (A)	5.5	10	14	16.5	4.4	8.5	11	12
Power consumption	kVA	1.2	2.2	3.1	3.6	1.8	3.4	4.5	4.7
Frequency	Hz	50	50	50	50	50	50	50	50
Dimensions (approx.)									
Measurement A	mm	390	480	580	680	390	480	580	680
Measurement B	mm	250	350	450	550	250	350	450	550
Measurement C	mm	390	475	577	695	390	475	577	695
Measurement D	mm	173	339	330	332	173	339	330	332
Measurement E	mm	160	260	360	460	160	260	360	460
Measurement F	mm	200	300	400	500	200	300	400	500

