

ETW Series

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.

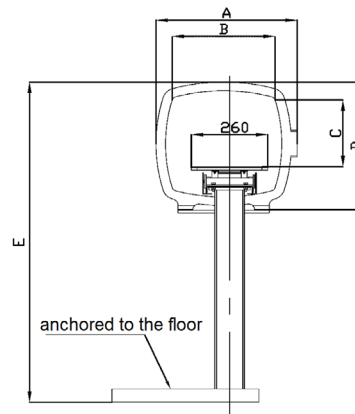
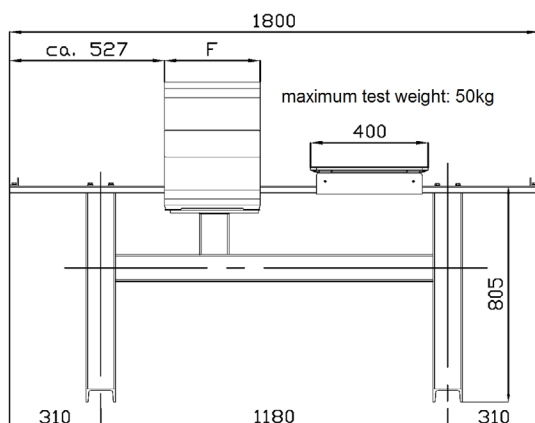
The workpieces for demagnetisation are placed onto the trolley on the shorter outrigger side, and manually pushed through the tunnel towards the longer side. The demagnetisation spools generate a strong magnetic field, which requires a specific safety distance in accordance with BGV B11.



PRODUCT PROPERTIES AND PART NUMBERS

STANDARD MODEL

		ETW 250	ETW 350	ETW 450	ETW 550
Part number		102250	102350	102450	102550
Field strength	kA/m	9	8	6.5	5.4
Mains connection	V	230	230	230	230
Current consumption	I (A)	5.5	10	14	16.5
Power consumption	kVA	1.2	2.2	3.1	3.6
Frequency	Hz	50	50	50	50
Measurement A	mm	390	480	580	680
Measurement B	mm	250	350	450	550
Measurement C	mm	130	260	360	460
Measurement D	mm	390	475	557	695
Measurement E	mm	1105	1190	1292	1410
Measurement F	mm	173	339	330	332



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REINFORCED MODEL

		ETW 250	ETW 350	ETW 450	ETW 550
Part number		102255	102355	102455	102555
Field strength	kA/m	10	10	8	6.2
Mains connection	V	400	400	400	400
Current consumption	I (A)	4.4	8.5	11	12
Power consumption	kVA	1.8	3.4	4.5	4.7
Frequency	Hz	50	50	50	50
Measurement A	mm	390	480	580	680
Measurement B	mm	250	350	450	550
Measurement C	mm	130	260	360	460
Measurement D	mm	390	475	577	695
Measurement E	mm	1105	1190	1292	1410
Measurement F	mm	173	339	330	332

Demagnetisation is an important component of electromagnetic 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).

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USER RECOMMENDATIONS

NDT Method	Magnetic Particle Testing
Accessories	Low-frequency generator 16 2/3 Hz: AC 230V / 50Hz; Out AC 230V (part number 10700) AC 400V / 50Hz; Out AC 400V (part number 104710)