



PTS

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Demagnetization



Demagnetizing Equipment



www.ptsndt.com

Demagnetization

Magnetization of products occurs when producing many parts of machinery and equipment made of steel or other ferromagnetic metals. In order to make products of the highest quality, it is necessary to remove the magnetization of the product and thereby retain the original metal properties. Then we talk about demagnetization or demagnetizing of magnetic materials.

The Emergence of Magnetism

Magnetizing occurs during the execution of NDT inspection, when handling using magnetic crane, due to magnetostriction, when machining a semi-product, whether it is grinding, bending, drilling, cutting, welding or other. Formation of the magnetic field is possible in any environment. Its mechanical effects act only on ferromagnetic materials, which include iron, nickel and cobalt or alloys of certain elements.

Magnetometers

Magnetic Field Strength Meters MH Series

Digital meters of magnetic field strength MH series are designed for measurement of magnetic field or residual field using a Hall sensor in kA/m or Gauss depending on the model.



MH175



MH107



MH107S

measured field	alternating (AC), direct (DC) with polarity indication (option button)	alternating (AC), direct (DC) with polarity indication	alternating (AC), direct (DC) with polarity indication
measurement ranges	±0-20 kA/m, 0-200 Gauss	±0-20 kA/m, 0-200 Gauss	±0-20 kA/m, 0-200 Gauss
resolution / accuracy	10 A/m or 0,1 Gauss	10 A/m or 0,1 Gauss	10 A/m or 0,1 Gauss
probe	hand contact tangential Hall probe, detachable		integrated in the body of the device, tangential Hall probe
power supply	2 pcs. of 1.5 V alkaline batteries (AA type), alternatively rechargeable Li-ion battery + adapter (MH1xD)		2.8 V adapter; built-in battery
dimensions	78 x 117 x 22mm		185 x 193 x 56mm
weight	203 g including batteries and probe		780 g incl. integrated battery

Demagnetizing Coils DZC

They are intended to reduce the residual magnetism by passing the material through an alternating magnetic field of demagnetizing coil. Their shape and size are completely individual and are manufactured depending on specific customer needs.

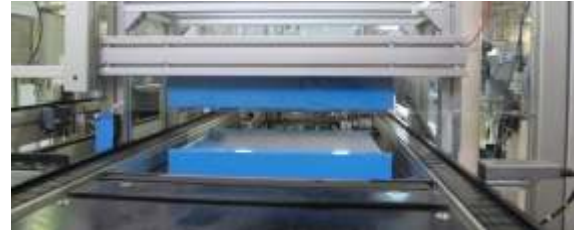
Examples of realization



Line Demagnetizers



Example of using a plate demagnetizer placed in the production line for bearings.



Demagnetising tunnels

They are unique devices that combine the demagnetizing coil DZC and design that allows to pass a magnetized object through the coil manually or automatically on the conveyor.

Choosing the correct demagnetization tunnel depends primarily on the dimensions of the product that needs to be demagnetized, on its weight and on the material from which it is made.

The table below shows the standard parameters of demagnetizing tunnels with square coil. For specific application, it is necessary to design specific equipment, which by its configuration and parameters will meet Your requirements.

Also demagnetizing coil may have a different shape – the most common coil is square or rectangular.



type		DT 300F	DT 400F	DT 500F	DT 600F
power supply	V/Hz	400/50	400/50	400/50	400/50
frequency inverter	A	50	50	50	50
magnetic field strength in the center of the empty coil	kA/m	14-22 (50-25Hz)	12-30 (50-30Hz)	12-17 (50-30Hz)	10-15 (50-30Hz)
standard track length	mm	3000	3000	3000	3000
inner dimension of the coil	mm	300x300	400x400	500x500	600x600
inner dimension of the coil	mm	300x200	400x300	500x400	600x500

Special Demagnetizers

Special demagnetizers are devices manufactured according to specific customer requirements.

They are designed according to specific narrowly defined requirements to meet performance requirements and external dimensions.

Examples of realization



ZDC 120
is designed for manual reduction of the residual magnetism of long profiles – tubes

DZL-700
serves to reduce the residual magnetism of large bearings.



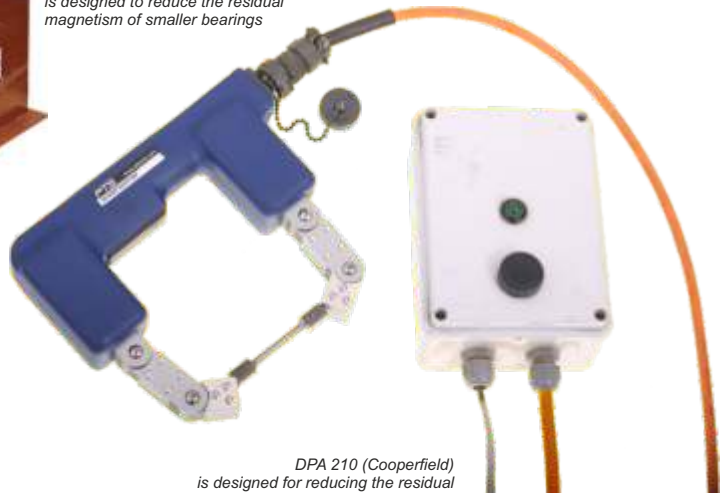
DTW-1300
is designed to reduce the residual magnetism of railway wheels



DZC 150
demagnetizing coil with a slide



DZC-SP
is designed to reduce the residual magnetism of smaller bearings



DPA 210 (Cooperfield)
is designed for reducing the residual magnetism of small machine parts

Table Demagnetizer

It is practical versatile device used for demagnetization of various small products, parts, gauges, meters, instruments, etc., which are made of ferromagnetic material. The device is not designed for continuous operation. Magnetic field strength is 40 kA/m.



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