Product name : D12 x 10 / N38 - Neodymium magnet (NdFeB)

PERFORMANCE PARAMETERS

External diameter	12 [mm] +0,1/-0,1
Height	10 [mm] +0,1/-0,1
Magnetizing direction along dimension	10 [mm]
Direction of magnetization along the height means that one circular surface of a magnet makes the N-pole, while the other – opposite – circular surface refers to the S-pole.	
Grade	N38
Magnet type	Neodymium
Maximal hoisting capacity	4,86 [kg]
The pull force was measured by using metal sheet 10 [mm] thick, acting with perpendicular detaching force. With the force acting on the sliding off, the lifting capacity of the magnet will be 5 times smaller. The air gap comprised between the metal sheet and a magnet causes reduction in the pull force.	
Magnetic field in geometrical center of the magnetic pole surface	0,18 [T]
Coating	Nickel-plated (NiCuNi)
Maximum working temperature	≤ 80 °[C]
For flat magnets and magnets mounted in the open magnetic circuit working temperature may be insignificantly lower. For high magnets and magnets mounted in the closed magnetic circuit working temperature equals max. working temperature for a given material. Curie's temperature is ~ 310°[C]. Temperature coefficient of remanence TK(Br: approx. ~0,12 %/°[C]. Temperature coefficient of coercivity TK(HcJ): approx. -0,6 %/°[C].	
Weight	8,48 [g]
Sintered neodymium magnets are brittle (fragile). A neodymium magnet without housing could break after an impact with another strong magnet.	
All the numbers quoted were obtained as a result of tests with one specific item in a room temperature and are intended to serve for comparison of practical magnetic properties of magnets offered by the shop.	

MAGNETIC PROPERTIES OF MATERIAL GRADE N38

remanence B_r	1,21 - 1,25 [T]
coercivity H_cB	min. 899 [kA/m]
coercivity H_cJ	min. 955 [kA/m]
energy product $(BH)_{max}$	286 - 302 [kJ/m^3]
Magnetic properties of a particular material, together with its shape, volume, max. working temperature and direction of magnetization have influence on practical magnetic properties of a magnet.	
As an example, you will find attached a graph of a course of the II quadrant of magnetic hysteresis loop for a material grade N38.	

MAGNETIC PROPERTIES OF MATERIAL GRADE N38

density	~7,5 [g/cm3]
Vickers hardness (HV)	~600 [kg/mm2]
resistivity	~144 [uOhm x cm]

TECHNICAL DRAWING