

Samarium Cobalt (SmCo) magnet



Samarium Cobalt rare-earth (SmCo) magnets are manufactured by using powder metallurgy techniques, which include stringent process controls and complicated heat treatment, cycles. SmCo magnet is high performance and low temperature coefficient permanent magnet made of samarium and cobalt and other rare earth elements. The composition of this alloy is approximately 35% Samarium, 60% cobalt with the balance being Fe & Cu. As the second generation of Rare Earth permanent magnet, SmCo not only has high energy ranging from 14 MGOe to 28 MGOe and reliable coercive force, but also exhibits the best temperature characteristics in Rare Earth material family. Including SmCo5 and Sm2Co17, an alloy compose of Samarium-Rare earthy magnet, manufactured by power metallurgical process involving the sintering of power under vacuum, commonly referred to as 1:5 and 2:17 materials. The biggest advantage of SmCo magnet is high working temperature (up to 300 °C). Compared with NdFeB, SmCo is suitable for working higher temperature. SmCo magnet needn't to be coated because it is difficult to be eroded and oxidized.

Features of SmCo magnet:

Most excellent temperature characteristics in Rare-Earth magnet family; Limited raw material supply result SmCo5/Sm2Co17 high in cost. It is extremely hard and brittle, High demagnetization resistance, Outstanding thermal stability, Excellent anti-corrosion properties. Good corrosion resistance and no special surface treatment required, excellent for compact designs where high working temperature is a major concern. Grinding and slicing operations possible.

Application of SmCo magnet:

SmCo magnet is suitable for machines with high magnetic requirements. Good for strict working environment requirement. It is widely used in various motors, Electronic magnetron, Magnetic Transmission, Magnetic Treatment, Magnistor, instruments, watches, sensors, detectors, radars, generators, radars and other high-tech equipment.

Production Flow Chart For SmCo Magnet



