

HIGH FREQUENCY NEODYMIUM TRANSDUCERS

Every detail is under our control, from titanium forming and voice coil winding to phase plugs machining and final assembly. Lightweight and powerful, our neodymium drivers are a reference in performance and reliability.



DIRECT DRIVE VOICE COIL ASSEMBLIES

The top of the former is bent and bonded directly to the edge of the titanium diaphragm resulting in a Direct Drive configuration. Direct Drive guarantees optimal transfer of energy between the voice coil and the dome assembly, providing smoother, extended frequency response beyond 10 KHz, reducing break up modes and lowering distortion. This assembly delivers high power handling along with excellent mechanical and thermal properties that make RCF neodymium compression drivers robust and reliable.

DIAPHRAGM ASSEMBLIES

Diaphragms and suspensions are precision formed from ultra thin pure titanium. Suspensions are based on an innovative design using progressive parabolic semi circles. The sections of the suspension offer a consistent suspension modulus with a variable, altering profile. This drastically reduces distortion eliminating resonance points and assists in controlling suspension break-up modes. The rear magnetic plate where the diaphragm assembly is located, possesses specially designed CNC machined ventilation slots that eliminate standing waves, turbulence and distortion created by the movement of the suspension. At the point where the titanium suspension is bonded to the assembly ring, a special dampening adhesive has been applied in order to further reduce and eliminate distortion creating resonances. The diaphragm assembly has been designed with easy field service in mind as it can be removed and replaced within minutes.

NEODYMIUM MAGNETIC CIRCUITS

Neodymium magnetic circuit designs provide even higher magnetic field strength in the voice coil gap than standard ceramic assemblies while dramatically lowering the overall weight of the device. Neodymium rare earth material also provides higher levels of force (BL) that increase control of the dome assembly's moving mass. This leads to higher efficiency, better transient response and diminishes high frequency distortion modes. A thin copper ring is precision pressed on to the pole piece in order to modify and lower the inductance characteristics of the magnetic circuit and voice coil providing a controlled extension of the acoustic frequency response. RCF has provided cooling fins on the rear of the aluminum diaphragm assembly cover that creates a heat dissipating surface area for the driver's magnetic circuit. This assists in lowering circuit temperature, improving the driver's power compression characteristics and increasing output. Specific attention has been paid to magnetic circuit polarization for optimum thermal immunity.