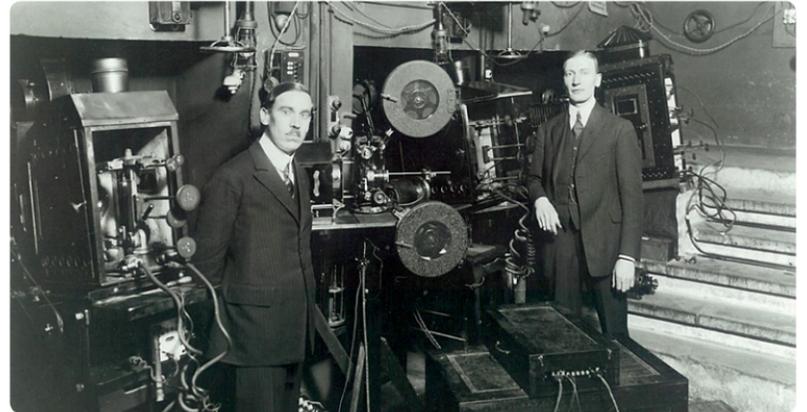


ortofon

MC   
Anna

# Ortofon

World leader in the cartridge industry



Ortofon has always been a leading company in the field of sound reproduction. Founded in Copenhagen in 1918, Ortofon started by creating technology which served as the basis for adding a soundtrack to the silent movies of the early 1920s. In 1948, the company developed the first moving coil cartridge, and since then Ortofon has developed and manufactured more than 300 different cartridges.

Today Ortofon is the world leader in cartridges. This is the result of combining design with technology and the highest level of engineering in the audio industry.

Acoustics, materials technology and micro mechanics are key competences in Ortofon's technological prowess. Ortofon has its research and manufacturing facilities in Denmark; the production of cartridges and components is carried out at the company's factory in Nakskov, Denmark.

Production is based on experienced workers with a high level of craftsmanship. This assures the high uniform quality of Ortofon products. The cartridges are sold worldwide through a network of more than 60 importers and sales subsidiaries in the USA and Japan. Ortofon is today recognized among consumers and industry professionals as a quality brand.

## MC Anna

Ortofon's MC Anna represents the highest echelon of Moving Coil cartridges. This state of the art product, representative of numerous Ortofon design elements and ideals, is truly exemplary of the highest degree of performance possible in contemporary analogue playback technology.

Ortofon dedicates this new flagship cartridge to the opera singer Anna Netrebko, a virtuoso whose performance displays a formidable technical arsenal of endless versatility. With the dedication of the MC Anna, Ortofon once again emphasizes the company's unchanging commitment and devotion to the music and to the purest delivery of recorded sound.

Much like Anna Netrebko, Ortofon aspires to provide the ultimate musical experience through a mixture of innovation and technical expertise, combined with inspiration that goes beyond mere thought to reveal true inner emotion.



# Magnet system

## Neodymium magnet with FSE

Arguably one of the most significant advancements in the MC Anna is our dramatically higher efficiency magnet system, for which Ortofon has a patent pending. This greatly optimized geometry combined with choice materials like neodymium and iron-cobalt offers an unprecedented consistency of the flux density within the system's air gap.



Due to an increase of active material inside of the magnet system, the magnetic field strength is delivered more uniformly, allowing each coil to sense identical flux density regardless of its position. Because of this, dynamics and impulse linearity are preserved to an overwhelming extent.

The use of this new optimized magnet system allows for the use of a lightweight, non-magnetic armature, which also provides noteworthy benefit to the dynamic capability of the MC Anna.

The reason for this is that our high-tech polymer-based armature does not alter the magnetic field during movement. Hence when combined with ultrapure oxygen-free copper coil wire, it delivers perfect reproduction of the cantilever movements without compromise.

Because the new magnet system delivers a tremendous magnetic flux density, the need for design compromises is effectively eliminated. It is due to this aspect that the amount of coil windings required to achieve significant output voltages is reduced to a minimum, resulting in a further reduction in moving mass.

The new magnet system has also allowed for more spaciousness within the air gap, allowing for coil windings to be done completely independent of each other, without any overlap or interaction between them. The cumulative result of these improvements simply delivers more lifelike reproduction, with nearly boundless imaging, dimensionality and dynamics.

## Damping

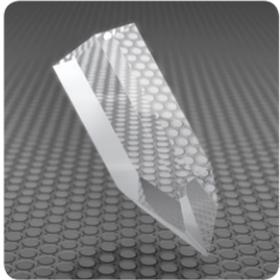
### WRD system

The MC Anna also introduces a new degree of control over vibrations by a way of a newly-improved wide-range armature damping system (WRD). By extending the armature beyond the coils, it can interface directly with the rubber dampers, which sandwich a small heavy disc of platinum.

This offers more consistent movement, and thereby better stereo perspective and transient delineation. System resonances are also damped by the use of TPE (Thermo Plastic Elastomer) compound which comprises the bottom cover assembly.

# Diamond

## The finest diamond in the world



As in the former MC A90, Windfeld and Xpression cartridges, the MC Anna makes use of Ortofon's Replicant 100 diamond, known for its thin and light profile and extraordinarily large contact surface.

Since the Replicant 100 is closest to the shape of the cutting stylus, it can trace with accuracy unparalleled by any other needle in existence.

Special polishing of the diamond along with the use of a Boron cantilever offer remarkable transparency, speed, and responsiveness beyond that of any other combination.

# Materials and design

The housing of the cartridge is made of Titanium, using our famed SLM manufacturing technique which was pioneered by Ortofon during the manufacturing of the MC A90, SPU 90th Anniversary and Xpression cartridges.

Considered an engineering breakthrough, the Selective Laser Melting process welds fine particles of Titanium together, layer-by-layer, to construct a single piece body devoid of extraneous material. This technique allows for precise control of the density of the body material, allowing for extremely high internal damping.

The final result provides freedom over vibrations within the cartridge body material. The use of Titanium has provided a further improvement to the internal damping capabilities as well as to the overall rigidity of the structure.



# Protection

## Stylus Guard

The stylus guard provided for MC Anna is designed to be easily replaced and removed without risking contact to the fragile stylus assembly. To avoid accidental damage to the stylus or cantilever please mount the enclosed stylus guard onto the cartridge whenever the cartridge is not in use. The stylus guard should also be attached during mounting or removal of the cartridge.



The stylus guard is simply removed by holding the sides between the thumb and forefinger and pulling straight along the orientation of the cartridge. Affixing the stylus guard is of course accomplished by the reverse movement yet still using a straight movement.

A new stylus protection guard can be purchased on the Ortofon webshop [www.ortofon-shop.com](http://www.ortofon-shop.com).

# Setup

As with any cartridge, setup is absolutely crucial in order to ensure the best sound reproduction capabilities.

Although there are many valid paradigms that exist with regard to cartridge setup, Ortofon does not endorse a specific methodology and encourages users to explore the options as suggested by their high end audio dealer, including professional setup.

In addition to alignment, consideration must be made to adjust azimuth, anti-skating and VTA in order to maximize the potential performance of any high end cartridge. We recommend antiskating to be set according to recommended tracking force.

## Warning

This phono cartridge is only for mounting on tonearms and must not be used for other purposes.

## VTA/SRA

With a complex stylus shape like the Replicant 100, there must be special attention paid to VTA settings. The MC Anna, much like other cartridges in Ortofon's Exclusive series, has a VTA of 23 degrees.

The Stylus Rake Angle (SRA) is very important to the performance of the Replicant 100 stylus, and the long contact surface (the sharp edge) of the diamond should be close to perpendicular to the record surface when viewed from the side.

A perfect starting point is always to set the arm to be parallel to the record's surface during playback with recommended VTF, and then to optimize the SRA by making slight adjustments to tonearm height and VTF, both of which have a measurable impact on SRA.

## Connecting

Please correlate the colour code for the terminals on the drawing with the colour coding on the cartridge.

The terminals for right and left channel have the same position as normal for Ortofon cartridges. We recommend to mount the enclosed leadwires on cartridge and tonearm before aligning and calibrating the cartridge.



# Maintenance

## Stylus care

Ortofon does not recommend the use of solvents of any kind for cleaning of either the record surface or stylus. If necessary, records may be washed in lukewarm demineralized water with a dash of sulphonic soap. Remove dust carefully from record surfaces by using a fine antistatic brush or cloth before every use. The use of solvents on the stylus and cantilever may damage stylus cement; interior parts of the cartridge can be affected seriously by the intrusion of solvents.

The Ortofon warranty will not be valid in cases where such treatment has caused malfunction. For cleaning the stylus, use the enclosed fiber brush a few times along the cantilever in the direction of the stylus, whenever you play a new record or change sides. Record care should also be performed regularly and is of paramount importance to prolong the life and condition of the stylus. Because of this, a record cleaning machine may be considered for ease and quality of record cleaning.

## Cartridge break-in

Although the MC Anna will provide top reproduction right out of the box, the cartridge may slightly change character during the first tens of hours of use. This is completely normal and you may, in fact, find that this adds further refinement to your listening experience.

## Ortofon repair service

Ortofon MC Anna is an exclusive cartridge of very high quality. To support our customers who have accidentally damaged their cartridges, Ortofon provides a special repair service. Should you have a need for this service, please contact your local Ortofon Partner for more details.

Special Repair service is also available on the Ortofon webshop [www.ortofon-shop.com](http://www.ortofon-shop.com).



# MC Anna Technical Data

Technical Data	MC Anna
Output voltage at 1 kHz, 5cm/sec.	0.2 mV
Channel balance at 1 kHz:	0.5 dB
Channel separation at 1 kHz:	25 dB
Channel separation at 15 kHz:	22 dB
Frequency response	20 Hz - 20 kHz / - 1.5 dB
Tracking ability at 315 Hz at recommended	80 $\mu$ m
Compliance, dynamic, lateral	9 $\mu$ m/mN
Stylus type	Special polished Nude Ortofon Replicant 100 on Boron Cantilever
Stylus tip radius	r/R 5/100 $\mu$ m
Tracking force, recommended	2.6 g (26 mN)
Tracking angle	23°
Internal impedance, DC resistance	6 Ohm
Recommended load impedance	> 10 Ohm
Cartridge body material	SLM Titanium
Cartridge colour	Silver / black
Cartridge weight	16 g



Get more information about  
the MC Anna cartridge.

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Date:

Approved by: