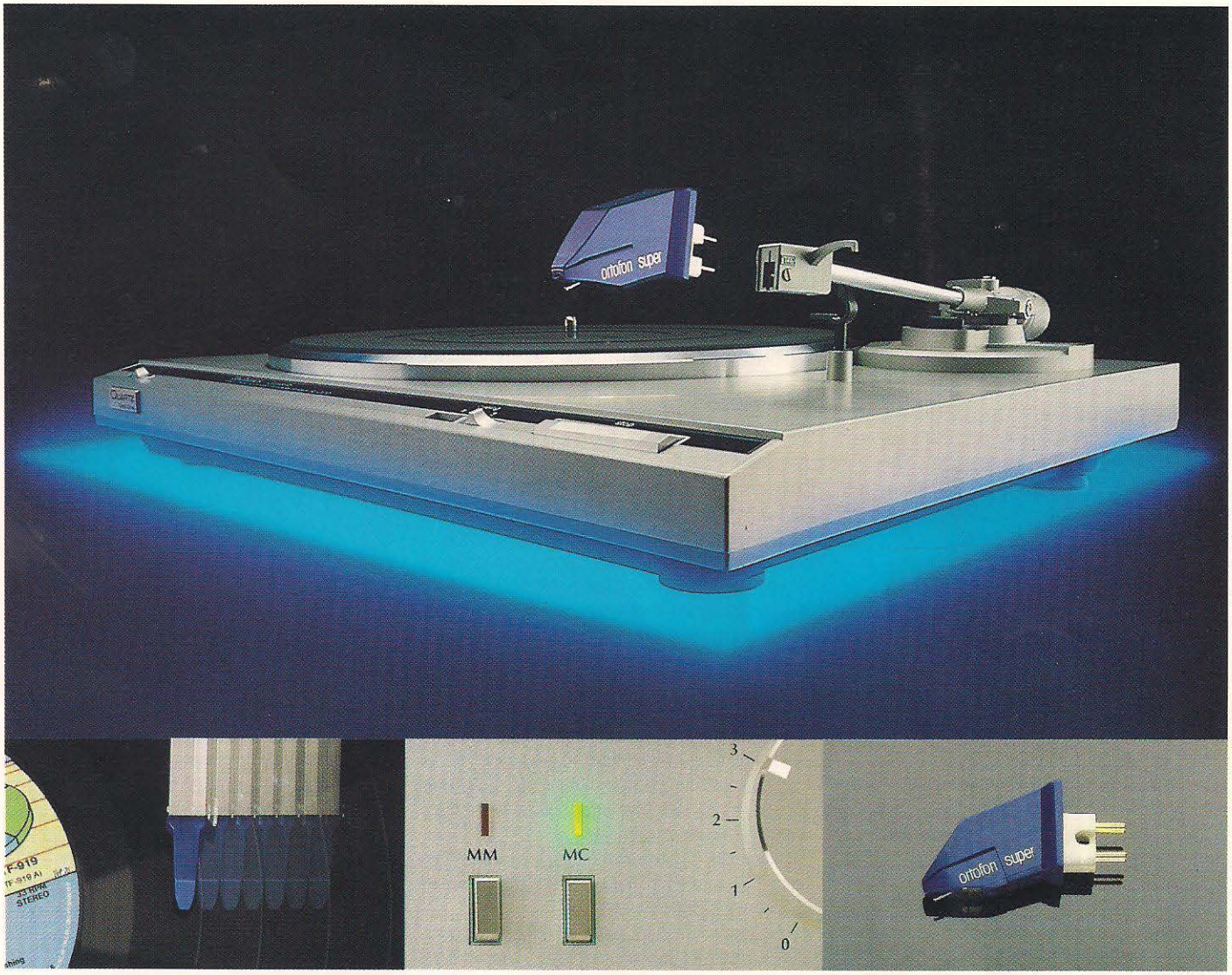
# MCP 100 Super
# Higher Output Moving Coil Cartridge

ortofon
accuracy in sound







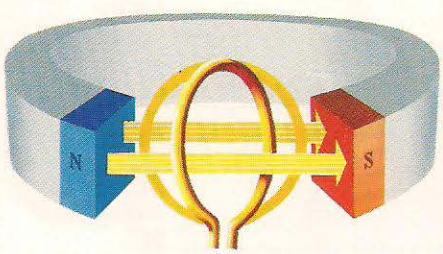





## No P-mount tonearm can afford to be without one!

Ever since Ortofon introduced the world's first moving coil cartridge back in 1948, it has been accepted that the finest sound reproduction comes from this type of pick-up.
But this higher quality has always gone hand-in-hand with greater expense. Because buying a moving coil cartridge has entailed an extra outlay on a transformer or pre-preamplifier to boost the moving coil's lower voltage outputs.
Until now.
And the new Ortofon MCP 100 Super. With this cartridge we have succeeded in producing a moving coil cartridge that has all the quality traditionally associated with the Ortofon name ... but has no need for a step-up device. And what's more, MCP 100 Super has been specifically designed for all tonearms with P-mount systems.

**The moving coil principle**
Moving coil cartridges are based on the use of twin coils of microscopically fine wire (one for each stereo channel), acting as miniaturised power generators. Each generating its own electrical current as it moves within a magnetic field.
Ortofon use a patented construction method (as shown in our illustration), which allows the coils to adopt two positions.




In neutral, the coil is by-passed by the magnetic field and no signal is generated. But when the stylus and cantilever shift into the second position, the coil contacts the magnetic field and a signal is induced.

So, as the stylus traces the record's grooves, the variations in its movement are transmitted to the coils via the cantilever. The coils are then moved from their neutral position, cutting the lines of force between the magnetic poles and producing tiny voltages.

These voltages are replicas of the signals placed in the groove when the record was cut. And it is because the moving coil principle is also used in this cutting, that the most accurate reproduction of the signals is achieved by the same method.

# MCP 100 Super
# Higher Output Moving Coil Cartridge

ortofon
accuracy in sound

**The higher output MCP 100 Super**
Because normal moving coil cartridges use such miniaturised coils, their voltage output is very low (0.1 mV or less). Necessitating the use of additional amplification.
But by increasing the number of windings on the MCP 100 Super's coils, we have increased its output voltage to 0.3 mV. Which means it will provide a perfect match for any up-to-date amplifier with a built-in MC input, without the need for an external step-up device.
Yet because it has an internal impedance of 3 ohms (like all other Ortofon moving coils), it can still be used successfully with any of our step-up transformers (for instance, the T 5 described opposite) if further improvement in sound is deemed desirable.

**The advances that made the MCP 100 Super possible**
Previous attempts at putting more windings on a moving coil, while increasing the cartridge's voltage output, have also increased its mass. With a resulting loss of performance.
But with the MCP 100 Super, we have been able to keep a low equivalent stylus tip mass of just 0.5 mg, thanks to further developments by Ortofon technicians.
The first is a new armature, which was originally designed for Ortofon's state-of-the-art Ortophase® MC 2000. This new armature has been designed as a tiny, lightweight cross, which allows the number of minute coil windings to be increased without affecting the performance of the moving mass.
As a result, the cross-sectional area of the windings is identical on both coils, improving channel balance. And the coils are mounted at exactly 90° to each other (just like the walls of the record groove), improving channel separation.
The second development has been taken from the Ortofon MC 200/TMC 200: a magnetic system, consisting of an extremely powerful samarium cobalt ring magnet, which encircles the coils completely. This ring magnet system ensures a completely homogeneous magnetic field. (Incidentally, the entire magnetic system, with front and rear pole pins, is glued to the cartridge body, resulting in greater rigidity and mechanical stability. This also prevents internal resonances which in turn permits cleaner high frequency response).
The damping system consists of one layer of asymmetrical rubber, which secures linear damping across the entire frequency range. The result: an open and firm sound reproduction.
In order to match any P-mount tonearm perfectly, the MCP 100 Super weighs 6 grams and operates with 1.25 g tracking force. Despite this low tracking force, the cartridge has very good tracking ability.
Finally, its highly polished, pure Elliptical diamond keeps background noise at a minimum.
Ortofon's linear phase technology, the Ortophase® Concept, has been applied to the MCP 100 Super. The result being that the phase and frequency response characteristics are as linear as possible; therefore, achieving an extremely high standard of stereo reproduction.

**If additional amplification is required, the answer might be the T 5 transformer**
The T 5 transformer is an economical solution if additional amplification is required to perfect the sound. (Compared with many built-in MC inputs, the unit must definitely be considered an "upgrader").
Despite its modest price, however, it offers open and pleasant sound reproduction, and a good all round performance.


The T 5 consists of two identical mono transformers. Used together with 3 ohm cartridges (like all other Ortofon moving coils), it has a gain of 26 dB, making it an ideal match for our less expensive models, e.g. MCP 100 Super and MC 10 Super. These combinations result in a total output of approx. 5.5 mV, which is higher than the average magnetic cartridge.
T 5's frequency range of 20-30,000 Hz ±1 dB, covers the audible range adequately. Its rise time is only 8 µ sec.
The T 5 transformer is easy to use. Each unit is not much bigger than a phono plug, and connects directly into the phono inputs on the back of the amplifier. The turntable's phono plug then plugs into the back of the T 5.
The T 5 transformer can be used together with all moving coil cartridges in the 3-40 ohm internal impedance range.

| Technical Data | MCP 100 S |
|---|---|
| Weight | 6 g |
| Type of stylus | Elliptical |
| Equivalent stylus tip mass | 0.5 mg |
| Frequency response | 20-20,000 Hz |
| Output voltage at 1000 Hz per 5 cm/sec | 0.28 mV |
| Channel separation at 1000 Hz | 25 dB |
| Channel balance at 1000 Hz | 1.5 dB |
| Compliance static, vertical | 25 µm/mN |
| Compliance static, vertical lateral (10 Hz) | 25 µm/mN |
| Recommended tracking force | 1.25 g |
| Tracking force range | 1.25-1.5 g |
| Tracking ability at 315 Hz lateral | >60 µm |
| Vertical tracking angle | 20° |
| FIM distortion | ≤ 1% (1.25 g) |

ORTOFON MANUFACTURING A/S
11 B, Mosedalvej,
DK-2500 Copenhagen-Valby,
Denmark.

Printed in Denmark Krum & Co.