

# PAN

AMSTERDAM

## GUDE & MEIS ANTIEKE KLOKKEN



A French Art Deco nickel Jean-Léon Reutter patent Atmos clock, circa 1930.

The movement of this clock is wound by changes in temperature and barometric pressure thus it doesn't need winding. The clock was designed and produced by Jean-Léon Reutter in the early 1930s. The nickel plated case is a nice example of the Art Deco style.

### Jean-Léon Reutter

In 1927 Jean-Léon Reutter created his first prototype clock which driving spring is wound by changes in temperature and barometric pressure. After a number of adaptations and improvements a commercial production line of the Reutter patent Atmos was started up in the middle of 1929.

There were a number of inventions that made this technical marvel possible. He used a torsion pendulum, known from 400-day clocks, and by enlarging it ensuring a very low ticking count. He made the suspension wire from elivar, an alloy insusceptible to temperature changes, which improved the precision very much. The movement was finely made and executed with ruby end stones causing it to need very little energy. In fact, the clock only needs 1/1000 of the energy that a conventional movement needs. These improvements were combined with his winding mechanism. This consists of a drum which can turn between two blocking pins. In the drum there is a U-shaped glass tube filled with mercury and ammonia gas of which one part is insulated. By changes in

temperature and barometric pressure the ammonia gas expands or retracts in comparison to the gas in the insulated half. This causes the mercury to shift which motion turns the drum. This turning winds a spring which drives the mechanism.

Between 1930 and 1938 these clocks were produced under the direction of Reutter. After this period Jaeger leCoultre took over the patent and modified the winding mechanism. Because of these developments, the number of Reutter patent clocks remained limited. These Reutter clocks were executed with different cases. The nickel plated Art Deco versions are fairly rare because they were too modern for the large public.

### **Atmos pendule perpetuelle**

The 12-cm chapter ring has applied Arabic numerals and has ruby half hour markings. The chapter ring is inscribed Atmos below the number 12 and pendule perpetuelle above the number 6. Pendule perpetuelle means 'perpetual clock' a name that Reutter used since the clock winds itself. The straight white laquered hands have black tips.

### **Balance wheel**

The nickel plated movement is suspended with brackets in the case and is numbered 1958. The large balance wheel has a revolution of thirty seconds and is executed with large adjustment screws. With a sliding clip in the base, the balance can be locked.

### **Art Deco**

The nickel plated case has beveled glass panels to all sides enabling a good view of the movement. There are doors to the front and back. The whole is raised on a canted plinth. The rectangular clear design is typical for the Art Deco style belonging to the 1920's and 1930's.