

WIRED

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SUPPLEMENT
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WATERPROOF TITANIUM



COVER PHOTOGRAPHY AND THIS PAGE: JAMES DAY

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Pictured on the cover and in reverse here is the first watch to incorporate hydro mechanics. The H1 by HYT relies on fluorescent fluid in a capillary tube to reveal the time

HYDRO POWER

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teampunk doesn't quite cover it.

This is a bronze age water clock with nanotechnology. Aztec punk? Inspired by the very first form of timekeeping, this time machine combines hydromechanics and fluid dynamics in a radical new way. In fact, HYT's H1 turns most

of the assumed watchmaking wisdom on its head. Instead of keeping liquid out, HYT's designers were obsessed with keeping it inside the dial, but safely away from the mechanism. And rather than rely on anything as crude as a battery, this watch uses a bespoke hand-wound mechanism. Oh yes, and hydraulics too.

The idea for a water-powered watch came to Lucien Vuillamoz, one of HYT's founders, at the Swiss national exhibition. The nuclear-physics engineer with a diploma in thermodynamics considered the problem of replacing

HYT is the first company to incorporate hydro-mechanics into a wristwatch



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OUR COVER STAR IS THE FIRST OF FOUR HYDRAULIC WATCHES MASTERMINDED BY A DESIGNER WITH A NUCLEAR-PHYSICS DEGREE

gravity, the force that powers water clocks, so that one might be worn on the wrist. The answer he arrived at was hydraulic pressure, applied to fluorescent liquid in a capillary. Opposing liquids (oil and water), separated by a meniscus, are drawn by hydraulic pressure over six hours through the glass tube to indicate the hours. At 18:00, the fluorescent liquid is pushed backwards to its original position, going backwards.

Together with serial entrepreneur Patrick Berdoz, visionary watchmakers Vincent Perriard and Jean-Francois Mojon, artistic director Xavier Casals and marketing man Ion Schiau, team HYT set about creating the first hydro-chronometer.

Inspiration for the bellows came from the measurement gauges used by Nasa. Made from a thin alloy, they can be compressed by pressure from the watch movement, while being strong enough not to leak. As the hourly mechanism drives the bellows, the fluorescent fluid pushes against the clear oil and is drawn through a capillary tube 0.3mm wide.

The tube is sandwiched between two pieces of Plexiglass that form the dial. By the time engineers had worked out how to make the hydraulic system interface with the mechanical movement, seven patents had been filed. This H1 is the first of HYT's watches to go on sale for €40,000 (in the titanium finish shown here) but the company is already working on H2, H3 and H4. **Jim Hill**

TECHNICAL SPECIFICATION

CASE Titanium with brushed, shot-peened and satin-finished surfaces; convex sapphire glass with a metallic dome at 6 o'clock and anti-reflective coating on the inside; screwed-in sapphire-crystal caseback

DIAMETER 48.8mm

INDICATIONS Retrograde liquid hours; minutes at 12 o'clock, small seconds at 9:30; 65-hour power-reserve indicator at 2:30

MOVEMENT Manually wound (exclusive HYT calibre with 65 hours' power reserve); 28,800 vph; 4 Hz; rhodium-plated bellows

DIAL Liquid hours; luminous hands and hour markers

STRAP Hand-stitched canvas lined with leather; buckle

VERSIONS Titanium case (shown); black diamond-like carbon coated case; 5N 18-carat red gold case