





*Blancpain took
dive-watch techno-
logy to a new level
in 1953 with the
Fifty Fathoms.
Now it intends to
do so again with its
new "extreme"
concept watch, the
X Fathoms.*

BY MARK BERNARDO

GENERATION

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here are watch executives who do most of their business behind the scenes in boardrooms and office suites. Then there is Blancpain chairman and CEO Marc Hayek, who has, over the course of his career inside and outside the watch business, become a poster boy for mixing business with pleasure. He is a gourmand who opened a restaurant, a wine lover who distributed wines, a cigar enthusiast who ran a cigar lounge. When Blancpain, the Swiss watch firm he took over in 2002, partnered with Lamborghini to create a limited-edition, racing-inspired timepiece, Hayek didn't just issue press releases and run ads; he got behind the wheel of a Lambo Gallardo racing machine with the watch strapped to his wrist, winning the GT Masters Amateur Championship last fall. When it comes to promoting his products, he's not known for doing things small.

The latest evidence came in October, when a group of journalists gathered in front of the Dubai Aquarium and Underwater Zoo at the Dubai Mall to witness the introduction of Blancpain's new concept watch, an "extreme" divers' model called the X Fathoms. Hayek, an avid deep-sea diver as well as motorsports enthusiast, plunged into the water and settled next to a submerged watchmaker's workbench, surrounded by sharks, stingrays and other undersea fauna, after which Italian free diver Gianluca Genoni joined him in the aquarium, paddling down to the workbench to present him with the X Fathoms prototype. It was a suitably flashy debut for a watch that is sure to generate buzz among both divers and watch aficionados, and Hayek hopes that its signature function, an innovative mechanical depth gauge, will put Blancpain back on the short list of companies known for trendsetting technology in the increasingly crowded and competitive arena of professional-grade divers' watches.

The original Blancpain Fifty Fathoms from 1953



AS MOST WATCHOPHILES know, Blancpain first staked its claim to divers'-watch history in 1953, with the introduction of the now-legendary Fifty Fathoms, conceived as an underwater timepiece for France's elite navy divers. The first Fifty Fathoms included several features that, at the time, were revolutionary: large luminous numerals and indices for greater underwater legibility; a bezel with minute markings that rotated in one direction to prevent the wearer from inadvertently miscalculating his dive time; automatic winding to reduce the number of times the crown would be pulled out and thus minimize wear on the waterproofing system; a double "O"-ring to enhance water-resistance; antimagnetic protection for the movement and, of course, a case that resisted water pressure to 91.45 meters (50 fathoms), the feature that gave the watch its name. It actually preceded the Rolex Submariner and Omega Seamaster, two other iconic divers' watches that are better known than the Fifty Fathoms.

Blancpain's watch was a hit with its intended audience: the navies of Spain, Israel, Germany and the United States all followed the French in ordering Fifty Fathoms watches for their diving units. The watch earned mainstream popularity shortly thereafter, when celebrity ocean explorer Jacques Cousteau wore one in his Oscar-winning undersea documentary, *The Silent World*. However, when Blancpain went into virtual dormancy in the 1970s, a victim of the quartz crisis, the Fifty Fathoms went with

The orange- and blue-tipped hands record depth on their respective colored scales.



Blancpain CEO Marc Hayek poses with the X Fathoms prototype watch in front of the Dubai Aquarium.

it. Blancpain, which resumed full operations in 1982, didn't bring it back until 1997, with little fanfare, as part of a trilogy of "sea, air and land" watches. In 2003, the 50th anniversary of the first Fifty Fathoms, Blancpain got serious about reviving it, producing a limited-edition model that was snapped up by eager collectors. To meet the unexpected new demand, Blancpain launched the new Fifty Fathoms collection in 2007, which now includes a tourbillon and a chronograph model as well as several retro-styled limited editions. It has become the third of Blancpain's streamlined trio of "families," along with the classical Villeret and the avant-garde L-Evolution.

Hayek sees the X Fathoms as the next generation of the original Fifty Fathoms. Like its predecessor, the new watch uses the most modern technology available to create functions that are of practical use to divers — though he points out that, while the Fifty Fathoms was designed as a military tool, the X Fathoms is intended as a commercial product for the sport of diving. He is also aware of what serious divers have had to say in the past about watches with depth gauges: namely, that they are redundant because of the other equipment, such as a dive computer, that a diver always carries with him. "A watch will never replace a dive computer," Hayek told *WatchTime* in an interview in Dubai, "but I wanted something simpler than a dive computer that would still be useful. It's like with a chronograph: most of the time you're just using it to time your three-minute egg, but the spirit still has to be there, the usability still has to be there. What's important is that it has enough readability and precision that a diver can use it."

THE X FATHOMS is not the first mechanical divers' watch to include a depth-gauge function. In 1999, IWC introduced the Deep One model, the first in its Aquatimer divers' watch collection to include a depth gauge. It used a hollow, narrow cylinder, open at one end and closed at the other, called a Bourdon tube. The watch was designed so that water would enter the open end and cause pressure, straightening the tube and causing it to move a geared hand on the dial that recorded the depth, to a maximum of 45 meters. IWC even included in the watch's packaging an air pump that the owner could use to test the Bourdon tube before going into the water. The Aquatimer Deep One proved to be difficult and expensive to produce; only about 100 were ever made, and the remaining pieces are collectors' items. When IWC relaunched its Aquatimer line in 2010, one of the featured models was the new Deep Two, with a re-engineered mechanical depth gauge. This one used a pressure metering system inside the crown, in which water would enter through tiny holes and press against a spring that pushed a shaft toward the interior of the case, activating a system of levers that moved two indicators on the dial, one that showed current depth (i.e., moved up and down with the divers' position) and the other that showed maximum depth (remained static at the deepest point reached on the scale). This watch measured depth to 50 meters.

Panerai, a company renowned for its divers' watches, has only one with a depth gauge, the Luminor 1950 Submersible Depth Gauge, launched in 2007. Prioritizing safety and accuracy over technical complication, it uses an electronic module

*THE LIQUIDMETAL MEMBRANE MAKES
THE DEPTH GAUGE VERY PRECISE,
TO PLUS OR MINUS 30 CENTIMETERS
FOR THE FIRST 15 METERS OF DEPTH.*

rather than an entirely mechanical system. A lithium battery operates the system, which measures depth down to 120 meters and, like the Deep Two, “memorizes” the maximum depth reached. The benefit of using such an electronic device is that the maximum tolerance of its depth measurements is a minus-cule 20 centimeters.

Finally, there is Jaeger-LeCoultre’s Master Compressor Diving Pro Geographic, in which the company used a concept similar to the one that powers the automatic winding of its Atmos clocks to operate a mechanical depth gauge. The Atmos clocks have gas capsules that expand or contract with the slight variations in air temperature to wind their mainsprings. The watches use a membrane with a metal head that responds to water pressure (rather than air pressure) and transmits power to a depth-gauge pointer on the dial; this mechanical system records depths down to 80 meters.

The Blancpain X Fathoms, which measures 10 meters deeper than the Jaeger-LeCoultre watch, also uses the so-called “membrane deformation” system, but it adds a new element that the company says greatly increases its accuracy — Liquidmetal, an amorphous substance developed by a team at the California Institute of Technology. An alloy of zirconium, titanium, copper, nickel and beryllium, Liquidmetal, despite its name, is solid at room temperature and is known for its high tensile strength (harder than similar alloys of titanium or aluminum), resistance to wear and corrosion, and low softening temperatures similar to those of plastic, which means it can be more easily cast into shapes. The material was first used in commercial applications in 2003, such as golf clubs, skis, USB flash drives and cell phones (including Apple’s iPhone 3G); it’s even been used for solar collector plates on the Genesis space probe. Liquidmetal made its debut in the watch industry in 2009, on the rotating bezel of the Omega Seamaster Planet Ocean Liquidmetal Limited Edition. The alloy played a more functional role in the Breguet Réveil Musical, a chiming watch that uses a Liquidmetal membrane to amplify the richness of the chimes. Omega and Breguet, as well as Blancpain, are owned by the Swatch Group, which in March 2011 signed an exclusive license with California-based Liquidmetal Technologies, Inc. to use the substance in its watches.

SPECS

BLANCPAIN X FATHOMS CONCEPT WATCH

Manufacturer: Blancpain SA, Le Rocher 12, Le Brassus, Switzerland

Reference number: 5018-1230-64

Functions: Hours, minutes, seconds; mechanical depth gauge; depth indication on two scales, maximum depth memory with secured reset pusher; retrograde five-minute counter; decompression valve

Movement: Blancpain Caliber 9918B, based on Caliber 1315, automatic; diameter = 36 mm; height = 13 mm; 44 jewels; silicon balance spring; 385 components; 120-hour power reserve

Case: Satin-brushed titanium with sapphire crystal; solid caseback with amorphous Liquidmetal membrane; unidirectional bezel; water-resistant to 300 meters

Strap and clasp: Injected rubber strap with 14 articulated parts, titanium buckle

Dimensions: Diameter = 55.65 mm; height = 24 mm

Price for production models has yet to be determined.



Hayek, who also serves as CEO of Breguet, saw that a Liquidmetal membrane could be the answer to the seemingly insoluble problem that plagues all watches with mechanical depth gauges: the existing systems are simply not accurate enough for professional use. “It was a challenge; it took a long time to find the right material for the membrane,” he says. “We tried a lot of different materials and even different systems. But after working with the Liquidmetal on the Breguet Réveil Musical, we realized that it could be perfect for this project, which we had been working on for four years. It was exactly what we were looking for.” Because the Liquidmetal has an amorphous rather than crystalline structure, it is more elastic and more resistant to permanent deformation than steel or other conventional metals. A membrane made of Liquid-



Water enters the case through the honeycomb mesh to activate the depth gauge.

metal can be half as thick as one made of steel. When water enters the case through the honeycomb mesh on the sides and back of the titanium case, it presses on the membrane and activates a rack-and-pinion system with asymmetrical toothings, which straightens the curve of the membrane deformation. The result is a depth gauge that is exceptionally precise, to plus or minus 30 centimeters (only 10 more than Panerai's electronic depth gauge), for the first 15 meters of depth.

The X Fathoms's depth gauge uses three center-mounted indicator hands that point to two scales on the dial. As the diver descends, all three hands begin to move. The blue-tipped hand sweeps along the 0-15 meter scale, which is in blue type (except for the 3, 4, 5 and 6, which are in orange), along the outer periphery of the dial. The orange-tipped hand and the small red-

tipped hand simultaneously move along the inner 0-90 meter scale, in orange type. When the ultra-precise 15-meter hand reaches the end of its scale, the other two hands continue moving until the maximum depth is reached, at which point on the scale the red-tipped hand remains stationary, "memorizing" the measurement for the maximum depth. The 15-meter and 90-meter indicators then move in the opposite direction, back toward zero on their respective scales, as the diver ascends toward the surface. The other useful function for the surfacing diver is the retrograde five-minute counter, operated by a pusher at 10 o'clock, whose intended purpose is to time decompression stops to prevent the onset of the bends. Essentially, when the 15-meter hand moves counterclockwise from the blue numbers to the orange ones on the outer scale, it reminds the diver to begin his



Hayek, in his diving suit, demonstrates the watch's capabilities inside the Dubai Aquarium.

decompression stops by manually activating the counter. Hayek believes that among all this watch's functions, this one may be the most practical for diving.

THE MOVEMENT in the X Fathoms is Blancpain's Calibre 9918B, based on its *manufacture* Caliber 1315, which powers several models in the modern Fifty Fathoms collection. Other than the depth gauge mechanism, which Hayek describes as not really a module but a sort of transitional mechanism between the case and movement, the only significant addition to the base movement is the silicon hairspring, which helps to shield the inner workings of the watch from magnetic fields. The movement has three barrels, for an impressive five-day power reserve.

The watch's hulking 55.65-mm case is made of satin-brushed titanium. The unidirectional rotating bezel, a hallmark of the Fifty Fathoms, is made of sapphire. And, as one would expect, other divers' watch features are present, as well: a screw-down crown, a helium-release valve at 8 o'clock protected by a hinged crown protector, and a matte black dial with big, luminous elements in three distinct colors. Because of the necessity of water entering the case to activate the depth gauge via the Liq-

uidmetal membrane, the case is designed as, in Hayek's words, a "case within a case," with the inner structure being water-resistant to 300 meters.

The unusual strap, made of injected rubber and composed of 14 articulated parts, was designed with two functional necessities in mind: it had to be attached in a way that would allow water to easily enter the case and it had to aid in making such a huge watch comfortable to wear, even for those with smaller wrists.

Those who might be interested in placing an order for the X Fathoms are, however, advised to be patient. It is still technically a concept watch and a release date and price for serially produced models have yet to be announced. But while production will be in small quantities — maybe 50 pieces per year — the Blancpain CEO intends for the extreme divers' watch to become a permanent part of the collection, perhaps as soon as this year. "To me, it was important to do something new for the Fifty Fathoms line that was more than just changing the color," he says. "It will take a lot of time to produce them; each watch will be individually adjusted for depth gauge precision, and it has to be 100 percent. We won't start saying that 50-centimeter precision is good enough. I don't want to take shortcuts; I want this watch to be special." ○