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UP-CLOSE WITH MANTA

Visitors to SeaWorld Orlando can now find out what it's like to spin, glide, skim and fly like a giant ray when they experience the only flying roller coaster of its kind in the world. A seamless blend of up close animal encounters with a head-first, face-down thrill ride, **Manta** is an adventure only SeaWorld could create.

Go up-close with Manta and get the inside story on the habitats, the marine life and the thrills.

The habitats – Exploring the depths of the sea and roaming among Manta's freshwater lagoon and saltwater habitats are just part of the new attraction's thrill. With 10 stunning and uniquely configured aquariums, riders and non-riders alike will find themselves surrounded by the beauty and mystique of Manta's underwater elements.

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| Total number of aquariums: | 10 |
| Size: | nearly 250,000 gallons, more than 2,800 square feet |
| Water temperature: | 45 to 78 degrees |
| Unique configurations: | Pop up aquarium – smaller guests “pop up” in the middle of this aquarium, surrounding themselves with hundreds of fish. Overhead aquariums – part of the massive ray habitat, this 220-square-foot viewing panel means guests will find hundreds of rays schooling over their heads. |
| Viewing panels: | Up to six inches thick acrylic |
| Total weight of panels: | nearly 55,000 pounds |
| Weight of largest panel: | nearly 16,000 (overhead aquarium) |

Did you know?

- 71,000 pounds of salt are in the clear water of Manta's fish habitats. That's about equal to 586,000 2-ounce salt shakers you might find on your dinner table.
- The total weight of the water in Manta's habitats is about 2,125,000 pounds, as much as 150 killer whales or about as much as an empty space shuttle.
- SeaWorld's water experts maintain a very special – and secret – recipe for saltwater. Don't ask, it's not for sale.
- The 220-square-foot overhead viewing panel is the single largest, free span acrylic piece ever produced by its manufacturer, Nippura.
- Manta's 3,000 fish and rays eat almost 300 pounds of food each day. In comparison, Shamu eats close to that each day, too.

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The marine life – More than 3,000 animals live in Manta’s state-of-the-art aquatic habitats, creating mesmerizing face-to-fin encounters with hundreds of rays, thousands of exotic fish and even a giant Pacific octopus.

Rays – Three hundred rays can be found in Manta’s huge all-around-you aquarium, adding to the sense of total immersion in an underwater world. While there are over 400 species of rays found throughout the world, eight species are showcased at Manta. They include cownose, spotted eagle, rough-tail, southern, shark ray, giant guitarfish, white blotched river ray and ocellate river rays.

Did you know?

- Rays are found in waters all over the world, including both saltwater and freshwater.
- A school of rays is called a “fever.”
- Most rays bear live young in litters of 5 to 15 rays.
- When wading in shallow water – especially off Florida’s coasts – do the “stingray shuffle” to avoid stepping on a buried ray.

Leafy and weedy sea dragons – These fish are closely related to seahorses and pipefish and get their name from a mythical sea creature. They can be found in Australia’s gentle, temperate waters, over sand patches, among kelp reefs and in protected coastal bays. Unique to sea dragons is their built-in camouflage – “leafies” have long, leaf-like protrusions that cover their body while “weedies” have less flamboyant appendages and are red with yellow spots. Sea dragons also have an unusual method of travel, propelling themselves using tiny pectoral fins on the ridges of their necks and a dorsal fin on their backs.

Did you know?

- Sea dragons and seahorses (below) differ in the way they carry their young. Male sea dragons carry up to 250 eggs on the underside of their tail, while male seahorses rear their young in a pouch.
- Sea dragons are the official marine emblem of the state of South Australia.
- Sea dragons have virtually no predators. Their combination of excellent camouflage, tough jointed plates and sharp dorsal spines offer adequate protection.

Seahorses – The seahorse is one of the most beautiful and aptly named of all fish. Found in sheltered, shallow, warm waters throughout the world, seahorses range in size from an inch long (the dwarf seahorse) to a foot long or more (the Pacific seahorse). More than 32 species exist worldwide and two are showcased in Manta – the lined seahorse and the long snout seahorse.

Did you know?

- The male seahorse carries fertilized eggs in his pouch, until the fully developed baby seahorses are expelled into the water.
- The seahorse’s scientific genus name, *Hippocampus*, is Greek for “bent horse.”
- The seahorse may appear as if it wears armor; its body is covered with bony rings and ridges.
- Seahorses have no teeth and no stomach. Food passes so quickly through their digestive systems that they must constantly eat to stay alive.

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Fish -- More than 2,500 exotic fish dart through crystal-clear waters, creating a whirlpool of color inside Manta's immense aquariums. SeaWorld's fish experts chose species whose natural populations are healthy and sustained. Manta's aquariums are teeming with angelfish, cardinalfish, butterflyfish, clownfish, pipefish and damselfish, to name a few.

Did you know?

- Clownfish have the ability to switch gender. If a reproducing female dies, the mating male switches gender to ensure a reproductive partner for the community.
- Butterflyfish have the unique tendency to sneak into a safe reef crevice at night and tone down their flamboyant colors, allowing them to escape unnoticed from predators.
- Subject to over-catching, the Banggai cardinalfish comes to Manta from Discovery Cove, where breeding programs have been successfully implemented.
- Seahorses like to grab on to the tail of a snake-like Alligator pipefish and hitch-hike. The pipefish doesn't seem to mind; it actually begins to seek out the seahorses.

Giant Pacific Octopus — A giant Pacific octopus creeps along the interior of Manta's saltwater habitat, staking its claim as the ambassador for the largest octopus species in the world. Pacific octopuses are generally reddish-brown in color, though they can use skin pigment cells to change color and texture, sometimes quite quickly.

Did you know?

- Giant octopuses have highly developed brains and are rather skilled at puzzles, opening jars and even leaving their enclosures to look for food.
- Giant octopuses' arms and suckers are very strong. It's been estimated that 40 lbs of force is needed to release the grip of a three-pound octopus.
- The female can lay up to 100,000 eggs at a time. Very few survive to maturity.
- The preferred term for the plural of "octopus" is "octopuses," even though "octopi" is fun to say and makes you sound like a marine biologist.

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The thrills -- Manta hits the thrill-seeking mark with a spinning, flying roller coaster inspired by the biggest ray of all. In a flying coaster, the seats rotate horizontally, putting riders in a soaring, face-down position. Manta combines the best of sea and steel with innovative thrills that only SeaWorld can create. Four inversions and spins and several close-call thrills put Manta on top of the world's must-ride coasters.

Inversions In four sweeping inversions - including two in-line spins, one flat spin and one pretzel loop - riders experience a dynamic shift in equilibrium, as if they're on the back of the graceful manta ray throughout its unpredictable ocean voyage.

Close calls In a sure-to-be-remembered moment, Manta's speeding train and guests in the queue line are separated only by a waterfall -- Manta on one side, and waiting guests on the other. In line, visitors will feel the punch of air as the train flies past at highway speeds. On the ride, guests will gasp as they dart within two-and-a-half feet of the gushing water.

Approaching the end of the ride, but with a few twists and spins still to be had, Manta's train seems to skim the surface of the lagoon, throwing out a 14-foot high, 60-foot long spray of water.

Did you know?

- It's a known fact that roller coasters cause the brain to release endorphins, creating a "that was so cool" feeling. What follows is usually a desire to ride again. And sometimes again.
- On a flying coaster, objects and ride elements seem closer than they are. Manta is different. Ride elements, like Manta's waterfall and the wing skim, ARE close.
- Manta's loading platform was designed to hide the boarding process from riders. SeaWorld's experts wanted the head-first, face-down launch to be a surprise.
- Manta's height requirement is 54 inches. In comparison, the biggest manta ray ever seen measured nearly 20 feet across.

The trains -- At the front of each coaster train, a massive, hand-crafted manta ray leads the way. Comfortable straps and cushioned bars safely secure riders from chest to ankle. Powerful motors rotate each seat to a flying position. Held tight, safe, comfortable and face down, riders feel as though they're flying with a huge gliding/spinning/twisting/soaring ray.

Vehicle wing span: 12 feet
Length of train: 72 feet, 2 inches
Weight per train: 33,100 pounds when empty
Wiring per train: 2,524 feet

Did you know?

- The trains on flying coasters are the most complicated and technically advanced trains of any type of roller coaster.
- Manta's trains are very efficient and built to extremely high standards. In fact, if Manta's track were flat -- with no loops, twists, turns or brakes -- a single train would probably coast for nearly two miles after its initial 113-foot drop.

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The track -- Seeing Manta's track for the first time, riders might be confused. Is the track above or below the coaster's trains? The loops ... are riders on their backs or bellies? That twisted, tangled-up section of track that goes every which way but straight ... exactly how do riders get through that?

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| Track length: | 3,350 feet |
| Maximum height: | 140 feet |
| Maximum drop: | 113 feet |
| Top speed: | 56 miles per hour |
| Weight of steel used: | 2,772,600 pounds |
| Number of bolts used: | 12,186 |

Did you know?

- Manta's rails are filled with sand to make a quieter, smoother ride. SeaWorld designers did this so riders can focus more attention on the overall experience (and they succeeded).
- Manta's first drop provides all the power the flying coaster needs to speed for the next 3,000-plus feet, even through multiple loops, inversions and twists.
- All of Manta's track was forged and created in Ohio and trucked to SeaWorld on 18-wheelers.
- The final piece of track put into place was numbered #72, and according to SeaWorld's team, it "fit like a glove."

Manufacturer -- SeaWorld's experts sought the expertise of Bolliger & Mabillard of Monthey, Switzerland, to help them create the Manta experience. Known as the best coaster crafters in the world, B&M also have helped to create several other Worlds of Discovery coasters: Kraken at SeaWorld; SheikRa, Montu and Kumba at Busch Gardens Tampa Bay, and Griffon at Busch Gardens Williamsburg. B&M pioneered the stand-up roller coaster, the inverted roller coaster and the floorless roller coaster (Kraken).

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| Company founded | 1988 |
| Employees | 30+ |

Did you know?

- Laid end to end, all of the track for B&M coasters would stretch from SeaWorld to Cocoa Beach, on Florida's east coast, nearly 50 miles.
- According to a recent poll from *Amusement Today*, 20 of the top 50 steel roller coasters were created by B&M, and four in the top 10.
- The company currently has more than 70 coasters rolling throughout the world.