

= Wing Coaster =

A Wing Coaster is a type of steel roller coaster manufactured by Bolliger & Mabillard where pairs of riders sit on either side of a roller coaster track in which nothing is above or below the riders . Development of the Wing Coaster began between 2007 and 2008 leading to the opening of Raptor at Gardaland , the world 's first Wing Coaster , on 1 April 2011 . There are currently eight Wing Coasters operating worldwide .

= History =

According to Walter Bolliger , development of the Wing Coaster began between 2007 and 2008 . In 2010 , Bolliger & Mabillard announced a prototype Wing Coaster design that would be built at Merlin Entertainments ' Gardaland . It became known as Raptor , which opened on 1 April 2011 . A year later , Merlin Entertainments opened a second Wing Coaster on 15 March 2012 , called The Swarm at Thorpe Park .

In the United States , the first Wing Coaster to be announced was X @-@ Flight , which opened at Six Flags Great America on 16 May 2012 . Dollywood 's Wild Eagle actually opened earlier on 24 March 2012 , making it the first Wing Coaster in North America . On 13 August 2012 , Cedar Point announced plans to build a new Wing Coaster called GateKeeper , which set new records for a Wing Coaster including longest track length , fastest speed and drop height . The first Wing Coaster in Asia , Parrot Coaster , opened at Ocean Kingdom on 25 January 2014 . Thorpe Park announced that the last two rows of The Swarm would be turned backwards ? a first for a Wing Coaster ? for the 2013 season . On 24 July 2014 , Holiday World & Splashin ' Safari announced Thunderbird , the first launched Wing Coaster .

= Design =

The design of a Wing Coaster differs from many traditional steel roller coaster . Unlike many roller coasters , the trains for a Wing Coaster are not located above or below the track but rather on the sides . With the trains in this configuration , there is nothing above or below the riders giving the feeling that they are flying freely . Also , because there is nothing on top of the track and only steel beams holding each ends of the train together , all current Wing Coasters have an object (that relates to the theme) that covers the steel beams and adds to the experience . The restraints on the trains are also different . Instead of simply having the traditional over @-@ the @-@ shoulder restraint bar as used on many inverted roller coasters , the Wing Coaster uses similar restraints as Bolliger & Mabillard 's Flying Coaster which includes a " cover " and a restraint that sits on the rider 's waist holding them in place with bars on the side for the rider to hold on to . The differences are not only within the train but also the layout of the station . This is because the layout of the station for a Wing Coaster requires the queue to split in two halves . This allows riders to board the train where the seats sit level with the track .

= Installations =

Bolliger & Mabillard has built eight Wing Coasters as of November 2015 . The roller coasters are listed in order of opening dates .

= Similar rides =

Prior to the development of the Wing Coaster , in 2007 , Intamin debuted a version of their Accelerator Coaster with modified trains similar to those used on 4th Dimension roller coasters and Wing Coasters . Known as a Wing Rider Coaster , Furia at PortAventura was the first and currently only ride of its type . It launches riders from 0 to 135 kilometres per hour (84 mph) in 3 @.@ 5 seconds with trains that seat six rows of four people (two on either side of the track) .

In addition to the Wing Rider Coaster , Intamin has also introduced a model named Wing Coaster . The first installation was Skyrush at Hersheypark in 2012 . The trains feature 2 seats are still positioned over the track and have a floor , while 2 hang over the side which are the " wings " .

The Wing Coaster is also similar to John F. Mares ' 4th Dimension roller coaster concept from the 1990s . However , unlike 4th Dimension roller coasters , cars on a Wing Coaster train do not spin ? they are locked in place . Examples of 4th Dimension roller coasters include X2 at Six Flags Magic Mountain and Eejanaika at Fuji @-@ Q Highland .