

HISINGEN BRIDGE, GOTHENBURG, SWEDEN

CASE STUDY

A practical and compact vertical access solution is required with four elevators at Hisingen Bridge

The new Hisingen Bridge in Gothenburg, Sweden is a key public infrastructure development for the city. It replaces the old Göta älv Bridge and provides for a shorter crossing distance between Hisingen and the city centre traversing over the river Göta älv.



Photo by: Trafikkontoret, Göteborgs Stad



Photo by: Max Hjalmarsson

The noteworthy design of the new Hisingen Bridge involves four distinct pylon structures and vertical lift capability.

In this instance, a practical and compact vertical access solution is required with an elevator located within each of the four pylons. This is essential for service and maintenance tasks inside the pylon structure where counterweights and machinery for the vertical lift bridge are located. Each pylon leg will be effectively and practically served by an Alimak elevator built on rack and pinion technology giving access to five landings up to a lifting height of 36 meters, travelling at 0.6 m/second and providing a payload capacity of 300kg. The tried and tested rack and pinion drive first introduced by Alimak many years ago was the only viable solution for this project, with the drive mechanism being located within the elevator car itself and eliminating the need for space requirements for a separate shaft or machine room.

Bridge pylons present particular access challenges due to the necessarily limited space available. Convenient and reliable access, however, remains essential for maintenance personnel to address critical tasks relating to aspects including cable stays and aircraft warning lights at the top of each structure.

With over 40 years of experience in vertical access systems for bridge projects, Alimak is uniquely experienced to meet and overcome the specific challenges which arise with a specific bridge, its geography and engineering. In addition to the compact and reliable elevator with its rack and pinion drive design for narrow spaces, Alimak's elevators can also be adapted to traverse inclined or curved surfaces as the form of the bridge pylon structure demands.

ELEVATOR DETAILS

Location:	Gothenburg, Sweden
Application:	Bridge pylon
Elevator type:	Rack and pinion
Elevator model:	Alimak SE 300 DOL with Special U-600 mast
Capacity:	300 kg
Elevator car size:	0.78 m x 1.04 m x 2.17 m (W x L x H)
Speed:	0.6 m/s
No. of elevators:	4

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