



SOLVING MOVERS FOR THE TRANSFORMER INDUSTRY

SOLVING MOVERS ON AIR BEARINGS

For the transformer industry

Solving is one of the leading manufacturers of customised systems for handling heavy loads. Based on over 40 years of experience we provide solutions both on air bearings and wheels.

Air film technology is considered ideal for handling transformers weighing several hundred tons quickly and smoothly through production and test facilities.

Solving provides a variety of transporters for handling transformers, windings, cores and components ranging from simple manual Movers for smaller components to remote controlled and automated systems for bulky windings and transformers and for frequent operation.



Solving Movers for transformers weighing up to 700 tons

Several manufacturers of transformers have used Solving's Air Film Movers a long time to assemble windings, cores and active parts and to move them into vacuum ovens. Air film technology provides all the necessary freedom and flexibility for moving completed transformers weighing up to 700 tons. Electrical drive units and integrated batteries improve the flexibility of the Mover and allow it to be operated without load free of any trailing cables or air hoses; these are connected only when a loaded steel pallet is to be moved. The Movers can be used individually for smaller transformers or as a combination of two or three units controlled from a single radio control console.

Wilson Transformer Company



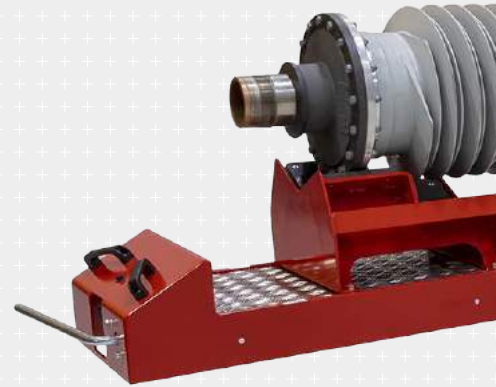
Solving Movers for transformers weighing up to 50 tons

Solving provides handling equipment for cores, windings and components weighing up to 50 tons. The equipment often consists of an Air Film Mover incorporating all the necessary technology, designed to lift and accurately move steel pallets from one station to another. An Air Film Mover consists of a rigid steel construction incorporating both air bearings and wheels, drive units, a control system and in some cases also a hose reel for the air supply. Usually, one single operator maneuvers the system from a portable radio transmitter.



AN EXAMPLE OF AN AIR FILM BASED MOVER HANDLING TRANSFORMERS WEIGHING SEVERAL HUNDRED TONS

High voltage power transformers are amongst the largest and heaviest production items found anywhere in the world. Apart from the extreme size and weight of these giants, testing requires very high voltages to be applied, requiring safe clearances between the connections and the surrounding building structure. When these connections, high voltage bushings, are assembled and cooling oil is added immediately prior to test the transformers become too large and heavy for most cranes. This used to mean carrying out final assembly in the test area, but power transformers can now be moved after final assembly without cranes using Solving's latest sophisticated air-film based Mover system.



AN EXAMPLE OF AN AIR FILM BASED MOVER HANDLING TRANSFORMERS WEIGHING SEVERAL HUNDRED TONS

EQUIPMENT

The equipment consists of two 230-ton radio-controlled Movers together with an 80-ton auxiliary beam. These can be used individually for smaller transformers or combined as a 540-ton system, controlled from a single radio-control console.

CONSTRUCTION

Transformers are assembled on steel pallets which allow the Movers to pass underneath in preparation for a move. An on-board battery system and electric drives are used to control the movement of the unloaded system and each Mover contains an integral hose reel for connection when a heavy lift is to take place. Once the air bearings have been activated the transformer can be driven in any direction, rotated and turned as required.

RESULT

Customers have found that the flexibility provided by the Solving system provides them with maximum efficiency in test departments and enables all assembly processes to take place in the production areas.



SOLVING WHEELED MOVERS

There are various kinds of Solving wheeled Movers, all of them being tailored to suit specific customer requirements. One example is a wheeled Solving Mover for smooth handling of transformer bushings in a narrow layout.

Solving has installed a customised, radio-guided and battery-powered Mover to move transformer bushings in a production area. The Mover frame is telescopic and thus adjustable to loads of various lengths. Due to a very narrow layout, the Mover must be able to drive omnidirectionally: forwards, backwards, crossways and diagonally. The Mover is controlled with a portable remote-control unit, allowing the operator to supervise and drive both the Mover and load in a safe way. Additional safety is provided by collision sensors, which warn the operator whenever an object is detected in front of the Mover.

SOLVING IN BRIEF

Solving is one of the world's leading manufacturers of industrial handling equipment for heavy loads. Our products range from simple, manually operated systems to automated riderless vehicles for continuous operation.

Most Solving systems are custom built and manufactured under the product name Solving Mover.



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