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 *Keep on moving to the future.*

Technical Solutions



- Machinery Movement



- Prefabricated Assembly



- Hydraulic Jacks



- Load Tests

Autovictor's Technical Solutions division is dedicated to the integrated management of handling, lifting and installation operations of complex industrial machinery and structures. Thanks to an engineering approach and the use of highly specialized equipment, the team ensures customized and safe solutions for every phase of the project — from the millimeter positioning of sensitive components to the assembly of large prefabricated structures.

01 Heavy Machinery Movement

Autovictor offers complete services for the handling, lifting and installation of industrial machinery and production lines production and special equipment. The vehicles available to Autovictor allow it to operate in confined spaces and active production environments, using compact cranes, self-propelled trolleys and lifting systems that guarantee precision and safety at every stage.



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03 Hydraulic Jacks

Autovictor has a synchronized lifting system controlled by a PLC-controlled Enerpac hydraulic power unit capable of managing 24 lifting lines with a maximum of 5,500 tons. Autovictor hydraulic jacks apply controlled loads on a structure, through push or pull (with a dedicated contrast structure). This technology allows the loads to be distributed uniformly and movements synchronized to the millimetre, ideal for lifting operations, replacement or positioning of heavy elements where cranes are not usable. The advantage of using Autovictor jacks is the maximum precision in controlling the applied load with the possibility of testing with progressive load curves and real-time monitoring with load cells and sensors.



02 Prefabricated assembly

Autovictor, specialized in the lifting, handling and assembly of prefabricated elements, has the capacity and know-how to become the only reference partner in this market. The lifting and installation of prefabricated buildings are carried out with all-terrain cranes, crawler cranes and telescopic lifts. Prefabricated structures for logistical use such as production plants or offices are installed: bridges, viaducts and retaining walls; artificial tunnels with circular or rectangular section.



04 Load Tests

Load tests are carried out to verify the structural and functional capacity of works or components (bridges, prefabricated beams, railway and metal decks, industrial bases). They can be static or dynamic, and must simulate operating or overload conditions in maximum safety. Autovictor is able to carry out load tests according to current technical regulations (e.g. NTC 2018, Eurocodes) using different methodologies: - **Load tests with ballasts (concentrated and distributed weights)** - **Contrast load tests** - **Load tests with hydraulic jacks (push or pull)** - **Dynamic Load Tests with SPMT**



Heavy Machinery Movement



The assembly and maintenance of industrial systems represent a critical phase in many sectors. These activities require precision, safety and speed of execution, and frequently involve large components and heavy machinery, often to be installed or replaced in confined environments or at heights. In this scenario, cranes, mobile cranes, forklifts, telescopic lifts and aerial platforms represent the indispensable tools for the movement and positioning of

machinery and components; lifting and assembly at height; ordinary and extraordinary maintenance (when required); in general, internal handling linked to industrial logistics. Before each intervention, Autovictor draws up a preliminary analysis and operational planning with its specialized operators, including a technical inspection to evaluate the weights, dimensions and dimensions of the components to be moved but above all to analyze the structural constraints, accesses, floors and aerial obstacles in notoriously restricted and delimited areas such as industrial plants.

Main Means Utilized



-Telescopic Handlers



-Aerial Platforms



-Mobile Cranes



-SPMT

Planning is often supported by 3D simulations performed “in-house” by Autovictor engineering. Once the optimal type of equipment to be used and their configuration in terms of capacity, outreach, working height, etc. have been established, then comes the operational phase.

Typical uses are the assembly or replacement of presses, turbines, boilers, compressors, silos, tanks, the installation of metal carpentry and piping with operations often at heights on complex structures and within delimited and restricted areas.

Prefabricated Assembly

The activity begins with an inspection of the construction site, followed by the planning and execution of the intervention by specialized teams. The work includes examining projects, evaluating operational difficulties, estimating necessary resources, and defining assembly procedures and sequences in collaboration with the safety offices and the safety coordinator.

Assembly often occurs at height, requiring careful evaluation and design of safety measures, including the possible need for special Aerial Platforms for working at heights. The correct assembly sequence is crucial, especially for tall buildings, to ensure transient stability and manage access to the installation point, all operations managed “in-house” by Autovictor.

Mobile cranes must be compact but with the necessary capacity, preferably with two winches. In some cases, pick&carry crawler cranes are used. Aerial Platforms must have a large reach and minimum size, often with an articulated arm. Telescopic cranes from 80 to 200 tonnes and articulated Aerial Platforms are usually used. Autovictor has cranes with capacities up to 800 tons. Autovictor has a dedicated assembly team. Specific training for operators is essential, thanks to Autovictor's HSE Academy, which includes knowledge of safety regulations, working at heights, the use of lifting devices and Aerial Platforms, and prefabricated constraint and hooking systems.



Hydraulic Jacks



Hydraulic jacks are devices capable of creating significant lifting or moving forces through the action of oil in a hydraulic cylinder. In the context of Autovictor, hydraulic jacks are fundamental tools in the following typical scenarios: lifting of prefabricated structures (sheds, bridges, viaducts), raising of existing infrastructures, fixing and leveling of heavy loads before handling with SPMT or crane, settling of loads on support plates, etc.

The adoption of hydraulic jacks brings the following technical advantages:

- They allow high-capacity lifting with relatively small overall dimensions, making them more flexible than the exclusive use of cranes.
- They offer precise control of the excursion and force, essential for leveling operations, insertion of posts, pre-sizing of loads on support plates, SPMT alignment.
- They can be adapted to complex field conditions, where the crane cannot operate (e.g. under viaducts, in artificial tunnels, on prefabricated structures already installed).
- They allow incremental lifting operations (jack-up) or temporary support under load, frequent operations in bridge, raising or structural displacement interventions.
- The modularity and the possibility of combining multiple units make it a strategic tool for customized operations.



Load Tests

Autovictor carries out different types of static and dynamic load tests, using its own equipment to test decks, beams, roofs and prefabricated structures. The techniques adopted allow the operating conditions to be reproduced in a controlled manner, guaranteeing precision and safety in every testing phase.

In load tests with ballast, concrete modules are used, arranged in strategic points to simulate concentrated or distributed loads on decks, walkways or roofs.

Contrast load tests instead involve the creation of a temporary reaction structure composed of beams, plinths, anchors or counterweights. This system is used when it is not possible to directly place the load on the structure to be tested, as in the case of suspended decks or foundations.

The main advantage of this method is the high flexibility, which allows the application of loads at specific points even in narrow spaces, with accurate control through electronic instrumentation.

With load tests using hydraulic jacks, Autovictor applies push or pull forces on a structure through a controlled hydraulic system and a dedicated contrast structure.



Dynamic load tests with SPMT exploit Autovictor self-propelled modular transporters, ballasted and moved on structures to be tested to simulate mobile loads in transit. This system is ideal for bridges, viaducts and railway decks, as it allows the dynamic effects of moving loads to be realistically reproduced.

Thanks to the electronic control and self-levelling system of the SPMTs, it is possible to distribute the loads on multiple points even in the presence of irregular surfaces, obtaining highly representative and reliable results.

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