



The show
must go on...
thanks to
MecVel
screw jacks

The charm of the theatre meets the high technology of the company, starting a virtual tour of the main European capitals where to stop and admire the most spectacular shows, but also the linear motion performed by MecVel screw jacks

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Since 1987 MecVel is specialized in designing and manufacturing screw jacks, mechanical devices able to transform the rotatory motion of an electric motor into a linear movement, allowing to lift, position, push or pull loads up to 20 tons.

Years of experience have led to offer an important customization service of the product, which allows to configure it in detail, satisfying the needs of applications requiring a linear motion. Also thanks to this "plus", MecVel provides an in-depth knowledge of the theatrical field, and different solutions to "animate" and "automate" the possible linear handlings in this branch.

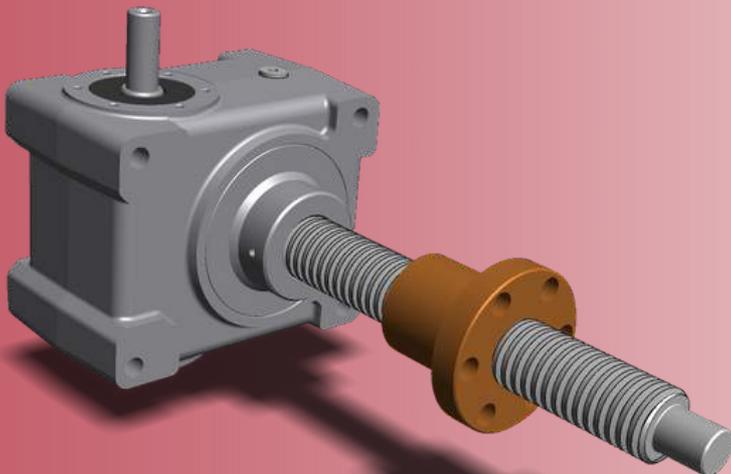
MecVel screw jacks go from 5 up to 200 kN, with two different kinds of construction:

- HR models are characterized by a trapezoidal screw rotating integrally with the gearbox (also in terms of speed). The linear motion is performed by the nut travelling along the screw. This nut must be fixed in order to avoid the rotation together with the screw
- HT models are characterized by a trapezoidal acme screw travelling through the body of the screw jack, which performs the linear motion. In this case, it is required free space around the screw jack in order to perform the movement

The bigger sizes (HR/HT 50, 100 and 200, for 50, 100 and 200 kN respectively) are the most suitable for the handling of stages and platforms used for loading and unloading materials while building the scenography, and raising and lowering the stage when required by the show performed.

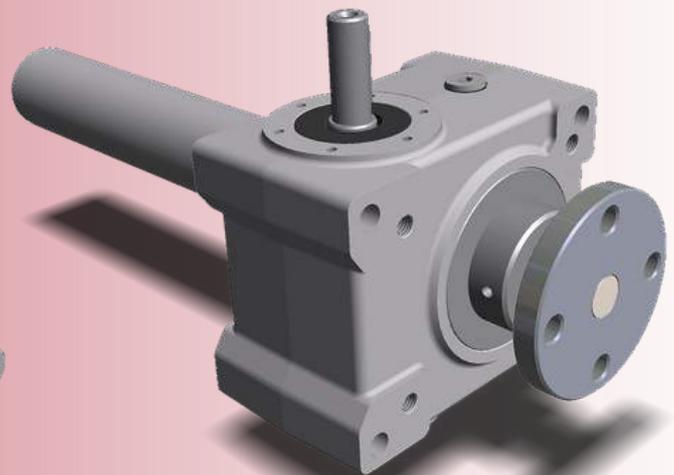
HR screw jack

Max. load 200.000 N



HT screw jack

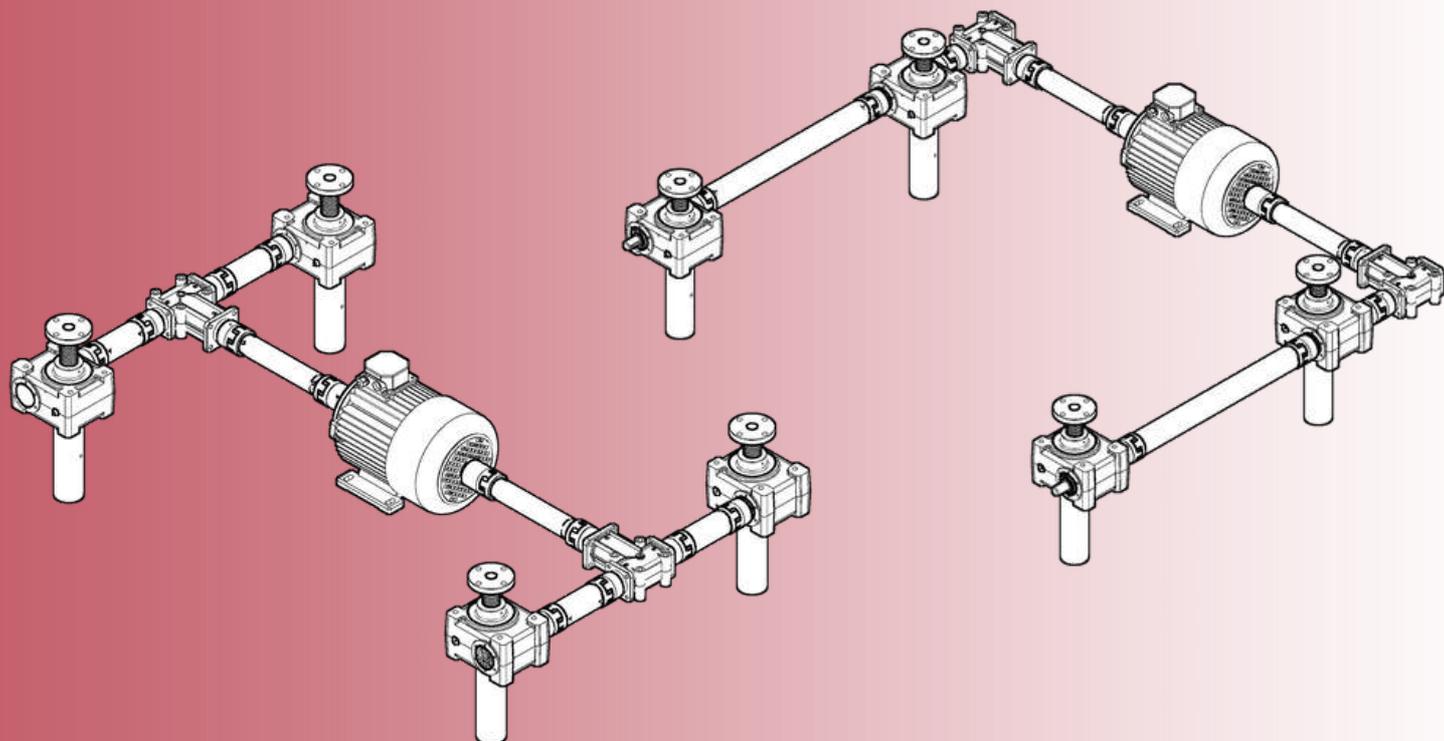
Max. load 200.000 N



An example of a deep customization is the one realized by MecVel on the occasion of the opening ceremony of the Swimming World Championships 2015 in Russia, for the 16th FINA World Championships at the Tatneft Arena Sports Palace in Kazan. The request has been to handle a platform placed on the bottom of a swimming pool, to allow swimmer Nikita Korolev to emerge suddenly from the water of this swimming pool and give start to the opening ceremony, in addition to all the dances close to the water's surface, as well as the even more spectacular dances in immersion which have animated this event.

The solution developed by the company to transform the swimming pool into a completely emerged stage in few seconds has involved four HR 50 screw jacks with increased stems and watertight cases for gearboxes, as the products have worked underwater for the whole opening ceremony.

These products find an optimal setup in a "four corner" configuration, where the screw jacks are connected each other with shafts, couplings and bevel gears, allowing a perfectly synchronized linear movement also in case of not-balanced load on the surface. In addition, the choice of extra-long screws with a long pitch ensures high power and speed, together with a low noise level. Moreover the use of limit switches and encoder allows to have a constant control of the stroke and the linear motion performed by the screw jack.



Moving the attention from the stage to the parterre, the smallest sizes of screw jacks can be applied in systems for the appearing and the disappearing of the seats in the parterre itself. The screw jack in fact, used as "tie-rod", connected to a simple lever in order to amplify the handling, allows the simultaneous opening and closing of different rows of seats mechanically connected each other.

In case of small platform lifts, in addition to the classical linear movement, MecVel can provide the opening and closing of doors, using the L series of its electric linear actuators, where the motor is in line with the body of the linear actuator itself, minimizing the overall dimensions of the product.

Linear actuators L series
Max. load 5.000 N



In general, MecVel systems ensure high precision and offer a solid structure designed to last and work at maximum efficiency, with the possibility to tailor each product according to application requests, for an unprecedented linear motion.

For more information or to set up your product contact us at:

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