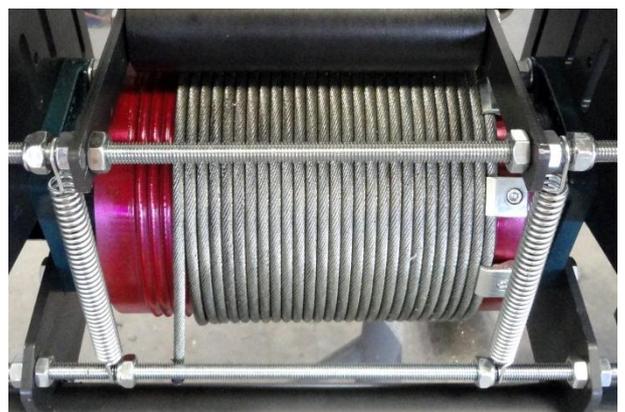
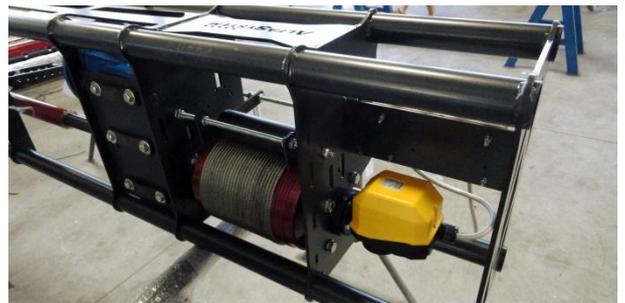


UPPERSTAGE MACHINERY  
POWERED FLYING WINCHES

## DOT Winches

Fitting in small spaces  
without performance limits

The ideal solution when the only available area for the winch is just a narrow space above the batten. A winch designed to fit in the area usually allocated for the diverting blocks.



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# DOT Winches

DOT powered winches consist of a number of grooved drums, one for each wire rope to be used, all linked by a cardan shaft. Depending of the configuration, one or two gearmotors are used to power the winch. Lifting lines leave the drum and are connected to the suspended item without any diversion.

Depending of the installation conditions, DOT winches can be provided in two versions:

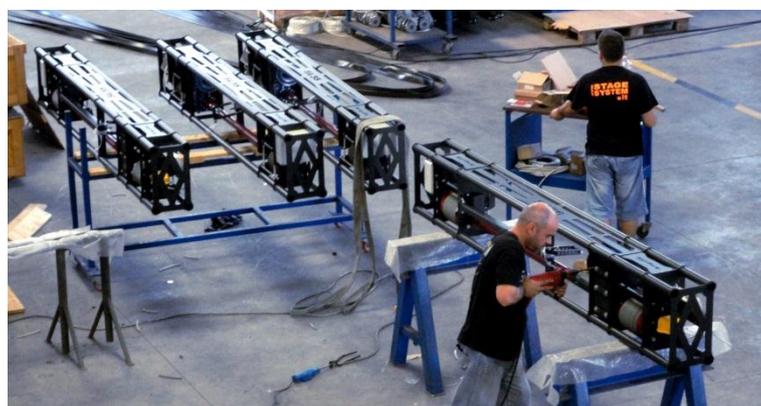
- naked version: drum units come separately and the winch is assembled on site, anchoring the drum units to an existing structural beam;
- backbone version: the winch is preassembled within a custom trussed frame or on a structural profile, making installation on site faster and easier.

## CONFIGURATION AND INSTALLATION NOTES

While keeping a distinctive slim profile, DOT winches can be configured to meet a **wide range of performances**, making them suitable for both low and high load capacities, for fixed or high speed applications.

DOT winches are **always installed directly on top of the load**: directly on the grid, under the roof or a gallery structure, etc... This solution generates only vertical loads on the bearing structure, without lateral forces.

Typically, DOT winches are used every time space is narrow: front-of-house lighting battens, proscenium rigging, low backstage areas, etc...



## SAFETY AND RELIABILITY AS A STANDARD

DOT winches are developed and manufactured according to the European standards and the international guidelines for stage engineering and machinery (CWA 15902, DIN 56950, FEM 9.756, BGV C1, etc...) and they go with EC Declaration of Conformity according to Machinery Directive 2006/42/EC of the European Parliament.

**High safety factors** Faults are excluded by applying high safety factors as a standard rule. All components between the load and the brakes are designed for a minimum of two times the dynamic load; wire ropes have a dynamic safety factor greater than 10.

**High reliability** DOT winch's components are designed to perform a working life of 1600 hours at full load and full speed, without any need to be replaced.

**Double-brake** DOT winches are always equipped with two independent brakes, each able to safely stop the load, precluding unintentional hazardous movements.

**Central gearmotor** As a basic configuration, the gearmotor with the two brakes is placed in the centre of the winch.

**Double limit switches** Movement of the load is limited by means of two travel switches. Two over-travel switches, with separate and redundant circuits, stop the winch in the event of a failure of the first switches.

**Keeper roller** Ropes are kept in their intended grooves in the drum by means of a spring-loaded keeper roller.

**Low-maintenance** All components are lubricated for life or are self-lubricating.

**Preliminary testing** All DOT winches are factory fitted and tested with the related control system, ensuring short-time installation and turn-on.

## CUSTOMIZABLE FEATURES

**Load side brake** For maximum safety, DOT winches can be configured with the gearmotor (with a brake only) on one side and with a drum brake on the opposite side.

**Double motor** In case of high performances, the winch can be configured with two identical gearmotors (each with a single brake) at the two sides on the machine. This configuration ensures maximum safety and optimal design.

**Load sensor** The applied load is continuously monitored by a load cell, ensuring immediate overload and underload detection and reducing the probability of accidents. For interfacing with entry-level control systems, a electromechanical load limiter is available.

**Cross-groove detection** Two microswitches inhibit upward motion should a wire rope come out of its groove.

**Encoders** Depending on the control system, load speed and position can be measured by incremental and absolute encoders.

**Slack rope detector** Slack condition of the wire ropes is detected by a slack rope detector.

**Other fittings** To get a complete installation set, winches can be supplied with connection clamps, certified steel wire ropes and batten.

## CONTROL OPTIONS

DOT winches can be configured to be used with entry-level push button solutions up to top-level control systems.