

MOBILE TRACTION WINCH

ENGLISH

# TWINCH 10.1







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**A UNIQUE COMBINATION.  
SUSTAINABILITY AND FORESTRY.**





## ECOFORST

A young, dynamic and highly motivated team can be found behind the name ecoforst, whose main target focuses on simplifying the timber harvesting in steep and difficult accessible terrain. Based on the team`s own experiences of many years of work in the field of tree felling, a solution-orientated approach has been at the centre of the construction of T-WINCH.

The idea of the construction of an innovative traction winch was born in order to keep safety as high as possible, while keeping damage to a minimum.

It allows access to rough terrain while taking into consideration all necessary ecological set-ups for a continued development of nature.







## SOIL PROTECTION

Sustainable cultivation means taking care and use of forest areas in a way that maintains or even improves the terrain's productivity with its output, its regeneration ability and its vitality.

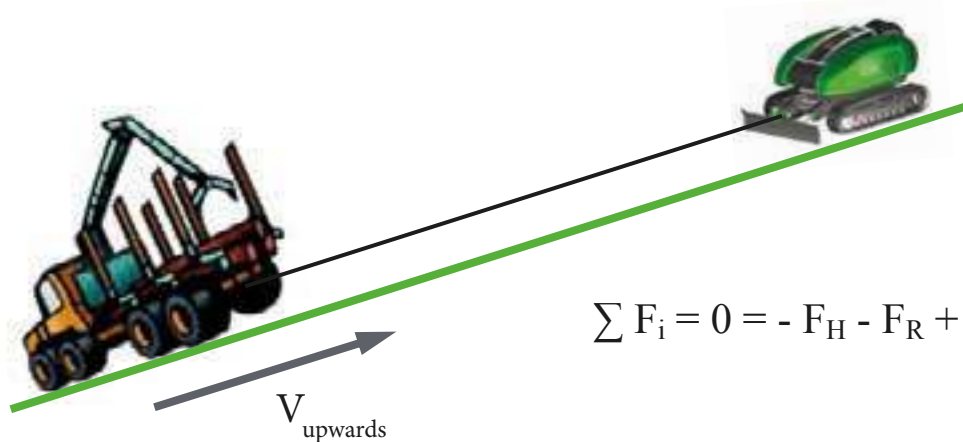
With the help of a traction winch the whole braking power and tractive force of the timber harvesting machine can be supported in slope transition terrain at any time. Serious damage to the soil is reduced because of a slip value of less than 20%, which makes it easier to systematically develop logging trails.

## SAFETY AS A BASIC PRINCIPLE

Within the last years the development of lighter forestry machines, due to the use of new tensile steels, has contributed to the fact that the limits of passable slopes has steadily increased upwards.

In order to guarantee the safe use of machines in such steep terrains the timber harvesting machine has to be adjusted to the expected field of operation, taking into account the slope gradient and changes in weather conditions. The traction winch can significantly contribute to safe working provided that the machine itself is placed in a stable position, including the machine's own braking efficiency.

## FORCES IN THE RIGHT BALANCE



$$\sum F_i = 0 = -F_H - F_R + F_Z + F_{TW}$$

## T-WINCH

In all places where unsecured driving leads to too increased risk for human and machine, the solid TWINCH traction winch assistant can be used. Not only is the application of the traction winch a considerable cost saving for the operator because of the verifiable reduction of fuel consumption, but the use of T-WINCH also represents an environmentally conscious approach in the field of timber harvesting. The remarkable construction together with the functional design, ensures an approved and reliable operation in situ. An easy reach of the operation field is provided by the help of the crawler movement and the radio control. The plate in the front part of the machine provides even more stability in rough terrain.



**YOUR BENEFIT.  
POWERFUL SUPPORT.  
MINIMAL FUEL CONSUMPTION.**

## HIGHLIGHTS

- > **With the use of T-WINCH no undesirable rear weight and no structural alteration works of the basic machine are required**  
Irrespective of the decision which machine is used for working on steep terrain, a maximum of safety is provided together with a minimum of installation work.
- > **Independent steering along forest roads is possible by uncoupling the rope**  
An easy release of the safety rope ensures the possibility of leaving the logging trail at any time. A remote storing of the timber, somewhere along the forest road can therefore be achieved easily.
- > **Maximum safety preventing rope breakage**
- > **Use of more machines at the same time**  
T-WINCH is always a valuable assistance to safe working.

## INSPIRED DESIGN AND TECHNOLOGY

Ecoforst builds a traction winch which will ensure the client profits from organising their work more efficiently by the use of modern design, carefully considered operational tasks and quality construction materials.

The diesel engine transmits the maximum torque to a double pump unit with adjustable delivery volume. These two pumps power both the closed hydraulic cycle of the winch transmission as well as the open cycle of the additional auxiliary functions. Thus the crawler movement drive and the movement of the plate can be controlled synchronously, which leads to a maximum ease of use.

To guarantee a low fuel consumption, pressure and volume flow of both pumps are continuously adjusted to the active load by using a load-sensing system.

### ENGINE



- > Robust diesel engine
- > Maximum power output 107 kW
- > Worldwide availability of spare parts

### ROPE OUTLET



- > Hardened high quality rope guides
- > Bearings on all rope guide elements
- > Stable fixing to the base frame

### AUXILIARY WINCH\*



- > Maximum traction 60 kN
- > Rope capacity 80 m
- > Maximum rope speed 1.5 m/s

\* Optional equipment







**INTELLIGENT TECHNOLOGY.  
CONTINUOUSLY VARIABLE POWER.  
EFFICIENT PERFORMANCE CONTROL.**



### ROPE DRUM



- > Good winding behaviour
- > Rope capacity 500 m
- > Rope diameter 18.5 mm
- > High tensile strength
- > Special compaction
- > Long operating life

### WINCH TRANSMISSION



- > High dynamic torque
- > Integrated multi-disc brake
- > Biggest possible static load capacity
- > Easy maintenance
- > Hydraulic pressure 420 bar

### CRAWLER MOVEMENT



- > Stable crawler construction
- > Lateral guides
- > Powerful chain drive

## EASY AND SAFE ASSEMBLY OF T-WINCH

1



### POSITIONING

With the help of the compact radio system T-WINCH can be moved to any position in the chosen terrain. Tasks i.e., change of the location through activating the crawler movement, can be handled proportionately. This makes the adjustment of an ideal and safe location for the winch easier.



*Tip*

While driving through extremely rough terrain the traction rope of the T-WINCH can also be used as a safety rope.

2



### ANCHORING

A stable anchoring of the winch takes place through both the crawler movement and the attached plate, as well as the use of additionally fixed strutting belts. These attachment points ensure that the T-WINCH is able to transmit the maximum tractive force on the timber harvesting machine.



*Tip*

Belts and other slinging accessories can be kept safely in lockable, big dimensioned storage boxes.

3



### OPERATING

After the anchoring is carried out carefully in the terrain the traction winch is ready for use. Tractive force assistance and driving direction are preset by the operator on the manual radio transmitter.



*Tip*

Changing the task switch of the T-WINCH into traction mode blocks all other auxiliary functions.



## FORWARDER

The T-WINCH supports working on slopes and helps to maximise productivity. The use of chains or belts can often be avoided because of the improved rough terrain driving characteristics of the forwarder. The reduced weight provides benefits in power consumption and prevents damage to the logging trail as well as the ground.



## TIMBER HARVESTER

With a maximum rope length of 500 m it is easy to keep the timber harvester safely on the slope during harvesting. During the winter months the harvester operator does not have to worry about driving in steep and rough terrain, but can concentrate fully on his main task of timber harvesting.



## SKIDDER

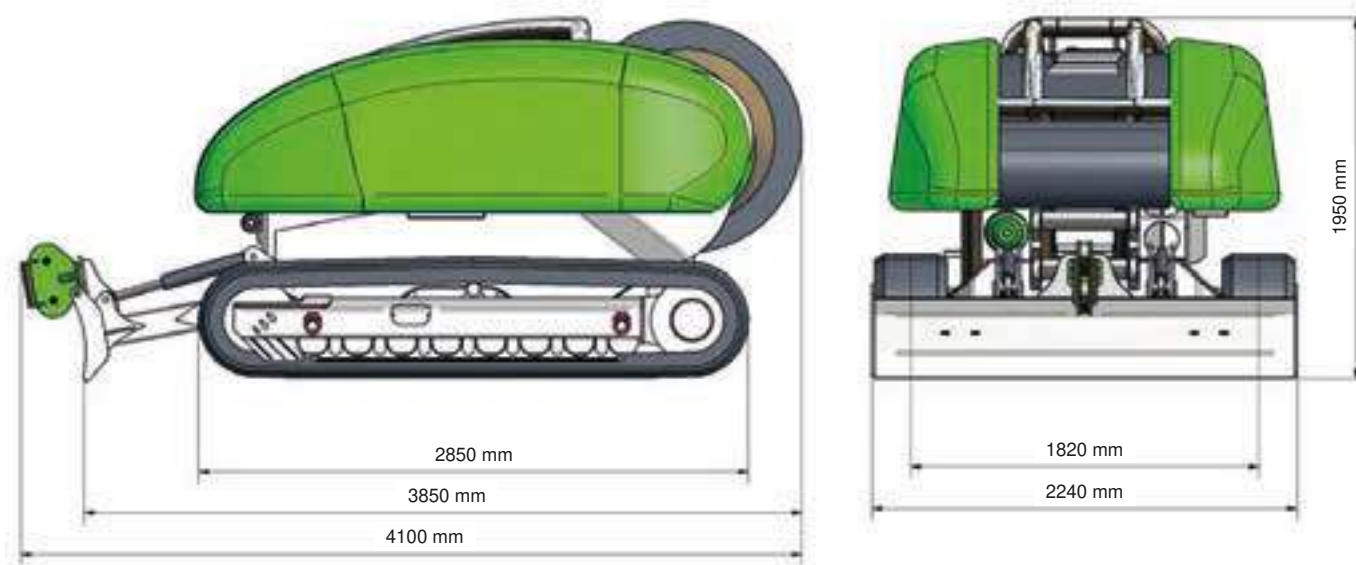
In an established forestry road system the use of skidders is still very popular. T-WINCH can support the work of skidders because of the high speed of the winch; up to 4.0 km/h and the easy uncoupling of the traction rope. Challenging slopes are no longer a handicap and the tractive force is maximised.



## CRAWLER EXCAVATOR

For earth moving works on steep slopes, T-WINCH also offers helpful support if the driving power of the crawler movement is not sufficient. The cost-intensive use of expensive inefficient special machines can be reduced to a minimum.





## DIMENSIONS

|                               |                |
|-------------------------------|----------------|
| Length                        | 4100 mm        |
| Width                         | 2240 mm        |
| Height                        | 1950 mm        |
| Weight according to equipment | 7050 – 7800 kg |

## ENGINE

|               |                   |
|---------------|-------------------|
| Diesel engine | IVECO S30 ENT - V |
| Power output  | 107 kW            |
| Engine oil    | SAE 5W 30         |
| Oil volume    | 5.4 l             |
| Fuel tank     | 280 l             |

## HYDRAULIC SYSTEM

### Working hydraulic system:

|                  |   |
|------------------|---|
| Traction drive   | (1 x 80 ccm)                            |
| Traction impulse | (1 x 90 ccm)                            |
| Oil volume       | 160 l                                   |
| Fuel tank        | according to manufacturers instructions |

### Operating pressure:

|                |         |
|----------------|---------|
| Chassis        | 240 bar |
| Winch pressure | 420 bar |

## WINCH

|                       |          |
|-----------------------|----------|
| Maximum pulling force | 80 kN    |
| Maximum speed         | 4.0 km/h |
| Rope diameter         | 18.5 mm  |
| Rope length           | 500 m    |

## TECHNICAL DATA





**Global presence:**  
Germany, United Kingdom, Czech republic, Slovakia, France, Switzerland, USA, Canada, Brasil, Chile, Austria



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Further technical development modifications are possible.