



Winches and Winch Systems for Defense Technology
ROTZLER – the best choice

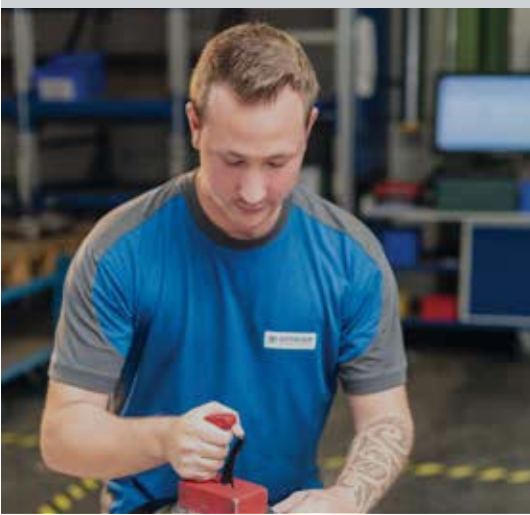
Content

1. Who we are	03
2. Defense Technology	05
3. Applications	07
3.1 Military Trucks	08
3.2 Heavy-Duty Transporters	10
3.3 Recovery / Towing Trucks	12
3.4 Wheeled Armored Vehicles	14
3.5 Tracked Armored Vehicles	16
3.6 Services	18



For 100 years, ROTZLER has stood for reliable hoisting and pulling winch technology. Competent, resolute, and innovative.





ROTZLER – a 100-Year Success Story

ROTZLER – synonymous for groundbreaking winch technology

For 100 years, ROTZLER has stood for groundbreaking hoisting and pulling winch technology that customers can rely on even under the most difficult conditions. To keep this promise, our developers and engineers test the reliability of our products, in our unique test center in Steinen, Germany. Operators from around the world rely on ROTZLER's winches and individual system solutions when dependability is crucial, whether for recovery and rescue services, the construction industry, defense technology, the marine industry, or drilling equipment.

Learn all about who we are, what we do, and how we do it. And discover why our partnership with our clients is always our number one priority.

Leader in innovation: our mission for over 100 years

In 1919, Ernst Rotzler started a smithy in Steinen that shod horses and repaired agricultural machinery. From the very start, our company founder listened closely to his clients – and developed to meet their requirements. He optimized their hay elevators and manure cranes and shifted his focus to developing and manufacturing reliable rope winch technology.

Our motivation comes from the desire to optimally satisfy customer needs, and that continues to be the inspiration for our leading technology.

Winches and system solutions

Today, ROTZLER is a leader in hydraulic winches and system solutions for mobile applications. As an independent, owner-managed company, we stand for the values that are typical of the small business sector. Customer care, reliability, trustworthiness, and an innovative spirit.





DEFENSE TECHNOLOGY



Defense Technology

Winches and system solutions from ROTZLER are used in a wide variety of defense vehicle systems. In addition to highly mobile truck systems, heavy-duty transporters, recovery / tow trucks and armored wheeled and tracked vehicles are to be mentioned here.

Important factors when selecting the proper winch system for the corresponding carrier vehicle are performance, flexibility, safety, weight and the optimal use of the space available in the vehicle.

Of paramount importance when selecting the ideal winch system is the task of the vehicle. In case of highly mobile logistics vehicles, this is (almost) exclusively self-recovery, if the vehicle has become stuck. In case of recovery / tow trucks, it is the recovery of vehicles that have broken down. In some cases, several winches are used at the same time. For heavy-duty transporters or armored engineering vehicles the task is more complex. This also increases the requirements for the winch system.

All these requests are the basis of any solution we develop in close cooperation with our customers. The target is always a system that uncompromisingly fulfills the tasks at hand. With our experience, system expertise and motivation, we always strive for the perfect solution. This is how we ensure our systems to fit into the overall concept of the vehicle. And stand its man in action. No ifs and buts. That's what counts.





APPLICATIONS



Military Trucks

The smooth and effective transport of troops and goods is the main task of military trucks - regardless of whether those are militarized logistics vehicles or highly mobile military trucks.

Despite the high mobility, these vehicles can get stuck. To ensure these trucks can free themselves from such awkward situations, they are equipped with self-recovery winches. The pulling force is aligned to the respective payload of the vehicle. Self-recovery winches usually have a pulling force of 70 - 120 kN, in some cases up to 150 kN.

For logistic vehicles we normally use the ROTZLER TARVOS, a typical drum

winch. The ROTZLER TREIBMATIC is used for higher tactical requirements. Depending on the installation situation of the carrier vehicle, both types of winches can be installed in the chassis frame as a center installation, or on the side of the vehicle's frame. The installation is usually carried out with pull to the front. Solutions for single pull to the front and double pull to the rear are also available.

As a system partner, we do not only supply the winch, but also all necessary rope guiding parts, which we adapt precisely to the respective vehicle type. Various control options as well as a wide range of accessories, such as snatch blocks to double the pulling force, are also available.



Customer Benefits

- ◆ Individually configurable winch system – from stand-alone winch to complete installation
- ◆ Highest possible flexibility at installation
- ◆ Extensive services – system integration, project management, documentation and many more

Deployed winches



TARVOS side mounted winch



TARVOS pulling winch



TREIBMATIC pulling winch





Heavy-Duty Transporters

Winch systems on heavy-duty transporters have the task of pulling damaged vehicles onto the low-loader safely and in a controlled manner. A single winch with an appropriate pulling force, normally between 250 and 400 kN, is sufficient for this task.

In most cases, not only loading of the low-loader via the winch is required. Rather, it is also about the controlled unloading of the low-loader. This is only possible with two winches. With the help of a deflection, the load is pulled off the low-loader with one winch, while the other winch secures the load. This is particularly important if the defective vehicle is pulled over the tipping point of the low-loader. Without using the second winch as a braking winch, there is a risk that the load will slip off the low-loader in an uncontrolled manner.

Twin winch systems also offer unbeatable advantages when loading the low

bed trailer. By pulling crosswise with both winches, the winch operator can precisely control and position the load. This enables the precise loading of a wrecked, damaged vehicle onto the low loader, even if it is not perfectly positioned in relation to the load. This cannot be solved with a single winch.

Both ROTZLER TARVOS drum winches and the ROTZLER TREIBMATIC are used in the twin winch systems of ROTZLER. These winches have pulling forces of 200 or 250 kN. Both winches, placed next to each other, can be integrated into a modular support frame behind the driver's cab of the truck. Installation on the low-loader is also conceivable.

The modular base frame enables the system to be easily adapted to customer requirements. Depending on the needs, for example, an auxiliary winch for pulling out the rope of the main winches, storage boxes, a control



stand or other attachments can be integrated. A complete package of accessories such as a four-strand chain, shackles, etc. is also available.

Customer Benefits

- ◆ Stand-alone winch or twin winch system
- ◆ Functional, tested solution with warranty for the entire system
- ◆ Extensive services – system integration, project management, documentation and training from a single source

Deployed stand alone winches



TARVOS pulling winch

Deployed twin winches



TARVOS pulling winch



TREIBMATIC pulling winch





Recovery / Towing Trucks

Constantly changing scenarios are challenging recovery / tow trucks in each mission. The safety of the team and the performance of the carrier vehicle are important features. However, the recovery and towing equipment is of the utmost importance. This does not only apply to the main recovery winch which usually is a ROTZLER TREIBMATIC or a ROTZLER TARVOS with 200 or 250 kN pulling force. It is also crucial for the winches on the rotator. Typically, drum winches with up to 100 kN pulling force are used. These winches are designed for both, pulling and lifting operation. ROTZLER winches impress users with their power, reliability and precision. The compact dimensions and the flexible installation options allow flexible installation positions to the system integrator. The entire system can also be well balanced by making optimum use of the installation space.

As a further highlight, ROTZLER offers digital controls not only for the winches on the recovery / towing vehicle. On request, we also integrate the control and monitoring of all hydraulic components of the recovery and towing system. Lateral supports of the vehicle, the recovery crane, but also the towing device are operated reliably and precisely with our control. All functions can be controlled via our multi-control panel. The entire sensor technology of the system is also displayed and checked. We provide the complex control of the system and the coordination of the interfaces between the individual components for our customers. ROTZLER is not only the competent partner in winch technology, but also your one-stop shop for controlling the most complex recovery and towing systems.



Customer benefits

- ◆ Sophisticated winch and control technology
- ◆ Optimum utilization of the available installation space, with prototype installation upon request
- ◆ Control solutions for the entire recovery equipment
- ◆ Extensive services – system integration, project management, documentation and many more

Deployed winches



TARVOS pulling winch



TREIBMATIC pulling winch

Winches on the rotator



TARVOS pulling / hoisting winch





Wheeled Armored Vehicles

Armored transport vehicles, whether they are used as group transport, command or supply vehicles, are highly mobile and protected vehicles. They are characterized by great operational mobility.

To ensure this mobility, such vehicles are equipped with TREIBMATIC self-recovery winches. This allows the vehicle, should it get stuck, to recover itself without external help. The TREIBMATIC impresses with maximum flexibility when choosing the installation position. This enables solutions also in confined spaces. Usually, the winch is installed with a pull to the front. Pulling to the rear or a combination of pulling to the front and to the rear are also possible without making any compromises in the operation of the winch. We strive to always ensure accessibility

for maintenance purposes. Our engineers and technicians support our customers in integration of the winch system into the overall vehicle concept. This applies to the mechanical integration, but also to hydraulic and electrical/electronic integration of the TREIBMATIC. In doing so, we make sure all advantages for the user come into play, but also the needs of the system supplier are fully taken into account.

Armored engineering and recovery vehicles are tasked with providing engineering support and recovering other vehicles. For this reason, they are equipped with a recovery winch. Usually, the winch is positioned inside the vehicle, but can also be placed outside the armored cell. This is the ideal application for the TREIBMATIC. It



enables fast and effective recovery of damaged vehicles. Usable cable lengths of up to 170 m offer an extremely large operating radius. Combined with the constant pulling force of the TREIBMATIC, this enables effective recovery over long distances. In addition to the structural advantages of the TREIBMATIC, the overall reach is also of the utmost importance in use. The benefits in regards to flexibly selectable installation position and accessibility for maintenance purposes apply as well.

Customer Benefits

- ◆ Constant pulling force and rope speed
- ◆ Installation flexibility –installation both inside and outside the armored cell possible
- ◆ Various control variants
- ◆ System integration, project management, ILS documentation support and many more

Deployed winches



TREIBMATIC NG pulling winch



TREIBMATIC TR pulling winch





Tracked Armored Vehicles

This vehicle category includes recovery tanks and armored engineering tanks. In armored recovery vehicles, the main winch is one of the core components of the entire vehicle system. The recovery tank has the task of recovering vehicles that are stuck, have had an accident or are defective. The predominantly used recovery winch is the TREIBMATIC. These winches are able to free even the heaviest vehicles from the most awkward situations. Constant pulling force, high rope lengths and precise operation are the most important characteristics for the user. When integrating the winch into the vehicle concept, the flexibility of the TREIBMATIC with regard to separating the winch and rope storage helps choosing the ideal installation position.

Twin winches are often used on armored engineers to recover other vehicles and to tear down or clear barricades and barriers. Both winches can be used individually or simultaneously to recover a vehicle or to tear down a barrier.

These special applications require dedicated functionalities on winches. For example, the TREIBMATIC twin winch system in an engineering tank allows the rope to be pulled out with the vehicle. High rope lengths are of great advantage, especially for the diverse and often complex work that has to be carried out with an engineer tank. With a twin winch, the load can also be pulled away from the carrier vehicle in a controlled manner. By using a snatch block, one winch pulls the load away from the tank, while the second winch secures the load. This flexibility significantly expands the range of applications.

In addition to the handling advantages mentioned, a twin winch system offers advantages for the system suppliers. The installation of the TREIBMATIC provides a high level of flexibility, especially when positioning the individual winches, and also enables good weight distribution.



Customer Benefits

- ◆ Constant pulling force and rope speed over the entire rope length
- ◆ Outstanding winch performance
- ◆ Defined rope exit at the winch / no problems with rope spooling
- ◆ Various control variants
- ◆ Comprehensive engineering services such as system integration, FEM calculations, control technology and project management

Deployed single winches



TREIBMATIC NG pulling winch



TREIBMATIC TR pulling winch

Deployed twin winches



TREIBMATIC NG pulling winch



TREIBMATIC TR pulling winch





Services



System Integration

The integration of the winch system in the respective vehicle is of crucial importance for the project success. Qualified system engineers work together with our customers to develop the best possible solution for the winch installation. This applies to the optimal utilization of the installation space through the appropriate positioning of the components, to the cable routing in the vehicle and to the ideal weight distribution with regard to the overall system.

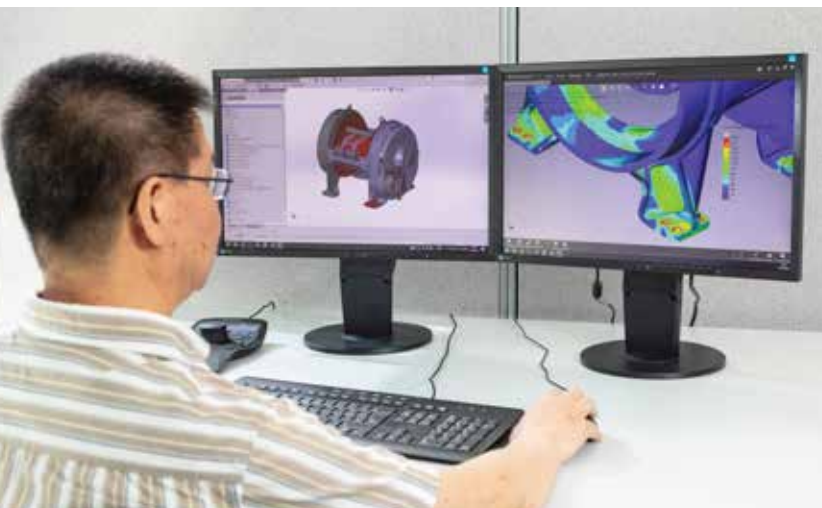


Project Management

Experienced project managers accompany our customers through the duration of a project. They support, plan and control the entire process. For our customers they act as the interface when selecting the best solution, during the design phase and the verification of the prototypes up to the installation and commissioning of the complete system.

FEM Calculations

ROTZLER optimizes its designs through the use of modern FEM calculation methods. The result is shortened development times, optimized components with simultaneous increase in quality.





Control Technology

In addition to the system integration, the operation of the winch and the data communication with the vehicle is an essential component for optimal use of the entire system. From the simple control of a self-recovery winch to the control of a complete recovery system on a recovery vehicle, we offer all conceivable control options. Our digital control concepts based on CAN bus leave nothing to be desired. A great advantage for both the user and the system supplier.



Integrated Logistics Support (ILS)

Our ILS specialists offer the entire spectrum that is required to ensure the safe use and high availability of the systems under consideration. From the FMEA to the repair instructions - our efficient ILS process provides the necessary documents.

Education and Training

ROTZLER offers a comprehensive education and training concept. Special courses for winch operators, but also maintenance and installation training is available and can be tailored to customer projects.



The ROTZLER GROUP

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