

Operation Manual

Electric Winch

62973

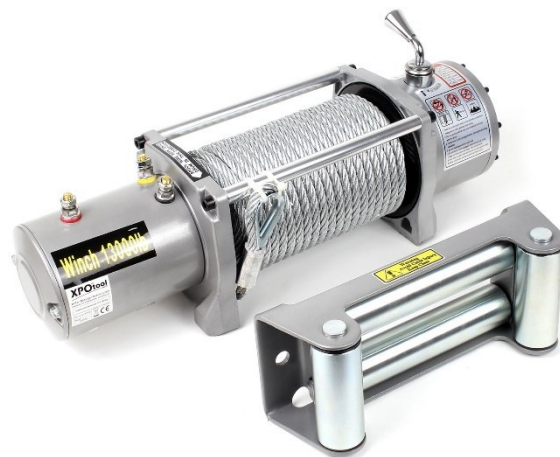


Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Due to further developments, illustrations, functioning steps, and technical data can differ insignificantly.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



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Even though, the WilTec Wildanger Technik GmbH has undergone biggest possible efforts to ensure that the operating manual is complete, faultless, and up to date, mistakes cannot be entirely avoided.

If you should find a mistake or wish to make a suggestion for improvement, we look forward to hearing from you.

Send an e-mail to:

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Germany

To return orders for exchange, repair, or other purposes, please use the following address. Attention! To allow for a smooth execution of your complaint or return, it is important to contact our customer service team before returning the goods.

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Introduction

Thank you for purchasing this quality product. **To minimise the risk of injury we urge that our clients take some basic safety precautions when using this device. Please read the operation instructions carefully and make sure you have understood its content.**

Keep these operation instructions safe.

Safety instructions

 **Warning!** Observe all safety instructions so that you and others are not endangered. Improper use of the winch can cause property damage and personal injury. Read the following information carefully before operating the winch and keep it so that you can access it at any time.

Personal safety

- Dress appropriately. Do not wear loose clothing or jewellery as they could get caught in moving parts.
- Wear leather gloves when handling the winch rope. Never handle the rope with your bare hands. Broken ropes can cause injuries.
- Gloves must also be worn when winding the rope.
- Wear non-slip shoes when working with the winch.
- Make sure that you and others are at a safe distance from the winch load and rope with the winch being operated. We recommend a distance one and a half times longer than the rope. If the rope suddenly slips or breaks while using the winch, it can resile and cause serious or lethal injury.
- Do not step on the rope.
- All visitors and spectators must be kept away from the work area.
- Make sure to have a secure footing and always keep your balance.

Safety while using the device

- Never carry the winch by the cable and do not pull the plug out of the socket by the cable.
- Keep the cable away from heat, oil, and sharp edges.
- Do not overload the winch. If the motor gets too hot so that it can no longer be touched, switch the device off and let it cool down for a few moments.
- Disconnect the device from the power supply if the engine suddenly stalls.
- Do not exceed the maximum tensile forces specified in the tables. Even in the event of a shock load, the specified values must not be exceeded.
- Avoid unintentional start-up. The winch coupling should be released when the winch is not in use; it should be tightened when using the winch.
- Carefully inspect the winch for damaged parts before each use. Damaged parts must be properly repaired or replaced by a specialist.
- For the rope to be properly wound up, it must be slightly tensioned. Hold the rope with one hand (wear safety gloves!) and the remote control in the other hand. Start as far away as possible and as centrally as possible. Approach the winch, keeping the rope slightly taut while it is being pulled in. Also, make sure that the rope does not slip through your hand and do not get too close to the winch. Turn off the winch and repeat the process until the rope is pulled in up to 1 m. Release the remote-control switch and finish winding by rotating the drum by hand with the clutch disengaged. If you are working with a concealed winch, let the rope be pulled in fully under power, but take your hands off the rope.

Safety while repairing the device

Use only identical spare parts when repairing the winch or having it repaired. Otherwise, the user could be seriously injured.

 **Warnings**

Carefully read the following warnings before operating the winch and keep them for future reference.

- It does not matter if the rope is hauled in unevenly when pulling a load, unless the rope jams on one side of the drum. In this case, reverse the direction of rotation of the cable winch to release the load and hang the hook further in the centre of the vehicle. After completing the work, the rope can be unrolled and neatly rolled up again.
- Keep the remote-control switch in your vehicle to prevent damage and inspect it before plugging it in.
- When you are ready to haul the rope, plug in the remote-control switch while the winch clutch is disengaged. Do not tighten the clutch when the engine is running.
- Never hang the hook on the rope as this will damage the rope. Always use a sufficiently strong pulling sling or chain.
- Keep an eye on the winch when it is operating. Stay at a safe distance if possible. Stop winding the rope approximately every meter so that you can check if the rope is jammed on one side of the drum. If the rope gets stuck, the winch can break.
- Do not attach the tow hook to the winch support plate. The hook must be attached to the vehicle frame.
- A snatch block can support you in recovery operations, as it doubles the winch power and halves the winch speed. At the same time, a snatch block enables the tensile load to be exerted directly on the centre of the rollers.
- When using D-bow shackles, make sure that you also use tree trunk protection belts to have a secure anchor point.
- Make sure that at least eight turns of the rope remain on the winch when unwinding. Otherwise, if the rope is taut, it could be torn from the drum, which could result in serious damage to property and injuries.
- All winches have a red marking on the rope, indicating that only five rope turns remain on the drum. If you see this marking, the rope must not be unrolled any further for further recovery.
- Since the pulling force of the winch is greatest when as much rope as possible is unwound, you should also unwind as much rope as possible if you need a large amount of pulling force (leave five turns on the drum — red marking). If this does not work, use an additional snatch block or double the rope.
- In the event of an error, a thick blanket or similar placed around the tensioned winch cable could be used to dampen the possible kickback of the jumping rope.
- Hauling the rope neatly and tightly will prevent it from getting stuck, which can happen when it is under load and caught between others. In this case, switch the power on and off several times in succession. Under no circumstances should you try to free by hand a jammed rope under load.
- Place wedges under the wheels of the vehicle if the vehicle is on a slope.
- **Battery:**
 - Make sure that the battery is in good condition. Avoid touching the battery acid or other dangerous substances.
 - Always wear eye protection when working near the battery.
 - Leave the vehicle engine running to save the battery.
- **Rope:**
 - Make sure that the rope is in good condition and properly attached.
 - Do not use the rope if it is frayed.
 - Do not move the car to pull a load.
 - Do not replace the rope with one having a less tensile strength.
 - Use and maintenance of the pull rope determine its service life. From the first use, it must be rolled up with a load of at least 230 kg, otherwise the outer turns will get into the inner turns, which will seriously damage the rope when being rolled up. The first use of the winch should serve to get to know the device and not immediately involve a recovery. Unwind the rope up to the red marking (about five turns remain on the drum), then let it rewind under a load of 230 kg. As a result, the rope is slightly tensioned and stretched, which enables it to be wound neatly on the drum. Otherwise, the rope could be damaged, which is detrimental to its service life.

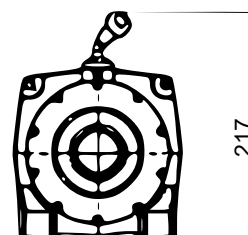
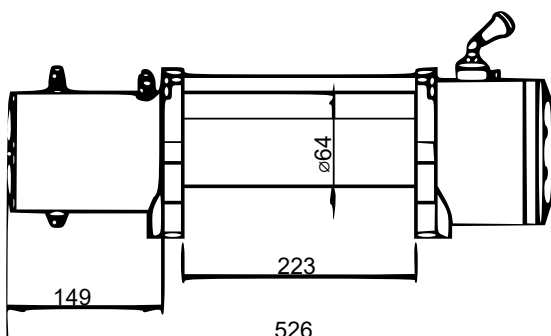
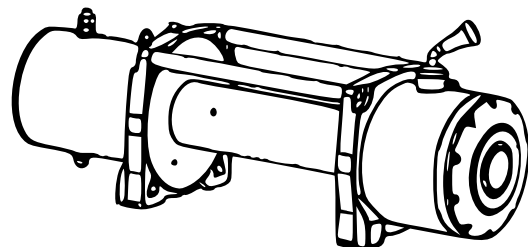
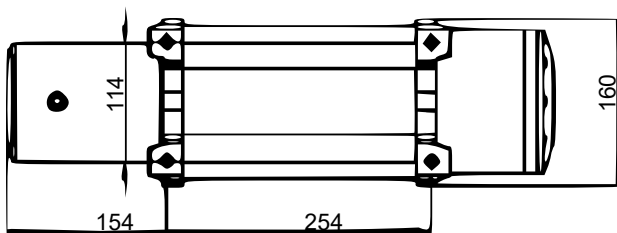


- When replacing the rope, apply sealant to the threads of the rope clamp. Tighten the clamp screw securely, but do not overtighten it. Sealant prevents the screw from loosening in rough operating conditions.
- Never try to exceed the pulling force of the winch.
- Never start the vehicle to support the winch. Starting the vehicle together with operating the winch could overload the rope and winch or cause shock loads that result in damage.
- Shock loads occurring when using the winch are dangerous! A shock load occurs when an increased tensile force is suddenly exerted on the rope. A vehicle rolling backwards and a slack rope could cause shock loads that could result in damage.
- The winch is only suitable for installation in vehicles and boats and not for industrial use.
- The winch is not suitable for lifting loads.
- Under no circumstances should the winch be used to lift, support, or otherwise transport people.

Installation

Mounting the winch

- The winch must be fastened in a suitable steel frame. Use the four mounting feet for this. It can be attached either horizontally or vertically.
- The winch must be secured to a level surface so that the three main assemblies (motor, cable drum and gear housing) are properly aligned with one another.
- The installation of a winch and/or front protection bar can impair the deployment of an SRS airbag (supplemental restraint system airbag). Find out whether the attachment system has been tested with the winch attached and is approved for the installation of winches on the vehicle equipped with airbags.
- Winch mounting frames and/or front protection bars fit most common vehicle models. For the assembly of a winch frame, we refer to the operating instructions of the respective manufacturer.
- If you want to make a mounting plate yourself, the dimensions given below are helpful. We recommend the use of a 6 mm thick mounting plate made of steel and fasteners made of high-strength steel of at least quality class 5. Incorrectly manufactured mounting plates can void the warranty.
- Fasten the winch to the mounting plate with the supplied $\frac{3}{8} \times 1\frac{1}{4}$ " UNC stainless steel bolts and spring washers.
- The roller fairlead must be attached in such a way that the rope is pulled evenly onto the drum.



Lubrication

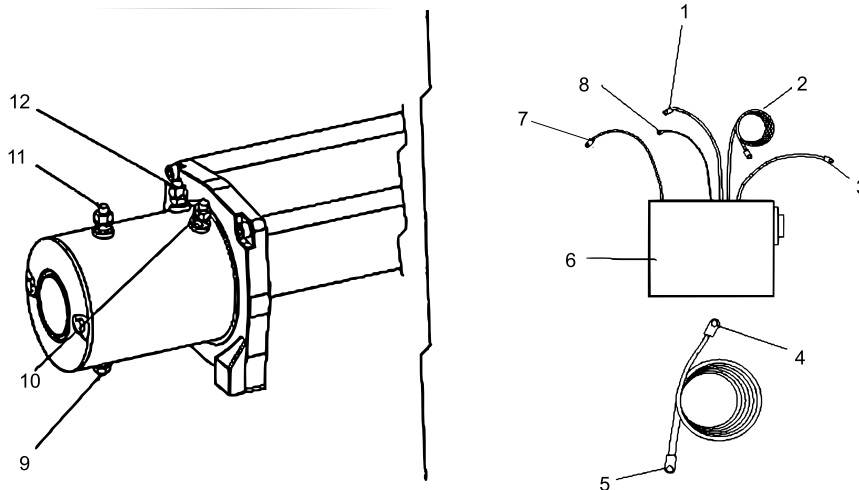
All moving parts of the winch are permanently lubricated with a heat-resistant lithium grease at the time of assembly. Lubricate the rope regularly with a light penetrating oil. Check the rope for broken strands and replace if necessary. If the rope is worn or damaged overall, it must be replaced.

Mounting a rope

Unwind the rope and lay it straight and without kinks on the floor. Remove the old rope, paying attention to how it is attached to the rope drum.

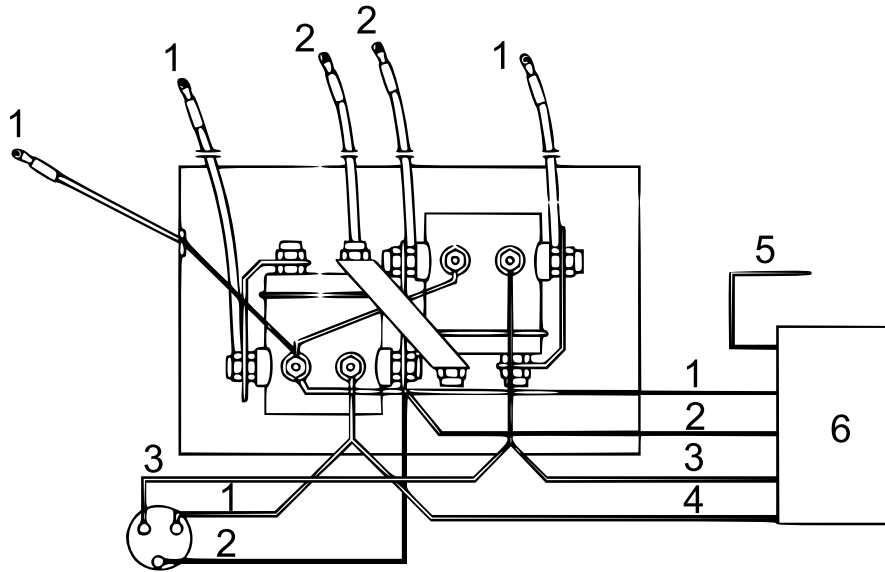
Electrical connection

- The existing electrical system is sufficient for normal rescue measures carried out by you yourself. A fully charged battery and properly made connections are most important. When using the winch, keep the engine of the vehicle running to prevent the battery from discharging.
- Pay close attention to the connection of the electrical cables described below (see also connection diagram):
 1. Connect the red cable (**B'**) to the red connection (**B**) of the motor.
 2. Connect the short black cable with the yellow jacket (**D'**) to the yellow connection (**D**) of the motor.
 3. Connect the short black cable with the black jacket (**C'**) to the black connector (**C**) of the motor.
 4. Connect the thin black cable (**a'**) to the connector (**A**) on the underside of the motor.
 5. Connect one connection of the 1.8 m long black cable (**A'**) to the connection (**A**) on the underside of the motor, the other, negative connection (–) to the negative pole (–) of the battery.
 6. Connect the long red positive cable (+) to the positive terminal (+) of the battery.

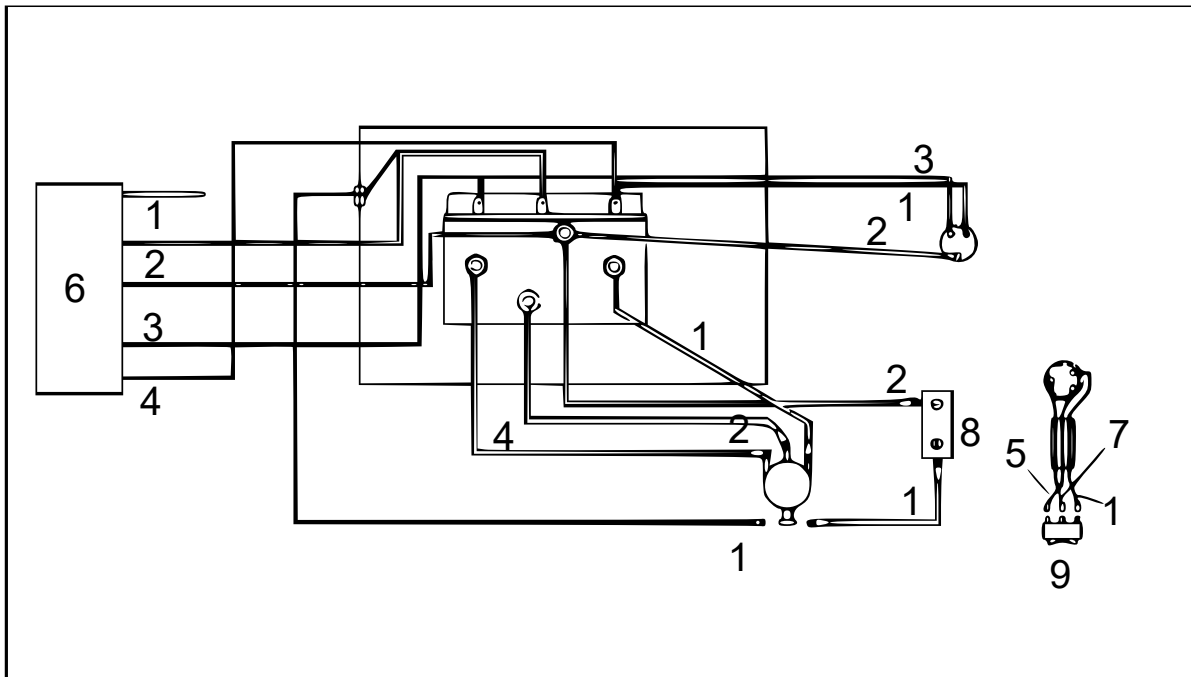


Nº	Name	Nº	Name
1	Terminal B' (short red cable, red jacket)	7	Terminal C' (short black cable, black jacket)
2	Positive (+) (long red cable)	8	Terminal a' (fine black cable, black jacket)
3	Terminal D' (short black cable, yellow jacket)	9	Terminal A
4	Negative (–) (long black cable)	10	Terminal C (black)
5	Terminal A'	11	Terminal B (red)
6	Control box	12	Terminal D (yellow)

Installing the wireless remote switch



Nº	Name	Nº	Name
1	Black	4	Yellow
2	Red	5	Blue antenna (leave loose)
3	White	6	Remote control



Nº	Name	Nº	Name
1	Black	6	Remote control
2	Red	7	Brown
3	White	8	Direct current
4	Yellow	9	Double reset switch
5	Blue		

**Notes:**

- The battery must remain in good condition.
- Ensure that the battery cables are not pulled tightly over a surface to avoid damage.
- Rust on electrical connections degrades performance and can cause a short circuit.
- Clean all connections, especially those in the remote-control switch and in the socket.
- If the ambient air is salty, use silicone sealant to prevent rust.
- Insert the heads of the plate bolts into the holes on the back of the winch.
- Attach the assembled winch/mounting plate to the trailer coupling by inserting the ball head through the appropriately shaped hole in the mounting plate.

Operating the winch*Suggestions*

Familiarise yourself with the operation of the winch by doing a few test runs before you really need it. To do this, set up a test plan. Remember that as well as seeing the winch moving, you can hear it, too. You should therefore memorise the noises that arise when the attached load is pulled lightly and regularly, when it is pulled strongly, when it jerks or wobbles. Soon you will be familiar with winch operation and find no trouble.

Commissioning

1. Make sure that the vehicle is secured by applying the handbrake or wedging the wheels.
2. Pull the rope out of the winch to the desired length and attach it to the anchor point. The gear-shift lever of the gearbox operates the clutch as follows:
 - a) To release the clutch, set the gear shift lever to "OUT;" the rope can then not be rolled unhindered from the drum.
 - b) To engage the clutch, set the shift lever to "IN;" you can pull on the rope.
3. Double-check that the rope is properly seated before proceeding to the next step.
4. Plug in the winch remote control. We recommend operating the winch from the driver's seat, as this is the safest way.
5. To begin, start the engine, put it in neutral, and allow the engine to idle.
6. Set the remote control to "IN" or "OUT" until the vehicle is recovered. Check the winch regularly to make sure that the rope is rolled up evenly.

Notes:

- Never operate the winch when your vehicle is in gear or when it is on "Park." This could damage the vehicle transmission.
- Never put the rope around the object to be pulled and do not attach the hook to the rope. Otherwise, the object to be pulled could be damaged and the rope could kink or fray.
- Keep hands, clothing, hair, and jewellery away from the drum and rope being pulled in.
- Never operate the winch if the rope is frayed, kinked, or otherwise damaged.
- Do not allow anyone to stand near the rope or in line with the rope behind the winch while it is in operation. A rope that slips or breaks can suddenly kick back behind the winch and seriously injure someone standing there. Always stand at a sufficient distance on the side of the winch.
- Pull the switch out when the winch is not in use.

Warning! Check the winch carefully before using it!

Maintenance

We strongly recommend regular maintenance of the winch (once a month). Unwind the rope 15 m, pull out another 5 m of rope, then let the rope rewind. Thus, the components remain operational and the winch works reliably when it is really needed. Contact a specialist who can help you with technical questions and repairs.



Troubleshooting chart

Problem	Possible cause	Recommended solution
Motor does not start	Safety switch set to Off	Set safety switch to On.
	Control switch not properly connected	Insert the control switch firmly into the connection.
	Loose battery cable	Tighten the nuts of the cable connections.
	Malfunction on the magnetic switch	Set the magnetic switch to a free contact, direct 12/24 V to the coil connection; clicks audibly when triggered.
	Defective control switch	Replace control switch.
	Defective motor	Check for voltage at the armature terminal while pressing the switch; replace motor if voltage is present.
	Water in the motor	Drain water, let motor dry; start briefly again and again until the motor is completely dry.
The engine gets too hot.	Operation too long	Let the winch cool down regularly.
Motor runs slowly or not the usual speed.	The battery is running low.	Recharge battery.
	Insufficient amperage or voltage.	Clean, tighten or replace connection.
Motor is running, yet cable drum not.	Clutch not engaged	Set clutch to "IN"; if that does not help, call a technician to check and repair it.
Motor only runs in one direction.	Defective or jammed magnetic switch	Set switch to free contact; repair or replace magnetic switch.
	Defective control switch	Replace control switch.

Technical specifications

Single line rated pull (kg)	5909 (13,000 lbs)
Motor power (kW)	4.5 (6 hp), series-wound
Control	via remote switch, included (extra wireless remote switch optional)
Gear train	3-stage planetary
Gear reduction ratio	265:1
Braking	automatic load-holding brake
Drum size (mm)	∅63.5×224 (2.5"×9.6")
Rope size (mm×m)	9.5×26 (3/8"×85")
Recommended battery CCA (A)	650
Net weight (kg)	37



Overall dimension (mm)	526 (L)×160 (W)×218 (H) (20.8"×6.5"×8.6")
Mounting bolt pattern (mm)	254×114.3

Pull, rope speed, amperage

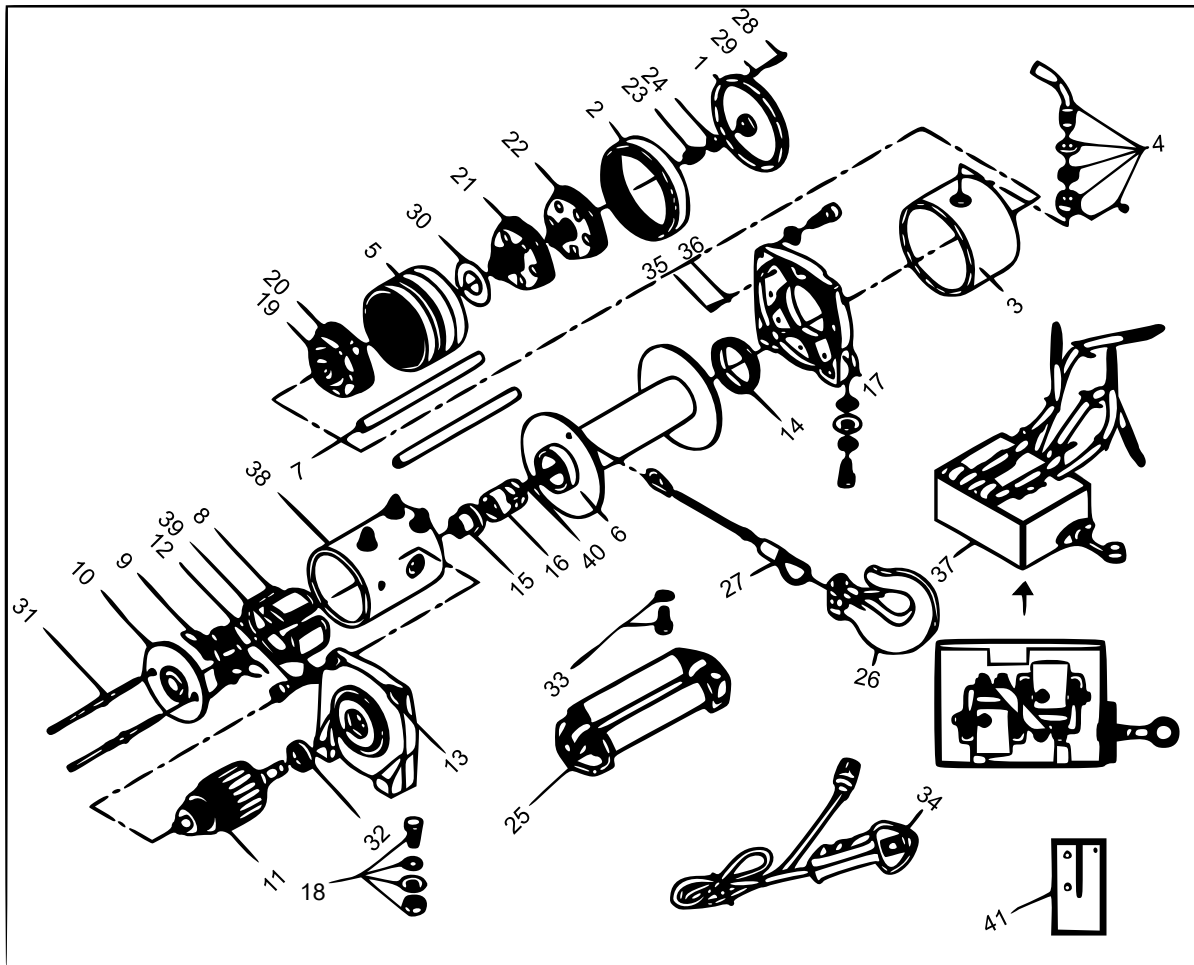
Pull (kg)	Rope speed (m/min)	Amperage (A)
0	6.5 (21.3 ft/min)	65
909 (2000 lbs)	3.5 (11.5 ft/min)	126
1818 (4000 lbs)	2.85 (9.4 ft/min)	175
2727 (6000 lbs)	2.4 (7.9 ft/min)	230
3636 (8000 lbs)	2.0 (6.5 ft/min)	280
4545 (10000 lbs)	1.75 (5.8 ft/min)	355
5909 (13,000 lbs)	1.25 (4.1 ft/min)	415

Line pull and rope capacity depending on layers

Layer(s)	Line pull (kg)	Total rope on drum (m)
1	5909 (13,000 lbs)	4.8 (17 ft)
2	4550 (10,010 lbs)	12.0 (41 ft)
3	4018 (8840 lbs)	21.0 (71 ft)
4	3368 (7410 lbs)	26.0 (85 ft)

Caution: The winch should be equipped with an additional emergency switch. The winch should be disconnected from the power when not in use.

Exploded view and parts list



No	Name	Qty	No	Name	Qty
1	Gear-box end cover	1	22	Gear carrier assembly input	1
2	Inner gear	1	23	Sun gear input	1
3	Gear-box tube	1	24	Bearing	1
4	Clutch handle assembly	1	25	Roller fairlead	1
5	Clutch gear	1	26	Hook	1
6	Drum assembly	1	27	Rope	1
7	Tie bar	2	28	Link screw M×35	10
8	Stator (12 V and 24 V)	1	29	Lock washer ø4	10
9	Carbon brush assembly	1	30	Washer	1
10	Motor end cover	1	31	Mounting bolt M6×150	2
11	Rotor (12 V and 24 V)	1	32	Bearing 6203zR	1
12	Link screw M8×25	4	33	Mounting bolt assembly of roller fairlead	1
13	Motor base	1	34	Switch assembly	1
14	Nylon bearing	2	35	Link screw M4×15	10
15	Coupling joint	1	36	Lock washer ø4	10



16	Brake	1	37	Magnetic switch box assembly	1
17	Gear-box base	1	38	Motor box tube	1
18	Mounting bolt assembly	4	39	Lock washer ø8	4
19	Outer spline	1	40	Transmission shaft	1
20	Gear carrier assembly output	1	41	Wireless remote switch	1
21	Gear carrier assy intermediate	1			

Disposal regulations

EU guidelines regarding the disposal of scrap electric appliances (WEEE, 2012/19/EU) were implemented in the law related to electrical and electronic equipment and appliances.

All WiTec electric devices that fall under the WEEE regulations are labelled with the crossed-out wheeled waste bin logo. This logo indicates that this electric equipment must not be disposed with the domestic waste.

The company WiTec Technik GmbH has been registered in the German registry EAR under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic appliances (intended for use in the countries of the European Union and other European countries with a separate collection system for these appliances).

The logo on the article or on its packaging points out that this article must not be treated as normal household waste but must be disposed to a recycling collection point for electronic and electrical waste equipment. By contributing to the correct disposal of this article you protect the environment and the health of your fellow men. Environment and health are threatened by inappropriate disposal.



Material recycling helps reduce the consumption of raw materials.

Additional information on recycling this article can be provided by your local community, municipal waste disposal facilities, or the store where you purchased the article.

Address:
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