



Operating instructions

(Original operating instructions)

Functions

Set-up instructions

Operating instructions

Packing list

Table of contents

Table of contents	2
Identification.....	4
Functions	4
Features.....	4
Structure and format of safety instructions	5
Intended use	6
Improper use.....	7
Technical specifications.....	9
Set-up instructions	10
Installing the drive unit on a vertical wall.....	11
Installing the drive unit on a sloped wall	12
Installing the drive unit on a log or wooden plank fence	13
Installing the deflection system on a vertical wall	14
Installing the deflection system on a sloped wall	15
Installing the deflection system on a log or wooden plank fence.....	16
Drive cable and flag	17
Installation of the drive cable	17

Installation of the flag	18
Mounting suggestion front view	19
Connection to a power source	21
Operating instructions.....	23
Cowstar switch box (right).....	23
Cowstar switch box (left).....	24
Cowstar remote control	25
Setting up the remote control.....	26
LED status displays for switch box and remote control	27
Adjusting radio channel.....	28
Important safety instructions	31
Warranty coverage	31
Disposal	31
Transport	32
Packing list.....	33
Contact.....	35
Attachment.....	35

Identification

Designation	COWSTAR
Machine no.	99600000000000
Year of manufacture /	design: 2019
Manufacturer	Bräuer Systemtechnik GmbH Gewerbering 33 09456 Annaberg-Buchholz
Telephone	+49 (0) 3733/5967610
Fax	+49 (0) 3733/5967611
Email	cowstar@abqh.de
Internet	www.braeuersysteme.de ; www.cowstar.de

Functions

- Mobile operation via convenient manual radio remote control
- Manual operation possible via switch on the switch box (drive unit)
- 2 infinitely variable speeds
- 2 speeds selectable via the radio remote control
- Soft start/stop function selectable in 3 stages

Features

- Radio frequency permissible throughout Europe
- Splash- and dust-proof
- Reliable and durable materials
- Quiet operation
- Power supply: 230V (AC) or 12-24V (DC)

Structure and format of safety instructions

Hazardous situations and locations are clearly pointed out in these operating instructions and directly at the hazardous areas of the training device with safety instructions and symbols. All safety notices have a uniform structure. The hazard area is classified by means of colours, safety symbols and warnings.

Safety instructions are structured as described below. The signal word, signs, colour bars and text units, surrounded by a black line, constitute the safety instruction.

In general, there are four different warning levels identified by the following signal words and colours:

DANGER	immediate danger to life
WARNING	potential danger to life, or risk of injury
CAUTION	potential risk of injury
ATTENTION	potential damage to property
NOTICE	no hazards / no damage to property

Intended use

The Cowstar is a training device for equestrian sports. The Cowstar is specifically designed for the Western style riding disciplines of working cow horse and cutting as well as the equestrian sport of working equitation. The Cowstar is a training device exclusively for these equestrian sports and must only be used in indoor and outdoor riding arenas and horse tracks with sturdy fencing that is adequate for the equestrian sport. The Cowstar must only be put into operation and used in an area that is separate from third parties such as spectators (by means of fences, boards, or other enclosures). The Cowstar must only be installed and set up by natural persons of legal age.

Any other or broader use of the Cowstar is deemed improper. Bräuer Systemtechnik GmbH assumes no liability for damage resulting from such improper use.

Intended use also includes

- observing all installation instructions in this operating manual and
- observing all safety instructions and signs on the Cowstar as well as in the operating instructions.

CAUTION



Danger posed by improper use

Improper use of the training device poses risks (of injuries, property damage and malfunction).

- Always use the training device in compliance with its intended use!

Improper use

Improper use that may result in hazards posed to the people and animals close to the Cowstar as well as third parties and to the Cowstar itself includes the following:

- using the Cowstar and its electrical equipment contrary to its intended use,
- hooking in or installing objects other than the flag provided by Bräuer Systemtechnik GmbH,
- mounting or using defective flags,
- tying or fastening animals to the drive unit, deflection system, drive cable and flag,
- assembling or attaching the drive unit and deflection system to statically unstable and defective structures,
- restarting the Cowstar after maintenance, cleaning or repair work without previously checking it for proper assembly,
- failing to observe the operating and assembly instructions in the operating manual,
- modifying, extending or reconstructing the machine without first consulting Bräuer Systemtechnik GmbH,
- operating the Cowstar outside its physical application and environmental range as well as other operating conditions (e.g. operating temperature, use in flammable environments, use in wet areas),
- operating the machine contrary to the specifications provided in the operating manual regarding safety instructions, installation, operation, maintenance and repair, tooling, and malfunctions,
- dismantling, bypassing or decommissioning safety and protective equipment of the Cowstar,
- operating the Cowstar when there are obvious malfunctions,
- performing repair, cleaning and maintenance work, without the Cowstar being switched off, as well as
- operating the Cowstar in potentially explosive atmospheres,
- minor natural persons installing and setting up the Cowstar,
- touching the drive wheel, deflection pulley or drive cable while the device is switched on.

CAUTION**Danger posed by improper use**

Dangers are posed by unauthorised modifications to the training device and the installation of spare parts from unauthorised manufacturers.



Improper use of the training device may lead to serious injuries and/or property damage.

- Use only original spare and wear parts supplied by the manufacturer! Do not carry out any conversions, modifications or additions to the system without the consent of **Fehler! Unbekannter Name für Dokument-Eigenschaft.!**

- Always use the training device in compliance with its intended use!

Dangers may be posed by improper use. Improper use includes the following, for example:

- manipulating or bypassing limit switches or other safety and protective equipment
- using improper tools, workpieces or materials
- improper operation
- improper rectification of faults

WARNING**Risk of injury posed by moving parts**

An acute risk of injury is posed when touching the drive wheel, deflection pulley or drive cable while the drive unit is switched on.



Never touch the drive wheel, deflection pulley or drive cable on the Cowstar while the device is switched on.

Minors must be kept away from the drive wheel, deflection pulley and drive cable when the drive unit is switched on.

Technical specifications

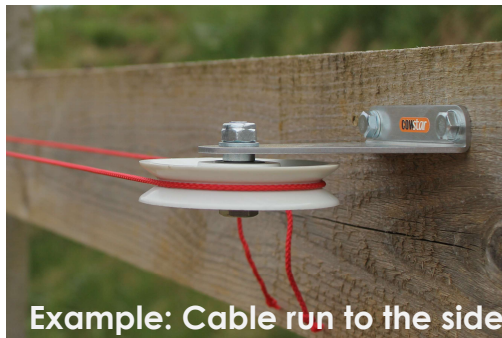
Parameter	Values / designation	
Operating voltage	100-240V	12-24V
Rated motor speed (load-free)	0 – 3000 min ⁻¹	< 3000 min ⁻¹
Frequency	47-63 Hz	-
Fusing	2.5 A	2.5 A
Airborne sound	< 73 dBA	< 73 dBA
Weight	12.5 kg	12.5 kg
Electromagnetic compatibility	No known electromagnetic radiation	
Radio frequency	2.4 Ghz	
IP	IP 54	

Set-up instructions

There are various mounting options for the drive unit and deflection system:

- Vertical wall
- Sloped wall
- Log fence
- Wooden plank fence

Positioning of the drive unit and deflection system in relation to the feed direction of the drive cable can be individually selected to the front, to the left or to the right.



Example: Cable run to the side



Example: Cable run to the front

Ideally, the drive wheel should be located at a height of 100cm – 130cm, but the height can be selected individually.

ATTENTION



The Cowstar must only be installed to a statically stable and structurally intact wall or fence.

Bräuer Systemtechnik GmbH will assume no liability if the Cowstar is not attached properly or if the Cowstar is attached to unstable mounting situations.

Installing the drive unit on a vertical wall:

1. Hold the drive unit at the desired position and mark the four bore hole positions accordingly.
2. Drill holes at the marked positions (ø4mm).
3. Screw the drive unit to the wall at the four bore hole positions using the screws provided.

No anchoring lugs are needed for this installation option.



Installing the drive unit on a sloped wall:

1. Drill two holes for hooks ($\varnothing 10\text{mm}$) so that the drive unit is positioned vertically.
2. Hook in the drive unit and mark the lower positions of the screws on the wall.
3. Remove the drive unit and drill the bore holes where marked ($\varnothing 4\text{mm}$).
4. Hook in the drive unit again and attach it by tightening the screws provided in the two lower bore hole positions.



cowstar Cutting & cow horse machine

Installing the drive unit on a log or wooden plank fence:

1. Mount the drive unit to the fence.
2. Mark the two lower positions on the fence.
3. Remove the drive unit and drill the bore holes (ø4mm).
4. Hook in the drive unit again and attach it to the fence at the two lower bore hole positions using the screws provided.



Install the deflection system at the opposite side of the arena (suggestion).

NOTICE



Ideally, the deflection system should be located at the same height as the drive wheel (+/- 10cm).

Installing the deflection system on a vertical wall:

No anchoring lugs are needed here.

1. Hold the deflection system horizontally and mark the bore holes.
2. Drill the holes (Ø4mm).
3. Attach the deflection system using the hex head wood screw provided (each including 1x disc Ø8).



Installing the deflection system on a sloped wall:

1. Using the 4x M8 nuts, attach the 2 x threaded rods to the deflection system. Also attach a piece of polygon wall bracket to the lower end of the threaded rods.
2. Drill two holes for hooks ($\varnothing 10\text{mm}$) so that the deflection system is positioned vertically.
3. Hook in the deflection system and mark the lower positions of the screws on the wall.
4. Remove the deflection system and drill the bore holes where marked ($\varnothing 4\text{mm}$).
5. Hook in the deflection system again and attach it by tightening the screws provided in the two lower bore hole positions.
6. Using the M8 nuts, adjust the deflection pulley to the required height. Then fix the M8 nuts hand-tight against each other so that the retaining plate of the deflection pulley is positioned stably.



Installing the deflection system on a log or wooden plank fence:

1. Using the 4x M8 nuts, attach the 2 x threaded rods to the deflection system. Also attach a piece of polygon wall bracket to the lower end of the threaded rods.
2. Hook in the deflection system at the fence and turn the polygon wall brackets until they are at the height of the fence plank or log while marking the lower positions (polygon wall bracket) for the screws on the wall.
3. Remove the deflection system and drill the bore holes where marked ($\varnothing 4\text{mm}$).
4. Hook in the deflection system again at the fence and attach it by tightening the screws provided in the two lower bore hole positions.
5. Using the M8 nuts, adjust the deflection pulley to the required height. Then fix the M8 nuts hand-tight against each other so that the retaining plate of the deflection pulley is positioned stably.

NOTICE



If the final height of the deflection pulley is at the height of a fence plank or log, the deflection system can be installed without threaded rods according to the instructions for installing the deflection system on a vertical (smooth) wall.



Drive cable and flag:

The drive cable (99m) is included in the scope of supply. At the factory, a flag rope (0.58m) is knotted to the drive cable to which the flag is attached. The drive cable should be fully tensioned.

Installation of the drive cable:

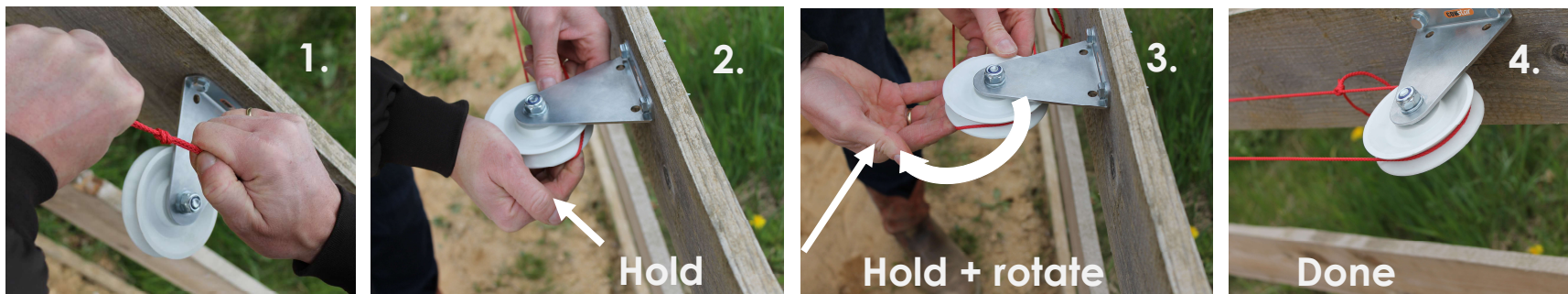
During initial installation, the drive cable must be knotted to a loop (continuous loop). In doing so, place the drive cable around the drive wheel. Then run both ends of the drive cable towards the pulley, hold both ends very tightly just in front of (!) the deflection pulley and tie both using a double knot (**Figure 1**). The drive cable is therefore knotted slightly shorter than the actual distance between the drive wheel and the deflection pulley. This allows to fully tension the drive cable. Then, the drive cable is placed onto the deflection pulley. In doing so, the cable is held against the counter pulley with a finger (**Figure 2**) and then pulled onto the counter pulley by rotating latter (**Figure 3**).

CAUTION



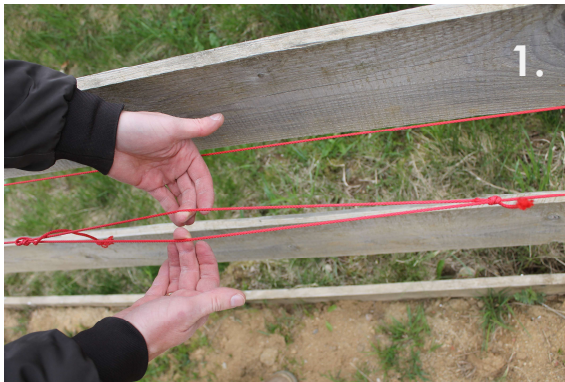
CRUSHING HAZARD! The drive cable must only be installed while the drive unit is de-energised!

During set-up, please be careful not to pinch your fingers between the cable and the deflection pulley. It should also be noted that the cable stretches and therefore needs to be re-knotted. Therefore, this process may need to be repeated.



Installation of the flag:

- The flag is attached by hooking it into the flag rope (runs parallel to the drive cable) (**Figure 1**)
- Open the Velcro fastener at the upper edge of the flag
- Insert the flag between the drive cable and the flag rope (**Figure 2+3**)
- Close the Velcro fastener around the flag rope (**Figure 4**).



Mounting suggestion front view:



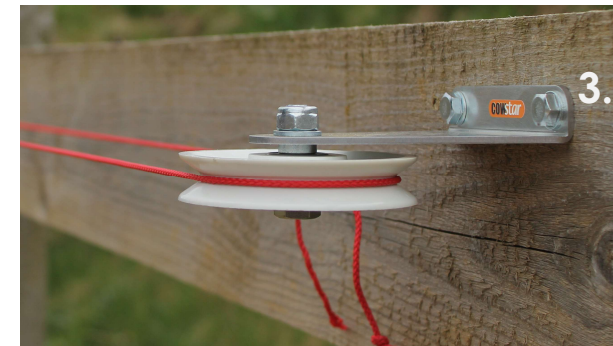
The versatility of set-up options is reflected in the following illustrations. This is how we guarantee proper functionality in any direction, regardless of where you intend to use your Cowstar. For the drive unit and deflection pulley, the direction of the cable run can be chosen independently of each other. Here, for example, shown from the front (**Figure 1+4**) or sideways, left or right (**Figure 2+3**).



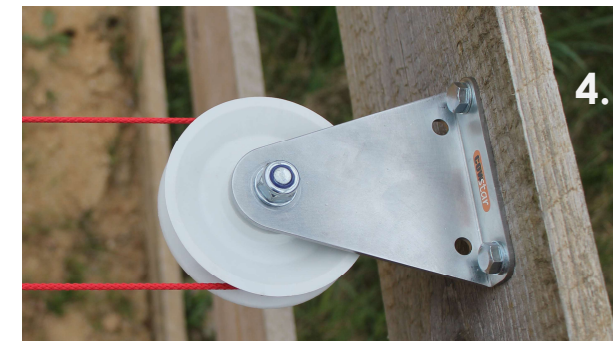
Cable run towards the front



Cable run sideways towards the left or right



Cable run sideways towards the left or right






Cable run towards the front

Connection to a power source:

Depending on the design version, the Cowstar device can be operated with mains voltage and/or a DC supply.

DANGER

Danger to life due to electric shock in the event of contact with energised electrical equipment

Touching live conductors or components that carry the intended voltage, or in case of contact with live conductors or components that carry voltage in faulty condition (in particular due to insulation faults), as well as due to electrostatic processes such as touching statically charged components, may result in danger to life due to electrical shock!

A risk of fire, electric shock, burns and death will be posed if people approach live components, especially in the high voltage area.

After switching off the Cowstar, residual electric energy still resides in the lines, devices and components for approx. 5 minutes.

The switch box and terminal boxes contain live components. Opening the door of the switch box or removing the cover of the terminal box may cause death, serious injuries or damage to property caused by electric shock. The main feed terminals will be energised, even if the main switch is turned off.

Non-compliance (such as freely accessible contacts, incorrect installation of the earth line, etc.) can result in electric shock and ultimately in the most severe injuries (cardiac arrhythmia, severe burns, blindness) and death!

- Observe a safety clearance around energised cables and avoid contact with them under any circumstances!
- Have work at the electric supply or at freely accessible energised devices performed only by qualified electricians and with the power switched off! **Fehler! Unbekannter Name für Dokument-Eigenschaft.** from the power supply!
- Keep the switch box locked at all times! Access only by authorised personnel!
- Terminal boxes must always remain closed during operation. Terminal boxes must only be opened if the **Fehler! Unbekannter Name für Dokument-Eigenschaft.** is switched off and de-energised!
- Check the electrical equipment of the **Fehler! Unbekannter Name für Dokument-Eigenschaft.** at regular intervals (inspection every 4 years in accordance with the Employers' Liability Association regulations (DGUV V3))! Replace singed cables! Inspect insulation of all moving cables for damage at regular intervals during repair and maintenance work! Eliminate loose connections!

COWstar Cutting & cow horse machine

The device must only be disconnected from the power supply when it is not in operation!

Operation with mains voltage (230V, 50Hz):

In order to put the device into operation, the mains plug must be plugged into an adequate Schuko socket.

The device is switched on by setting the switch to the "AC ON" position (also refer to section "Cowstar switch box (right) in the operating instructions, 4. On/Off-switch, selecting the power supply")

Operation with direct voltage (12-24V):

A DC voltage source can be connected using the included plug adapter. Qualified personnel who have been trained to do so must connect the plug adapter to a suitable cable and the voltage source.

The positive pole of the DC voltage source is connected to terminal 4 (red), the negative pole to terminal 2 (blue).

Attention: Observe polarity! Damage caused by incorrect polarity of the DC power source and application of voltages outside the permissible range are excluded from the warranty.



For DC power use, the device is equipped with a battery charging cradle (located on the right side of the device). A standard MAKITA battery can be inserted into this battery charging cradle. An 18-volt battery with a capacity of 5 Ah is recommended. This battery size is sufficient to comfortably operate the CowStar for 1-3 days on battery power.

Operating instructions

Cowstar switch box (right)



1. Fuse: Protection against the destruction of the device due to overload, protection with a fine fuse 5x20, 2.5A mT

2. AC power supply connection: AC connection with cable and Schuko plug for the use with a regular Schuko socket (230V, 50Hz)

3. External DC power supply connection: DC connection with plug adapter, for use with other power sources. Voltage range of 12-24 V (e.g. rechargeable battery, car battery, etc.)

4. On/Off-switch, selecting the power supply: Switching on the Cowstar by selecting the power source:

AC ON = operation with 230V, 50Hz mains voltage

OFF = device is switched off

DC ON = operation with 12-24V direct voltage

5. Power indicator: LED status display is red when supply voltage is present, Cowstar device is ready to operate

6. Joystick (TIP): Manual operation of the drive at LEVEL 1 speed:

Left = flag movement to the left

0 = no movement

Right = flag movement to the right

When “**double-clicking**” (activation in the same direction within 3 seconds) the selection of the movement at LEVEL 2 speed

7. LEVEL 1 speed control: Base speed of flag movement after pushing the key on the remote control or joystick once (TIP).

Variable speeds from 1 (slow) to 10 (fast)

8. LEVEL 2 speed control: Speed of the flag movement after “**double-clicking**” (activation within 3 seconds in same direction) the keys of the remote control or joystick (TIP).

Variable speeds from 1 (slow) to 10 (fast)

Cowstar Cutting & cow horse machine

Cowstar switch box (left)



8. Acceleration (ramp): Setting the acceleration of the flag/drive cable at start-up and stop.

Setting options:

Short = rapid acceleration or flag/drive cable runs on briefly when stopped

0 = immediate start/stop

Long = slow acceleration or flag/drive cable runs on longer when stopped

9. Direction of motor rotation: Individual adjustment of the basic rotational direction of the motor (left/right). Setting of the flag's movement direction depends on the Cowstar set-up situation and the left-right assignment of the buttons on the remote control.

Cowstar remote control

1. Remote control housing (arm):

The control unit including the control board and exchangeable battery (CR123A, 3V). The housing contains an LED status display, which indicates the state of the battery (description of the LED status display can be found below).

2. Direction key, left:

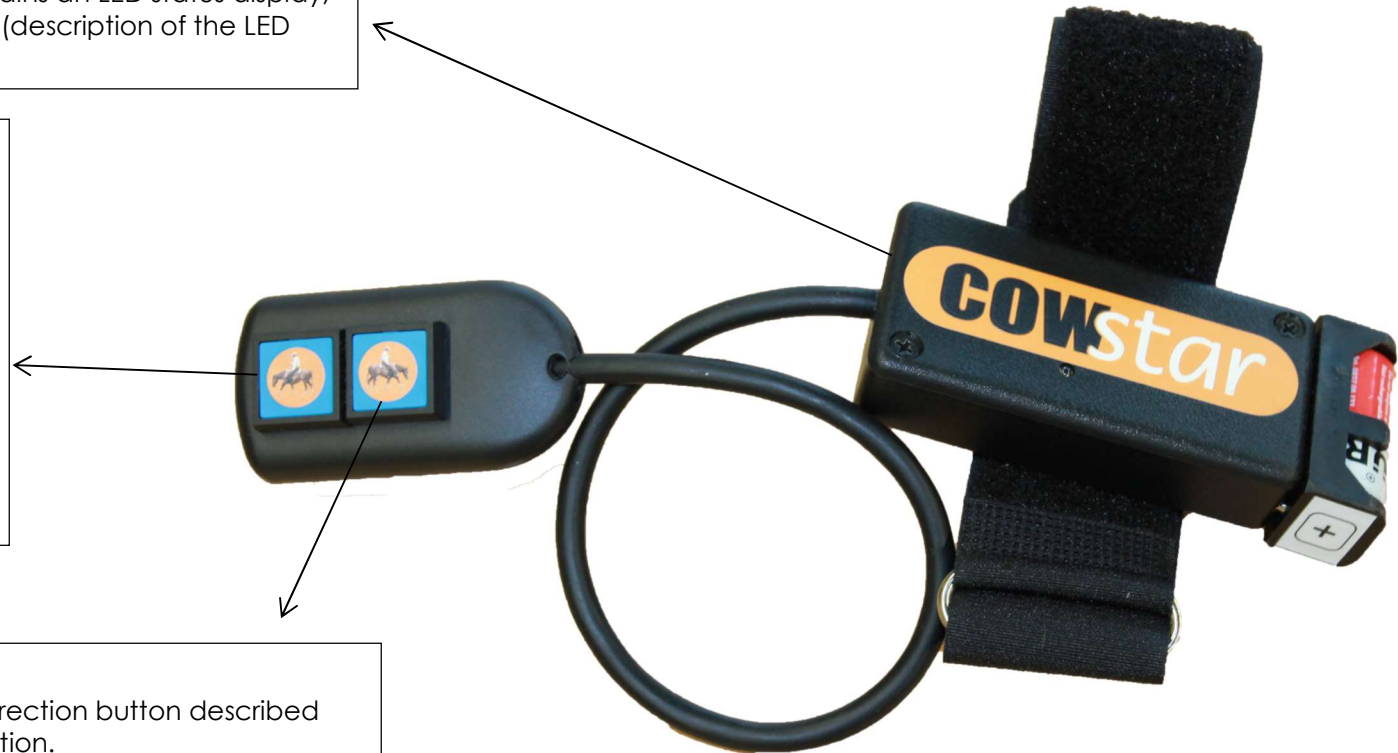
The left arrow key moves to flag to the left.

The function of the direction keys of the remote control is the same as of the toggle switch on the switch box (see section 6. Joystick (TIP)).

The "double-click" function (successive activation of the same direction button within 3 seconds) for the control of the second speed is also provided here.

3. Direction key, right:

The functionality is identical to the left direction button described above. The flag moves in opposite direction.



Setting up the remote control:



The remote control is set up as shown.

Attach the housing to the arm at any height using the large Velcro fastener.

The control element of the remote control is attached to the index finger using the Velcro fastener.

WARNING



Risk of injury posed by moving parts

The direction keys on the remote control or the joystick to control the direction on the drive unit must only be operated if it is ensured that the operator or any third parties cannot come into contact with the drive wheel, deflection pulley or drive cable while the drive unit is switched on.

LED status displays for switch box and remote control:

LED status display for remote control

When pressing a remote control button:

LED indicator	Status
Flashing once	Regular operation, battery full
Flashing slowly	Regular operation, battery almost empty
Flashing rapidly	Reserve operation, only one speed can be selected
None	Battery empty, replace



Note: In order to increase the lifespan of the battery, the status is not displayed again when the buttons are pressed in quick succession.

LED power status display on the drive unit (switch box)

LED indicator	Status
Off	Cowstar is switched off
Red	Regular operation
Flashing red	Motor malfunction, restart Cowstar



Adjusting radio channel:

When using multiple Cowstar devices within direct vicinity, the radio signals may interfere with each other, which may require separate assignment of the remote control(s) and drive unit.

The radio channel used is set on the remote control(s) and the switch box of the drive unit accordingly.

For proper function, the number of the selected radio channel (0 – 9) must be identical on the units assigned to each other. Multiple remote controls can be configured for one drive unit.

DANGER



Danger to life due to electric shock in the event of contact with energised electrical equipment

Touching live conductors or components that carry the intended voltage, or in case of contact with live conductors or components that carry voltage in faulty condition (in particular due to insulation faults), as well as due to electrostatic processes such as touching statically charged components, may result in danger to life due to electrical shock!



A risk of fire, electric shock, burns and death will be posed if people approach live components, especially in the high voltage area.



After switching off the Cowstar, residual electric energy still resides in the lines, devices and components for approx. 5 minutes.

The switch box and terminal boxes contain live components. Opening the door of the switch box or removing the cover of the terminal box may cause death, serious injuries or damage to property caused by electric shock. The main feed terminals will be energised, even if the main switch is turned off.

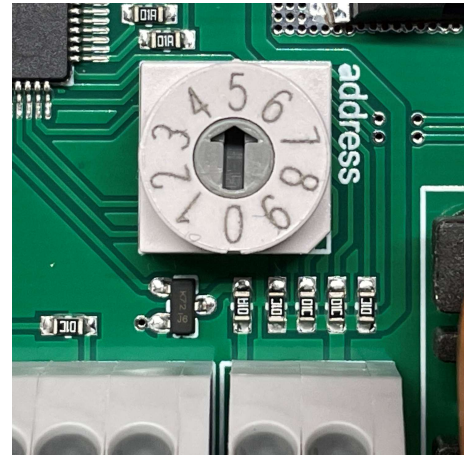
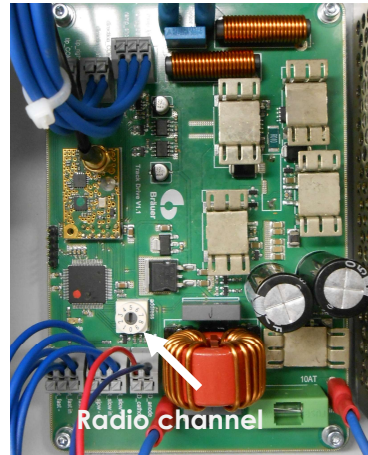
Non-compliance (such as freely accessible contacts, incorrect installation of the earth line, etc.) can result in electric shock and ultimately in the most severe injuries (cardiac arrhythmia, severe burns, blindness) and death!

- Observe a safety clearance around energised cables and avoid contact with them under any circumstances!
- Have work at the electric supply or at freely accessible energised devices performed only by qualified electricians and with the power switched off! **Fehler! Unbekannter Name für Dokument-Eigenschaft.** from the power supply!
- Keep the switch box locked at all times! Access only by authorised personnel!
- Terminal boxes must always remain closed during operation. Terminal boxes must only be opened if the **Fehler! Unbekannter Name für Dokument-Eigenschaft.** is switched off and de-energised!

- Check the electrical equipment of the **Fehler! Unbekannter Name für Dokument-Eigenschaft.** at regular intervals (inspection every 4 years in accordance with the Employers' Liability Association regulations (DGUV V3))! Replace singed cables! Inspect insulation of all moving cables for damage at regular intervals during repair and maintenance work! Eliminate loose connections!

Setting the radio channel on the switch box of the drive unit:

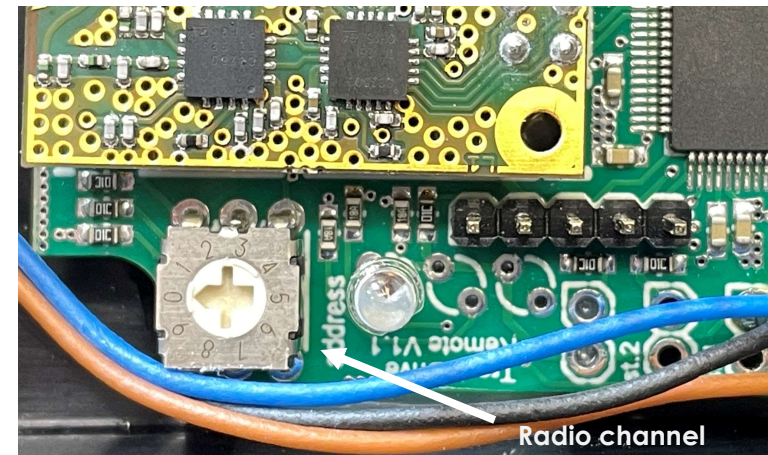
- Disconnect the power supply (Pull the mains plug, remove the rechargeable battery depending on the respective model)
- Open the switch box of the drive unit using the double-bit key (included in the scope of supply)
- Set the radio channel with the radio channel button using an appropriate slotted screwdriver
- Close the switch box door of the drive unit and lock it using the double-bit key (included in the scope of supply)




cowstar Cutting & cow horse machine

Setting the radio channel on the remote control:

- Loosen the 2 screws on the housing cover of the remote control using an adequate cross-tip screw driver
- Set the radio channel with the radio channel button using an appropriate slotted screwdriver
- When attaching the housing cover, make sure it is aligned properly (the bore holes of the housing cover are located above the status LED)
- Close the housing by tightening the 2 screws using an adequate cross-tip screw driver



Important safety instructions:



NOTICE

- Ideally, the drive unit (switch box) should not hang unprotected outdoors, however if so, cover it with a PVC or plastic sheet when not in use or install a weatherproof roof. Not only does it help to protect the coating, but it also protects the rubber components.
- Warning: Since these are electrical components, electrical shocks and other malfunctions can occur if, for example, the cable, plug, etc. are damaged.
- In any case, please do not use the Cowstar in the rain, and ensure that neither the cable nor the plug come in contact with water.
- In order to operate the Cowstar, ensure to use the normal lighting voltage (230V, 50Hz) or DC (12-24V).
- After a malfunction or damage to your Cowstar occurred, contact us at cowstar@braeuersysteme.de, and do not put your device into operation.
- Only use your Cowstar as described.
- When the Cowstar is not used, always disconnect it from the power supply.
- Ensure that the flag is not moved over the drive wheel or deflection pulley as this can result in damage to the cable, the electrical system or other components.

Warranty coverage:

Your Cowstar includes a two-year warranty from the purchase date. If any technical faults occur, contact us immediately at cowstar@braeuersysteme.de. We will not assume liability for damage caused by external influences or improper operation/use.

Disposal:

The disposal of your Cowstar must only be arranged by the manufacturer. You undertake to return your complete Cowstar to Bräuer Systemtechnik GmbH for disposal.

Transport

The Cowstar was checked for faults and completeness at the factory. Upon receipt, please check the Cowstar for damage occurred during transport and for completeness of the scope of supply (see packing list).

ATTENTION



For any further transport of the Cowstar, the original packaging should be used to prevent any transport damage to the Cowstar.

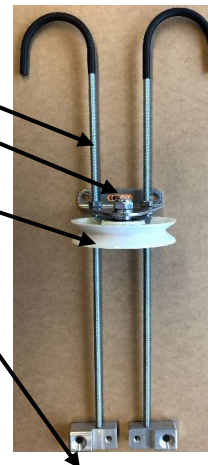
The Cowstar and especially the drive unit and the remote control must not be turned upside down.

Packing list

- Switch box for drive unit
Including 2 pieces of anchoring lugs



- Deflection system:
 - 2 pieces of anchoring lugs
 - 1 piece of counter pulley mounted onto a retaining plate
 - 4 pieces of M8 nuts
 - 2 pieces of polygon wall brackets



- Flag



- Drive cable (including knotted on rope to attach the flag)



- Remote control (including 1 piece of battery CR123A, 3V)



- Fastening material:
6 pieces of wooden countersunk bolts ø8,
6 pieces of wooden wafer-head screws ø8,
2 pieces of discs ø8,
2 pieces of hex head wood screws ø8)



- Plug adapter for DC connection 12-24V



- Switch cabinet key



- Operating instructions

-

COWstar Cutting & cow horse machine

Contact:

Address:



Sales COWSTAR:

Andreas Bräuer
Bräuer Systemtechnik GmbH
Gewerbering 33
09456 Annaberg-Buchholz

Telephone:

0170/4329507

Email:

cowstar@ABQH.de

URL:

www.cowstar.de

Attachment

1. Declaration of conformity