

momo motion.



Instructions for use.

momo motion. The tried-and-tested tricycle with E-drive.




schuchmann®

Many thanks.



Dear Customer

At this point we would like to thank you for placing your trust in our company and for purchasing our product. We ask you to read through the Instructions for use carefully prior to initial commissioning of the product, and to observe them. Please note that guidelines and representations in these Instructions for use may deviate from your product due to differing equipment. We reserve the right to make technical modifications.

Important information!

Ensure that these Instructions for use remain with the product.

Your **schuchmann** Team



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1. Preparation.

1.1 Delivery

On receiving the product, please check it for completeness, lack of faults and any transport damage. Inspect the goods in the presence of your forwarder. Should transport damage have occurred, please arrange for an inventory (determination of the faults) to be made in the presence of the forwarder. Please send a complaint in writing to the specialist dealer responsible.

1.2 Safety measures prior to use

The correct use of the product requires detailed and thorough instruction of the user or the accompanying person. We ask you to read through the Instructions for use carefully prior to initial commissioning of the product, and to observe them. It is possible that product parts that get in contact with the skin may heat up in the sun. Depending on the duration and intensity of solar radiation, the surfaces of individual parts can heat up to over 41°C and thus lead to slight burns in the event of direct skin contact. Therefore cover these areas or protect the device from direct sunlight.

1.3 Safe disposal

In order to preserve and protect the environment, to prevent environmental pollution and to improve the recycling of raw materials, please note the disposal instructions in **points 1.3.1 and 1.3.2**.

1.3.1 Packaging

The product packaging should be stored in case the product needs to be transported again. Should you have to return the product for repairs or in case of a guarantee claim, please if possible use the original box so that the product is optimally packaged. Separate the packaging materials for recycling according to their classification.



Do not leave packaging materials unattended, as they are a possible source of danger.

1.3.2 Product

Separate the raw materials used in the product for recycling according to their classification (see material information under **Point 2.1**). The electrical components and the drive system battery pack must not be disposed of with household waste. These must be returned to the designated public collection points or to your specialist dealer (see **Point 9.5**).

1.4 Where to store the Instructions for use

Please store these Instructions for use carefully and ensure that these Instructions for use remain with the product in case of re-use.

2. Product description.

2.1 General information

The **momo motion.** is a tricycle, which is already equipped with an electric drive in the basic model and was designed for outdoor use.

The base frame is made of aluminium, which is non-corroding and powder-coated. The handles are made of rubber and all other materials used are protected against corrosion through the use of stainless steel, aluminium or plastic. The body supports and harnesses are made of 100% polyester and are flame resistant (according to DIN EN 1021-1+2). The foam used for the body supports is made of PU (polyurethane).

2.2 Handling and transport

The **momo motion.** is not designed to be carried, as it is fitted with tyres. Should you have to carry the equipment due to obstacles, ensure that all moving parts are tightened. Then two people should position themselves next to the tricycle, grip it on the left and right of the frame and carry it to the required location. To transport the tricycle, reduce all adjustments to their most compact size (saddle height, handlebar height, remove accessories etc.).



Take out the battery pack for transport and take it with you, kept in a cool place in the vehicle.

2.3 Application areas, use according to the intended purpose

The **momo motion.** tricycle with e-drive is a medical product of risk class 1 and was designed especially for children, youths and adults for outdoor use. Any other use or use over and above this purpose shall be considered not in accordance with the intended purpose.

2.3.1 Indications

The **momo motion.** is suitable for users with neuromuscular, (neurological, orthopaedic and neurodegenerative) disorders (such as cerebral palsy and muscular dysplasia and atrophy, rheumatism) as well as cardiovascular diseases and chromosomal abnormalities associated with hypotension. Due to their motor limitations (reduced muscle strength and endurance, cardio-respiratory limitations, joint mobility limitations, etc.), these patients have limited use of foot pedal-operated tricycles.

The **momo motion.** is used to support physiotherapeutic treatment, the training of balance reactions and movement coordination (alternating leg movements, eye-hand coordination, training isolated arm and leg movements). The function of start-up assistance is particularly important. It is also used for the specific development of muscle strength and endurance (with appropriate indication also for avoiding overloading of



2. Product description.

the muscles with simultaneous function preservation). The mobility of the joints is supported and the restrictions are counteracted by insufficient cardio-respiratory function of the patients. The function of residual power support is hereby emphasised.

2.3.2 Contraindications

In general, the indication should be accompanied by a doctor/orthopaedist. It should therefore be clarified prior to procurement whether contraindications exist for the patient. Any danger to the user or others through the use of a tricycle should be excluded. In general, any type of pain represents a contraindication.



2.4 Use not in accordance with the intended purpose / warning guidelines

- Only ride if the bicycle is in proper condition!
- Correct usage of the product requires precise and careful training of the accompanying person.
- Replace bent handlebars and handlebar stems immediately. Breakage may occur in the event of continued use or repairs.
- The tricycle may only be used on stable and flat ground.
- Please observe the "Technical data" in these instructions for use for the maximum permitted user weight.
- Always wear light-coloured and distinctive clothing.
- Always be ready to brake, in particular in steep terrain and sections which are not easy to assess.
- Show consideration for other people who are walking or hiking.
- Do not hang loads on the handlebars; this compromises the travel safety.
- Test the fastenings for the pedal cranks, pedals and, if applicable, the wheels regularly.
- Check that the brakes, lights and bell function properly prior to each journey.
- For your own safety, we recommend that you always use your tricycle with a helmet. Please ensure in particular that the helmet is of good quality. It should accord at least with the legal regulations or recommendations (standard: EN 1078 or ANS).
- Secured screws must not be loosened, otherwise the guarantee is lost.
- Ensure that your tricycle accords with the legal requirements.
- Do not use headphones, for example, so that you can remain aware of warning sounds.
- If a push bar is mounted, this may only be used to guide the tricycle. The push bar is NOT suitable for moving, lifting or tilting the tricycle.

2. Product description.



- In wet conditions, the braking distance of your tricycle will become longer. Therefore, always ensure that your speed remains such that you can stop at any time.
- The tricycles are not suitable for carrying a second person. The consequences arising from such a use shall not fall within the scope of responsibility of the manufacturer.
- The bicycle basket may only bear loads of up to 20 kg.
- When adjusting the tricycle there is the risk of trapping or crushing limbs.
- Users who have difficulty reading must have someone read these Instructions for use aloud so that they understand how to use the product.
- Remove the battery pack before cleaning.
- For longer trips with the help of the electric drive, the motor can become very hot. Do not touch the motor after riding under heavy strain.
- Damaged electrical assemblies and cables can lead to short-circuiting.
- The motor can start to move unexpectedly when the drive system remains switched on when working on the tricycle. Clothing can be pulled into rotating parts of the drive. This can result in injuries.
- The tricycle must be stored out of the reach of users who cannot assess the risks involved.

2.5 Equipment in accordance with StVZO

The **momo motion.** corresponds with the requirements in accordance with StVZO and is equipped as follows:

- Two brakes functioning independently of one another
- A bicycle bell with a clear ring
- Headlamps, rear lamp with reflectors, large-area reflectors, pedal reflectors, 2 yellow spoke reflectors or white reflecting rings on each wheel, and front reflectors in the design tested for the construction type.



2. Product description.

2.6 Riding response

The **momo motion.** has a different riding response compared to conventional bicycles and tricycles without electric assistance. We therefore recommend initially becoming familiar with the **momo motion.** off public roads without assistance from the electric drive. When using the electric drive, please start with the lowest assistance level to gain confidence in using the tricycle.

Consider the following aspects when riding:

- Before starting to ride, check the functionality of the brakes with a test brake.
- Always drive carefully on wet, smooth and loose ground and avoid jerky pedaling.
- Steering is controlled exclusively with the hands, a shift of the body's centre of gravity (for example when taking a corner) does not affect the steering response.
- When riding and especially when turning, you must always pay attention to the total width of the rear wheels. This differs significantly compared to conventional bicycles.
- During fast cornering, care should be taken to ensure that the speed is reduced in advance, as a tricycle can also topple over.
- Never ride without hands.
- Drive with lighting in dark conditions and poor visibility to increase visibility for other road users.
- We recommend wearing a bicycle helmet for your own safety.
- Avoid continuous operation in a salty environment as this will promote damage from corrosion.
- Be sure to keep both hands on the handlebars when accelerating. When using the electric drive and in conjunction with the start-up assistance, the acceleration changes.
- When braking, always operate both independent brake systems. During long downhill runs, this is essential to avoid overheating. This may lead to malfunctions! See **Point 4.2** for further information.



For longer trips with the help of the electric drive, the motor can become very hot. Do not touch the motor after riding under heavy strain.

2. Product description.

2.6.1 Before each journey

Before each journey, check and ensure the following:

- Cracks or splits on the tricycle frame
- Missing parts
- Malfunctions
- Tight fit of motor, battery pack and electrical connectors
- Intactness of all cables and their secure attachment to the frame
- Tight fit of all screws and nuts
- Safe function of the brakes, brake shoes do not rub on the rims
- Sufficient tyre pressure (max. pressure is marked on the casing, see **Point 4.3.** or **7.4**)
- Smooth running of all bearings (bottom bracket, wheels, steering) and quiet wheel travel

In case of a defect or malfunction, please contact the specialist dealer who supplied you with the product (see **Point 9.5**).



The tricycle should be taken to your specialist dealer every 1000 km, but at least once a year for inspection.

2.6.2 Riding with and without E-drive

The **momo motion**. can be used both with and without the assistance of the electric drive.

Operating instructions

The **momo motion**. has a built-in torque sensor. It is combined with the bottom bracket and is completely integrated. It supplies the signals of the pedaling torque, the pedaling frequency and the direction of rotation of pedaling to the control.

When the E-drive is activated, the motor provides support only when the pedals are operated. This is done as soon as the signals of the torque sensor are transmitted to the control. If the pedals are no longer operated, the sensor will no longer send any signals to the control and the motor support is terminated.

The only possibility of driving without pedal operation is provided by the optional start-up assistance (see **Point 3.3.3**). It allows starting with electrical assistance without pedaling up to a speed of max. 6 km/h.



2. Product description.

2.6.3 Range

The range of the **momo motion**, depending on the following factors:

- Course (gradients)
- Load/rider weight
- Selected assistance level
- Riding style.

The manufacturer of the drive system, HEINZMANN, estimates a range of 40 to 80 km per battery pack charge.

2.7 Equipment for basic model

- with Heinzmann Direct Power Motor (36 V, 250 W, impulse torque 60 Nm)
- Battery pack and charger
- Aluminium frame with extra-low access point
- Rim brake with separate parking brake
- Angle adjustable handlebar stem
- Handlebar damper for stabilisation when moving straight on
- Lighting system according to StVZO, which is powered by the Li-ion high-power battery pack (14,25 Ah)
- incl. mudguards and basket
- removable pennant

2. Product description.

2.8 Product overview

The Fig. below is intended to show you the designation of the most important components as well as the terms which you will find in these Instructions for use.



2.8.1 Pennant

The pennant shown above is for better visibility of the **momo motion**. and therefore obviously also of the user. The pennant together with the plastic rod (about 160 cm long) is attached to the rear axle.

For easy handling, the pennant can be removed and can easily be re-inserted into the rear axle mount (**A**), which is already mounted on delivery.



2. Product description.

2.9 Overview of equipment / accessories

DirectPower E-drive from Heinzmann

The new **momo motion**, is equipped with the DirectPower E-drive from Heinzmann. This allows us to offer you a wear-free and silent direct drive. The motor is designed to be brushless and without gears. This minimises maintenance and wear and eliminates motor noise. The recuperative system automatically recharges when driving downhill or braking. This means that the range can be increased by up to 15 %. The existing force of the user is measured by a force sensor integrated in the bottom bracket, and the assistance from the electric drive is adjusted.

Choose the suitable E-drive for the **momo motion**, from the following configurations. You can choose whether the drive should be equipped **with or without start-up assistance**. In addition, you can choose between a **beginner version** and an **advanced version**. The difference here is the **start-up** and the **top speed** of the various modes **Eco**, **Standard** and **Power**, which can be selected via the display. An analysis cable can be used to change the selected version at a later date.

DirectPower E-drive from Heinzmann – without start-up assistance

for size	Revision		Start-up handling / top speed		
			Eco	Standard	Power
16"	Beginner	(36 02 070)	gentle / 4 km/h	medium / 4 km/h	strong / 6 km/h
	Advanced	(36 02 071)	medium / 6 km/h	strong / 8 km/h	strong / 10 km/h
20"	Beginner	(36 03 070)	gentle / 4 km/h	medium / 4 km/h	strong / 6 km/h
	Advanced	(36 03 071)	medium / 6 km/h	strong / 8 km/h	strong / 12 km/h
24"	Beginner	(36 04 070)	gentle / 6 km/h	medium / 8 km/h	strong / 12 km/h
	Advanced	(36 04 071)	gentle / 10 km/h	medium / 15 km/h	strong / 20 km/h
26"	Beginner	(36 05 070)	gentle / 6 km/h	medium / 8 km/h	strong / 12 km/h
	Advanced	(36 05 071)	gentle / 10 km/h	medium / 15 km/h	strong / 20 km/h

DirectPower E-drive from Heinzmann – with start-up assistance

Select whether the start-up assistance should be activated by pressing the button (fig. 1) or by turning the twist grip (fig. 2).



for size	Model		Start-up assistance	Start-up handling / top speed		
				Eco	Standard	Power
16"	Beginner with twist grip	(36 02 072)	4 km/h	mild / 4 km/h	medium / 4 km/h	strong / 6 km/h
	Beginner with button	(36 02 073)		4 km/h	4 km/h	6 km/h
	Advanced with twist grip	(36 02 074)	6 km/h	medium / 6 km/h	strong / 8 km/h	strong / 10 km/h
	Advanced with twist grip	(36 02 075)		6 km/h	8 km/h	10 km/h
20"	Beginner with twist grip	(36 03 072)	4 km/h	mild / 4 km/h	medium / 4 km/h	strong / 6 km/h
	Beginner with button	(36 03 073)		4 km/h	4 km/h	6 km/h
	Advanced with twist grip	(36 03 074)	6 km/h	medium / 6 km/h	strong / 8 km/h	strong / 12 km/h
	Advanced with twist grip	(36 03 075)		6 km/h	8 km/h	12 km/h
24"	Beginner with twist grip	(36 04 072)	6 km/h	mild / 6 km/h	medium / 8 km/h	strong / 12 km/h
	Beginner with button	(36 04 073)		6 km/h	8 km/h	12 km/h
	Advanced with twist grip	(36 04 074)	6 km/h	mild / 10 km/h	medium / 15 km/h	strong / 20 km/h
	Advanced with twist grip	(36 04 075)		10 km/h	15 km/h	20 km/h
26"	Beginner with twist grip	(36 05 072)	6 km/h	mild / 6 km/h	medium / 8 km/h	strong / 12 km/h
	Beginner with button	(36 05 073)		6 km/h	8 km/h	12 km/h
	Advanced with twist grip	(36 05 074)	6 km/h	mild / 10 km/h	medium / 15 km/h	strong / 20 km/h
	Advanced with twist grip	(36 05 075)		10 km/h	15 km/h	20 km/h

2. Product description.

Saddles						
Art. No.		Saddle		Width	Length	
3701001		Standard saddle Size 1		15 cm	21 cm	
3702001		Standard saddle Size 2		15 cm	24 cm	
3703001		Standard saddle Size 3		18 cm	26 cm	
Art. No.		Saddle	Rear width	Front width	Length	
3701024		Gel saddle Size 1	19 cm	4 cm	24 cm	
3702024		Gel saddle Size 2	24 cm	7 cm	27 cm	
Art. No.		Saddle	Rear width	Front width	Rear length	Length total
3701003		Saddle seat with ischial depressions Size 1	20.5 cm	4 cm	9.5 cm	14.5 cm
3702003		Saddle seat with ischial depressions Size 2	24 cm	4 cm	9.5 cm	14.5 cm
Art. No.		Saddle	Rear width	Width in centre	Front width	Length
3700010		Unicycle saddle – banana-shaped (Step length increases by 2 cm)	11 cm	6 cm	8 cm	25 cm
Art. No.		Saddle	Rear width	Front width	Rear length	Length total
3700023		Moped saddle (Inside leg length increases by 2 cm)	26 cm	9.5 cm	12 cm	25 cm

Saddle posts		
Art. No.		Saddle post
3702004		Standard saddle post Size 2 for 16"
3703004		Standard saddle post Size 3 for 20" – 26"
Art. No.		T-saddle post
3702005		T-saddle post Size 2 for 16" + 20"
3703005		T-saddle post Size 3 for 24" + 26"

Holder bracket			
Art. No.		Holding bracket with mount	Max. height* Depth
3701007		Holder bracket Size 1	20 cm 12 cm
3702007		Holder bracket Size 2	30 cm 12 cm
3703007		Holder bracket Size 3	37 cm 12 cm
3704007		Holder bracket Size 4	53 cm 12 cm
3709007		Holder bracket, customer-made	___ cm ___ cm
3702055		Universal bracket – for harnesses when not using pelotte pads (width = 27.5 cm)	

* Max. height: Measured on a standard saddle up to the top edge of the back pelotte pad



2. Product description.

Headrest				
Art. No.		Headrest	Width	Height
37 01 029		Headrest Size 1	20 cm	15 cm
37 02 029		Headrest Size 2	23 cm	18 cm

Handlebars				
Art. No.		Classic handlebars – black	Width	
37 02 011		Classic handlebars for 16"	50 cm	
37 03 011		Classic handlebars for 20"	58 cm	
37 04 011		Classic handlebars for 24"-26"	61 cm	
Art. No.		Touring handlebars	Width	Depth
37 01 012		Touring handlebars Size 1	55 cm	17 cm
37 02 012		Touring handlebars Size 2	58 cm	17 cm
Art. No.		Round handlebars	Width	Depth
37 01 013		Round handlebars Size 1	40 cm	17 cm
37 02 013		Round handlebars Size 2	43 cm	25 cm
Art. No.		Multifunctional handlebars – suitable for 20" – 26"	Width	Depth
37 02 014		Multifunctional handlebars	61.5 cm	16.5 cm
Art. No.		Handlebar lock limiter – adjustable up to direction determination		
37 03 006		Handlebar lock limiter Size 2 for 16" – 26"		
Art. No.		Handlebar extension	Length	
37 02 022		Handlebar extension Size 2 for 16" – 26"	10 cm	

Foot pans									
Art. No.		Foot pans with leg guidance	Min. width at front	Max. Front width	Min. width at rear	Max. Rear width	Length	Min. height of leg gui- dance	Max. height Leg gui- dance
3701018		Size 1	8.7 cm	10.4 cm	5.7 cm	7.4 cm	17.4 cm	15 cm	18.5 cm
3702018		Size 2	9.5 cm	12 cm	6.7 cm	9.2 cm	20.1 cm	18 cm	22 cm
3703018		Size 3	11.5 cm	14 cm	8.1 cm	10.6 cm	23.8 cm	21 cm	26 cm
3704018		Size 4	11.5 cm	14 cm	8.1 cm	10.6 cm	23.8 cm	28 cm	36 cm
Art. No.		Foot pans			Min. width at front	Max. width at front	Min. width at rear	Max. width at rear	Length
3701017		Foot pans Size 1			8.7 cm	10.4 cm	5.7 cm	7.4 cm	17.4 cm
3702017		Foot pans Size 2			9.5 cm	12 cm	6.7 cm	9.2 cm	20.1 cm
3703017		Foot pans Size 3			11.5 cm	14 cm	8.1 cm	10.6 cm	23.8 cm

2. Product description.

Foot pans									
Art. No.		Foot pans with dynamic leg guidance	Min. width at front	Max. width at front	Min. width at rear	Max. width at rear	Length	Min. height of leg guidance	Max. height Leg guidance
3701035		Size 1	8.7 cm	10.4 cm	5.7 cm	7.4 cm	17.4 cm	15 cm	18.5 cm
3702035		Size 2	9.5 cm	12 cm	6.7 cm	9.2 cm	20.1 cm	18 cm	22 cm
3703035		Size 3	12 cm	15 cm	8.8 cm	11.8 cm	24 cm	20.5 cm	25.5 cm

Pedals			
Art. No.		Pedals	Depth
37 00 013		Foot positioning pedals – with bike toe clips and compensation weights	13 cm
Art. No.		Pedals	Width
37 00 014		Exercise bike pedals	12 cm

Back pelotte pads			
Art. No.		Dynamic back pelotte pads – padded with strap and mount	Width
37 01 008		Dynamic back pelotte pad Size 1	20 - 30 cm
37 02 008		Dynamic back pelotte pad Size 2	25 - 35 cm
37 03 008		Dynamic back pelotte pad Size 3	30 - 40 cm
Art. No.		Width adjustable back pelotte pad - padded, including mount	Width
37 01 025		Width adjustable back pelotte pad Size 1	20 - 28 cm
37 02 025		Width adjustable back pelotte pad Size 2	25 - 33 cm
37 03 025		Width adjustable back pelotte pad Size 3	30 - 36 cm

Pelvic supports			
Art. No.		Dynamic pelvic guidance pelotte pad – padded, with strap and mount	Width
37 01009		Dynamic pelvic guidance pelotte pad Size 1	20 - 30 cm
37 02009		Dynamic pelvic guidance pelotte pad Size 2	25 - 35 cm
37 03009		Dynamic pelvic guidance pelotte pad Size 3	30 - 40 cm
Art. No.		Width adjustable back guidance pelotte pad - padded, including mount	Width
37 01026		Width adjustable pelvic guidance pelotte pad Size 1	20 - 28 cm
37 02026		Width adjustable pelvic guidance pelotte pad Size 2	25 - 33 cm
37 03026		Width adjustable pelvic guidance pelotte pad Size 3	30 - 36 cm



2. Product description.

Positioning						
Art. No.		Chest strap – for the width adjustable back pelotte pad	Width	Length		
3701050		Chest strap Size 1	5 cm	18.5 cm		
3702050		Chest strap Size 2	6.5 cm	25.5 cm		
3703050		Chest strap Size 3	7 cm	30.5 cm		
Art. No.		Positioning vest – for the width adjustable back pelotte pad	Inside width	Total width	Side height	Total height
3701051		Positioning vest size 1	8 cm	25 cm	10 cm	28 cm
3702051		Positioning vest size 2	9 cm	30 cm	12 cm	30 cm
3703051		Positioning vest size 3	12 cm	34 cm	16 cm	35 cm
Art. No.		Groin strap, T-shaped – for the width adjustable pelvic pelotte pad	Width Seat surface	Front width	Length Seat surface	Total length
3701052		Groin harness, T-shaped Size 1	24 cm	23 cm	15 cm	32 cm
3702052		Groin harness, T-shaped Size 2	26 cm	26 cm	17 cm	34 cm
3703052		Groin harness, T-shaped Size 3	28 cm	28 cm	19 cm	38 cm
Art. No.		4-point pelvic harness - for the width adjustable pelvic pelotte pad	Width Exterior parts	Width Centre section	Length Exterior parts	Length Centre section
3701053		4-point pelvic harness Size 1	7 cm	7 cm	12 cm	12 cm
3702053		4-point pelvic harness Size 2	9 cm	8.5 cm	13 cm	14 cm
3703053		4-point pelvic harness Size 3	11.5 cm	11 cm	15 cm	16 cm

Handlebars		
Art. No.	Push bar – height adjustable, removable and equipped with an integrated anti-rotation lock	
3600012		Push bar
Art. No.	Brake for accompanying person – incl. motor switch-off (can only be used in connection with push bar)	
3608012		Brake for accompanying escorts

2. Product description.

2.10 Drive possibilities

The **momo motion.** can be equipped with the following drives:

Freewheel brake hub (with backpedal brake)

The freewheel brake hub allows the user to stop and start pedaling as they wish. They can brake by pedaling backwards.



3 or 7-gear freewheel brake hub (with backpedal brake)

Using the 3 or 7-gear freewheel brake hub, the user can stop and start pedaling at will. They can brake by pedaling backwards. The user-friendly 3 or 7-gear hub gear system permits switching of gears when the tricycle is at a standstill. Switching takes place using the twist grip shifter on the handlebars.

3-gear freewheel brake hub. can be ridden backwards

The user can stop and start pedaling at will with the 3-gear freewheel brake hub. In addition, they can ride backwards. The user-friendly 3-gear hub gear system permits switching of gears at a standstill. Switching takes place using the twist grip shifter on the handlebars.

7-gear freewheel brake with wheel brake (without backpedal brake)

In the 7-gear freewheel hub with wheel brake forward, the movement can be interrupted as desired and be converted in free backwards pedaling in further forward drive. The user-friendly 7-gear hub gear system is suitable for any terrain and also permits switching of gears when the bicycle is at a standstill. Switching takes place using the twist grip shifter on the handlebars.

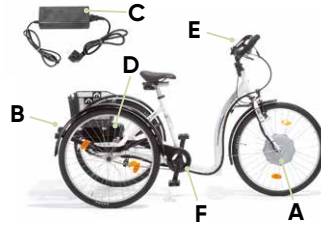


3. E-drive.

3.1 Components

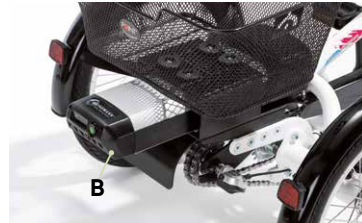
3.1.1 Motor

The **momo motion.** is equipped with a brushless electric motor (**A**) as a power source. This provides both a strong torque in continuous operation as well as considerable peak torques (for example when starting). Mechanical losses are negligible because the motor is designed without a gearbox.



3.1.2 Battery pack and charger

The battery pack (**B**) serves as the power source of the drive system "DirectPower". The high capacity offers maximum riding performance and range. A suitable charger (**C**) for charging the battery pack from the electrical mains is included in the scope of delivery of the **momo motion.**



3.1.3 Control housing and control

The electronic control is effectively the brain of the drive system. Its task is to evaluate all signals and to control the motor, taking into account the set parameters, so that it achieves the appropriate force. The control housing (**D**) made of plastic reliably protects the controller against wetness and moisture as well as against shocks and similar influences.

3.1.4 Display

The display (**E**) together with the operating unit is the control centre of the drive system. For example, you can select the level of assistance or recovery and make all other settings. In addition, you will receive all the required information about the operating status of the system, the distance and the range.

3.1.5 Torque sensor

The torque sensor (**F**) is combined with the bottom bracket and is completely integrated. It supplies the signals of the pedaling torque, the pedaling frequency and the direction of rotation of pedaling to the control. The torque sensor is completely maintenance-free and requires no adjustment.

3. E-drive.

3.2 Lithium ion battery pack

The battery pack is very light, but with very high charging capacity. Proper charging and protection against deep discharge and overheating will significantly increase the service life. A corresponding charge controller, which takes into account all these requirements, is therefore already integrated in the supplied charger. This ensures an optimum and safe function. Therefore only this charger may be used to charge the battery pack.



Danger of fire and blazes

Improper charging of the battery pack can lead to excessive heating of the battery pack. A fire or blaze is a possible consequence.

- Only the supplied charger may be used to charge the battery pack. The charger is intended for indoor use only.
- Before connecting the charger to the mains, be sure to check that the mains voltage matches the voltage of the charger. The charging voltage of the charger is indicated on the rating plate on the back of the device.
- Only charge the battery pack in a dry and non-flammable environment and, if possible, do not leave it unattended.

Mechanical damage to the battery pack or charger may cause malfunction and short circuiting. A fire or blaze is a possible consequence!

- Any manipulation of the battery pack case or charger is prohibited.
- Replace damaged battery pack immediately and dispose of it in an orderly manner.



Danger of electric shock

A charger with a damaged power plug or power cable may cause an electric shock.

- Never connect damaged mains plugs or power cables to the electrical mains.
- Immediately replaced damaged electrical assemblies and cables.
- Ingress of water and moisture into the charger must be avoided in all cases. If water has penetrated, disconnect the charger immediately from the mains and have it checked by your specialist dealer.
- If the temperature changes suddenly from cold to warm, condensation may form on the charger. In such a case, wait until it has reached the temperature of the warm room by connecting the appliance to the electrical mains. Keep the charger in the place where it is operated.

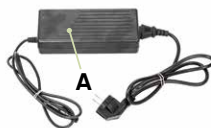


3. E-drive.

- The charger may only be used to charge the supplied rechargeable batteries. Any other use of the charger is not permitted.

3.2.1 Charging

The battery pack should be charged first before using it for the first time. Use the supplied charger (A) with integrated charge controller. Charging can take place both on the tricycle and separately with the battery pack removed. When the charging finishes, the charge controller automatically switches to trickle charging. The battery pack can thus remain indefinitely on the charger. This has the advantage that the battery pack is always fully charged. The battery pack can be used with the drive at any time, even if the charging has not been fully completed. However, then the range is not achieved, which is possible with fully charged battery pack.



To ensure the correct polarity when charging, the charging socket has a groove. The corresponding spring of the charging plug must slide into the groove. This is the only way of ensuring the correct polarity. Never try to plug the charging plug forcibly into the charging socket the wrong way round!

The following ambient temperatures must be observed for proper functioning of the battery pack:

Operating mode	Operation	Charging	Storage
Temperature range	-10°C - 45°C	10°C - 35°C	-10°C - 45°C

Remarks

- The lithium-ion battery pack has, in contrast to other batteries, no “memory effect”. This means it does not need to be fully drained before recharging. It even has a positive effect on the life of the battery pack if charging cycles are flat (always recharged immediately after use).
- The ambient temperature during charging should not be lower than 10°C and not higher than 35°C. Charging outside this temperature range reduces the available battery pack capacity and therefore the range. In frosty outdoor temperatures, it is advisable to charge the battery pack in a heated room. Direct sunlight and proximity to sources of heat must be avoided.
- Before prolonged breaks, e.g. in winter, the battery pack must be fully charged and then stored dry and frost-free. First, fully recharge the battery pack before recommissioning.
- The battery pack has its maximum performance at room temperature. Therefore, the temperature of the battery pack should not be below 10°C and not higher than 25°C when starting off.

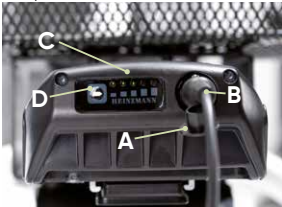
3. E-drive.

- For longer trips with high motor power, the battery pack can become very hot. A temperature monitor inside prevents charging at an excessive temperature. In such a case, the charger may remain connected. Charging starts automatically when the battery pack has cooled down sufficiently. For example, after a long uphill ride cooling can take up to an hour.

Charging process

To charge the battery pack, please follow these steps:

- First remove the dust cap (A) from the charging socket.
- Then connect the charger to the electrical mains and then insert the charging plug (B) into the charging socket of the battery pack.
- The LEDs of the charge level indicator (C) start flashing.



Battery pack charging status when charging:

LED status		Battery pack status			
All 5 LEDs flash one after the other and go off together again		Battery pack is being charged, the number of consecutively lit LEDs corresponds to the already charged capacity			
All LEDs are permanently off		End of charging reached, battery pack is 100% charged			
LED status	●●●●●	●●●●○	●●●○○	●●○○○	●○○○○
Battery pack status	≤ 100 %	< 80 %	< 60 %	< 40 %	< 20 %

The battery pack charge status can also be read directly at any time outside of the charging process. To do this, press the button (D) to the left of the display LEDs. According to the respective charge status, a number of LEDs light up.

Charge status display

LED on the charger lights up red	Battery pack being charged
LED on the charger lights up green	End of charging reached, trickle charge active

If the battery pack is charged on the tricycle, the current charge status can also be read on the display.

Charging duration:

Fully charging a drained battery pack takes approx. 5.5 hours.



3. E-drive.

3.2.2 Insertion and removal

To insert the battery pack, insert it from the back of the sliding rail into the mount below the basket until it clicks into place in the lock.



Always remove the key before setting off.



To remove the battery pack, turn the key **(A)** clockwise as far as it goes and hold it in this position. This unlocks the lock. Now you can release the battery pack on the rear handle bar from the connection and pull it out of the mount to the rear.



Danger due to unforeseen motor activity

The motor can start to move unexpectedly when the drive system remains switched on when working on the tricycle. This can result in injuries.

- Only insert the battery pack again once the system has been fully mounted.
- When restarting the tricycle after assembly or repair, position the tricycle so that the drive wheel can rotate freely.

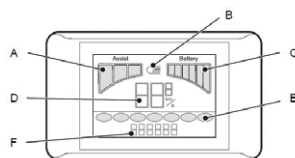
3.2.3 Service life

The manufacturer of the drive system, HEINZMANN, guarantees a minimum of 600 charging cycles for the battery pack. Appropriate handling / storage and initial loading increases its service life.

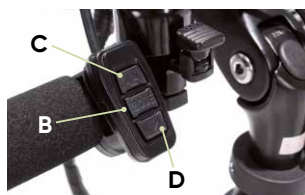
3.3 Display and operation

The display contains the following display elements

A	Assistance level
B	Lighting
C	Battery pack charging status
D	Current speed
E	Function display
F	Display line



The control unit is located on the handlebar with the three MODE **(B)**, arrow up **(C)** and arrow down **(D)** buttons. All settings are made using these buttons. There are no other setting options.



3. E-drive.

3.3.1 Switch on

Press the MODE (A) button for at least 3 seconds until the display becomes active. Then release the button again. Pushing and holding the button serves to protect against unintentional switching on. The system is now ready to ride.



Caution

When switching on, the pedals must not be loaded so that the drive is not unintentionally taken into operation! Please proceed as follows:

- First get on the tricycle and put both feet on the ground.
- Then switch the drive system on.
- Now you can set off.

3.3.2 Switch off

Press the MODE (A) button for at least 3 seconds until the display goes out. Then release the button again. The drive system is now switched off.

For information

The system switches itself off if no riding activity has taken place for more than approx. 10 minutes. Before further use, the drive system must then be switched on again by pressing the MODE (A) button.



3. E-drive.

3.3.3 Start-up assistance

The start-up assistance is an optional function of the drive system. It allows starting with electrical assistance without pedaling up to a speed of max. 6 km/h. With the push button, the starting function is generally stronger and more direct. With the twist grip it is somewhat weaker. In general, the starting function used depends on the set support level (see point 3.3.4). Fine-tuning can be carried out here, especially with the twist grip variant, if the starting function is too weak.

Using the button

To activate the start-up assistance, press the arrow up **(A)** button. Motor assistance is started again after approx. one second. To end the assistance, release the button **(A)**.



Using the twist grip

To activate the start-up assistance, turn the twist grip **(B)** towards the body. Motor assistance starts immediately. To stop the assistance, release the twist grip **(B)**.



3. E-drive.

3.3.4 Setting the assistance level or recovery level

The drive system provides three different degrees of assistance for operation.

Support	Eco	Standard	Power
Start-up behaviour	● ○ ○	● ● ○	● ● ●
Range	● ● ●	● ● ○	● ○ ○

To select a higher level of assistance, press the arrow up (A) button once.

To select a lower level of assistance, press the arrow down (B) button once.

At the top left of the display (C) the assistance levels are shown as display segments under "Assist".

For information

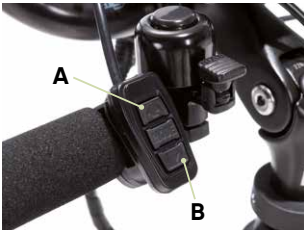
At assistance level "0", the drive system is active but does not provide assistance.

In addition, the system can be used in **recovery operation**. The motor is operated in this case as a generator and feeds electrical energy back into the battery pack. This can be useful as additional braking operation on longer downhill runs. Again, there are three different recovery levels available.

You can enter the recovery mode by briefly pressing the arrow down (B) button in the support level "0". Here, too, there are three different levels of recovery available. At the top left of the display (C) the assistance levels are shown as display segments under "Assist". To distinguish it from the assistance mode, the segments flash in recovery mode. To leave the recovery mode, press the arrow up button (A) until no more segments flash.

For information

When a brake lever (D) is actuated, the assistance of the electric drive is stopped. At the same time, the recovery mode is activated and the tricycle is additionally braked. As soon as both brake levers are released, recovery mode is deactivated again and the support is activated at the same time.



3. E-drive.

3.3.5 Charge status display

The display on the top right (A) under "battery pack" constantly shows the battery pack charge status. Depending on the charge level, up to six display segments are illuminated.



Number of segments in the display	Status of the rechargeable battery pack
6	Battery pack fully charged
1 (flashing)	Battery pack almost discharged
No display	Battery pack drained, drive system will soon switch off

The last individual segment starts to be flash when the battery pack is almost drained. The battery pack has a limited reserve capacity. Once this has also be used up, the drive system automatically switches off. This is done to prevent a deep discharge of the battery pack.

After such an automatic shutdown, the drive system no longer provides assistance. No more commands are accepted by pressing the buttons. The drive system is only operational again when the battery pack is charged or an already charged battery pack is inserted.

3.3.6 Functions

In operation, the drive system offers the following various functions:

- Total kilometres (Dist)
- Driven distance (Trip)
- Driven time (Time)
- Average trip speed (AVG)
- Expected remaining time of assistance (EstT)
- Expected remaining range (EstD)
- PIN (PIN)
- Bicycle lighting

The required function is selected by repeatedly pressing the MODE button (B).



3. E-drive.

The active function is represented by an oval symbol (A) above the display line.



- **Dist - Total kilometre counter**

All driven kilometre distances are totaled.

- **Trip - Driven trip**

All kilometres driven since the last deletion are totaled. See **Point 3.3.7** to delete this counter reading.

- **Time - Driven time**

The time driven since the last deletion are totaled. The display is shown in hours and minutes. See **Point 3.3.7** to delete this counter reading.

- **AVG - Average trip speed**

Display shows the average speed travelled since the last deletion in kilometres per hour. See **Point 3.3.7** to delete this counter reading.

- **EstT - Expected remaining time of assistance**

Display shows the expected remaining time for which the drive system can still assist the user. The value is determined by the control system from the operating values since the last charge of the battery pack. The counter reading cannot be deleted by the user.

- **EstD - Expected remaining range**

Display shows the expected remaining range for which the drive system can still assist the user. The value is determined by the control system from the operating values since the last charge of the battery pack. The counter reading cannot be deleted by the user.

- **PIN**

Editing menu for registering a PIN (see **Point 3.3.10**).

- **Lighting**

When the light is on, this is indicated by a lamp symbol in the display. To switch the lighting on and off refer to **Point 3.3.9**.



3. E-drive.

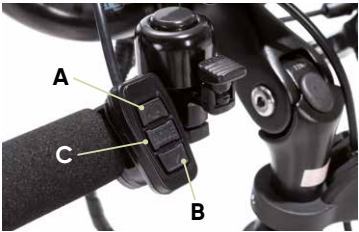
3.3.7 Deleting counter readings

The following counter readings on the display can be deleted by the user:

- Driven kilometres (trip)
- Driven time (Time)
- Average trip speed (AVG)

These meter readings can not be deleted individually, but only together all at once.

The setting mode is entered by simultaneously pressing the two arrow up (A) and down arrow (B) buttons while the drive system is switched on. The display first shows the display for entering a PIN.



Press the button (A) for at least 3 seconds until the display shows the word **CLEAR**. The counter readings are now reset to zero.

The entry mode is accessed by pressing the MODE (C) button.

3.3.8 Brightness switching

The display illuminates after switch on. The lighting level can be changed to adapt to the ambient conditions.

The setting mode is entered by simultaneously pressing the two buttons (A + B) while the drive system is switched on. The display first shows the display for entering a PIN.

Adjustment of the lighting level is reached by pressing the button (B). There is a choice between seven different levels. Repeated pressing of the button (B) will set them in sequence. The respective level is shown in the display line.

The entry mode is accessed by pressing the MODE (C) button.

Level	Display	Lighting level
1	BL-off	No lighting
2	BL-AT1	Indicator lights up after switching on the system or after pressing one of the buttons for approx. 4 seconds
3	BL-AT2	
4	BL-AT3	
5	BL-on-1	Constant illumination
6	BL-on-2	
7	BL-on-3	

3. E-drive.

3.3.9 Switching the lighting on and off

This function makes it possible to operate the lighting with the battery pack of the drive system.

To switch on the lighting, keep the button **(A)** pressed. The lighting will be switched on after approx. one hour. This function is indicated by a lamp symbol **(B)** in the display.

Keep button **(A)** pressed down against to switch the light off. The lighting will be switched off again after approx. one hour.



3.3.10 Registering a PIN

If the user has registered a PIN, the drive system will first ask for this PIN after switching on. The system is only ready to operate after full and correct entry of this PIN.

For information

In the delivery state, no PIN is defined and the system is ready for use immediately after switching on.

The setting mode is entered by simultaneously pressing the two buttons **(A + C)** while the drive system is switched on. The display first shows the display for entering a PIN.

The entry mode is accessed by pressing the MODE **(D)** button. Four digits are shown, of which the first one flashes.

By pressing one of the two buttons **(A + C)**, the respective position is increased or decreased by one number. The preferred number is confirmed by pressing the MODE **(D)** button and the next digit starts flashing.

Simultaneously press both buttons **(A + C)** when all digits have been defined. This saves the registered PIN.

Then switch the drive system off. After switching on again and every time the drive system is switched on, the PIN is now requested. The PIN can be changed at any time when the drive system is switched on.



4. Settings.

Settings and adjustments to the product or accessories may only be made by people who have been given the necessary instructions by a medical product advisor. Please ensure that none of the user's extremities are in the respective area when making adjustments of any kind to minimise the risk of injury. All adjustments can be made with standard tools (e.g. Allen key, screwdriver or spanner).

4.1 Presets

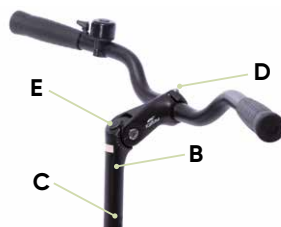
The **momo motion.** is supplied completely assembled. Prior to initial use, however, the following pre-settings must be made.

4.1.1 Handlebar adjustment

You can find our scope of delivery for handlebars under point **2.9**.

Height of handlebars

To adjust the height of the handlebars, remove the protective cap from the hexagon socket (A), loosen the hexagon socket (A) and adjust the stem (B) to the required height. By tapping the head of the hexagon socket (E) lightly with a hammer, the stem in the fork tube will loosen. Then re-tighten the hexagon socket.



Ensure that the marking for the minimum insertion depth (C) remains on the stem in the fork tube and therefore cannot be seen.

Handlebar adjustment

To adjust the handlebar position, loosen the clamping screws (D), bring the handlebars into the required position and then firmly re-tighten the clamping screws (D).

To change the tilt angle on the stem, please loosen the clamping screw (F). The tube factory setting is 20°. In this way you can change the distance between the saddle and the handlebars, and adjust the required handle height. Then firmly re-tighten the screws again.



After each adjustment, please retighten all screw connections!



After adjustment of the handlebars, there must still be no tension placed on the brake cables. If necessary, extend the cables!

4. Settings.

4.1.2 Saddle adjustment

You can find our selection of saddle forms under point 2.9.

Saddle height

The height of the saddle can be adjusted on the frame saddle tube (A) by pulling the saddle post in or out. In order to adjust the height, please loosen the clamp (B) and bring the saddle into the required height. Align the saddle and tighten the clamp (B) so tightly that the saddle support no longer twists. The saddle height is to be re-set based on the inseam length. Here any contractures of the knees must be taken into consideration. The saddle height should be inspected when the user is sitting on the saddle. The leg extension should not total 0°. In the upper position of the pedal, the knee flexion should not be more than 90°. Should it not be possible to achieved this setting through the saddle height, it is possible to undertake further settings through crank shortening (see point 5.8 – 5.10).



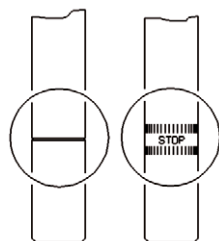
Adjusting the saddle horizontally

Every saddle (except for the unicycle saddle) can be minimally adjusted horizontally. To do this, loosen the nuts (D) with a size 13 wrench and push the calliper block (C) forwards or backwards on the seat stays.



Adjusting the saddle with t-saddle post horizontally

In order to check the horizontal saddle position, turn the pedal crank horizontally forwards and put the foot (while the rider is sitting on the saddle) onto the pedal. Once the lower leg is vertical, the saddle position is correct. You can also loosen the two nuts (D) under the saddle using a size 13 wrench, push the saddle to the rear or forwards and re-tighten the nuts.



During adjustment, the saddle post may not be pulled out over the respective marking, as in this case sufficient clamping cannot be guaranteed. The markings are in part designed differently.



After each adjustment, please retighten all screw connections!



4. Settings.

4.2 Brakes

Various brakes are available for the **momo motion**, depending on the individual requirements of the user.

4.2.1 Parking brake

The parking brake supports the use when climbing on and off the tricycle and secures it against inadvertently rolling away. To activate the parking brake, press the lever (A) on the handlebar stem (B) downwards. To release the parking brake, push the lever up again.



Always ensure that the brake or the brake blocks function correctly and have been adjusted (see below).

Adjustment of the parking brake or brake blocks

Ensure that the braking function immediately takes effect on actuation of the parking brake lever, taking the necessary backlash into account.

Due to "settling" of the Bowden cables and the natural wear on the brake blocks, it is necessary to reset the brake or replace the brake blocks after a certain amount of time. Each gap between the rim and the brake lining should not be larger than 1.5 mm.

To do this, loosen the clamping screw (C), press the brake blocks together by hand, pull the Bowden cable taut and then re-tighten the clamping screw. If the brake blocks are not accurately aligned with the rim edge (D), you must readjust them accordingly. In order to change the alignment of the brake blocks, loosen the screws (E). Leave this work to your specialist dealer in case of any uncertainty.



After each adjustment of the cantilever (V) brake, carry out a brake test. The brake blocks may only be replaced by ones in an identical design. Observe the manufacture name or marking and the type designation. New brake blocks do not achieve the required braking effect until they have been used multiple times.

4. Settings.

4.2.2 Backpedal brake

The backpedal brake is actuated by pedaling backwards. The drive options of the freewheel brake hub and the 3 or 7-gear freewheel brake hub feature a backpedal brake.



The backpedal brake is only functional when the chain sits correctly! If the chain jumps off, it is not possible to brake using the backpedal brake!



The rear wheel may block in case of strong braking procedures. Risk of crashes!



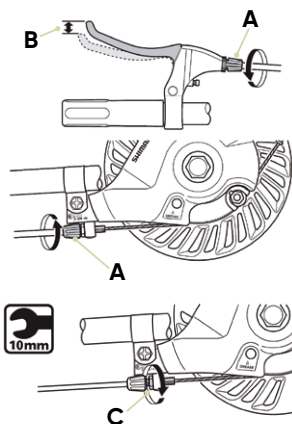
During long downhill runs, it is essential that you use the front and rear brakes in order to avoid overheating of the rear hub brake. This may lead to brake malfunctions!

4.2.3 Wheel brake

The wheel brake is operated by pulling the right brake grip on the handlebars. The wheel brake is only part of the "7-speed freewheel brake hub with roller brake" drive.

Adjusting the wheel brake

Ensure that the braking function immediately takes effect on actuation of the wheel brake, taking the necessary backlash into account. Due to "settling" of the Bowden cables,, it is necessary to reset the brake after a certain amount of time. To do this, turn the cable adjusting screw (A) of the brake unit or the brake grip so that there is a 15 mm "clearance" (B) on the brake grip. After pulling the brake handle to check the brake performance, secure the tension adjustment screws (A) with the tension adjusting nut (C) to a tightening torque of 1-2 Nm. In case of doubt, this work should be left to your specialist dealer.



Caution

If one of the following phenomena occurs when using the wheel brake, stop the drive immediately and ask your specialist dealer (see **Point 9.5**) to carry out checks and repairs if necessary.

1. Unusual noise is heard when braking
2. Brake force is unusually strong
3. Brake force is unusually weak



4. Settings.

If 1 and 2 occur, the reason may be a lack of brake grease. Ask your specialist dealer to grease the mechanism with special wheel brake grease.



After each adjustment of the wheel brake, carry out a brake test.



Frequent actuation of the wheel brake may cause the area around the brake to heat up. After riding the tricycle, do not touch this area for at least 30 minutes.



On long downhill runs you should avoid slow braking, as the internal components of the roller brake become very hot and the braking power drops. It can also lead to a reduction in the amount of brake grease in the brake and this can lead to problems such as abnormal sudden braking.

4.3 Tyres and hoses

The tyres on the tricycle must always have sufficient air pressure, otherwise the tyres may puncture and the rims may be damaged, or the riding characteristics negatively influenced. The minimum and maximum tyre pressure is indicated on the casing (A). If the tyre tread only depresses slightly on being pressed forcefully with the thumbs, the tyre pressure is correct. For exact values, use a pressure gauge!



Check all tyres regularly and replace them immediately in case of damage or wear!

5. Accessories.

5.1 Dynamic back and pelvic guide pelotte pads

All back and pelvic guide pelotte pads can only be used in connection with a holding bracket (see **Point 5.6**). For depth adjustment of the pelotte pad holding bracket, please loosen the screws **(A)** on the right and left-hand sides of the support under the saddle, and bring the holding bracket into the required position. The angular adjustment of the holding bracket takes place after loosening the screw **(B)** on the support. The pelotte pads are adjusted in height after loosening the screw **(C)** on the respective support.



Only use original accessories, otherwise the guarantee will be lost.

5.1.1 Width adjustable back and pelvic guide pelotte pads

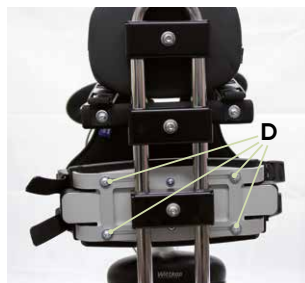
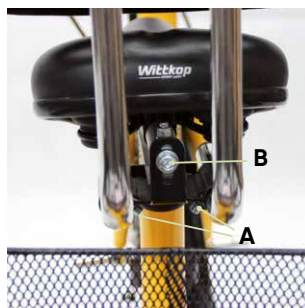
For information on the height, angle and depth adjustment of the back and pelvic guide pelotte pads, see **Point 5.1**. The width adjustable back and pelvic guide pelotte pads can be adjusted in width. To do this, loosen the screws **(D)** on the rear of the back or pelvic guide pelotte pads and bring them into the required position.

5.2 Headrest

The headrest can only be used in connection with a holding bracket (see **Point 5.6**) and is adjustable in height. In order to adjust the height, loosen the screw **(E)** and bring the headrest into the required position.



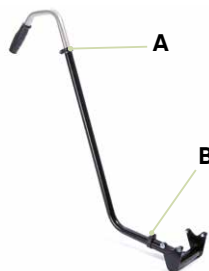
After each adjustment, please retighten all screw connections!



5. Accessories.

5.3 Push bar

The push bar is height adjustable and equipped with an integrated anti-rotation lock. In addition, it can be dismantled. In order to adjust the height, please loosen the clamp (A) and bring the push handle into the required height. In order to remove the entire push bar, please loosen the clamp (B). Please ensure on insertion that the push bar is inserted up to its limit into the push handle holder, and cannot be rotated.



Use the push bar only to guide the tricycle! The push bar is NOT suitable for moving, lifting or tilting the tricycle!

5.4 Brake for accompanying escorts

The brake for the accompanying escort (including motor shutdown and usable only in conjunction with the push bar) allows an escort to slow down the tricycle during use. By pressing the brake, the e-drive motor is switched off. The function of the lever is similar to a normal brake lever.



Always ensure that the brake or the brake blocks function correctly and have been adjusted (see Point 4.2. 1).

5.5 Handlebar lock limiter

The handlebar lock limiter can be adjusted to determine the direction of travel. In order to adjust the handlebar lock limiter, please loosen all grub screws (C) and bring the limiter (D) into the required position. You can determine the direction by moving both limiters (D) towards the handlebar stop (E) and tightening them.



If possible please leave the settings on the handlebar lock limiter as set at the factory!

5. Accessories.

5.6 Holding bracket with mount

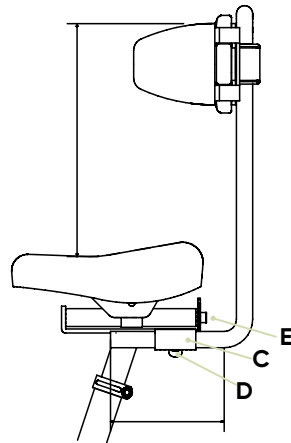
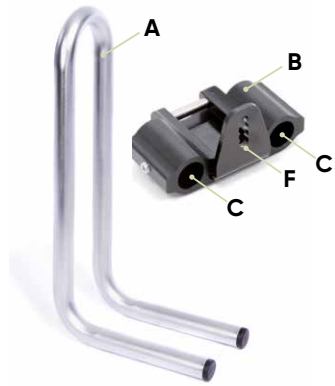
The holding bracket (A) with mount (B) permits head, torso or pelvic supports to be attached, which provide the tricycles with additional stability. Included in the scope of delivery is the black bracket adapter, which is mounted onto the T-saddle post. Then the holding bracket is pushed into the holding socket (C) and can be adjusted in depth. To do this, simply adjust the required position and then tighten the screws (D). To change the angle of the back strap, loosen the screw (E), remove it and insert it into the desired hole (F) on the mount. Then tighten the screw (E) again.



The use of the holding bracket is exclusively possible in combination with the T-saddle post!

5.7 Universal mount

The universal adapter is mounted onto the holding bracket and is used to mount the strap set available for the tricycle. The universal adapter is adjustable in height. To do this, simply loosen the screw (G) at the rear on the adapter and bring the universal adapter into the required position.



5. Accessories.

5.8 Crank shortener (continuously adjustable)

The adjustable crank shorteners are to be mounted onto the cranks with clamps. Please note here that the crank shortener marked "R" is to be mounted on the right-hand side and the crank shortener marked "L" is to be mounted on the left-hand side. The adjustment of the crank shortener is to be undertaken so that the amplitude of the pedal depicts the flexibility of the knee joint. In the lower pedal position, the maximum extension is to be achieved, and in the upper position, the maximum flexion of the knee is to be achieved. This adjustment is to be undertaken in interaction with the saddle height. In order to adjust the continuously adjustable cable shortener, loosen the screw (A) and bring them into the required position.



5.9 Crank shortener

The crank shortener must be mounted onto the cranks using the screw included in delivery and the clamp, and shortens the crank by 2.5 or 5 cm. Please note here that the crank shortener marked "R" is to be mounted on the right-hand side and the crank shortener marked "L" is to be mounted on the left-hand side. The pedal is to be mounted in the required position in the crank shortener.

The position of the pedals must be conducted so that the amplitude of the pedal depicts the flexibility of the knee joint. In the lower pedal position, the maximum extension to be achieved, and in the upper position, the maximum flexion of the knee is to be achieved. This adjustment is to be undertaken in interaction with the saddle height. In order to adjust the crank shortener, loosen the pedals with a 15mm open-end wrench and place it into the opening (B).



5.10 Special crank for knee contracture

The special crank for knee contractures is suitable for 20" - 26" tricycles, and can either be mounted on the left or right-hand side.



5. Accessories.

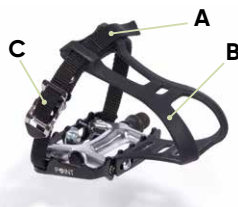
5.11 Exercise bike pedals

The exercise bike pedals are characterised by their integrated balancing weight, whereby the tread surface automatically balances itself horizontally. This permits the rider to climb on independently. The strap (A) is adjustable in length, and at the same time provides easy side guidance. To adjust the length of the strap (A) pull on the lower end in order to loosen the strap (A) from the plug (B). Now adjust the strap (A) to the required length.



5.12 Foot positioning pedals

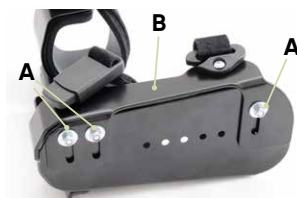
The foot positioning pedals are characterised through the integrated balancing weight, whereby the treads are automatically horizontally balanced. This permits the rider to step onto them independently. The strap (A) is adjustable in length, and at the same time provides easy side guidance. The cage mounted at the front of the pedals (B) prevents the toes from slipping through at the front. In order to adjust the strap (A) in length, pull the strap (A) back out of the strap guide (C). Now the strap (A) can be shortened through pulling and extended through pressing under the lock. To fix the adjustment, guide the strap (A) back through the strap guide (C).



5. Accessories.

5.13 Foot pans

The foot pans provides side guidance and thus prevents internal or external rotations of the foot. To guarantee this function, the foot pan is adjustable in width, which can be conducted by loosening the three screws (A) and shifting the side part (B) in the slotted hole. The foot pans are mounted centrally on the pedals in the factory. In order to shift the pressure point under the foot, it must be moved in three positions. To this end, remove the screws with nuts (C) below the counterplate and move it into the desired position. Subsequently put the counterplate back and tighten again the screws with nuts (C). The rotation can be adjusted by loosening the screws with nuts (C) and turning the foot pans on the pedal. In order to secure the user in the foot pan, the foot pans are equipped with straps. These can be closed using the magnetic locks. If you guide the strap end (D) in direction of the closure, it will engage automatically. Press the button (E) to open the straps. For the length adjustment, the hook and loop closure of the strap (F) can be opened on both sides and adjusted in length. To close the strap in the forefoot area, guide it through the opening (G) and close the strap with hook and loop closure.



5.14 Foot pans with leg guidance

See **Point 5.13** for the function and settings of foot pans. The leg guidance also stabilises the foot joint and reduces internal rotation of the leg. The leg guidance can be adjusted by loosening the nuts (H) and shifting them in the slotted hole. The height adjustment should be selected so that the calf clamp lies against the vertex of the calf. The depth of the calf clamp can be adjusted by loosening the nuts (I) on the inside of the leg guidance.

5. Accessories.

5.15 Foot pans with dynamic leg guidance

For the function and adjustment of the foot pans with leg guidance, see **Point 5.14** For the foot pans with dynamic leg guidance, the adjustment options are installed only on the rear foot part and not on the side like for the foot pans with leg guidance.

The dynamic leg guidance also permits defined rotation of the leg and thus prevents excessive abduction, in particular of short legs. At the same time, the stabilisation of the foot joint is retained. To adjust the degree of movement of the leg guidance, loosen the cover **(A)** and the nut below it, and screw the elastomer in or out accordingly. Check the leeway of the leg guidance.



5.16 Chest strap

The chest strap is attached to the width adjustable back pelotte pad, and, if required, ensures secure positioning of the user. The strap is mounted with the aid of the plug lock to the back pelotte pad and threaded through the strap guidance on the click buckle. Then the click buckle is pressed down to fix.



5. Accessories.

5.17 Positioning vest

The positioning vest is mounted in the lower area of the width adjustable back pelotte pad. Screw the strap ends of the positioning vest onto the universal adapter and tighten the screws (A). The strap of the positioning vest is mounted onto the back pelotte pad with the aid of the plug lock, and threaded through the strap guidance on the click buckle. Then the click buckle is pressed down to fix.



5.18 Groin harness, T-shaped

The T-shaped groin harness is mounted onto the width adjustable pelvic pelotte pad. The strap is mounted onto the pelvic pelotte pad with the aid of the plug lock and threaded through the strap guidance on the click buckle. Then the click buckle is pressed down to fix.



5.19 4-point pelvic harness

The 4-point pelvic harness is mounted onto the width adjustable pelvic pelotte pad. The strap is mounted onto the pelvic pelotte pad with the aid of the plug lock and threaded through the strap guidance on the click buckle. Then the click buckle is pressed down to fix.



5.20 Hand positioning aid

The hand positioning aid provides additional security for the user by keeping their hands safely on the handlebars. To do this, the user simply inserts their hand into the hand positioning aid and closes the hook and eye fasteners.



6. Cleaning and maintaining.

6.1 Cleaning and disinfecting

6.1.1 Cleaning

In order to retain the functional safety and the appearance of the tricycle, it must be regularly maintained. Please observe the following guidelines:

- Never allow dirt to dry onto the bicycle, but always remove it with water and a soft cloth or sponge. Otherwise you may damage the bearings, the paintwork or the decorations.
- Do not use aggressive cleaning agents. Use a mild detergent solution to clean.
- Repair paintwork damage immediately.
- The components of the drive system can be cleaned with a soft cloth moistened with commercially available cleaning products or soapy water, but not wet

Please also pay attention to our general cleaning and hygiene advice. This can be found at **www.schuchmann.de/mediathek**.



Danger due to rotating parts

The motor can start to move unexpectedly when the drive system remains switched on when performing cleaning work on the tricycle.

- Remove the E-drive battery pack before cleaning.



Never use high-pressure cleaning equipment

The use of a steam jet, high-pressure cleaning equipment or a water jet for cleaning is not permitted. The ingress of water into the control box, motor or electrical connectors can destroy the equipment.

6.1.2 Disinfection

Various products can be used for surface disinfection of metal and plastic parts.

Liquid disinfectants are available as ready-to-use solutions that are sprayed on and evenly applied with a soft cloth. Alternatively, wipes pre-soaked with disinfectant can be used to wipe the products over the entire surface. In both cases, care must be taken to ensure complete wetting. Disinfection in fully automatic disinfection systems is also possible and recommended. The exposure times may vary and can be found in the manufacturer's instructions for the products used.



6. Cleaning and maintaining.

6.1.3 Chain maintenance

Drive chains must be regularly cared for. This is in particular the case after riding in rain. The chain must be lubricated with a commercially available chain oil. Due to the expansion of the chain which is a natural result of use, regular inspection of the chain tension is required. Check the chain tension by testing whether the chain on the tricycle can be pressed max. 10 – 15 mm upwards and downwards. In order to reset the tension of the chains in the drive area, loosen the nuts **(A)** on the hub and pull the hub evenly to the rear. In the second step, the main chain must be adjusted by shifting the idler roller **(B)**. Leave this work to your specialist dealer in case of any uncertainty!



After each adjustment, please retighten all screw connections!



An incorrectly-tensioned chain can lead to increased wear!

6.2 Servicing / controls

Please carry out a daily visual inspection and check the tricycle regularly for cracks, breaks, missing parts and malfunctions. In case of a defect or malfunction, please contact the specialist dealer who supplied you with the product (see **Point 9.5**).

6.3 Maintenance

For reasons of user safety and to maintain product liability, maintenance needs to be carried out every 1000 km, however at least once a year, by a specialist dealer (see **Point 9.5**). The maintenance work carried out must be documented in the maintenance plan (see **Point 6.3.2**). The electric drive (incl. battery pack) does not require maintenance if used properly and carefully.

6. Cleaning and maintaining.

6.3.1 Maintenance specifications

- Check the chain and chain tension, adjust if necessary, clean and oil (**see Point 6.1.3**).
- Check rear wheel track, adjust if necessary.
- Check bottom bracket and lubricate if necessary.
- Lubricate pedal bearing, check bearing clearance and if necessary adjust or replace.
- Check the hub gear and adjust if necessary.
- Check the brake system for function, adjust if necessary. If the brake is poor, check the hand lever, cable, brake lever and brake pads for their condition, adjust and replace if necessary.
- Lubricate joints and bearing points.
- Replace bent or trapped cables.
- Check rims for side and top impacts.
- Check the spoke tension and adjust if necessary.
- Check the tyre profile.
- Check the lighting and signal system.
- Check rear hub and lubricate if necessary.
- Check frame and fork for damage and replace if necessary.
- Arrange for annual leakage current measurement to be carried out on the electric drive.
- Check the fixation of all cables and parts.
- Check the function of the entire electrical system.
- Check the operational safety of the battery pack.



Danger of malfunction in case of incorrect maintenance

Improper maintenance of the electric drive can cause damage to essential components. This might cause a fall.

- Maintenance work may only be performed by your specialist dealer (see **Point 9.5**).



Danger due to unforeseen motor activity

The motor can start to move unexpectedly when the drive system remains switched on when working on the tricycle.

- Remove the battery pack before any intervention with the tricycle.
- When restarting the tricycle after maintenance, assembly or repair, position the tricycle so that the drive wheel can rotate freely. Only then should the battery pack be inserted and the proper functioning of the drive checked.



6. Cleaning and maintaining.

6.3.2 Maintenance plan

Maintenance specifications of the manufacturer (see **Point 6.3.1**) were carried out:

Date	Company	Name	signature



Any defects or damage found must be repaired by the specialist dealer or the manufacturer before reuse.

6.4 Repairs

Tricycle repairs that are not performed by your specialist dealer are at the user's own risk and discretion.

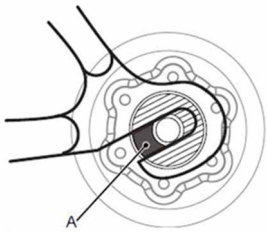


Caution

When reinstalling the drive, e.g. after a tyre change on the front wheel, the wheel nuts must be tightened again with a tightening torque of 45 Nm ± 5 Nm!

The torque support must be fully encircled by the dropout. The reserve in the mounting groove for the wheel axle in the dropout must be at least 5 mm!

The shoulder (**A**) of the torque support must point to the open side of the dropout!



6. Cleaning and maintaining.

6.5 Controls

Controls to be performed by the user of the bicycle if necessary:

- Check the chain and chain tension, adjust if necessary, clean and oil.
- Check the chain for wear, oil and replace if necessary.
- Check bottom bracket mounting and repair if necessary.
- Check pedals for clearance.
- Gear system – check settings.
- Check the handlebar and handlebar stem for damage and replace if necessary.
- Check the brake system for function and adjust if necessary.
- Check the tyre pressure and profile.
- Check the lighting and signal system.

6.6 Storage

Storage in winter

Before storing the tricycle in a dry room with constant temperature in winter, clean it (see **Point 6.1**) and make sure that the tyre pressure is sufficient (see **Point 4.3**).

Inspection in spring

Before you use the tricycle again in spring, ensure that the air pressure in the tyres is sufficient and that the tricycle is not damaged.

6.7 Spare parts

Only use accessories and spare parts made by Schuchmann, otherwise you will endanger the user and the warranty becomes void.

Should you wish to order spare parts, please contact the specialist dealer who supplied you with the tricycle, stating the serial number (see **Point 9.5**).

Necessary spare parts and accessories must only be installed by trained personnel.

6.8 Duration of use and re-use

The expected duration of use of our product, dependent on the usage intensity and amount of re-use, totals up to "8" years, if the usage takes place in accordance with the information in these instructions for use. It may be possible to use the product over and above this time period if it is in a safe condition. The expected duration of use does not refer to wear parts, such as for example covers, wheels, batteries.....The maintenance and evaluation of the condition, and if applicable the potential for re-use, must be decided by the specialist dealer.

The tricycle is suitable for re-use. Prior to forwarding, please follow the cleaning and disinfection instructions stated in **Point 6.1**. Accompanying documents such as these Instructions for use are part of the product and must be passed on to the new user.



6. Cleaning and maintaining.



Should a serious incident occur during the service life of the product despite being used as intended, this must be reported immediately to the manufacturer and the competent authority.

6.9 Error messages and troubleshooting

If errors occur during operation of the drive system, "**Error**" is indicated on the display. At the same time, instead of the current display of the speed, an error number appears.

The following table provides information about the possible error sources associated with these numbers and how the malfunction can be eliminated.

1	ERROR_HARDWARE_BRAKE
Error	Overcurrent switch-off
Measure	Remove the battery pack and check the contacts. If the contacts are OK, reinsert the battery pack and restart the system. Please contact your specialist dealer (see Point 9.5) if the contacts on the battery pack are visibly damaged or the error continues to occur.
2	ERROR_HALL
Error	Motor signal faulty
Measure	Check the motor signal cable and restart the system. Please contact your specialist dealer (see Point 9.5) if the motor signal cable are visibly damaged or the error continues to occur.
3 & 4	ERROR_GRIP_OFFSET
Error	Twist grip not in the home position at system startup
Measure	Make sure that the twist grip is in the home position at system startup. If the error still occurs, the twist grip is probably defective. In this case, please contact your specialist dealer (see Point 9.5).
5	ERROR_TORQUE_OFFSET
Error	Torque sensor incorrectly installed or not load-free at system startup
Measure	Do not apply pressure to the pedals on system startup. If the error still occurs, the torque sensor in the bottom bracket is probably defective. In this case, please contact your specialist dealer (see Point 9.5).

6. Cleaning and maintaining.

6	ERROR_I_OFFSET
Error	Current measurement error, contacts on the battery pack may be damaged
Measure	Remove the battery pack and check the contacts. If the contacts are OK, reinsert the battery pack and restart the system. Please contact your specialist dealer (see Point 9.5) if the contacts on the battery pack are visibly damaged or the error continues to occur.
7	ERROR_FAST_OVER_VOLTAGE
Error	Brief overvoltage in the intermediate circuit, possibly due to excessive wheel speed or damaged contacts on the battery pack.
Measure	Remove the battery pack and check the contacts. If the contacts are OK, reinsert the battery pack and restart the system. Please contact your specialist dealer (see Point 9.5) if the contacts on the battery pack are visibly damaged or the error continues to occur.
8	ERROR_SLOW_OVER_VOLTAGE
Error	Permanent overvoltage in the intermediate circuit.
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
9	ERROR_FAST_UNDER_VOLTAGE
Error	Brief undervoltage in the intermediate circuit, battery pack possibly took weak or contacts damaged.
Measure	Remove the battery pack and check the contacts. Reinsert the rechargeable battery pack and restart the system. If the error still occurs, charge the battery pack, reinsert it and restart the system. Please contact your specialist dealer (see Point 9.5) if the contacts on the battery pack are visibly damaged or the error continues to occur.
10	ERROR_SLOW_UNDER_VOLTAGE
Error	Permanent undervoltage in the intermediate circuit, rechargeable battery pack possibly drained.
Measure	Charge the battery pack, reinsert and restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
11	ERROR_OVER_TEMP_MOTOR
Error	Motor overheated
Measure	Leave the motor to cool down. Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur after approx. 20 minutes.
12	ERROR_OVER_TEMP_CONTROLLER
Error	Motor control overheated
Measure	Leave the motor control to cool down. Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur after approx. 20 minutes.



6. Cleaning and maintaining.

13	ERROR_PARAMETER
Error	General parameter error
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
14	ERROR_UNDER_TEMP_MOTOR
Error	Lower limit temperature for motor operation reached
Measure	Store the system at room temperature (approx. 20°C). Please contact your specialist dealer (see Point 9.5) if the error continues to occur after approx. 1 hour.
15	ERROR_EEPROM
Error	Error in the system accumulator
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
16	ERROR_PARAMETER_PROPERTY
Error	Error in parameter management
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
17	ERROR_AKKU_TEMP
Error	Battery pack either overheated or under-cooled
Measure	Allow the overheated battery pack to cool down or store under-cooled at room temperature (about 20°C). Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur after approx. 1 hour.
18	ERROR_UNDEFINED_BIKE_CONSTELLATION
Error	Configuration error
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
19	ERROR_BMS
Error	Rechargeable battery pack error
Measure	Remove the rechargeable battery pack and recharge. Reinsert the rechargeable battery pack and restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.
20	ERROR_BMS_VERSION
Error	Rechargeable battery pack error
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.

6. Cleaning and maintaining.

21	ERROR_BMS_VERSION
Error	Loose contact or other defect on the torque sensor
Measure	Restart the system. Please contact your specialist dealer (see Point 9.5) if the error continues to occur.

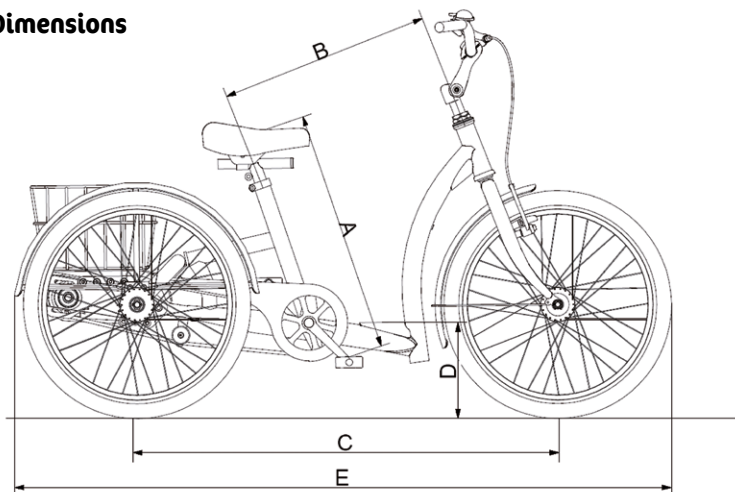
22-30	ERROR_BMS_FAULTY_xxx
Error	Rechargeable battery pack error
Measure	Please contact your specialist dealer (see Point 9.5).

50	ERROR_DISPLAY_COMMUNICATION
Error	Communication between the display and control faulty
Measure	Check the display cable plug. Examine the display for visible damages. Restart the system. Please contact your specialist dealer (see Point 9.5) if damage can be identified on the plug or display or the error continues to occur.



7. Technical data.

7.1 Dimensions



		16"	20"	24/20"	24"	26"	26" (XL)
	Recommended body height	100 - 115 cm	115 - 130 cm	125 - 140 cm	130 - 145 cm	145 - 160 cm	155 - 180 cm
A*	Pedal to top edge of saddle	42 - 62 cm	49 - 71 cm	53 - 75 cm	55 - 77 cm	65 - 87 cm	72 - 94 cm
A**	Pedal to top edge of saddle	45 - 60 cm	52 - 67 cm	56 - 71 cm	58 - 81 cm	68 - 91 cm	75 - 98 cm
	Saddle height from ground	63,8 - 78,8 cm	73,5 - 89,5 cm	77,5 - 93,5 cm	82,5 - 106 cm	94 - 117,5 cm	101,5 - 125 cm
B	Saddle support tube to front tube	39 cm	45 cm	54 cm	52 cm	58 cm	58 cm
C	Wheelbase	80 cm	91 cm	99 cm	104 cm	112 cm	112 cm
D	Access point height	18 cm	20 cm	20 cm	22 cm	23 cm	23 cm
E	Full length	120 cm	140 cm	153 cm	165 cm	178 cm	178 cm
	Full width	65 cm	69 cm	75 cm	75 cm	75 cm	75 cm
	Weight	24,5 kg	27 kg	28,5 kg	29,5 kg	31,5 kg	31,7 kg
	Crank radius	10,2 cm	12,7 cm	12,7 cm	14,5 cm	14,5 cm	14,5 cm
	Turning radius	180 cm	200 cm	210 cm	220 cm	250 cm	250 cm
	Tyres	16" x 1,75"	20" x 1,75"	24/20" x 1,75"	24" x 1,75"	26" x 1,75"	26" x 1,75"
	max. load	60 kg	80 kg	90 kg	100 kg	120 kg	120 kg
* Dimensions with standard saddle post / ** Dimensions with T-saddle post							

7. Technical data.

7.2 Drive system

System	
Protection class	3

Control	
Operating voltage	36 V
Max. current	depending on design & operation: 10 – 33 A

Motor	
Type	PRA 180-25
Motor nominal voltage	22.8 VAC
Output	250 W Pedelec (DIN EN 60034-1)
Speed during travel on the flat	depending on design & wheel diameter approx. 60-330 1/min
Torque	11.4 Nm
Impulse torque	up to 60 Nm
Excess temperature protection	Type KTY84-130
Overall motor diameter	Ø 220 mm
Weight	4.5 kg
Protection class	IP54
Consumption	0.5 – 1 kWh/100km

Battery pack		
Type	Lithium ion battery pack	
Nominal voltage	36 V	
Capacity	14,25 Ah, 400 Wh	
Charging time	approx. 5.5 h (at charge current 2 A)	
Temperature ranges	Operation	(-)10 – 45°C
	Charging	10 – 35°C
	Storage	(-)10 – 45°C



7. Technical data.

7.3 Lighting system

Front lighting	
Type	AXA Pico 30-E 6V-42V
Luminous intensity	30 lx
See	50 m
Be seen	3000 m
Lateral visibility	Yes
Including reflector	Yes
On/off switch	Yes
Automatic light/dark sensor	No
Parking light	No
Daytime running light	No
Suitable for E-bike	Yes, 6-42 V
Primary colour	black
Product weight	70 g
Technology	LED

Rear lighting	
Type	Busch und Müller Seculite Plus
Parking light	Yes
Registration light	StVZO
Assembly	Mudguard
Technology	LED
Integrated reflector	Yes

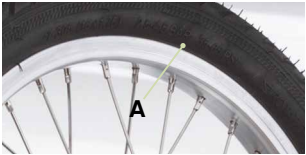
7. Technical data.

7.4 Torque specifications

Pedal crank	40 Nm
Front wheel	20 Nm – 22 Nm
Wheel nuts (front wheel)	45 Nm ± 5 Nm
Wheel nuts (rear wheels)	25 Nm to 30 Nm
Wheel brake cable adjusting nut	1-2 Nm

7.5 Tyre pressure

The minimum and maximum tyre pressure is indicated on the casing (A).



8. Guarantee.

The two-year statutory guarantee period shall apply for all products. This begins with the delivery or handover of the goods. Should a verifiable material or manufacturing fault occur within this time period, we shall, after carriage paid return to us, view the indicated damage and, if applicable, either repair or deliver a new product at our discretion.



9. Identification.

9.1 Serial number / date of manufacture

The serial number, the date of manufacture and other information can be found on the type plate, which is located on all of our products (A).

Product name

Item number

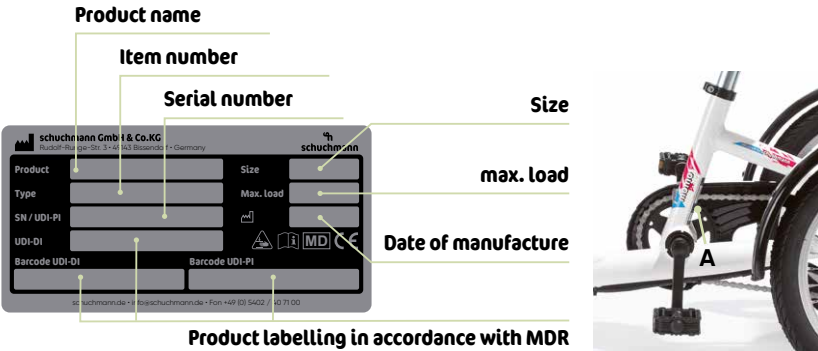
Serial number

Size

max. load

Date of manufacture

Product labelling in accordance with MDR



9.2 Product version

The **momo motion**. is available in five sizes (16" – 26" XL) and can be supplemented through a diverse range of accessories (see **Point 5**).

9.3 Issue of the document

momo motion instructions for use. – Change status H; issue 04.2024

9.4 Name and address of the manufacturer, specialist dealer supplying the product

This product was manufactured by:



Schuchmann GmbH & Co. KG
Rudolf-Runge-Str. 3 · 49143 Bissendorf · Germany
Phone +49 (0) 5402 / 40 71 00 · Fax +49 (0) 5402 / 40 71 109
info@schuchmann.de · www.schuchmann.de

This product has been delivered by the following specialist dealer:





schuchmann.de