

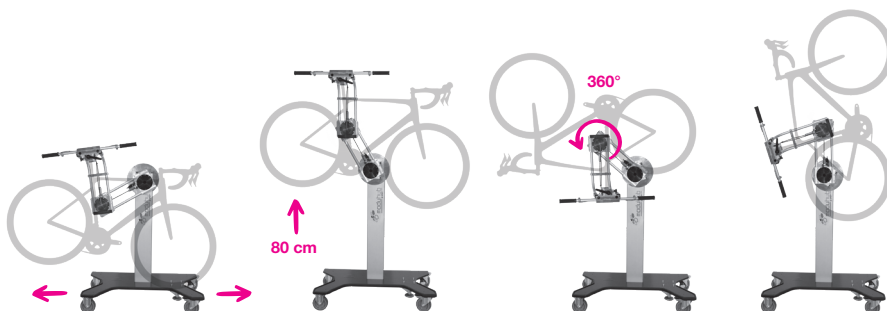


BikePromobil

Mobile assembly device for bicycles and e-bikes



PICK UP | MOVE | LIFT | ROTATE



Application

The BikePromobil is a power-free, mobile manipulator for handling and assembling bicycles weighing up to 40 kg.

Advantages

- Ergonomic working by picking up and setting down all types of bicycles due to 800 mm lift with force compensation
- Universal use due to exchangeable seat tube mandrel
- Flexible use due to trolley with optional central locking device
- Gentle handling due to clamping without touching paintwork
- Fast working due to 2-hand operated, balanced axes with control unit
- Safe working due to design in accordance with EC Machinery Directive with anti-tip feature
- Efficient work through best accessibility due to off-centre positioning of the bicycle

Areas of application

The BikePromobil was specially developed for the highly flexible series assembly of bicycles. Rigid line structures can thus be dispensed with and the assembly flow can be individually adapted according to the order situation and model range. Since no external power is required for operation, the BikePromobil can be put into operation immediately anywhere. Bicycles weighing up to 40 kg can be effortlessly picked up from the ground and brought into an optimal assembly position thanks to the adjustable load compensation with gas spring.

Stationary use in workshops or small assembly islands is also possible.

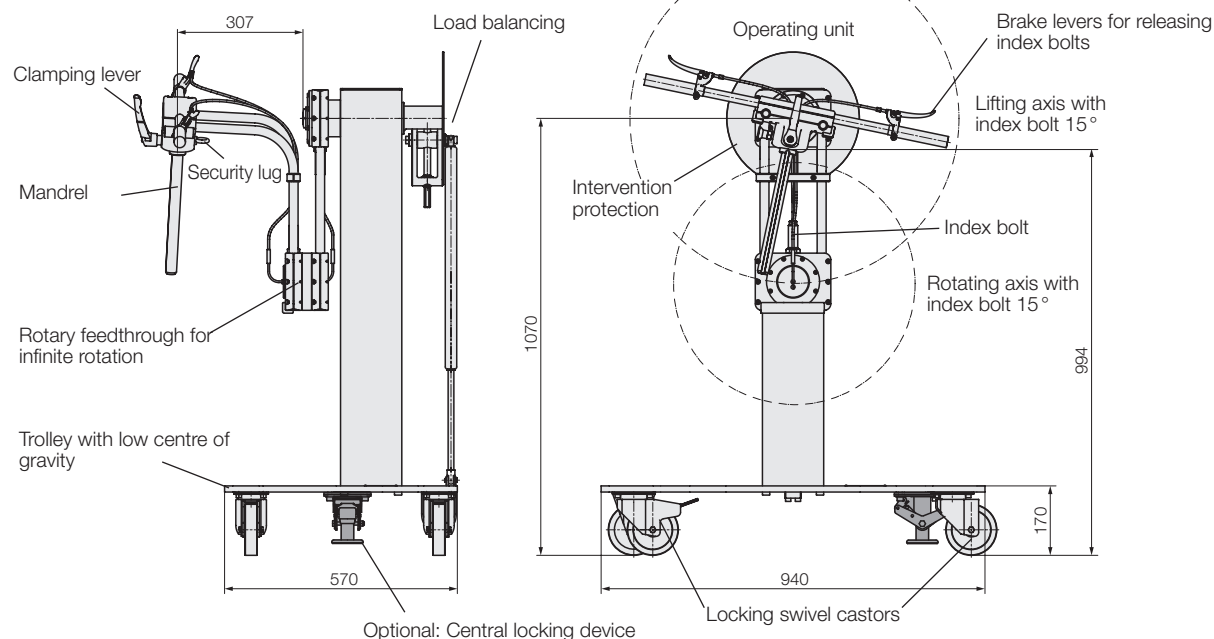
The BikePromobil is intended for use in workshops and industrial halls. Easily moved thanks to the large rollers.

Versions

- Bicycle mount with clamping mandrel or optionally with clamping claw
- For bicycle handlebar widths up to 600 or optionally in reinforced version up to 800 mm

Options

- Central locking device
- Clamping claw
- 3rd axis
- Stationary variants (without castors)



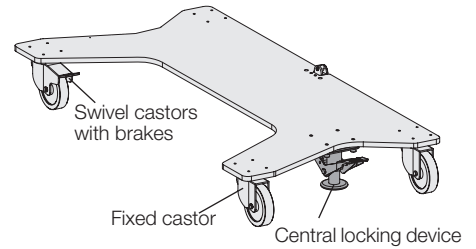
See all features in the video



Features

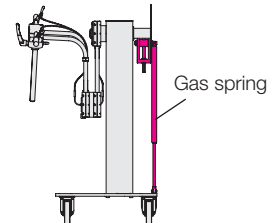
Trolley

- Secure, firm standing in all positions with the standard trolley.
- If required, a base plate without castors with an adapted column (for the same base height) is also available. This can be attached to the base if required.
- Best manoeuvrability and flexible use in different locations.
- The trolley is equipped with 3 swivel castors and 1 fixed castor.
- 2 of the swivel castors are equipped with a brake. The fixed castor prevents travel at right angles to the direction of travel and thus secures against tipping.
- Time can be saved in the flow process with the optional central locking device.



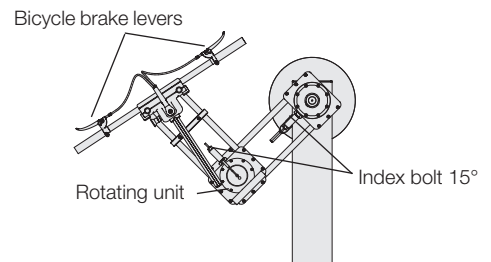
Load balancing

- Force-free and safe working
- The adjustable linkage of the gas pressure spring facilitates quick adjustment of the load balance to the required load during the assembly process. Particularly with heavy e-bikes, a significant improvement in ergonomics can be achieved in this way.



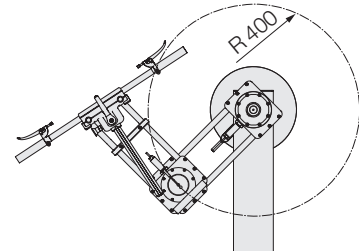
Control unit with indexing and securing lug

- Solid working due to 15° indexing with precision bearings. The two rotary axes have CNC-machined bearings. The index bolts are conical. This reduces the operating forces, and the engagement works automatically and safely. The detent position is almost free of play.
- The 2 index bolts are released using standard bicycle brake levers with cable pulls.
- Both axes can be rotated infinitely. For this purpose, the cable for the lifting axis is guided through a rotary union through the rotary axis.



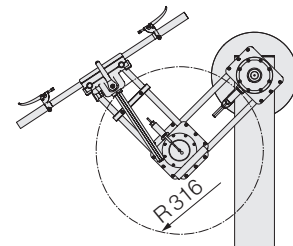
Lifting axis

- More assembly throughput thanks to fast lifting and lowering.
- The load-balanced first axis serves as the lifting axis. In combination with the second lever arm, 800 mm of lift can be realised. Since the device is operated without external power, lifting and lowering is possible at any speed.



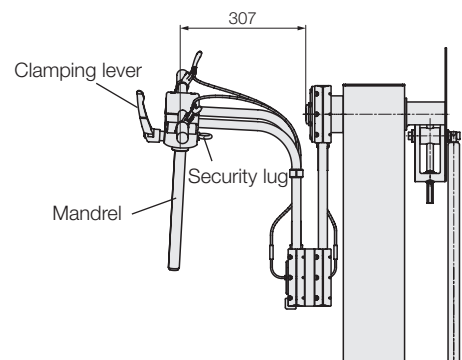
Rotation axis

- View, reach and install the electric motor, bottom bracket or rear brake optimally on the bicycle. This can be done efficiently and safely with the second rotation axis.
- The bike can be turned upside down for easy installation of the battery or motor. It can also be placed to the left or right of the column for optimal viewing and adjustment of the rear brake or the bottom bracket as well as the left crank.



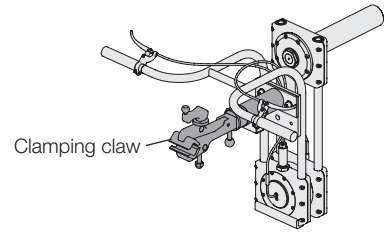
Swivelling mandrel

- Clamp many variants of bicycles without touching paintwork with the standard 27.2 mm diameter clamping mandrel. The mandrel also has a groove to be able to route cables of the electric circuit or the cable of drop posts even when clamped. Almost all frames can be clamped using adapter sleeves provided by the customer. For exotic or aerodynamic profiles, special shapes can be supplied on request.
- Increased accessibility due to swivelling mandrel. If lateral swivelling with the 2nd axis is not sufficient or if the desired height does not fit in this position, the bicycle can be swivelled around the axis of the seat tube by loosening the clamping lever. An additional index bolt prevents the bicycle from falling out.
- Quick change. Index bolts and clamping levers mean that even complete bicycles with clamping mandrels can be quickly clamped or unclamped.
- Secure bicycles against falling. There is a safety lug on the back of the control unit for this purpose.



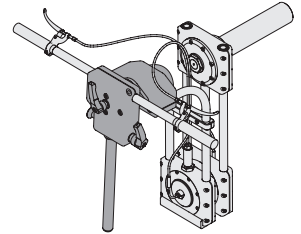
Option clamping claw

- On request, the BikePromobil is available with a clamping claw instead of the mandrel.



Option 3rd axis

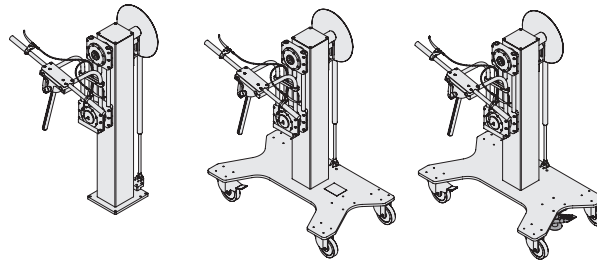
- For even more flexibility, an optional 3rd axis is available. This allows the bicycle to be rotated 180° (i.e. chain to the left) even when clamped. The 3rd axis is located in the area of the control unit and can be swivelled out 90° in both directions. It can be locked in small steps via a ratchet system. The full swivel angle is only intended for turning the bicycle, not for positioning it permanently off-centre.
- Another big advantage is that with the 3rd Axis, the bicycle can be optimally balanced with its centre of gravity. In this way, each bicycle can be positioned and handled in an optimally balanced manner.



Part numbers

Column design

Stationary column Mobile column Mobile column with brake



For bicycle handlebar widths up to 600 mm

	[mm]	265 x 225	Basic variant 940 x 570	940 x 570
Base plate			940 x 570	940 x 570
Part no.		6415812	6415813	6415814

For bicycle handlebar widths up to 800 mm

	[mm]	265 x 225	940 x 670	940 x 670
Base plate			940 x 670	940 x 670
Part no.		6415815	6415816	6415817

For bicycle handlebar widths up to 600 mm with 3rd axis

	[mm]	265 x 225	1340 x 570	1340 x 570
Base plate			1340 x 570	1340 x 570
Part no.		6415818	6415819	6415820

For bicycle handlebar widths up to 800 mm with 3rd axis

	[mm]	265 x 225	1340 x 670	1340 x 670
Base plate			1340 x 670	1340 x 670
Part no.		6415821	6415822	6415823

For bicycle handlebar widths up to 800 mm with clamping claw

	[mm]	265 x 225	1340 x 670	1340 x 670
Base plate			1340 x 670	1340 x 670
Part no.		6415824	6415825	6415826

Explanations

- The basic version 6415 813 has one trolley and 2 rotary axes with load compensation. The boom offers space for handlebars up to 600 mm.
- The BikePromobil can also be supplied without a trolley with a fixed base plate (column 1). The size of the base plate is then always 265 x 225 mm.
- In versions for bicycle handlebars up to 800 mm wide, the trolley is 100 mm lower to prevent tipping: 670 mm instead of 570 mm.
- The central locking device is always available as an option (column 3).
- For versions with 3rd axis, the trolley is then 400 mm longer to prevent tipping.
- For versions with clamping claw, option of a 3rd axis is not available. However, the pendulum can be used in the clamp of the clamping claw.

Accessories (on request)

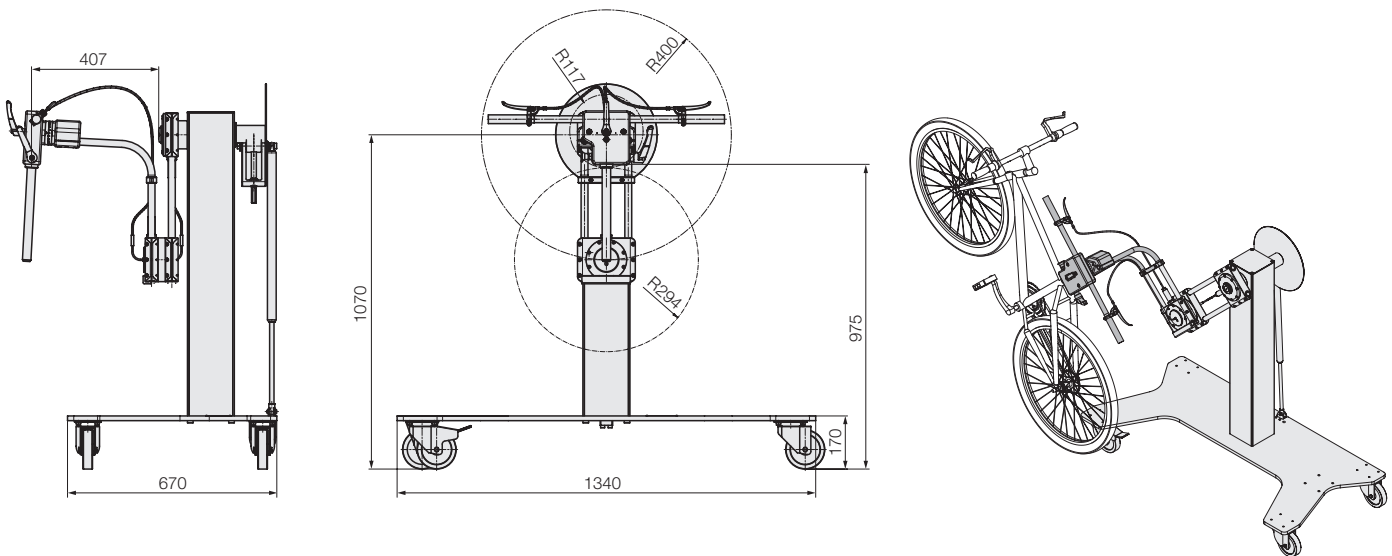
- Special variants of mandrels
- Special adapter for mandrel with clamping claw

Technical data

Maximum workpiece weight	[kg]	40
Maximum permissible force application by the operator	[N]	250
Adjustment range load balancing	[kg]	5–40
Base height (interface for mandrel)	[mm]	985
Lift	[mm]	800
Index angle lifting axis (1)		24x15°
Index angle rotation axis (2)		24x15°
Ø Mandrel	[mm]	27.2
Length mandrel	[mm]	300
Groove in mandrel	[mm]	R 4–6 deep
Free space for handlebars to swing through	[mm]	307 (407)
Wide trolley	[mm]	570 (670)
Length (trolley)	[mm]	940 (1340)

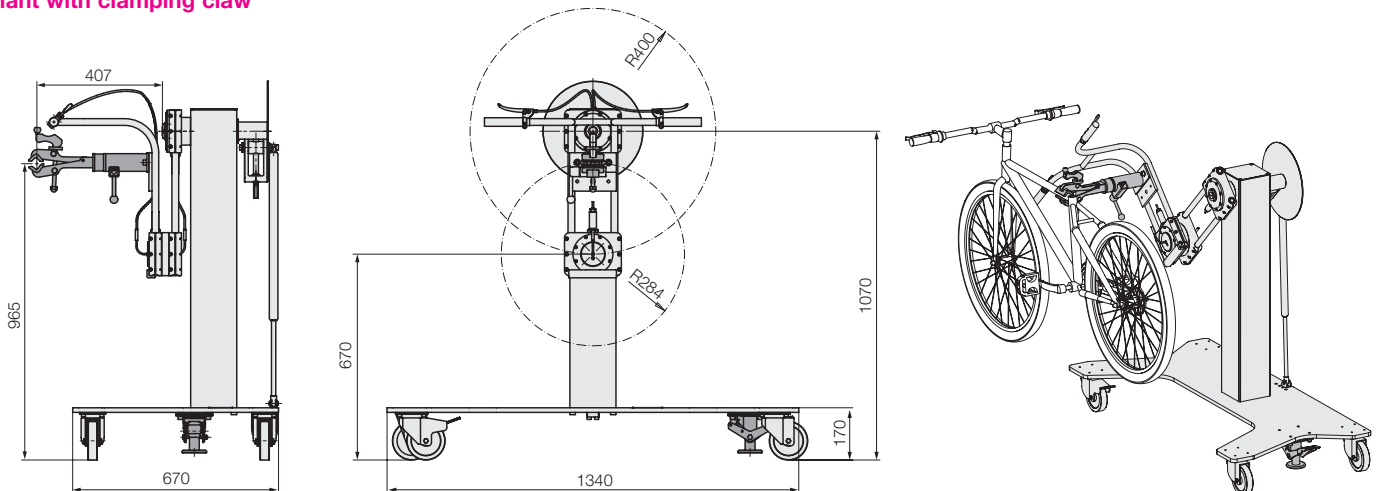
Dimensions

Variant with 3rd axis and for bicycle handlebar widths up to 800 mm



Dimensions

Variant with clamping claw



CAD models of all variants for download at: mh.roemheld.de