

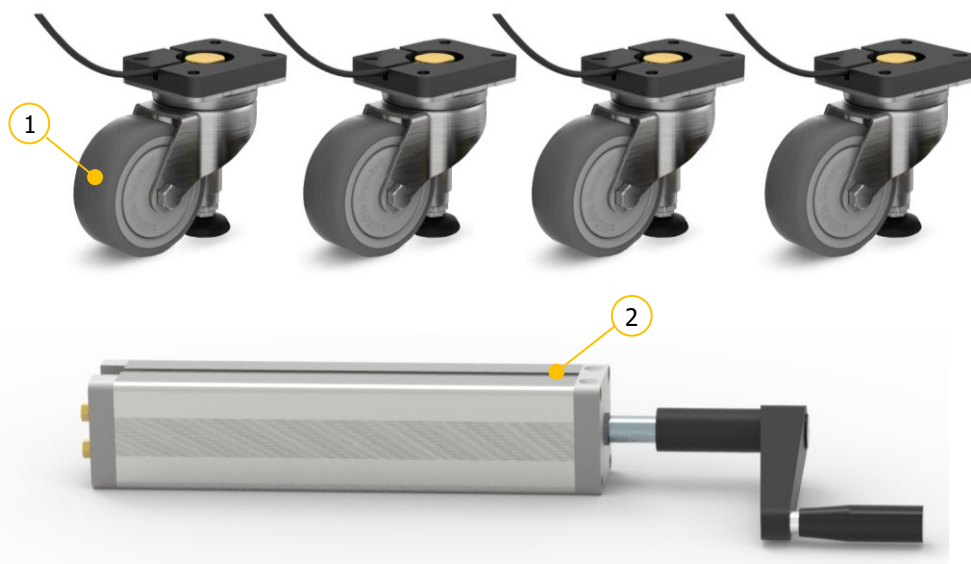
Operating instruction – Lifting Castor Set X-HR 1803 D100 no tox

3-10 (=X) Lifting Castor HR driven by hydraulic lifting feet.



It is essential to read this operating instruction thoroughly before commissioning the system. This operating instruction has to be stored in the immediate vicinity of the system.

Lifting Castor Set X-HR 1803 D100 no tox



① Lifting castor consisting of a swivel castor (Ø100) with integrated hydraulic driven lifting foot (cylinder 1803).

② Hydraulic pump with hand crank and 3-10 (=X) tubing connections.

Errors and technical changes reserved.

Ergoswiss AG does not assume any liability for operating errors or using the products outside of the specified normal use.

At the time of delivery Ergoswiss AG will replace or repair defect products within accordance with the warranty provisions. In addition, Ergoswiss assumes no other liability.

For your questions and special custom demand Ergoswiss AG will be at your disposal.

Ergoswiss AG

Nöllenstrasse 15

CH-9443 Widnau

Tel.: +41 (0) 71 727 06 70

Fax: +41 (0) 71 727 06 79

info@ergoswiss.com

www.ergoswiss.com

This operating instruction applies to:

	Item description	Item number
Lifting Castor Set	3-HR 1803 D100 no tox	501.10100
	4-HR 1803 D100 no tox	501.10101
	5-HR 1803 D100 no tox	501.10102
	6-HR 1803 D100 no tox	501.10103
	7-HR 1803 D100 no tox	501.10104
	8-HR 1803 D100 no tox	501.10105
	9-HR 1803 D100 no tox	501.10106
	10-HR 1803 D100 no tox	501.10107
Lifting Castor Set hand crank removable	3-HR 1803 D100 no tox	501.10110
	4-HR 1803 D100 no tox	501.10111
	5-HR 1803 D100 no tox	501.10112
	6-HR 1803 D100 no tox	501.10113
	7-HR 1803 D100 no tox	501.10114
	8-HR 1803 D100 no tox	501.10115
	9-HR 1803 D100 no tox	501.10116
	10-HR 1803 D100 no tox	501.10117

standard item



Notes on the operating instructions:

Lifting castors of Ergoswiss AG are intended for installation in a complete system and are classified in the category of incomplete machines in accordance with the Machinery Directive 2006/42/EC (ANSI B11.0). This manual contains information on the commissioning, handling and safety of the lifting castors and is intended for the re-user and manufacturer of the entire system. The re-user of the lifting castors is obliged to draw up an operating manual with all usage information and hazard warnings of the entire system.

The installation declaration is only valid for the Ergoswiss lifting castor set and not for the overall system created by the re-user.

Table of contents

1	Safety requirements	4
1.1	Explanations of the symbols and notes	4
1.2	Basic safety instructions	5
2	System description	5
2.1	General	5
2.2	Intended purpose use	5
2.3	Specified normal operation	6
2.4	Target group and prior knowledge	6
2.5	Performance characteristics	7
2.5.1	Pump with hand crank	7
2.5.2	Lifting castor	8
3	Installation information	9
3.1	Mounting instruction of the lifting castor	9
3.2	Mounting instructions of the hydraulic tubing	9
3.3	Mounting instructions of the pump with hand crank	11
4	Initial operation	12
4.1	Extend	12
4.2	Retract	12
5	Maintenance and disposal	13
5.1	Maintenance and cleaning	13
5.2	Repairs and spare parts	13
5.3	Disassembly and disposal	13

1 Safety requirements

The safety instructions must be observed! If the system is operated improperly or not according to the intended purpose, dangers for persons and objects can arise!

Before installing and operating the lifting castor system, this manual must be read and understood. The instructions must be kept in the immediate vicinity of the system for lookup.

1.1 Explanations of the symbols and notes

Please pay attention to the following explanations of the symbols and indications. They are classified according to ISO 3864-2 (ANSI Z535.4).

DANGER



Indicates an immediate threatening danger.
Non-compliance with this information can result in death or serious personal injuries (invalidity).

WARNING



Indicates a possible dangerous situation.
Non-compliance with this information can result in death or serious personal injuries (invalidity).

ATTENTION



Indicates a possible dangerous situation.
Non-compliance with this information can result in damage to property or light to medium personal injuries.



Note

Indicates general notes, useful advice for operation and operating recommendations which do not affect safety and health of the user.

1.2 Basic safety instructions

The safety instructions must be observed. If the system is operated improperly, it can cause danger to people and objects!

It is essential to read this operating instruction thoroughly before commissioning the system. This operating instruction has to be stored in the immediate vicinity of the system.

- Modifications or changes to the hydraulic components are forbidden!
- While using the height adjustment of the work surface there is a danger of squeezing. It is important to make sure that no objects or people are within the danger zone and no one is reaching into the danger zone.
- This device is not intended to be used by people (including children under 8) with restricted physical, sensory or mental abilities or with a lack of experience and/or knowledge, unless they are supervised by a person responsible for safety or they have received instructions by this very person on how to operate the device.
- If the hydraulic tubing is damaged it must be replaced by the manufacturer, the manufacturer's customer service or by a similar qualified person.
- While operating the vehicle the load must be secured adequately.
- All valid standards and specifications of each application must be respected.

2 System description

2.1 General

The system consists of 4 swivel castors with hydraulic driven lifting foot. Through the rotary motion of the hand crank the hydraulic oil is pressed from the pump through the hydraulic tubing into the connected lifting foot. The system functions independently of load and the 4 castors operate completely synchronously. Each lifting castor is equipped with 3 meter of hydraulic tubing. The tubing can be cut to the required size and be easily connected to the pump.

Mobile work and transport equipment can be fitted with the lifting castors and can be converted into stable working surfaces. The standard system consists of 4 lifting castors. On demand, we are also able to supply systems with up to 10 lifting castors.

2.2 Intended purpose use

Field of application	NO field of application
<ul style="list-style-type: none"> • Mobile workstations • Transport equipment • ... List not final 	<ul style="list-style-type: none"> • Clamping device • Press (or counter stop for press) • Passenger transport • Security component • ... List not final

The lifting castors can be used if:

- it is located at enclosed spaces, dry and non-explosive environments.
- ambient temperature is between 0 °C and +40 °C.
- relative humidity range is between 30 % and 70 % (not condensed).
- there are no strong electromagnetic fields nearby.

The lifting castors must not be:

- operated outside the performance data (tensile, pressure, bending torque)
- loaded with pulse or impact forces (e.g. displacing loads).
- designed for continuous operation (the duty cycle (On/Off) must not exceed 2/18).
- operated with inadmissible or unintended components (e.g. different types of lifting units or pumps castors)
- operated with damaged components
- open or post-processed
- used by children under 8 years of age or persons with limited physical, sensory or mental abilities. Unless they are supervised by a person responsible for their security or receive instructions by this very person on how to use the device.

When installing and operating the lifting castor set, the intended purpose of the entire system must be adhered to. Commissioning is prohibited until the entire plant complies with the provisions of EG Machinery Directives 2006/42/EG (ANSI B11.0). For this purpose, it is essential to perform a risk analysis, so that possible residual hazards can be reacted to (e.g. by constructive measures or by means of instructions in the operating instructions or/and by safety instructions on the system). In the event of improper use, the liability of Ergoswiss AG as well as the general operating licence of the lifting castor set expires.

2.3 Specified normal operation

The maximal allowed load on the lifting castor system is 750 kg. The load should be distributed symmetrically on to all lifting castors. One lifting castor can lift up to 240 kg.

It is not allowed to exceed the dynamic speed of 4 km/h.

The system should only be used on flat surfaces.

The hand crank should not be turned further than the end position.

The minimal bending radius of the tubing is 25 mm.

The lifting castor system can be operated continuously for a maximum of 2 minutes. Afterwards a break of at least 18 minutes needs to be observed before the system can be operated again. To avoid overheating of the system a duty cycle of 2/18 (ON/OFF) should be maintained in general.

Furthermore all valid standards and specifications of each application must be respected.

2.4 Target group and prior knowledge

This operating instruction addresses the following groups of people:

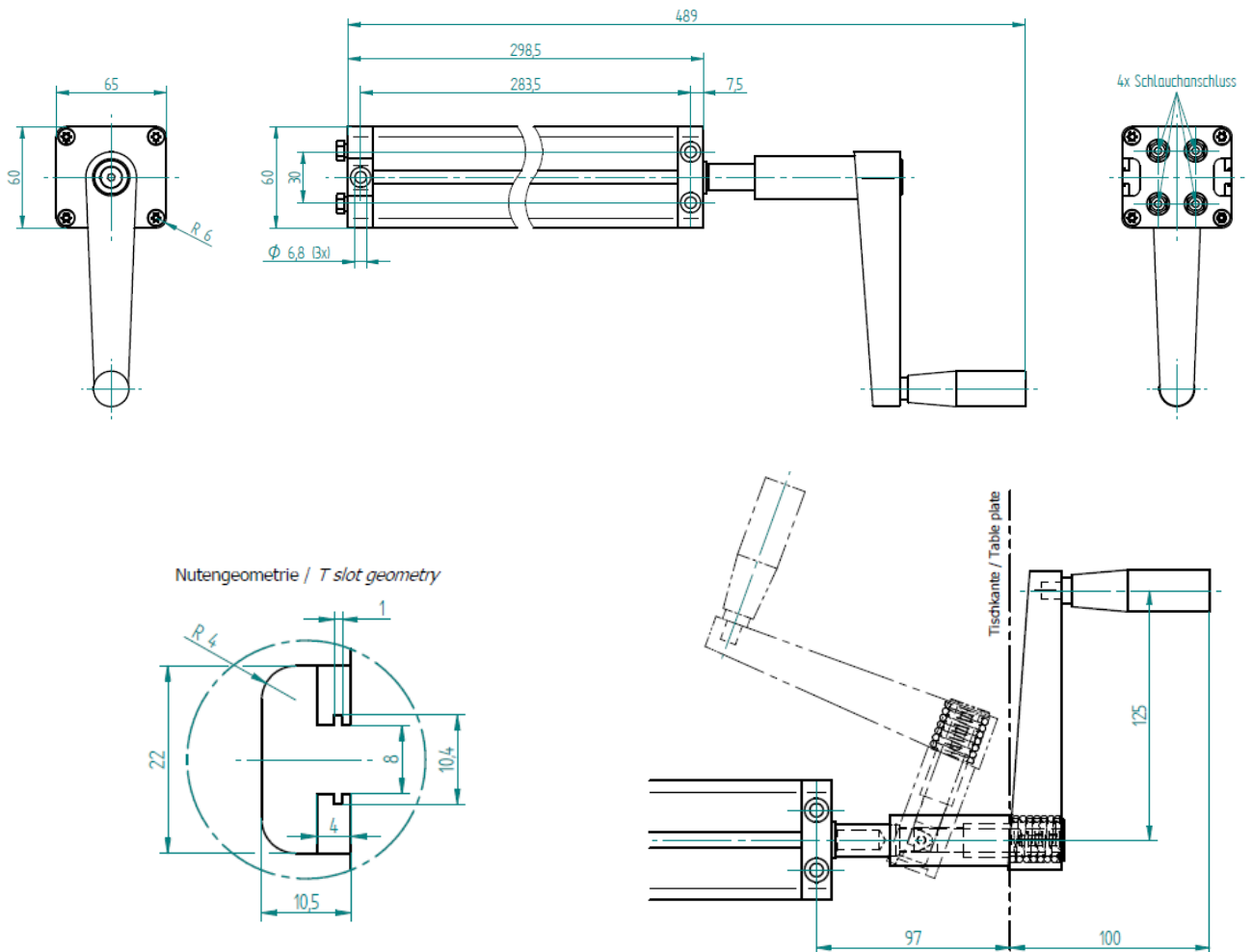
The commissioning staff, who installs and puts the lifting castor system into operation as a complete assembly into a work station, a machine, etc. For commissioning activities, mechanical knowledge is prerequisite. Before using the system for the first time the operating instruction must be read and understood. Valid standards and regulations have to be respected for every particular use.

The end user controls the complete system via hand crank and adjusts its height.

Before using the system for the first time the operating instruction must be read and understood.

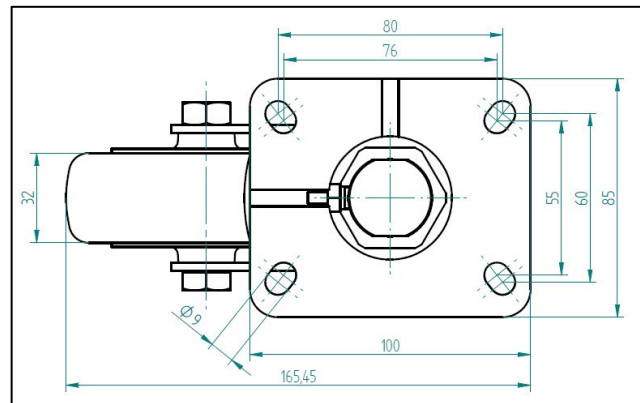
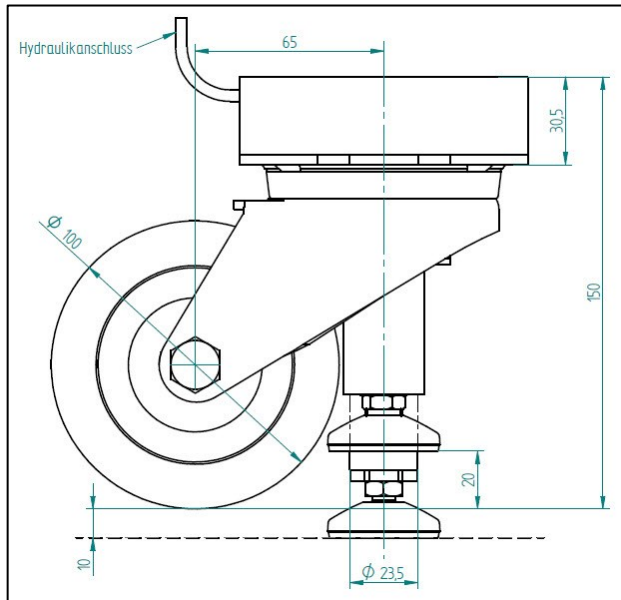
2.5 Performance characteristics

2.5.1 Pump with hand crank



Hole spacing	283.5 mm
Pump length	298.5 mm
Hydraulic transmission	1.8 mm stroke per hand crank turn
Max. load capacity	750 kg (4 lifting castors connected)
no tox	Food-grade hydraulic oil

2.5.2 Lifting castor



Wheel-Ø	100 mm
Wheel width	32 mm
Total height (lifting foot retracted)	150 mm
Total height (lifting foot extended)	160 mm
Adjustment range	10 mm
Max. lifting load per lifting foot	240 kg
Plate size	100x85 mm
Bearing type of the castor	Centrally encapsulated and sealed ball bearing with synthetic thread guard
Retracting force	Integrated retracting spring
Tubing length	3 m (can be shortened as desired) Minimal bending radius of 25 mm
no tox	Food-grade hydraulic oil

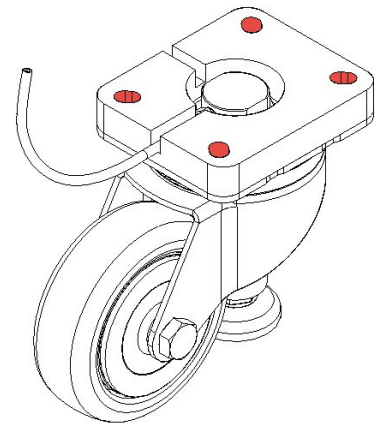
3 Installation information

Before commissioning the lifting castor system, the system must be assembled correctly according to the mounting instruction.

3.1 Mounting instruction of the lifting castor

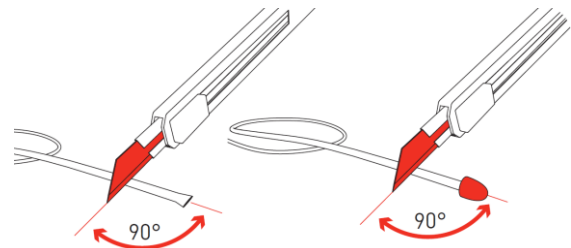
The lifting castor has got an adapter plate with four holes \varnothing 9 mm. The tubing must be laid out carefully and should not stand under risk of pulling out.

The lifting foot can be adjusted manually with a wrench to compensate an uneven floor.



3.2 Mounting instructions of the hydraulic tubing

1. The lifting castors are equipped with 3 meter of tubing.
The tubing is filled with oil.
Cut the tubing with a sharp knife to the preferred length. The tubing should be cut horizontally to the tubing axle (90° angle).



NOTE

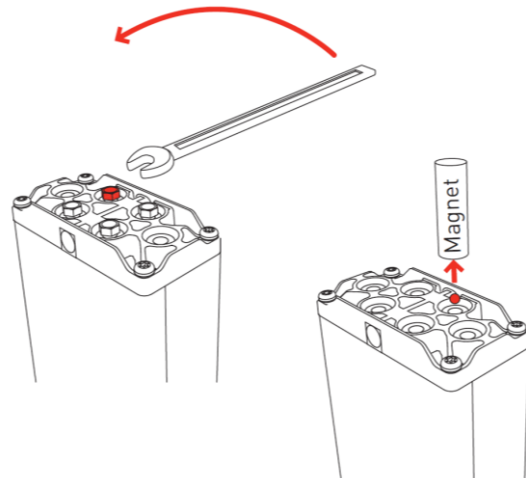
The tubing must be kept still after cutting to avoid a loss of oil.



NOTE

The minimal bending radius of the hydraulic tubing is 25 mm. The tubing must be laid out carefully to prevent that the tubing stands under risk of mechanical stress, aggressive chemicals, direct sunlight (UV) and high heat. This listing is not complete.

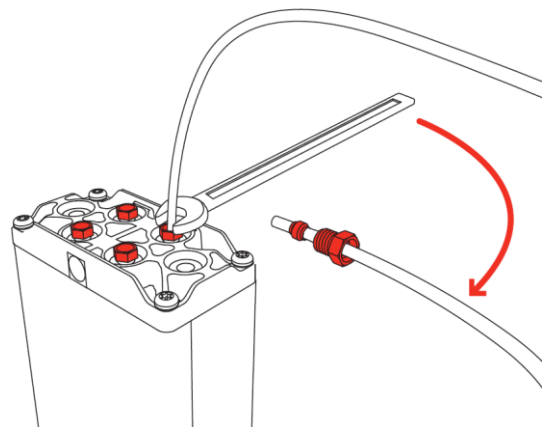
1. Hold the pump with the tubing connection upwards because the pressure elements are filled with oil. Loosen the screw at the pump and remove the steel ball with the magnet.



NOTE

Only turn the hand crank if all lifting castors are connected to the pump!

1. Slide the connecting screw and clamping ring over the tubing. Insert the tubing completely into the pump connection. Screw the connecting bolt into the pump connection by hand as tight as possible. The screw must be turned with the ring wrench exactly by 2 turns to create the necessary torque of 10 Nm.



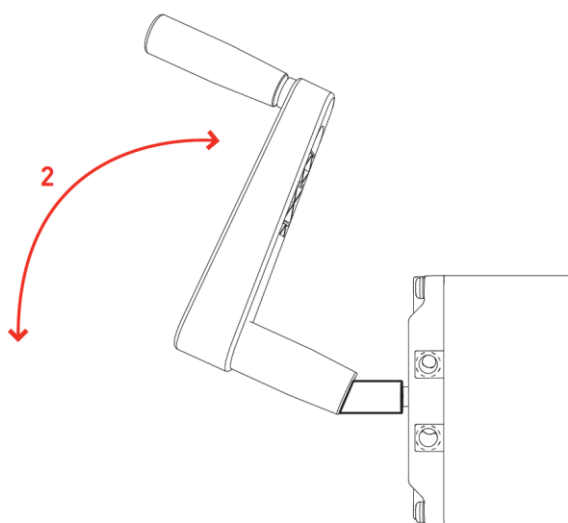
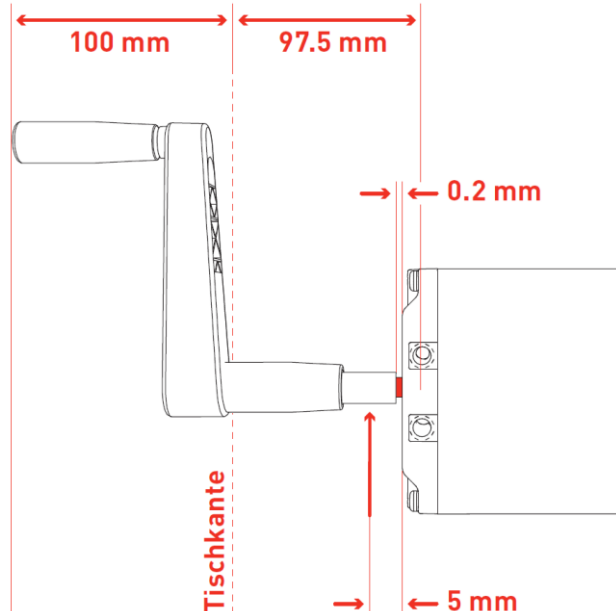
NOTE

The connecting screws are not allowed to be fastened with more or less than 10 Nm!

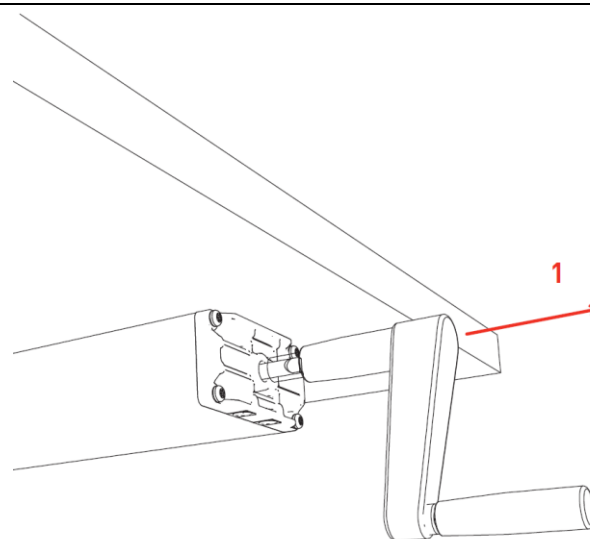
3.3 Mounting instructions of the pump with hand crank

The pump can be connected to an object (e.g. underneath a table plate) using the holes (Ø6.8 mm) in the front and end plate.

ATTENTION: The pump must be positioned in a way that the hand crank can be turned freely and also be folded underneath the table edge. The minimal bending radius of the tubing is 25 mm. The tubing must be laid out carefully to prevent that the tubing stands under risk of mechanical stress, aggressive chemicals, direct sunlight (UV) and high heat. This listing is not complete.



Hand crank foldable (standard)



Hand crank removable (optional)

4 Initial operation

Before commissioning the lifting castor system, the system must be assembled correctly according to the mounting instruction.

- Are the lifting castors connected tightly to the chosen object?
- Is the tubing connected to the pump and laid out safely (minimal bending radius 25 mm)?
- Are the connecting screws at the pump tightened with 10 Nm?
- Is the pump connected tightly to the chosen object?
- Can the hand crank be turned freely?
- Is the weight on the system not more than 750 kg?

4.1 Extend

Turn the hand crank clockwise with max. 20 Nm until the lifting feet touch the floor and push up the wheels.



NOTE

The hand crank is not allowed to be turned further than the end position.

ATTENTION



While using the height adjustment there is a danger of squeezing.

Falling loads can hurt people.

Moving loads can cause a tilting of the system.

4.2 Retract

Turn the hand crank counterclockwise with max. 20 Nm until the lifting feet are fully retracted and the wheels touch the floor.



NOTE

The hand crank is not allowed to be turned further than the end position.

ATTENTION



While using the height adjustment there is a danger of squeezing.

Falling loads can hurt people.

Moving loads can cause a tilting of the system.

5 Maintenance and disposal

5.1 Maintenance and cleaning

The lifting castor system is maintenance-free for up to 10'000 cycles while observing the specified normal operation. Therefore, maintenance is not necessary.

5.2 Repairs and spare parts

Repairs are only allowed to be conducted by specialists. Only original replacement parts may be used. For all repair work the system must always be unloaded.

5.3 Disassembly and disposal

The system consists of components that can be fully recycled and thus they are quite safe from an environmental protection perspective.

EG-Declaration of Incorporation in the sense of the Machinery Directive 2006/42/EG annex II 1B

We hereby declare that for the incomplete machine "hydraulic system", for ergonomically height adjustable workplaces or similar, with the variants

Hydraulic system				
Drive	+	Pump	+	Lifting element
Hand crank (113.xxxxx) PXA, PXB, PXD (112.xxxxx)		PA, PB, PF (100/102/103.xxxxx)		Zylinder CB, CD, CE, CG, CH, CI, CX (107/109/307/309.xxxxx) Linear unit LA, LB, LD, LG, LH, LX, LX-X (106/306.xxxxx) Table leg TA, TI, TK, TL, TM, TQ, TT, TU, TX (106/306.xxxxx) Lifting castor HR, HX (501.xxxxx)

the following essential requirements of the Machinery Directive 2006/42/EG are applied and complied with:

1.1.2.; 1.1.3.; 1.1.5.; 1.1.6.; 1.2.; 1.3.2.; 1.3.9.; 1.5.1.; 1.5.3.; 1.5.7.; 1.5.8.

In particular the applied harmonized standards:

EN 1005	Safety of machinery: Physical performance
EN ISO 12100	Safety of machinery: 2011
EN 55014	Electromagnetic compatibility
EN 60335	Safety of electrical appliances for household use
EN 60204	Electrical equipment of devices
EN 61000	Electromagnetic compatibility: EMC
EN 62233	Houshold electrical appliances EMC, evaluation and measurement

specific technical documentation have been created in accordance with annex VII, part B, and will be sent to the national authorities by registered letter or electronically, if the request is justified, and this incomplete machine is in conformity with the relevant provisions of other EU Directives:

89/391/EG	Safety and health of workers
2001/95/EG	General product safety
2014/30/EU	Directive on electromagnetic compatibility
2014/35/EU	Low voltage directive

Furthermore, we declare that this incomplete machine may only be commissioned if it has been determined that the machine in which the incomplete machine is to be installed complies with the provisions of the Machinery Directive 2006/42/EG and our assembly and service operating instructions have been followed.

Widnau, 28. February 2018
Martin Keller
Managing Director / CEO

Document responsibility EU:

Ergoswiss Deutschland GmbH
Weiherstrasse 6/1
DE-72585 Riederich