

SM-600-GREENLINE
SM-600-GREENLINE-Power
SM-600-GREENLINE-POWER-FFS



GB | Operating Instructions

1	Safety Instructions.....	4
1.1	Classification of safety instructions	4
1.2	Warnings	5
1.3	Mandatory symbols	5
1.4	Safety Marking.....	6
1.5	Regulations of these instructions	7
1.6	General safety instructions	7
1.7	Safety at work	9
1.7.1	General	9
1.8	Special Hazards	10
1.9	Intended use.....	10
1.10	Operator duties	12
1.11	Installation location/workplace requirements	13
1.11.1	Installation location requirements	13
1.11.2	Workplace requirements	14
1.12	Danger zone definition	14
1.13	Emissions.....	16
1.14	Personal protective equipment	16
1.14.1	Installation/decommissioning and disposal of the lifting device	16
1.14.2	Operating the lifting device	17
1.14.3	Troubleshooting/maintenance of the lifting device	17
2	Product Description	18
2.1	Components	18
2.2	Operating elements	20
2.3	Type plate.....	21
2.4	Vacuum generator	21
2.5	Suction plates	21
2.6	Safety features	21
3	Technical Data	22
3.1	Technical data of the remote control (only for SM-600-POWER-FFS)	22
4	Delivery, Packaging and Transport.....	23
4.1	Delivery	23
4.1.1	Items included in delivery	23
4.1.2	Check for completeness	23
4.1.3	Report damage	23
4.2	Packaging	23
4.3	Transport.....	23
4.4	Removing the lifting device from the pallet	24
5	Start of Operation.....	24
5.1	Tool list.....	24
5.2	Fastening lifting device	24
5.3	Mounting suction plate on the lifting device	25
5.4	Changing the suction plate	27

5.5	Power supply	27
6	Operation.....	28
6.1	General safety instructions regarding operation	28
6.2	Inspections before starting work.....	30
6.3	What to do in an emergency.....	30
6.4	Remote control option.....	31
6.5	Lifting the load – applying suction	31
6.6	Guiding the load.....	33
6.7	Putting the load down – releasing	34
6.8	Parking the lifting device	35
7	Storage	36
8	Troubleshooting.....	37
9	Maintenance	38
9.1	General notes	38
9.2	Replace battery.....	38
9.3	Vacuum generator	38
9.4	Suction plates/sealing lips.....	39
9.5	Inspecting safety features	39
9.5.1	Inspect flashing light.....	39
9.5.2	Inspecting suction hoses and clamps	39
9.5.3	Check airtightness.....	40
9.6	Filter.....	41
9.7	Drain condensation	41
9.8	Maintenance schedule	42
9.8.1	Mechanics	42
9.8.2	Remaining components	42
9.9	Annual inspection	43
9.10	Cleaning.....	44
9.11	Spare parts	44
10	Decommissioning and Disposal	44

EC-Declaration of Conformity / UKCA-Declaration of Conformity

Description: Stone magnet SM
Type: SM-600-GREENLINE / SM-600-GREENLINE-Power SM-600-GREENLINE-POWER-FFS
Order number: 52720006 / 52720007 / 52720008

Manufacturer: Probst GmbH
Gottlieb-Daimler-Straße 6
71729 Erdmannhausen, Germany
info@probst-handling.de
www.probst-handling.com



Importer: Probst Ltd
Unit 2 Fletcher House
Stafford Park 17
Telford Shropshire TF3 3DG, United Kingdom
www.probst-handling.co.uk
sales@probst-handling.co.uk



The machine described above complies with the relevant requirements of the following EU directives:
The object of the declaration described above is in conformity with the relevant UK-Regulations and UK-Guidelines:

EC-machinery directive 2006/42/EC (Reference: OJ L 157, 09.06.2006)

2014/30/EU (Electromagnetic compatibility)

UK-Regulation: Supply of Machinery (Safety) Regulations 2008 (SI 2008 No. 1597)

The following standards and technical specifications were used:

DIN EN ISO 12100

Safety of machinery - General principles for design - Risk assessment and risk reduction

UK-Regulation: BS EN ISO 12100-1:2003+A1:2009

2014/30/EU (Electromagnetic compatibility)

DIN EN ISO 13857

Safety of machinery - safety distances to prevent hazard zones being reached by upper and lower limbs.

UK-Regulation: BS EN ISO 13857:2019

DIN EN 1012-1 / DIN EN 1012-2

Compressors and vacuum pumps; safety requirements part 1 and 2.

DIN EN 60204-1 (IEC 60204-1)

Safety of machinery, Electrical equipment of industrial machines. Part 1: General requirements

Authorized person for EC-documentation:

Name: Jean Holderied

Address: Probst GmbH; Gottlieb-Daimler-Straße 6; 71729 Erdmannhausen, Germany

Authorized person for UK-documentation:

Name: Nigel Hughes

Address: Probst Ltd ; Unit 2 Fletcher House; Stafford Park 17; Telford Shropshire TF3 3DG, United Kingdom

Signature, information to the subscriber:

Erdmannhausen, 05.03.2024.....


(Eric Wilhelm, Managing Director)

1 Safety Instructions

1.1 Classification of safety instructions


Danger

This warning informs the user of a risk resulting in death or serious injury if it is not avoided.

 DANGER	
	Type and source of danger
	Consequence
	► Remedial action


Warning

This warning informs the user of a risk of death or serious injury if it is not avoided.

 WARNING	
	Type and source of danger
	Consequence
	► Remedial action

Caution

This warning informs the user of a risk of injury if it is not avoided.

 CAUTION	
	Type and source of danger
	Consequence
	► Remedial action











Caution

This warning informs the user of a risk of damage to property if it is not avoided.

CAUTION	
	Type and source of danger
	Consequence
	► Remedial action







1.2 Warnings

Explanation of the warning symbols used in the operating and maintenance instructions.

Warning symbol	Description	Warning symbol	Description
	General warning symbol		Explosive atmosphere
	Hand injury		Flying debris
	Suspended load		Crushing injury
	Vacuum		Fall hazard
	Falling parts		Hearing damage



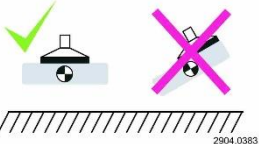
1.3 Mandatory symbols

Explanation of the mandatory symbols used in the operating and maintenance instructions.



Mandatory symbols	Description	Mandatory symbols	Description
	Use ear protection		Wear protective footwear
	Wear protective gloves		Disconnect mains plug
	Adhere to the operating instructions		Wear protective eye wear

1.4 Safety Marking


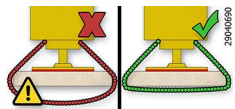
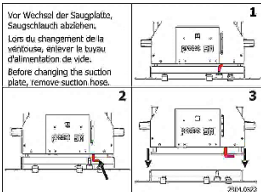
PROHIBITION SIGN

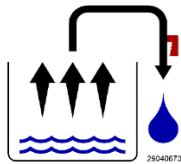
Symbol	Meaning	Order-No.	Size
	It is not allowed to stand under hanging loads. Danger to life!	2904.0209	50 mm
	The sucked load must never be lifted and transported without additional securing by the load-securing-chain.	2904.0767	55 x 25 mm
	Do not lift any components off-centre.	2904.0383	

WARNING SIGN

Symbol	Meaning	Order-No.	Size
	Danger of squeezing the hands.	2904.0220	50 mm
	Reference to radio remote controlled device	2904.0647	130 x 50 mm
(optional)			

REGULATORY SIGN

Symbol	Meaning	Order-No.	Size
	Each operator must have read and understood the operating instructions (and all safety instructions).	2904.0665 2904.0666	30 mm 50 mm
	Load-securing-chain must fit tightly to the load. Load-securing-chain should never hang loosely under the load!	2904.0690	25 x 55 mm
	Remove the suction hose before changing the suction plate.	2904.0322	65 x 88 mm

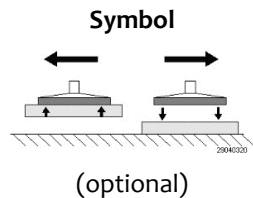


Drain condensation water from the unit every day.

2904.0673

40 x 40 mm

HINT SIGNS



Meaning

Load suction and release




Order-No.

2904.0320


Size



25 x 60 mm

1.5 Regulations of these instructions




 WARNING	
 	<p>Risk of injury from not observing this information</p> <ul style="list-style-type: none"> ▶ These operating and maintenance instructions are a fixed part of the “Standard” and “Power” stone magnet lifting device and contain important information on their use. ▶ These operating and maintenance instructions are specific to the items included in delivery from Probst GmbH. They do not take into account any modifications to the system made by the customer, which are strictly prohibited. ▶ The system may only be connected and started after reading and understanding the operating and maintenance instructions.



1.6 General safety instructions


	<p>This lifting device from the STONEMAGNET series, hereafter referred to as the lifting device, is state of the art and will operate reliably provided you comply with the requirements in these instructions. Incorrect use of the lifting device can result in serious risks.</p>
---	---

 WARNING	
	<p>Risk of injury from not observing the general safety instructions</p> <ul style="list-style-type: none"> ▶ Use only the connections, mounting holes and attachment materials that have been provided. ▶ Carry out assembly or disassembly work only when the device is depressurized. ▶ When work is performed on the lifting device, the operator must ensure that access to the transportation or lifting device (crane, chain hoist, construction vehicle, etc.) is restricted so no movement can occur.

	<ul style="list-style-type: none"> ▶ Only qualified specialist personnel and mechanics may perform the installation, maintenance and repair work. Qualified specialist personnel are persons who have received technical training and have the knowledge and experience – including knowledge of applicable regulations – necessary to enable them to recognize possible dangers and implement the appropriate safety measures while performing tasks. ▶ Observe and adhere to general safety regulations and European standards. ▶ Personnel and animals are not permitted to sit or stand in the danger zone area. ▶ The lifting device may only be used for its designated purpose (section 1.9). ▶ The lifting device may only be used to lift and transport suitable loads. ▶ You are responsible for third parties in the lifting device's working area. In view of this, responsibilities must be clearly specified and observed when carrying out various tasks on the system. Those responsible must be aware of their competency. ▶ Never use the lifting device to apply suction to fluids or bulk materials. ▶ Protect the components from damage of any kind.
--	--

 WARNING	
 	<p>Risk of injury from not observing the general safety instructions</p> <p>Personal injury / damage to plants / systems</p> <ul style="list-style-type: none"> ▶ The permissible upper and lower load limits are defined in the “Technical Data” section and must be observed. ▶ The safety features must be in perfect working order and must be switched on/set up for the process.

 WARNING	
	<p>Risk of injury from exposed vacuum suction points</p> <ul style="list-style-type: none"> ▶ Never look or reach into the openings of suction points or place your ear or other body orifices in the vicinity of these openings. ▶ The device generates very high suction that can suck in hair and items of clothing.

	<p>All applicable laws and regulations must be adhered to at all times.</p> <p>When using the lifting device, the statutory regulations, safety regulations, standards and guidelines applicable at the location of use must be observed. Check with the competent authorities for more information.</p> <p>The safety instructions in these operating and maintenance instructions do not replace these laws and regulations, but are to be regarded as a supplement to them.</p>
---	---

1.7 Safety at work

1.7.1 General



- ▶ **The use of the vacuum lifting device is only permitted in proximity to the ground. In hoist operation:** The suctioned load must be lowered immediately after picking up (e.g. from a pallet or a truck) to just **above the ground** (approx. 20 - 30 cm). The load must then be secured by the **load securing chain** and may only then be transported to the installation site. To transport the load, lift it only as high as necessary (recommended approx. 0.5 m above the ground).

It is forbidden to swivel the device over persons. Danger to life!



- ▶ The manual guiding of is only allowed for devices with handles.
- ▶ The operator is not allowed to leave the control unit as long as the vacuum lifting device loaded with load (stone slab).
- ▶ The operator must always keep an eye on the manometer. Only lift the load (e.g. stone slab) when the required vacuum vacuum has been reached. If the pointer of the manometer moves into the red area under the required vacuum vacuum, **immediately lower the load. Danger to life - load will fall!**



- While using the vacuum lifting device is the stay of persons in the working area **forbidden**. Except it is indispensable. Caused of the way of using the vacuum lifting device , e.g. if the device must be leaded by hand (at the handles).
- It is forbidden to stay under a lifted load. **Danger to life!**
- The device must never be subjected to a force acting in a lateral direction due to diagonal pulling.



- Do not lift load off-centre, because that could fall down. **Danger of tilting!**
- Release the load only when it is completely safely resting on the surface. Keep fingers away from the load when you release it. **Danger of squeezing the hands!**
- The load capacity and nominal widths/nominal sizes of the device must not be exceeded.
- Do not tear off any stuck loads with the device.



- **Jerking up or down** of the unit with or without load is **prohibited!** Unnecessary vibrations must be avoided. As well as **fast driving** with the carrier/ hoist over uneven terrain! Danger to life/accident: The load could fall or the load handling attachment could be damaged! As a general rule, **only** drive at **walking speed** with the lifted load!

1.8 Special Hazards





Prohibition



- ▶ The operating range has to be covered for unauthorized persons, especially children.
- ▶ The workplace has to be sufficiently illuminated.
- ▶ Take care when handling wet, dirty and not solidified components.
- ▶ **The working with the vacuum lifting device in case of atmospheric editions under 37,5° F (3° C) is forbidden! Because the goods could be fall down caused by dampness or freezing.**
- ▶ Take care in case of thunderstorm!
- ▶ Since the load is held on the suction plates of the unit by a vacuum, it will fall off as soon as this vacuum is lost (e.g. energy failure).
- ▶ This can happen if the vacuum generator fails. An integrated vacuum reservoir maintains the vacuum for a short safety period whose duration depends on the porosity of the work piece surface.
- ▶ If the vacuum generator fails, lower the load immediately if this is possible. Otherwise, leave the danger area below the load immediately.

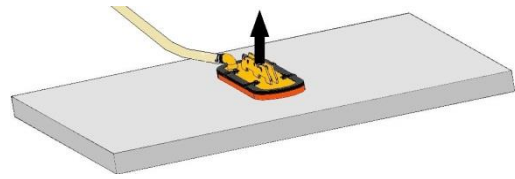
1.9 Intended use

The lifting device is used for the lifting and transporting at low altitudes (see chapter “Safety at work”) of flat, thick and non-porous granite, marble, WET CAST and other stone slabs, as well as concrete elements, natural stones, sandstone steps, clay pipes, etc., provided a vacuum of -0.6 bar is available, using appropriate transportation or lifting devices (crane, chain hoist, construction vehicle, etc.).

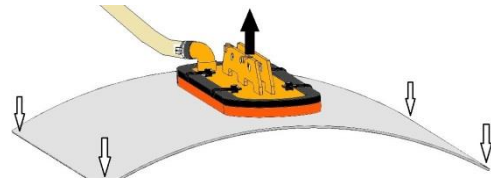
 WARNING	
	<p>Danger due to falling objects from using improper suction plates.</p> <ul style="list-style-type: none"> ▶ The suction plate is not included in delivery. The user must ensure that only suction plates suitable for the load to be lifted are used. Maximum load capacity: 600 kg ▶ The suction plate holder must comply with the requirements outlined in chapter 5.3. Other suction plate holders are not permitted. ▶ The suction surface of the load to be lifted must be airtight – i.e., when the vacuum generator is switched off, the load being gripped must be held for another five minutes. You may need to verify this by performing tests.

The load (stone slab) to be picked up and transported must be sufficiently rigid. Otherwise, **risk of breakage** can result during lifting.


Stone slabs may not sag **under any circumstance**. Particular attention must be made for thin and large-format stone slabs.



Generally, the load (stones slab) is only to be sucked in the **middle**, otherwise the load hangs diagonally under the device which may cause a breaking of the load - especially when lifting large stone slabs with a small suction plate.



Standard suction plates are not suitable for transporting glass sheets.

 DANGER	
	<p>Suction plates have different loads</p> <p>Danger from falling loads (stone slabs)</p> <ul style="list-style-type: none"> ▶ Some suction plates installed on the device reduce its load capacity. The permissible load capacity is specified on each suction plate. Only suction plates manufactured by PROBST may be used. ▶ Exceeding the permissible and specified suction plate load capacity is not allowed under any circumstance.







The lifting device is not delivered with suction plates.

The customer is required to carry out a conformity assessment according to Article 12 of the Machinery Directive 2006/42 (see section 5.3).

The permissible upper and lower load limits are defined in Section 3 (Technical Data) and must be observed. Also refer to the type plate or sticker for details of the maximum permissible load capacity.

You may not make any independent modifications or changes to the lifting device. It may only be operated in the original condition as delivered.

 WARNING	
	<p>There is a risk that the load may fall, crushing body parts or fatally injuring people in the vicinity.</p> <p>Independent modifications and changes compromise the lifting device's required integrity. Its function may also be compromised.</p> <p>▶ Do not make any on-site modifications to the system.</p>

 WARNING	
	<p>Danger of death from falling if used as a means of transport for humans or animals, or as a climbing aid.</p> <p>This can result in broken bones, serious injury or even death.</p> <p>▶ Use of the lifting device as a climbing aid or to transport humans or animals is prohibited.</p>

1.10 Operator duties

The lifting device may only be installed and maintained by qualified specialist personnel and mechanics.




Qualified personnel is defined as: an employee who has received technical training and has the knowledge and experience – including knowledge of corresponding regulations – necessary to enable him or her to recognize possible dangers and implement the appropriate safety measures while performing tasks. Qualified personnel must observe the relevant industry-specific rules and regulations.



The user's company must ensure by means of internal measures that all persons at the company commissioned with the task of setting up, starting, operating, maintaining and repairing the lifting device employ only insured persons who:

- Are at least 18 years of age and are mentally and physically fit for the task
- Have been trained in operating and maintaining the lifting device
- Have read and understood the operating and maintenance instructions
- Can be expected to reliably perform the tasks assigned to them



The operating and maintenance instructions must be accessible at all times and retained for use at a later date.


 WARNING	
 	<p>Risk of injury from misuse or non-observance of warning and safety notices</p> <p>▶ The equipment must be used by trained personnel only. ▶ Follow local regulations on work breaks to prevent accidents due to negligence.</p>

- The lifting device's function and condition must be inspected before use every time (see section o).
- Lifting device may only be maintained, lubricated and corrected of faults when not in use.
- When defects compromising safety are found, the lifting device must be completely corrected of faults before being used again.
- When cracks are found on load-bearing parts, the lifting device must be prevented from any further use.
- The lifting device operating instructions must be visible on site at all times.
- The type plate on the lifting device may not be removed.
- Illegible indicating signs must be replaced.

1.11 Installation location/workplace requirements

1.11.1 Installation location requirements

 DANGER	
	<p>Switching components that are not explosion-proof</p> <p>Risk of fire and explosion</p> <p>▶ The lifting device may not be used in areas subject to explosions.</p>

 WARNING	
	Risk of explosion from flammable material being sucked in <ul style="list-style-type: none"> ▶ Ensure that no flammable material (fuel, solvents, etc.) can be taken in before coming in contact with the lifting device.

CAUTION	
	Damage to the lifting device from operation in areas with acidic or alkaline materials or in contaminated atmospheres. <ul style="list-style-type: none"> ▶ Consult with the manufacturer before operating in an area with aggressive atmospheric conditions.

The lifting device can be operated at temperatures between 3° C and 40° C.

CAUTION	
	Damage to the lifting device due to use outside of the permitted temperature range <ul style="list-style-type: none"> ▶ Only use the lifting device at the permitted ambient temperature. ▶ Consult with the manufacturer before operating outside of the permissible temperature range.

1.11.2 Workplace requirements

The operator's workplace is in front of the handle. Ensure that the operator can constantly monitor the entire workspace. The workplace must be lit sufficiently and glare-free.



Ensure the area around the workplace is always clean and tidy by providing appropriate internal instructions and conducting checks.

CAUTION	
	Damage to the lifting device from small parts being sucked in <ul style="list-style-type: none"> ▶ Keep the site and vicinity of the lifting device free of small parts.

1.12 Danger zone definition

- The danger zone is the area inside, or in the vicinity of working equipment that poses a hazard or potential hazard to the health of persons located within this area.
- Lifting the load or transporting may result in the load and the lifting device falling or being lowered. Therefore, the area directly below the lifting device is essentially a danger zone.
- During horizontal transport, note that lifting, horizontal acceleration and braking of the load may cause it to rotate, tilt or swing. The vicinity of the load is therefore a danger zone.
- It is also necessary for the rigger to maintain a sufficiently safe distance when guiding the load (always use the handle to guide the load).




- Never walk in front of the load – unexpected obstacles could cause you to trip while the load is approaching you. The load also swings in your direction when horizontal travel is stopped. It is not possible to watch/monitor both the transport path and the load at the same time.
- In the event that the load falls, the danger zone depends greatly on the transport height and is therefore difficult to assess. Loads should always be suspended as close to the floor as possible.

 WARNING	
	<p>Risk of injury from falling objects in case of:</p> <ul style="list-style-type: none"> - Vacuum failure - The load breaking off due to a collision - Components failing due to incorrect loads and overloads or unauthorized modifications <p>There is a risk of death or seriously injury from hitting people in the</p> <ul style="list-style-type: none"> ▶ Secure the working area from unauthorized persons, particularly children. ▶ The load must be secured every time with the load safeguard chain before transporting. ▶ Loitering below overhead loads is not allowed. ▶ Only work when you have a good view of the entire working area. ▶ Pay attention to other people in the working area. ▶ Never transport the load above people. ▶ Always keep the load's center of gravity in the working area of transportation or lifting devices (cranes, chain hoists, construction vehicles, etc.). ▶ Never release the handle of the lifting device while lifting a load. ▶ The working area must be secured by the operator. The persons/equipment necessary to secure this area must be present during the lifting/transportation process.


1.13 Emissions



The lifting device emits noise and exhaust air.

The continuous sound pressure output by the device is less than 70 db(A).

 CAUTION	
 	<p>Noise pollution from vacuum generator</p> <p>Noise pollution can cause hearing damage.</p> <p>▶ Wear ear protection</p>

The vacuum generator will atomize and disperse any media that is sucked in. It is therefore important that no polluted or contaminated ambient air (particle size max. 5 µm) is sucked in.

 CAUTION	
	<p>Danger of poisoning from emission of exhaust gases</p> <p>▶ Ensure that no exhaust gases can be sucked in before turning on the lifting device.</p>

 CAUTION	
	<p>Risk of eye injury</p> <p>All vacuum generators generate an exhaust air flow. Depending on the purity of the ambient air, this exhaust air can contain particles, which escape from the exhaust air outlet at high speed, potentially injuring people in the face and eye area.</p> <p>▶ Do not look into the exhaust air flow.</p> <p>▶ Wear protective eye wear.</p>

1.14 Personal protective equipment

Always wear suitable protective equipment.

1.14.1 Installation/decommissioning and disposal of the lifting device

- Protective footwear (in accordance with EN 20345 safety class S1 or better)
- Sturdy work gloves (in accordance with EN 388 safety category 2133 or better)
- Industrial helmet (in accordance with EN 397)
- Ear protection (in accordance with EN 352 class L or higher)
- Other protective equipment as required by the situation or prescribed by national regulations.

1.14.2 Operating the lifting device

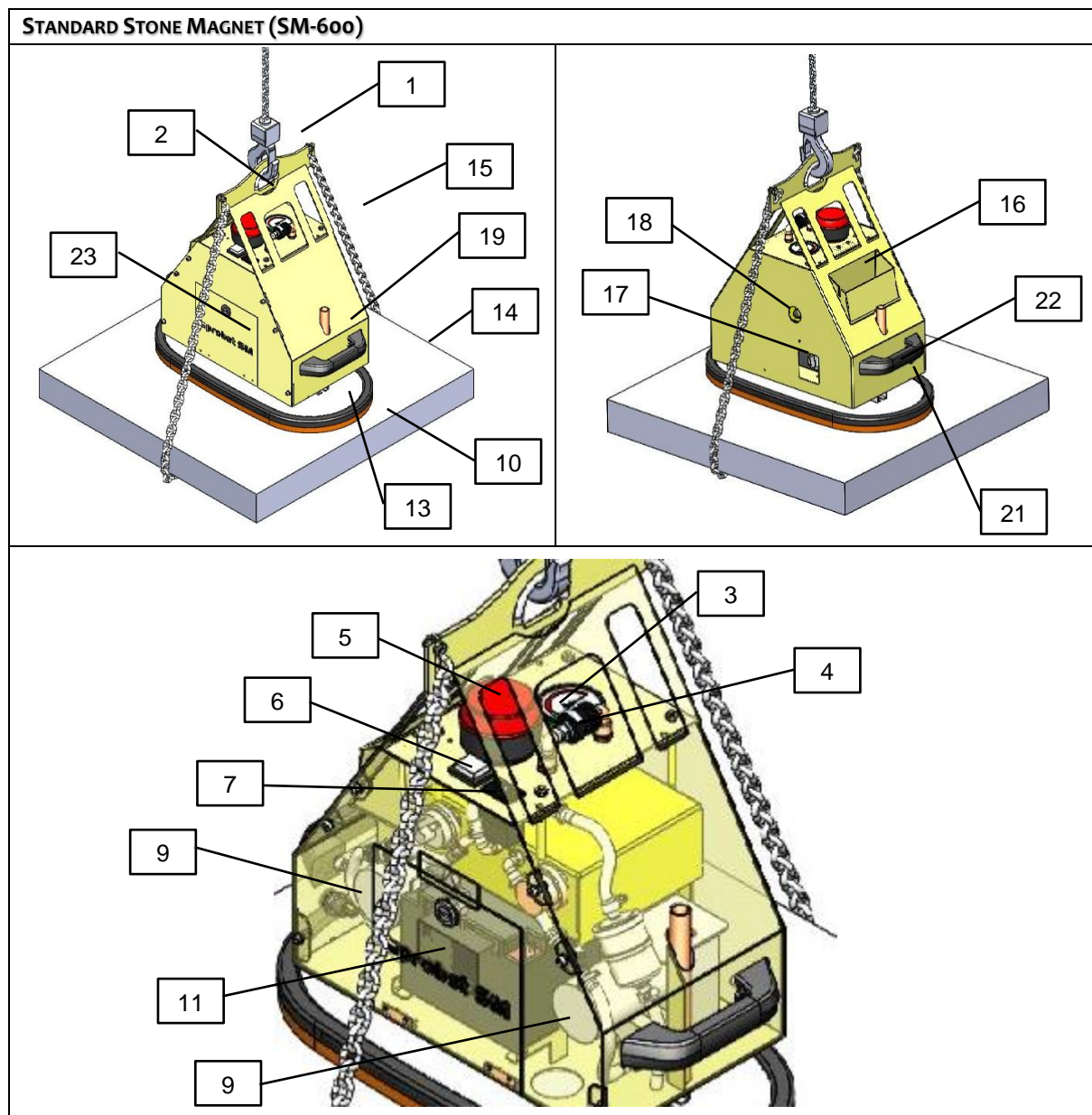
- Protective footwear (in accordance with EN 20345 safety class S1 or better)
- Sturdy work gloves (in accordance with EN 388 safety category 2133 or better)
- Industrial helmet (in accordance with EN 397)
- Other protective equipment as required by the situation or prescribed by national regulations.

1.14.3 Troubleshooting/maintenance of the lifting device

- Protective footwear (in accordance with EN 20345 safety class S1 or better)
- Sturdy work gloves (in accordance with EN 388 safety category 2133 or better)
- Protective eye wear (class F)
- Ear protection (in accordance with EN 352 class L or higher)
- Other protective equipment as required by the situation or prescribed by national regulations.

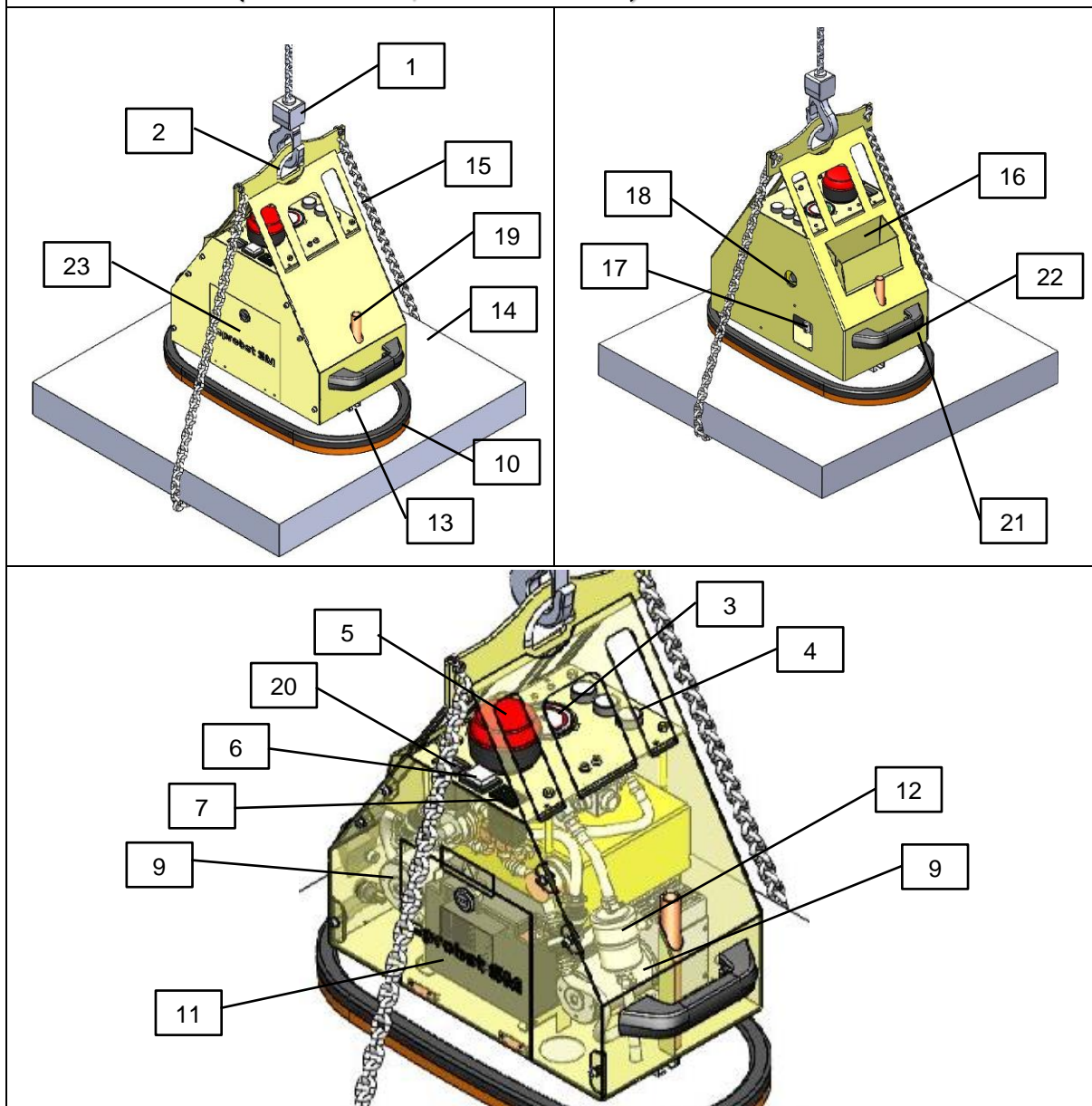
2 Product Description

2.1 Components



Item	Description	Item	Description
1	Crane hook (not included in delivery)	12	Dirt filter
2	Hanger	13	Suction plate C rail (not included in delivery)
3	Vacuum gauge (manometer)	14	Load (stone slab)
4	Manual slide valve	15	Load safeguard chain
5	Red flashing light	16	Chain box
6	On/off switch (with three settings)	17	Blow off valve
7	Battery charge level indicator	18	Sight glass
8	Housing with vacuum reservoir	19	Suction plate mounting hole
9	Vacuum pumps	21	Charging socket
10	Suction plate (not included in delivery)	22	Handle
11	Rechargeable battery	23	Device cover

POWER STONE MAGNET (SM-600-POWER / SM-600-POWER-FFS)

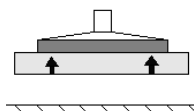


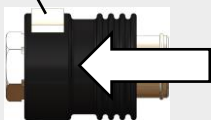


Item	Description	Item	Description
1	Crane hook (not included in delivery)	13	Suction plate C rail (not included in delivery)
2	Hanger	14	Load (stone slab)
3	Vacuum gauge (manometer)	15	Load safeguard chain
4	Operating buttons	16	Chain box
5	Red flashing light	17	Blow off valve
6	On/off switch (with three settings)	18	Sight glass
7	Battery charge level indicator	19	Suction plate mounting hole
8	Housing with vacuum reservoir	20	Counter of hours of operation
9	Vacuum pumps	21	Charging socket
10	Suction plate (not included in delivery)	22	Handle
11	Rechargeable battery	23	Device cover
12	Dirt filter		

2.2 Operating elements

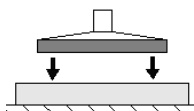
Standard Stone Magnet SM-600-POWER	Power Stone Magnet SM-600-POWER SM-600-POWER-FFS
---------------------------------------	---




Applying suction to the load



<p>Locking button</p>  <p>Press the locking button at the same time to slide the manual slide valve.</p>		<p>Remote control option</p> 
---	--	---

Releasing the load



<p>Locking button</p>  <p>Press the locking button at the same time to slide the manual slide valve.</p>		<p>Remote control option</p>  <p>Press both buttons at the same time to release.</p>
---	--	---

2.3 Type plate



The type plate is used to identify the device. Always provide the specifications on the type plate when ordering spare parts, making warranty claims or for other inquiries about the device.

The type plate is attached firmly to the exterior of the lifting device.

The type plate contains the following information:

- Device type
- Part number
- Order number
- Serial number
- Year of manufacture
- Device weight
- Load-bearing capacity
- Voltage

2.4 Vacuum generator

Turn on the vacuum generator using the on/off switch or one or two vacuum pumps.

1 vacuum pump Longer battery life

2 vacuum pumps Shorter evacuation time and higher airflow

If the vacuum falls below -0.53 bar, the vacuum pumps automatically turn on and raise the vacuum pressure back to -0.66 bar.

2.5 Suction plates

Suction plates (not included in delivery) are for applying suction to the load (see section 5.3). Only objects with flat, dense surfaces are suitable to be lifted with this device.

2.6 Safety features

The lifting device has the following safety features:

- ⇒ Red flashing light (monitors the operating vacuum and power failures)
- ⇒ Vacuum switches
- ⇒ Gauge with red danger range indicator
- ⇒ 1 vacuum reservoir
- ⇒ Load safeguard chain


Inspect safety features (see section 9.2 for maintenance interval)

3 Technical Data

	Standard SM-600	Power SM-600-POWER /-POWER-FFS
Max. lift capacity*	600 kg	
Weight (without suction plate)	Approx. 34 kg	Approx. 35 kg
Vacuum reservoir volume	approx. 2.5 l	
Vacuum pump suction capacity		
Switch setting 1 (1 pump running)	29 l/min	52 l/min
Switch setting 2 (2 pumps running)	58 l/min	104 l/min
Max. final pressure	500 mbar vacuum	
Operating temperature range	+3 °C to 40 °C	
Voltage	DC 12 V	
Current consumption		
Switch setting 1 (1 pump running)	3.8 A	4.5 A
Switch setting 2 (2 pumps running)	7.6 A	9.0 A
Medium to be pumped	Ambient air	



* The maximal load capacity of the lifting device depends on the suction plate (not included in delivery, see section 5.3)

 DANGER	
	Risk of injury from exceeding capacity load <p>► The permissible load capacity of the transportation or lifting device (e.g. crane, chain hoist, construction vehicle, etc.) and the hoist must be high enough at least to be equal to the combined weight and load capacity of the lifting device.</p>

3.1 Technical data of the remote control (only for SM-600-POWER-FFS)

	Power SM-600-POWER-FFS
Frequency band	2405-2480 MHz
Amount of Channels	16 (channel 11-26)
IP code	67
Operating temperature	-20 – +55 °C / -4 – +130 °F

4 Delivery, Packaging and Transport

4.1 Delivery

4.1.1 Items included in delivery

Refer to the order confirmation for specific details about what is included in delivery. The weights and dimensions are listed in the delivery notes.



The operating and maintenance instructions are an integral part of the lifting device and must accompany the device whenever it moves to a new location.

4.1.2 Check for completeness

Compare the entire delivery with the supplied delivery notes to make sure nothing is missing.

4.1.3 Report damage

Following delivery of the shipment, damage caused by defective packaging or in transit must be reported immediately to the carrier and Probst GmbH.



4.2 Packaging

The lifting device is delivered packaged on pallet.



The packaging material must be disposed of in accordance with country-specific laws and guidelines. Labeled transport aids and safety mechanisms must be removed.

4.3 Transport



 WARNING	
	<p>Risk of injury due to improper transportation and unloading</p> <p>This can result in personal injury or material damage.</p> <ul style="list-style-type: none"> ▶ Unloading and transport may only be carried out by trained forklift truck drivers who have also completed all necessary safety training ▶ Hoists and slings must have the necessary specifications for the particular load. ▶ Transport materials must be secured in accordance with country-specific regulations (BAG guidelines in Germany). ▶ Personal protective equipment

4.4 Removing the lifting device from the pallet

The packaging must be opened carefully.


Take care not to damage any of the components when opening the packaging with knives or blades.

Now carefully remove the lifting device.

 CAUTION	
	<p>Heavy components on the pallet</p> <p>Take care when opening the packaging as parts may have slipped and could fall. This can cause crushing wounds and lacerations.</p> <p>► Wear protective footwear (S1) and work gloves (safety category 2133).</p>

CAUTION	
	<p>Improper removal of system from the transportation box</p> <p>System damage</p> <p>► Do not apply force</p> <p>► Observe the instructions for removing the system from the transportation</p>



5 Start of Operation

	<p>The following operating steps must be checked by a qualified employee before the starting for the first time and section 1.10 (Requirements and instructions for installation, maintenance and operating staff) must be read.</p>
---	--

5.1 Tool list


No tools are required for installation.


5.2 Fastening lifting device

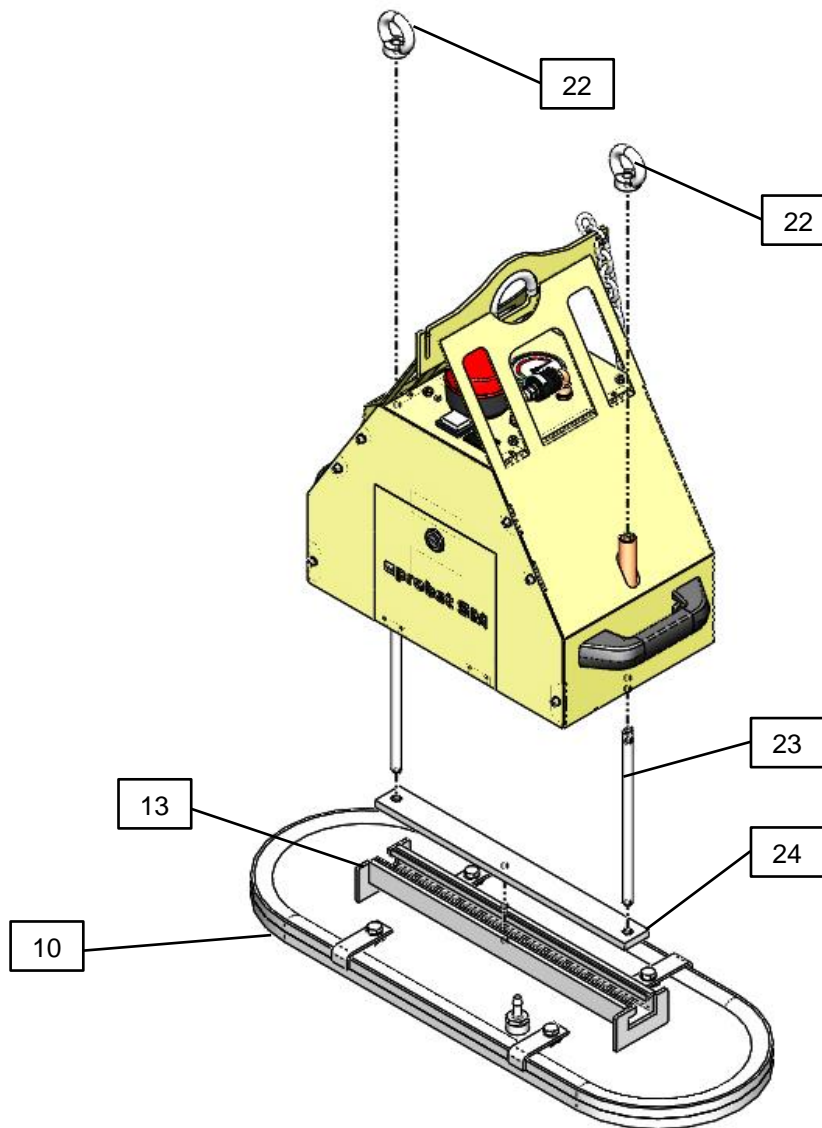
 WARNING	
	<p>Risk of load breaking off due to incorrect mounting</p> <p>Falling parts could hit people in the vicinity, causing death or serious injury!</p> <p>► The lifting device may only be lifted on the suspension eye.</p> <p>► The permissible load capacity of the transportation or lifting device (e.g. crane, chain hoist, construction vehicle, etc.) and the hoist must be high enough at least to be equal to the combined weight and load capacity of the lifting device.</p> <p>► The transportation or lifting device used and the hoist must be in perfect working condition.</p>

5.3 Mounting suction plate on the lifting device

The suction plate and mounting material are not included in delivery.

 DANGER	
	<p>Risk of injury from turning on by accident.</p> <ul style="list-style-type: none"> ▶ Turn off the lifting device before mounting the suction plate.

 DANGER	
	<p>Risk of injury from improper mounting material.</p> <ul style="list-style-type: none"> ▶ The suction plate must be chosen by the customer depending on the load (surface, thickness, weight). The customer is required to document the static strength and holding force depending on the potential vacuum and to adhere to safety factors. The Standard DIN EN 13155 in its current valid version should be used as a template for mounting. ▶ The suction plate must be mounted with the appropriate mounting material. <ul style="list-style-type: none"> • 2 M12 – 4.6 threaded spindles, length: 247 mm • 2 DIN 582 E – M12 – C15 zinc-coated ring nuts



Suction plate mounting material is not included in delivery

Item	Description	Item	Description
10	Suction plate	23	Threaded rod
13	C rail	24	Sliding block
22	Ring nut		

1. Both threaded spindles must be screwed into the sliding block so the thread is completely screwed in.
2. Insert both threaded spindles into the two mounting holes from below until the threaded spindles protrude out of the housing on top.
3. Screw the ring nut/2-3 threads loosely onto the threaded spindles.
4. Slide the suction plate C rail over the sliding block from the side.
5. Position the suction plate in the center.
6. Screw the ring nuts tightly and check to see if the suction plate is secure.
7. Attach the vacuum hose to the suction plate.
8. Check airtightness (see section o).
9. Inspect safety features before working with loads.



Installation of the lifting device is complete after 3-4 successful test runs with a load. A type test covers the inspections required in Europe before initial use in accordance with DIN EN 13155.

5.4 Changing the suction plate

1. Place the lifting device on a clean, even area.
2. Turn the lifting device off.
3. Remove the vacuum hose.
4. Loosen the ring nuts.
5. Lift the lifting device while keeping the suction plate steady.
6. Attach the new suction plate onto the lifting device (see section 5.3).
7. Store unused suction plate in a suitable location (see section 7).

5.5 Power supply

The lifting device is powered by an integrated battery. An external power supply during operation is not required.



Charging the battery takes around one work day.

The battery must be charged after each use so that the lifting device remains ready for use at all times.

The battery can be charged constantly.

A replacement battery can be stored, as well (see section 9.2 for information on changing the battery).





6 Operation



Note on renting:

The original operating instructions must be delivered with the lifting device upon rental under all circumstances (if the country using the device speaks another language, the respective translation of the original operating instructions must be delivered, as well).

6.1 General safety instructions regarding operation

 WARNING	
	<p>Non-observance of the general safety instructions for normal operation</p> <p>This can result in personal injury or damage to the system.</p> <p>▶ The system may only be operated by trained personnel who have read and understood the operating and maintenance instructions.</p>
 WARNING	
	<p>Risk of injury due to high vacuum and flow rate</p> <p>Hair, skin, body parts and items of clothing can be sucked in.</p> <ul style="list-style-type: none"> ▶ Closely fitting clothing and a hairnet must be worn. ▶ Do not look into the opening of the suction connection. ▶ Do not reach into the opening of the suction connection. ▶ Do not position in the vicinity of body orifices.



WARNING



Prohibition

Danger due to falling objects in the event of:

- Vacuum failure
- Collision, causing the load to break off
- Component failure resulting from overload or unauthorized modifications

There is a risk of death or seriously injury from hitting people in the vicinity.

- ▶ No person may sit or stand in the danger zone of the load.
- ▶ Never transport the load above people.
- ▶ Suitable protective equipment must be worn prior to transport.
- ▶ Do not operate unless you have a clear view of the entire working area.
- ▶ Pay attention to other people in the working area.
- ▶ Never release the lifting device handle while lifting a load.
- ▶ Never lift loads at an angle and never drag or pull them.
- ▶ Do not use the lifting device to free stuck loads.
- ▶ Only apply suction to and lift suitable loads (test their intrinsic stability and porosity).
- ▶ The working area must be secured by the user/operator. The persons/equipment necessary to secure this area must be present during the lifting/transportation process.
- ▶ The permissible load per suction plate must not be exceeded.
- ▶ Do not place parts on the lifting device.
- ▶ The vacuum may not be turned off at any time during handling.
- ▶ Lift and transport **the load only with fastened load-securing chain!**


- ▶ **The use of the vacuum lifting device is only permitted in proximity to the ground.**

In hoist operation: The suctioned load must be lowered immediately after picking up (e.g. from a pallet or a truck) to just above the ground (approx. 20 - 30 cm).

The load must then be secured by the load securing chain and may only then be transported to the installation site. To transport the load, lift it only as high as necessary (recommended approx. 0.5 m above the ground).

It is forbidden to swivel the device over persons. Danger to life!



6.2 Inspections before starting work

 WARNING	
	<p>Danger from falling objects.</p> <ul style="list-style-type: none"> ▶ 1. Check the charging status of the battery (display item 7, see section 9.2 on changing the battery). <ul style="list-style-type: none"> • The battery is full if the GREEN light of the battery charge level indicator is on in the first 10 seconds after switching on. • After 10 seconds the battery charge level indicator may switch to YELLOW. • The lifting device can be used. • Charge the battery before use if the YELLOW or the RED light of the battery charge level indicator is on, just when switching on. • A fully charged battery lasts around one work day. • The battery must be charged after each use so that the lifting device remains ready for use at all times. • The battery can be charged constantly. 2. Check the condition of the suction plate. 3. Ensure that the suction plate is securely attached. 4. Inspect safety features (see section 2.6). 5. Inspect seals and replace if necessary. 6. Check condensation and drain if necessary (see section 9.7). 7. Ensure that the transportation or lifting device used (e.g. crane, chain hoist, construction vehicle, etc.) and the hoist are suitable (see section 3 for max. load capacity).

6.3 What to do in an emergency

The following cases constitute an emergency:

- Vacuum supply failure (e.g. vacuum generation turns off → during power failure). In such cases, a built-in reservoir maintains the vacuum for a short safety period (depending on the density of the load surface).
- Leakage (e.g. detached hose)
- Force resulting from a collision
- The vacuum level falls into the red zone on the gauge (less than -0.6 bar) while handling the load.

 WARNING	
	<p>Risk of injury due to reduction in the vacuum level in the event of a power failure or vacuum generator failure</p> <p>Persons will be crushed and injured.</p> <ul style="list-style-type: none"> ▶ The operator must sound the alarm immediately in the event of danger. ▶ Stay clear of the danger zone at all times. ▶ If possible, set down the load safely.


6.4 Remote control option

The radio remote control has been tested and complies with the statutory limits for a Class B digital device according to Part 15 of the FCC Regulations. These statutory limits should properly protect against harmful interference in residential areas.


The radio remote control produces, uses and emits high frequencies that could disrupt radio traffic if not used in accordance with these instructions.



However, there is no guarantee that interference will not occur in a particular installation. In case the radio remote control causes radio or TV reception interference that can be determined by turning the device off and on, it is recommended to resolve the interference using one or more of the following measures:

- Realign reception antennae or change their positioning.
- Increase the distance between radio remote control and receiver.
- Consult a dealer or experienced radio/TV specialist.

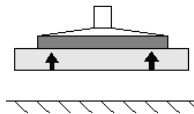
 CAUTION	
	<p>Risk of injury from uncontrolled movement of the lifting device</p> <ul style="list-style-type: none"> ▶ Always keep the path and load in eyesight. Only work when you have a good view of the entire working area. ▶ Ensure that no one is within the danger zone before releasing the load.

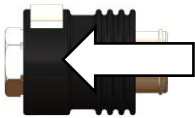


6.5 Lifting the load – applying suction

 WARNING	
	<p>Risk of injury from falling objects</p> <ul style="list-style-type: none"> ▶ Secure load using load safeguard chain before transporting. ▶ Only lift a load with a minimum vacuum value of -0.6 bar (manometer in green zone). Otherwise, the holding force is not sufficient. ▶ Do not suddenly lift or lower the load. ▶ Loads with moist, wet, oily, icy, dirty, dusty surfaces or surfaces with decreased friction must be cleaned before applying suction. ▶ The maximum lift capacity of the individual suction plates must not be

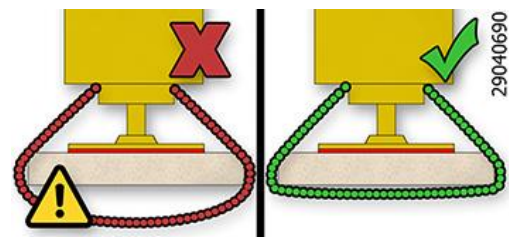
 WARNING	
	<p>Risk of injury from uncontrolled movement of the lifting device</p> <ul style="list-style-type: none"> ▶ Always grip the load in its center of gravity. ▶ The load must be loose. ▶ The load must not adhere to anything. ▶ The load must not be tilted.

Applying suction to the load





Standard Stone Magnet	Power Stone Magnet	
	SM-600-POWER	SM-600-POWER-FFS
 <p>Press the locking button at the same time to slide the manual slide valve.</p>		<p>Remote control option</p> 

1. Position the lifting device over the load's center of gravity.
2. Ensure that the entire suction plate area is mounted on the load.
3. Secure load using load safety chain.
 - Lift the device with the sucked load just a little (approx.. 20-30 cm)
 - Throw the safety chain underneath the load (concrete slab) .
Never grip with the hands under load. - Caution: Danger of squeezing hands!!!
 - Suspend and tighten both safety chains. Place the end of the chains into the chain cases.
 - The safety chain must fit tightly to the load (see following figure), in that way that the load is held in case of a vacuum failure
 - **The safety chain must never hang loose under the load, otherwise the load may fall down, in case of a vacuum failure . Danger of accident!**
4. Do not lift the load at an angle.
5. Switch on the energy supply.
 → Light flashes until the vacuum reaches -0.6 bar.
6. Actuate operating element (see figure above according to model).
7. Watch the gauge. Lift the load as soon as the vacuum reaches -0.6 bar (manometer pointer is in the green zone).






6.6 Guiding the load

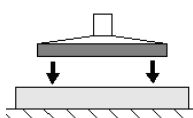
 WARNING	
	<p>Risk of injury from uncontrolled movement of the lifting device</p> <ul style="list-style-type: none"> ▶ Use the handle to guide the load. Maintain a safe distance. ▶ Always keep the path and load in eyesight. Do not walk in front of the load. Tripping hazard The load swings in the direction of movement when horizontal travel stops. ▶ Always transport loads as close to the ground as possible and adjust transport speed to the working conditions. ▶ Do not jerk the lifting device as this could cause the device to rotate or swing.

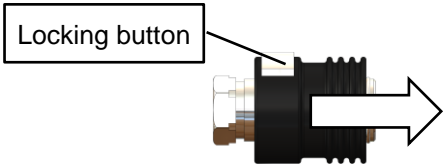


 WARNING	
	Risk of injury from falling objects <ul style="list-style-type: none"> Never quickly move the lifting device with lifted load over uneven surfaces.

6.7 Putting the load down – releasing

 WARNING	
 	Danger due to tilting parts <ul style="list-style-type: none"> Lower the load carefully (distance to the ground approx. 20-30 cm), then remove Load-securing chains and throw it under the load.
	Never grip with the hands under load (stone slab)! Danger of squeezing!!! Safety chain should be returned to chain case. The load must be securely on the floor or in a suitable storage device before releasing the load from the lifting device. <ul style="list-style-type: none"> Before releasing the load from the lifting device, it must be secured from sliding or tilting as necessary. Once the load has been held by the load securing chain, the load securing chain must be properly tested and replaced if necessary. Damaged load-securing chains must not be used any further!!

Releasing the Load



Standard Stone Magnet SM-600		Power Stone Magnet SM-600-POWER SM-600-POWER-FFS	
			
Press the locking button at the same time to slide the manual slide valve.		Remote control option 	
		Press both buttons at the same time to release.	

1. Lower the load and put it down safely on an open, even area.
 2. Ensure that the load can not slide or tilt.
 3. Actuate operating element to lower (see figure above according to model).
- The load is released. The lifting device can be lifted again.

6.8 Parking the lifting device

Setting down the lifting device briefly in the off state is referred to as 'parking'.

Procedure:

1. Switch off the energy supply.
2. Drain condensation if necessary (see section 9.7).
3. Hang the lifting device in a safe position on the transportation or lifting device. Do not set it down on the load.

7 Storage

Possible correct storage when not in use:

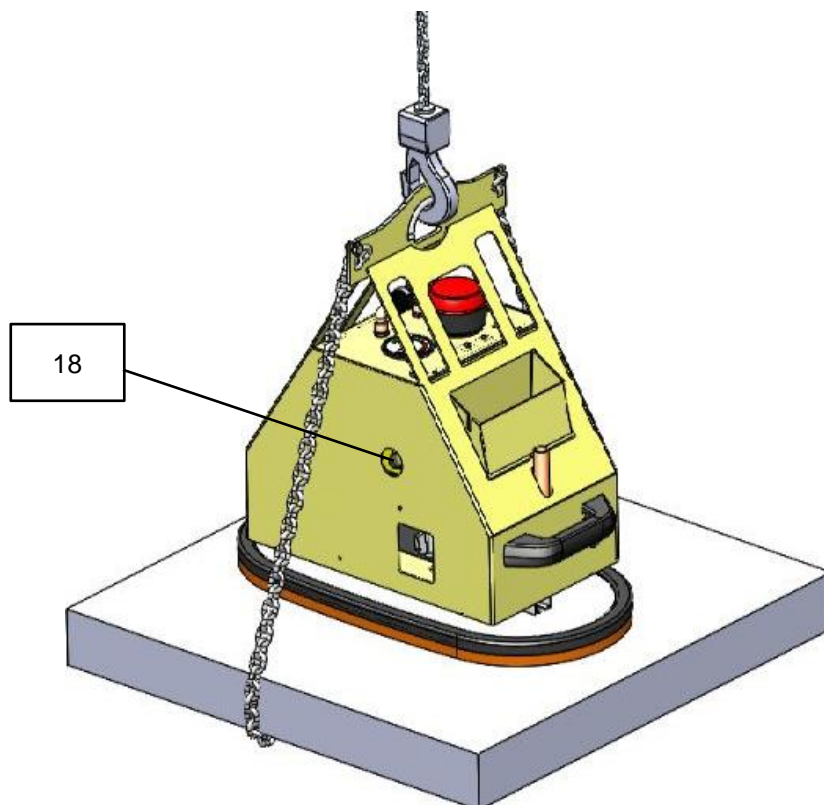
- Hang the lifting device hanging or
- Store the lifting device vertically.
IMPORTANT Remove the suction plate and store it separately before disconnecting.

CAUTION	
	<p>Suction cup damage</p> <p>suction cups become deformed, age prematurely and fall out.</p> <p>▶ Store the suction cups according to the storage recommendations for elastomer parts.</p>

Storage recommendation for elastomer parts

The effects of ozone, light (especially UV), heat, oxygen, humidity as well as mechanical influences can reduce the service life of rubber products. Rubber parts should therefore be stored in a cool place (0° C to + 15° C, max. 25° C) that is dark, dry, low in dust and offers protection from the weather, ozone and drafts. They should also be free of tension (e.g. stacked appropriately to avoid deformation).

Make sure that there is no condensation inside the reservoir (sight glass item 18). Drain condensation if necessary (see section 9.7).



8 Troubleshooting

The lifting device may only be installed and maintained by qualified specialist personnel and mechanics. See section 1.10 Operator duties.



After carrying out repair and maintenance work, always inspect the safety features as outlined in section “9.5 Inspecting safety features.”



If the **load cannot be lifted**, work through the following list to identify and rectify the problem.



Problem	Cause	Solution
Vacuum generation is not operational	Battery is empty or defective	Charge or replace battery (see section 9.2)
	Plug connector not connected to the battery	Connect plug adapter
Vacuum generation in process, vacuum of -0.6 bar has not been reached	Sealing lip on suction plate is damaged	Replace suction plate
	Load has cracks, gaps or is porous	Load can not be handled with this lifting device
	Gauge is faulty	Replace the gauge
	Leaking hose/screw unions	Replace/seal components
	Vacuum switch misaligned/faulty	Contact customer service
	Filter is dirty	Blow filter out or replace
	Filter not closed	Close filter
	Leaking hose/screw unions	Replace/seal components
	Switch on/off switch to position “I” (only one vacuum pump running)	Switch on/off switch to position “II” (two vacuum pumps running)
Vacuum generation in progress, suction not present	Manual slide valve is in “Release” position	Move manual slide valve to “Apply suction to load” position
	Manual slide valve faulty	Contact customer service
Light is flashing, vacuum is falling below -0.48 bar.	Load has cracks, gaps or is porous	Load can not be handled with this lifting device
	Sealing lip is damaged	Replace suction plate
	Faulty hose/leaking screw unions	Replace components
	Vacuum switch misaligned/faulty	Contact customer service

9 Maintenance

9.1 General notes

The lifting device may only be installed and maintained by qualified specialist personnel and mechanics. See section 1.10 Operator duties.

 WARNING	
	<p>Risk of injury due to system maintenance by untrained personnel</p> <p>Serious injury may result</p> <p>► The system may be maintained only by trained personnel who have read and understood the operating and maintenance instructions.</p>

 WARNING	
	<p>Risk of injury from worn, unmaintained parts</p> <p>Worn and unmaintained parts can cause damage, resulting in failure of the lifting device and potentially causing severe injury.</p> <p>► Observe the operating, maintenance and servicing requirements specified in these operating and maintenance instructions.</p>

9.2 Replace battery

If the battery life decreases, it must be replaced.

Procedure:

1. Switch off device.
2. Open device cover (using a large flathead screwdriver).
3. Disconnect connecting tube.
4. Remove battery.
5. Attach pin cable to the new battery.
Pay attention to the correct polarity:
RED = POSITIVE
BLACK = NEGATIVE
6. Insert battery.
7. Attach connecting tube.
8. Close device cover and lock with screwdriver.
9. Properly dispose of used battery.



9.3 Vacuum generator

See enclosed vacuum pump operating instructions / (Appendix).

9.4 Suction plates/sealing lips

- Remove stuck objects and debris such as sand, stone particles, dust, etc. from sealing lips at least once a week.
- Clean foam rubber with compressed air and/or water jet or soap water.
- Replace damaged or worn suction plates immediately (cracks, holes, corrugation).
- Always replace suction plates completely.



Tip:

Heating the screw union of the suction plate makes it easier to loosen.

Seal the suction plate connection again when screwing in.

9.5 Inspecting safety features

Inspect the safety features (see section 2.6) at the start of every shift (if the device is not operated continuously) or once a week (if operated continuously).

9.5.1 Inspect flashing light

Switch on the vacuum generator.

Place the lifting device on a workpiece with a dense, smooth surface and apply suction to load.



WARNING

Danger from falling load in the event of vacuum failure

The load may come loose and fall off during inspection.

- ▶ Only apply suction to the load. Do not lift.

Lift the sealing lip of the suction plate slightly when the vacuum is building to simulate a leak.

The vacuum shown on the gauge will decrease. The light flashes when the vacuum falls below -0.43 bar.



WARNING

Risk of injury from falling objects

- ▶ Turn on the vacuum switch prior to work and do not ever adjust.

9.5.2 Inspecting suction hoses and clamps


Check that all suction hoses and hose clamps are securely fastened, tighten if necessary.

9.5.3 Check airtightness

Carry out a leak test once a month.

9.5.3.1 Leak test of the suction plate

1. Place the device with the suction plate on a dense and flat surface (e.g. steel plate).
2. Switch on the vacuum.
3. Wait until the required vacuum is reached (the device switches off automatically at approx. -0.66 bar).
4. Lift the sucked load (steel plate) a little (20-30 cm).
→ The load **must not fall down** during the leak test!
If the vacuum decreases and the vacuum pump can build up the required vacuum again by pumping, the suction plate can be used!
5. After the test, place the load on the floor and remove it (manual slide valve →).

 WARNING	
	<p>Danger from falling load in the event of vacuum failure</p> <p>The load may come loose and fall off during inspection.</p> <p>► Lift load only 20-30 cm and move feet out of danger zone.</p>

9.5.3.2 Leak test of the device (without suction plate)

1. Remove the vacuum hose from the suction plate.
2. Switch on the vacuum pump.
3. Seal the opening of the vacuum hose (e.g. with your thumb).
4. Wait until the required vacuum is reached (the device switches off at approx. -0.66 bar).
5. Switch off the vacuum pump. The vacuum may fall by a maximum of **0.1 bar** within **5 minutes**.

Rectify any faults before starting the device. Should faults occur during operation, switch off the device and rectify the faults.

9.6 Filter

Inspect dirt filter at least once a week. Replace filter if it is extremely dirty.

Procedure:

1. Open unit cover.
2. Disconnect hose clamp and remove filter.
3. Insert new filter and attach with hose clamp.
4. Close the unit cover again.
5. Check airtightness (see above).

9.7 Drain condensation

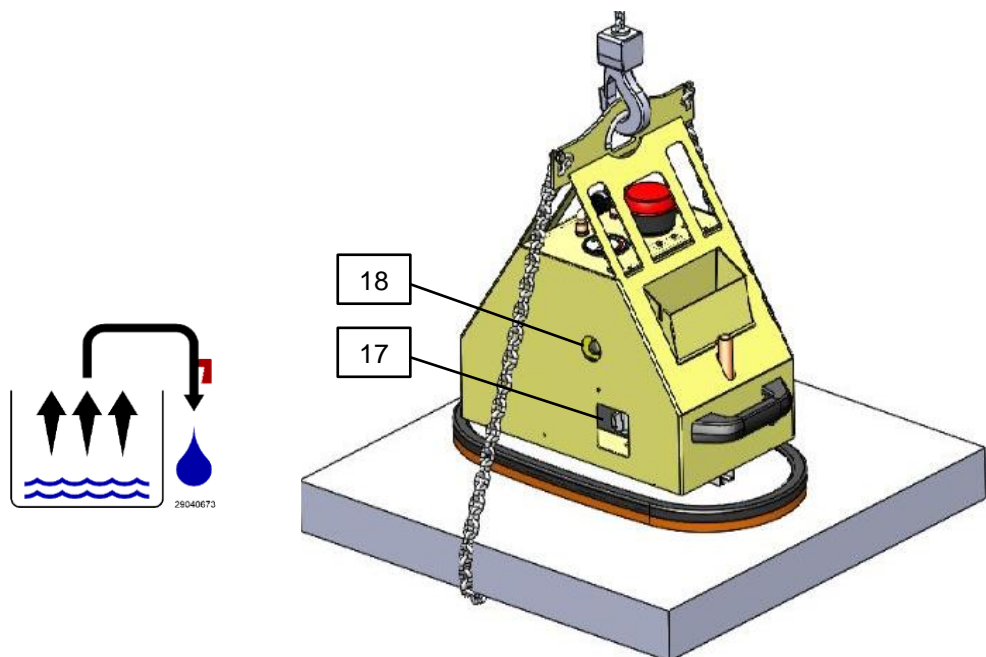
Vacuum generation produces condensation due to humidity. Condensation must be drained at least once a day. Inspect sight glass (18) as necessary.

Procedure:

1. Park the device on even ground.
2. Switch off the vacuum generator.
3. Open blow off valve (item 17) and drain condensation.
4. Close the drain valve.



When the load is lifted, the drain valve (17) must NOT be opened. Otherwise there is a risk of accident, if the load falls down!!



9.8 Maintenance schedule

9.8.1 Mechanics



The below-mentioned intervals should be reduced during heavy use.

Interval	Work to be completed
Initial inspection after 25 hours of use	Check and tighten all fastening screws (this may only be carried out by a specialist).
Every 50 hours of use	Tighten all fastening screws (make sure the screw are tightened according to the valid tightening torque values of the associated strength grades). Check that all joints, guides, bolts and gear wheels (if available) are functioning properly. Adjust or replace as needed.

9.8.2 Remaining components



The yearly inspection must be completed by a specialist (see section o).

	Interval				
	Daily	Weekly	Monthly	Every six months	Yearly
Check safety features: - Gauge OK? - Does warning device trip at correct low/excess pressure values?	X				X
Inspect filters, replace if required		X			X
Check battery charging status (display item 7).	X				X
Replace battery if required.					X
Are the vacuum hoses in good condition (not brittle, not kinked, no worn sections and no leaks)?			X		X
Are all connections (hose clamps, etc.) secure?				X	X
Are type, load capacity and warning signs in complete and legible condition?					X
Are the operating and maintenance instructions still available and are operators familiar with them?					X
Inspect all load-bearing parts (e.g. suspension, bolts, brackets, etc.). Inspect for cracks, deformities, wear, corrosion, functional reliability and other damage.					X
Clean suction plate / Inspect for cracks, evenness of sealing lip, etc. Replace if necessary		X			X
Has the test label been updated?					X

	Interval				
	Daily	Weekly	Monthly	Every six months	Yearly
General condition of the device					X
Leak test			X		X
Drain condensation	X				X
Check the condition of the load-securing chain 1)					X

- 1) Once the load has been held by the load securing chain, the load securing chain must be properly tested and replaced if necessary. Damaged load-securing chains must not be used any further!!

9.9 Annual inspection

- ▶ It is the contractor's responsibility to ensure that the device is checked by an expert in periods of max. 1 year and all recognized errors are removed (→ see DGUV regulation 1-54 and DGUV norm 100-500).
- ▶ The corresponding legal regulations and the regulations of the declaration of conformity must be observed!
- ▶ The expert inspection can also be done by the manufacturer Probst GmbH.
Contact us at: service@probst-handling.de
- ▶ We recommend affixing the inspection sticker "„Sachkundigenprüfung / Expert inspection" in a clearly visible place (order no.: 2904.0056+Tüv sticker with year number) after the inspection has been done.



The specialist inspection must be documented.

Device	Year	Date	Specialist	Company

9.10 Cleaning

Only use cold cleaner to clean the lifting device. (Do not use mineral spirits or corrosive liquids. This causes leaks or irreparable damage to the hoses.) The suction plates can be cleaned using soap and warm water. Do not use cleaning solvents on the suction sealing lips.

9.11 Spare parts

We offer a warranty for original spare parts supplied by Probst GmbH only.

Probst GmbH is not liable for any damage resulting from the use of non-original spare parts or accessories.

When ordering spare parts, please specify the order number, serial number of the lifting device and part number of the part (see the type plate and replacement parts list).

10 Decommissioning and Disposal

The lifting device may only be decommissioned and prepared for disposal by qualified specialists.

Procedure:

1. Disconnect lifting device from transportation or other lifting device.
2. Discharge battery and dispose of properly (see section 9.2).
3. Detach and dispose of the suction cups.
4. Release the hose clamps and remove the hoses.
5. Detach and dispose of the base body.

For proper disposal, please contact a company specializing in the disposal of technical goods and instruct the company to observe current disposal and environmental regulations.

The manufacturer of the device will be happy to assist you in finding a suitable company.

Proof of maintenance



Warranty claim for this machine only apply for performance of the mandatory maintenance works (by an authorised specialist workshop)! After each completed performance of a maintenance interval the included form must be fill out, stamped, signed and send back to us immediately. ¹⁾

¹⁾ via e-mail to service@probst-handling.de / via fax or post

Operator: _____

Device type: _____

Device-No.: _____

Article -No.: _____

Year of make: _____

First inspection after 25 operating hours

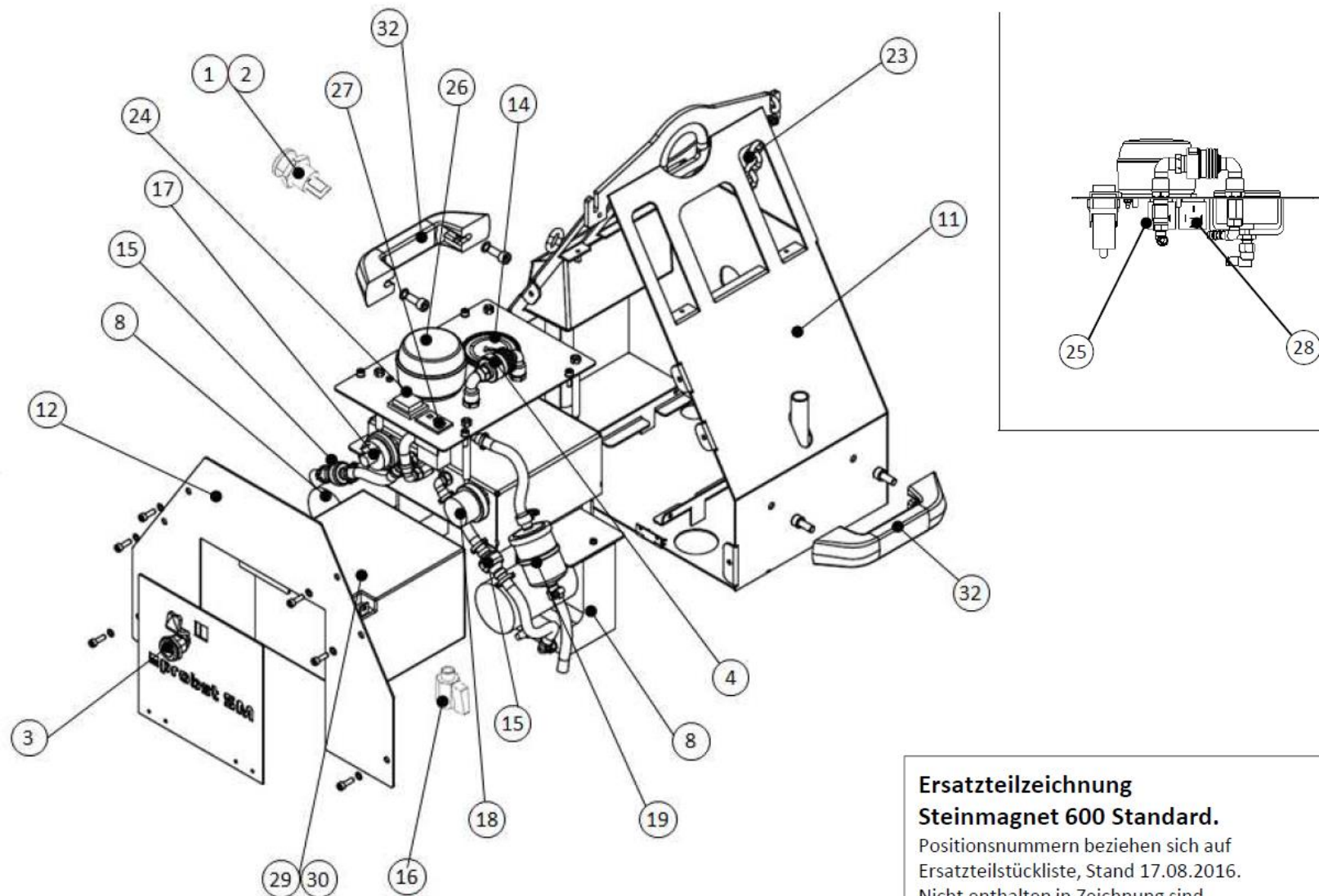
Date:	Maintenance work:	Inspection by company:
		Company Stamp
	
		Name / Signature

All 50 operating hours

Date:	Maintenance work:	Inspection by company:
		Company Stamp
	
		Name / Signature
		Inspection by company:
		Company Stamp
	
		Name / Signature
		Inspection by company:
		Company Stamp
	
		Name / Signature

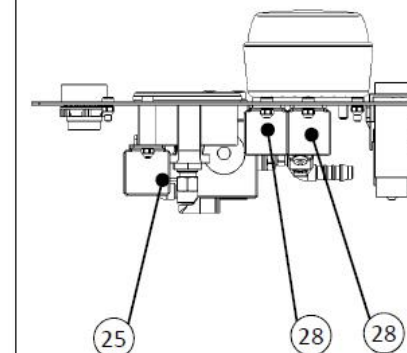
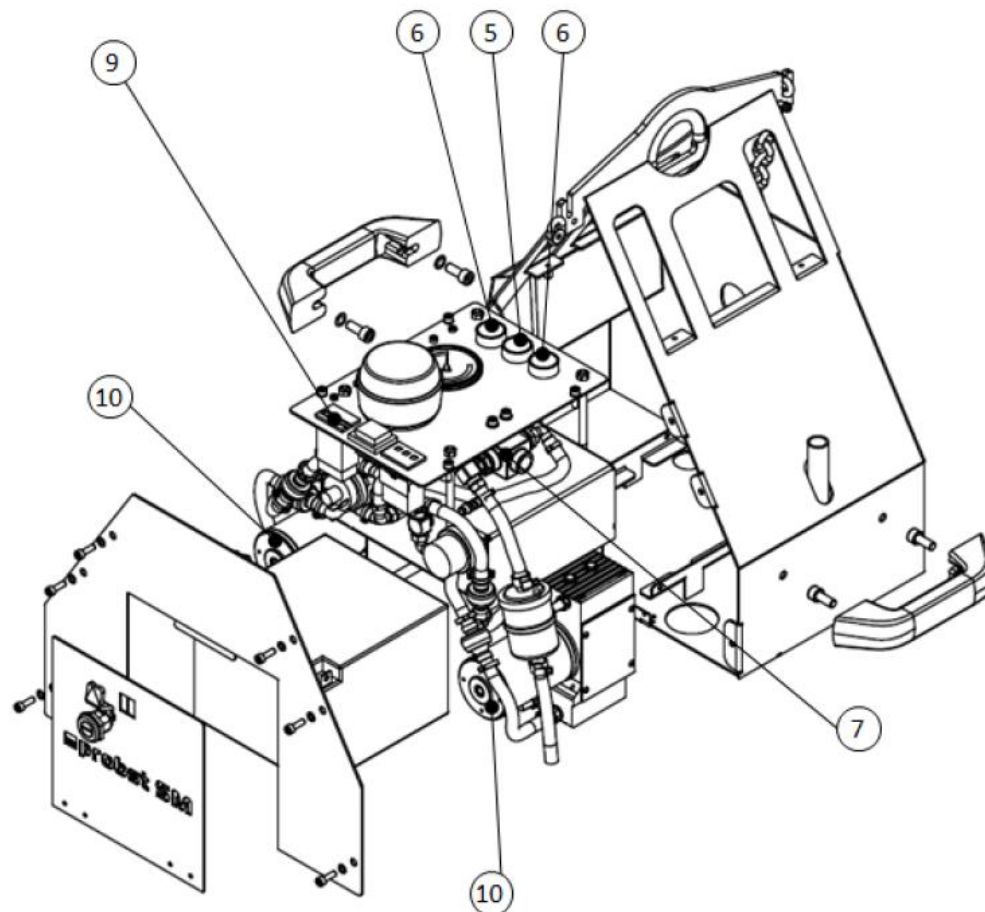
Minimum 1x per year

Date:	Maintenance work:	Inspection by company:
		Company Stamp
	
		Name / Signature
		Inspection by company:
		Company Stamp
	
		Name / Signature



**Ersatzteilzeichnung
Steinmagnet 600 Standard.**

Positionsnummern beziehen sich auf
Ersatzteilstückliste, Stand 17.08.2016.
Nicht enthalten in Zeichnung sind
Pos 13, 20, 21, 22 und 31

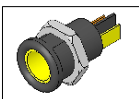





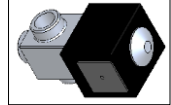
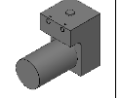
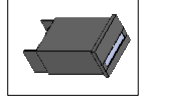
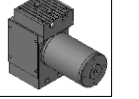
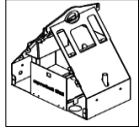
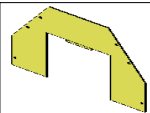




**Ersatzteilzeichnung
Steinmagnet 600 Power und
Steinmagnet 600 Power mit FFS.**





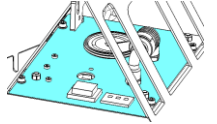
Positionsnummern beziehen sich auf
Ersatzteilstückliste, Stand 17.08.2016.
Nicht enthalten in Zeichnung sind
Pos 13, 20, 21, 22 und 31

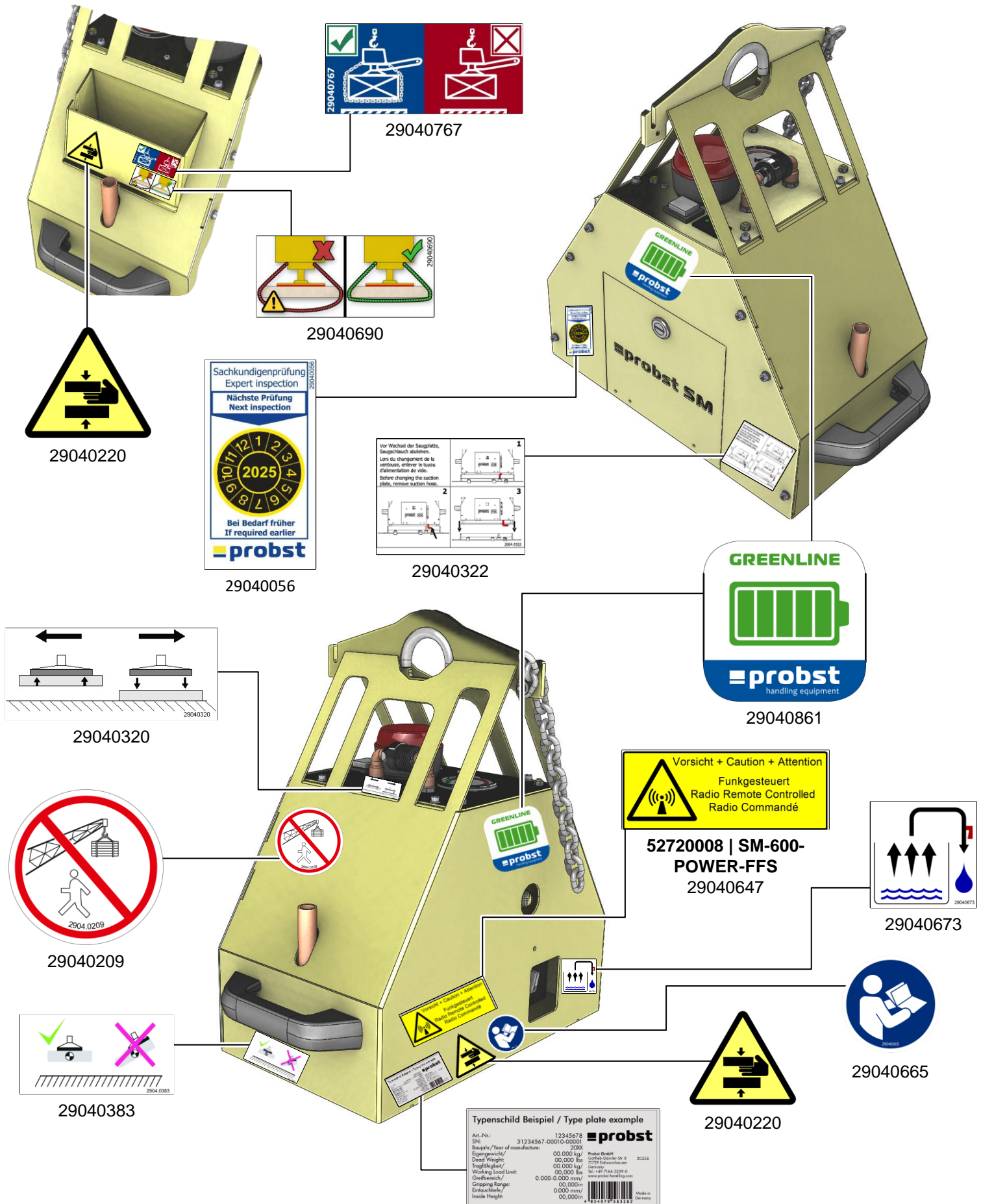
Ersatzteilliste / Spare Parts List

SM-600 / SM-600-POWER / SM-600-POWER-FFS

Pos.	Verwendung / Use	Bezeichnung / Description	Artikel-Nr. Part-Nr.	
1	SM-600 SM-600-POWER SM-600-POWER-FFS	Built-in female connector LADEBUCHSE für KFZ-Nornstecker 18 12 SW	2410.0404	
2	SM-600 SM-600-POWER SM-600-POWER-FFS	Sealing plug (el) Abdeckung für Ladebuchse	2410.0405	
3	SM-600 SM-600-POWER SM-600-POWER-FFS	Battery lock Batterieschloss M20-AG 28x32	4272.0354	
4	SM-600	Manual slide valve for manual switching of vacuum and compressed air Handschiebeventil HSV 3/2 S	2307.1001	
5	SM 600 Power SM-600-POWER-FFS	Pushbutton momentary for warning device Drucktaster für Warngerät RT 28.5	2411.0054	
6	SM-600-POWER SM-600-POWER-FFS	Pushbutton momentary red Drucktaster rot 28.5	2411.0181	
7	SM-600-POWER SM-600-POWER-FFS	Solenoid valve EMV Elektromagnetventil EMV 12 12V-DC 3/2 NO	2203.0097	
8	SM-600	Vacuum pump Vakuumpumpe EVE-TR-M 2.2 12V-DC	2530.0053	
9	SM-600-POWER SM-600-POWER-FFS	Timer Betriebsstundenzähler 24V-DC-St	2420.0133	
10	SM-600-POWER SM-600-POWER-FFS	Vacuum pump Vakuumpumpe EVE-TR-M 4.4 12V-DC	2530.0061	
11	SM-600 SM-600-POWER SM-600-POWER-FFS	Housing SM-600 Gehäuse SM-600	4272.0356	
12	SM-600 SM 600-POWER SM-600-POWER-FFS	Housing cover Gehäuseabdeckung	4272.0357	
13	SM-600-POWER-FFS	Radio remote control for switching the equipment on and off Funkfernsteuerung FFS	4272.0346	
14	SM-600 SM-600-POWER SM-600-POWER-FFS	Vacuum gauge (manometer) Vakuummanometer VAM 67 V H-SE	2213.0015	

15	SM-600 SM-600-POWER SM-600-POWER-FFS	No-return valve Rückschlagventil RSV 10.2	2204.0027	
16	SM-600 SM-600-POWER SM-600-POWER-FFS	Two-way drainage valve 2/2-Wege-Kugelhanhn KVZ 8 2/2	2206.0009	
17	SM-600 SM-600-POWER SM-600-POWER-FFS	Vacuum/pressure switch, Druckschalter	2290.0003	
18	SM-600 SM-600-POWER SM-600-POWER-FFS	Vacuum/pressure switch Druckschalter	2290.0004	
19	SM-600 SM-600-POWER SM-600-POWER-FFS	Filter insert (round) Filtereinsatz PAP VM-SM	4271.0004	
20	SM-600 SM-600-POWER SM-600-POWER-FFS	Hose clamp for securing smooth hoses Schlauchschelle	2105.0111	
21	SM-600 SM-600-POWER SM-600-POWER-FFS	Two-ear clamp 2-Ohr-Schellen	2105.0066	
22	SM-600 SM-600-POWER SM-600-POWER-FFS	Two-ear clamp 2-Ohr-Schellen	2105.0180	
23	SM-600 SM-600-POWER SM-600-POWER-FFS	Chain Sicherheitskette	2100.0009	
24	SM-600 SM-600-POWER SM-600-POWER-FFS	Switch closing contact SCHALTER 250V-AC 6A 2	2411.0032	
25	SM-600 SM-600-POWER SM-600-POWER-FFS	Relay RELAIS 50A 12V-DC 1U	2402.0014	
26	SM-600 SM-600-POWER SM-600-POWER-FFS	Warning lamp / Flash light WARNLEUCHTE	2418.0009	
27	SM-600 SM-600-POWER SM-600-POWER-FFS	Vehicle voltage monitor Spannungsüberwachung 36x24 VM-SM	2436.0013	
28	SM-600 SM-600-POWER SM-600-POWER-FFS	Relay RELAIS 40A 12V-DC 1S	2402.0008	
29	SM-600 SM-600-POWER SM-600-POWER-FFS	Battery BATTERIE 167x175x125-12V-DC	2420.0008	

30	SM-600 SM-600-POWER SM-600-POWER-FFS	Connection cable Verbindungskabel	4272.0355	
31	SM-600 SM-600-POWER SM-600-POWER-FFS	Silicone hose Silikonschlauch	4272.0027	
32	SM-600 SM-600-POWER SM-600-POWER-FFS	U-handle Handtragegriff 196	2160.0020	
33	SM-600-POWER SM-600-POWER-FFS	Abdeckblech oben Top cover	4272.0386	
34	SM-600	Abdeckblech oben Top cover	4272.0389	



DE	Bitte beachten Sie, dass das Produkt ohne vorliegende Betriebsanleitung in Landessprache nicht eingesetzt / in Betrieb gesetzt werden darf. Sollten Sie mit der Lieferung des Produkts keine Betriebsanleitung in Ihrer Landessprache erhalten haben, kontaktieren Sie uns bitte. In Länder der EU / EFTA senden wir Ihnen diese kostenlos nach. Für Länder außerhalb der EU / EFTA erstellen wir Ihnen gerne ein Angebot für eine Betriebsanleitung in Landessprache, falls die Übersetzung nicht durch den Händler/Importeur organisiert werden kann.
GB	Please note that the product may not be used / put into operation without these operating instructions in the national language. If you did not receive operating instructions in your national language with the delivery of the product, please contact us. In countries of the EU / EFTA we will send them to you free of charge. For countries outside the EU / EFTA, we will be pleased to provide you with an offer for an operating manual in the national language if the translation cannot be organised by the dealer/importer.
FR	Veillez noter que le produit ne doit pas être utilisé / mis en service sans le présent mode d'emploi dans la langue du pays. Si vous n'avez pas reçu de mode d'emploi dans votre langue lors de la livraison du produit, veuillez nous contacter. Dans les pays de l'UE / AELE, nous vous l'enverrons gratuitement. Pour les pays en dehors de l'UE / AELE, nous vous soumettons volontiers une offre pour un mode d'emploi dans la langue du pays si la traduction ne peut pas être organisée par le revendeur / l'importateur.
IT	Si prega di notare che il prodotto non può essere utilizzato/messo in funzione senza le istruzioni per l'uso nella lingua locale. Se con la consegna del prodotto non avete ricevuto le istruzioni per l'uso nella vostra lingua nazionale, contattateci. Le invieremo gratuitamente nei Paesi UE/EFTA. Per i Paesi al di fuori dell'UE/EFTA, saremo lieti di fornirvi un preventivo per le istruzioni per l'uso nella lingua locale se la traduzione non può essere organizzata dal rivenditore/importatore.
NL	Houd er rekening mee dat het product niet mag worden gebruikt / in gebruik genomen zonder bedieningshandleiding in de lokale taal. Als u bij de levering van het product geen bedieningshandleiding in uw landstaal hebt ontvangen, neem dan contact met ons op. Wij sturen u deze gratis toe in de EU/EVA-landen. Voor landen buiten de EU/EVA doen wij u graag een voorstel voor een gebruiksaanwijzing in de lokale taal als de vertaling niet kan worden geregeld door de dealer/importeur.
ES	Tenga en cuenta que el producto no puede utilizarse / ponerse en funcionamiento sin instrucciones de uso en el idioma local. Si no ha recibido las instrucciones de funcionamiento en su idioma nacional con la entrega del producto, póngase en contacto con nosotros. Se las enviaremos gratuitamente en los países de la UE / AELC. Para los países fuera de la UE / AELC, estaremos encantados de proporcionarle un presupuesto para las instrucciones de funcionamiento en el idioma local si la traducción no puede ser organizada por el distribuidor / importador.
PL	Należy pamiętać, że produkt nie może być używany / uruchamiany bez instrukcji obsługi w lokalnym języku. Jeśli wraz z produktem nie dostarczono instrukcji obsługi w języku danego kraju, prosimy o kontakt. Wyślemy ją bezpłatnie w krajach UE/EFTA. W przypadku krajów spoza UE / EFTA z przyjemnością przedstawimy wycenę instrukcji obsługi w języku lokalnym, jeśli sprzedawca / importer nie może zorganizować tłumaczenia.
BG	Моля, обърнете внимание, че продуктът не може да се използва/въвежда в експлоатация без инструкции за експлоатация на местния език. Ако с доставката на продукта не сте получили инструкции за експлоатация на вашия национален език, моля, свържете се с нас. Ние ще ви ги изпратим безплатно в страните от ЕС/ЕАСТ. За страните извън ЕС/ЕАСТ с удоволствие ще Ви предоставим оферта за инструкции за експлоатация на местния език, ако преводът не може да бъде организиран от търговеца/вносителя.
DK	Vær opmærksom på, at produktet ikke må anvendes / tages i brug uden en betjeningsvejledning på det lokale sprog. Hvis du ikke har modtaget en betjeningsvejledning på dit nationale sprog ved levering af produktet, bedes du kontakte os. Vi sender den gratis til dig i EU/EFTA-lande. I lande uden for EU/EFTA giver vi gerne et tilbud på en brugsanvisning på det lokale sprog, hvis oversættelsen ikke kan organiseres af forhandleren/importøren.
ET	Pange tähele, et toodet ei tohi kasutada / kasutusele võtta ilma kohaliku keeles koostatud kasutusjuhendita. Kui te ei ole toote tarnimisel saanud kasutusjuhendit teie riigikeeles, võtke meiega ühendust. Me saadame need teile tasuta ELI/EFTA riikides. Väljaspool ELI/EFTA riike esitame teile hea meelega pakkumise kohalikus keeles kasutusjuhendi saamiseks, kui edasimüüja/importija ei saa tõlkimist korraldada.
FI	Huomaa, että tuotetta ei saa käyttää / ottaa käyttöön ilman paikalliskielisiä käyttöohjeita. Jos et ole saanut käyttöohjeita kansallisella kielelläsi tuotteen toimituksen yhteydessä, ota meihin yhteyttä. Lähetämme ne sinulle maksutta EU- / EFTA-maissa. EU:n / EFTA:n ulkopuolisissa maissa annamme mielellämme tarjouksen käyttöohjeista paikallisella kielellä, jos jälleenmyyjä / maahantuoja ei voi järjestää käännöstä.
GR	Λάβετε υπόψη ότι το προϊόν δεν επιτρέπεται να χρησιμοποιηθεί/να τεθεί σε λειτουργία χωρίς οδηγίες λειτουργίας στην τοπική γλώσσα. Εάν δεν έχετε λάβει οδηγίες λειτουργίας στην εθνική σας γλώσσα με την παράδοση του προϊόντος, παρακαλούμε επικοινωνήστε μαζί μας. Θα σας τις στείλουμε δωρεάν στις χώρες της ΕΕ / ΕΖΕΣ. Για χώρες εκτός ΕΕ / ΕΖΕΣ, θα χαρούμε να σας παρήχουμε προσφορά για οδηγίες λειτουργίας στην τοπική γλώσσα, εάν η μετάφραση δεν μπορεί να οργανωθεί από τον αντιπρόσωπο / εισαγωγέα.
IS	Vinsamlega athugið að ekki má nota/taka í notkun vöruna nema notkunarleiðbeiningar séu á heimatungumáli. Ef þú fékkst ekki notkunarhandbók á þínu tungumáli þegar varan var afhent, vinsamlegast hafðu samband við okkur. Við munum senda þér þetta ókeypis til ESB / EFTA landa. Fyrir lönd utan ESB / EFTA munum við gjarnan veita þér tilboð um notkunarhandbók á heimatungumáli ef söluðili/innflytjandi getur ekki skipulagt þýðinguna.
HR	Imajte na umu da se proizvod ne smije koristiti/pustiti u rad bez uputa za uporabu na lokalnom jeziku. Ako niste primili priručnik za uporabu na vašem lokalnom jeziku kada je proizvod isporučen, kontaktirajte nas. Poslat ćemo vam ih besplatno u zemlje EU / EFTA. Za zemlje izvan EU / EFTA, rado ćemo vam pružiti ponudu za priručnik za uporabu na lokalnom jeziku ako prijevoz ne može organizirati trgovac/uvoznik.
LV	Lūdzu, ņemiet vērā, ka izstrādājumu nedrīkst lietot/nodot ekspluatācijā bez lietošanas instrukcijas vietējā valodā. Ja līdz ar izstrādājuma piegādi neesat saņēmis lietošanas instrukciju valsts valodā, lūdzu, sazinieties ar mums. ES/EFTA valstīs mēs jums tās nosūtīsim bez maksas. Valstīs ārpus ES/EFTA valstīm, ja tulkojumu nevarēs nodrošināt tirgotājs/importētājs, mēs labprāt sniegsim jums ekspluatācijas instrukciju vietējā valodā.
LT	Atkreipkite dėmesį, kad gaminio negalima naudoti ir (arba) pradėti eksploatuoti be naudojimo instrukcijos vietine kalba. Jei kartu su gaminio pristatymu negavote naudojimo instrukcijos savo šalies kalba, susisiekite su mumis. ES / ELPA šalyse jas išsiųsime nemokamai. ES / ELPA nepriklausančiose šalyse mes mielai pateiksime jums eksploatavimo instrukciją vietine kalba pasiūlymą, jei pardavėjas / importuotojas negalės išversti instrukciją į vietinę kalbą.
NO	Vær oppmerksom på at produktet ikke må brukes/tas i bruk uten en bruksanvisning på det lokale språket. Hvis du ikke har mottatt en bruksanvisning på ditt eget språk ved levering av produktet, ber vi deg ta kontakt med oss. Vi sender deg bruksanvisningen kostnadsfritt i EU/EFTA-land. For land utenfor EU/EFTA gir vi deg gjerne et tilbud på en bruksanvisning på det lokale språket hvis oversettelsen ikke kan ordnes av forhandleren/importøren.
PT	Tenha em atenção que o produto não pode ser utilizado/colocado em funcionamento sem um manual de instruções na língua local. Se não tiver recebido o manual de instruções na sua língua nacional com a entrega do produto, contacte-nos. O envio é gratuito nos países da UE / EFTA. Para os países fora da UE / EFTA, teremos todo o gosto em fornecer-lhe um orçamento para o manual de instruções na língua local, se a tradução não puder ser organizada pelo revendedor / importador.
RO	Vă rugăm să rețineți că produsul nu poate fi utilizat / pus în funcțiune fără instrucțiuni de utilizare în limba locală. Dacă nu ați primit instrucțiuni de utilizare în limba dvs. națională odată cu livrarea produsului, vă rugăm să ne contactați. Vi le vom trimite gratuit în țările UE / AELS. Pentru țările din afara UE / AELS, vom fi bucuroși să vă furnizăm o ofertă pentru instrucțiuni de utilizare în limba locală, dacă traducerea nu poate fi organizată de către dealer / importator.
SE	Observera att produkten inte får användas / tas i drift utan bruksanvisning på det lokala språket. Om du inte har fått en bruksanvisning på ditt språk i samband med leveransen av produkten, vänligen kontakta oss. Vi skickar dem kostnadsfritt till dig i EU / EFTA-länder. För länder utanför EU / EFTA ger vi dig gärna en offert på bruksanvisningar på det lokala språket om översättningen inte kan organiseras av återförsäljaren / importören.
SK	Upozorňujeme, že výrobok sa nesmie používať/uvádzať do prevádzky bez návodu na obsluhu v miestnom jazyku. Ak ste spolu s výrobkom nedostali návod na obsluhu vo vašom národnom jazyku, kontaktujte nás. V krajinách EÚ/EZVO vám ich zašleme bezplatne. V krajinách mimo EÚ/EZVO vám radi poskytneme cenovú ponuku na návod na obsluhu v miestnom jazyku, ak preklad nemôže zabezpečiť predajca/dovozca.
SL	Upoštevajte, da izdelka ne smete uporabljati brez navodil za uporabo v lokalnem jeziku. Če z dostavo izdelka niste prejeli navodil za uporabo v nacionalnem jeziku, se obrnite na nas. V državah EU/EFTA vam jih bomo poslali brezplačno. Za države zunaj EU/EFTA vam bomo z veseljem pripravili ponudbo za navodila za uporabo v lokalnem jeziku, če prevoda ne more zagotoviti prodajalec/uvoznik.
CZ	Upozorňujeme, že výrobek nesmí být používán / uveden do provozu bez návodu k obsluze v místním jazyce. Pokud jste spolu s výrobkem neobdrželi návod k obsluze ve svém národním jazyce, kontaktujte nás. V zemích EU/EFTA vám je zašleme zdarma. V zemích mimo EU/EFTA vám rádi poskytneme nabídku návodu k obsluze v místním jazyce, pokud překlad nemůže zajistit prodejce/dovozce.
HU	Felhívjuk figyelmét, hogy a termék nem használható/helyezhető üzembe a helyi nyelven kiadott használati utasítás nélkül. Ha a termék szállításával együtt nem kapta meg a nemzeti nyelven készült használati utasítást, kérjük, lépjen kapcsolatba velünk. Az EU/EFTA-oroszágokban ingenyesen elküldjük Önnek. Az EU / EFTA-n kívüli országok esetében szívesen adunk Önnek árajánlatot a helyi nyelvű kezelési útmutatóra, ha a fordítást a kereskedő / importőr nem tudja megszervezni.