Bravobase HOVERBOARD®

User manual

Edition: 1/2023

General information

* It is essential that you and any other operator of this product read and understand the content of this manual before installing and using this product !

* In order to avoid operating errors, these manual must be accessible to the staff at all times.

* The Hoverboard should only be used for the purpose as described. Please refer particularly to the instructions of the used stretcher.

* The illustrations do not necessarily correspond to the delivered equipment and are not true to scale.

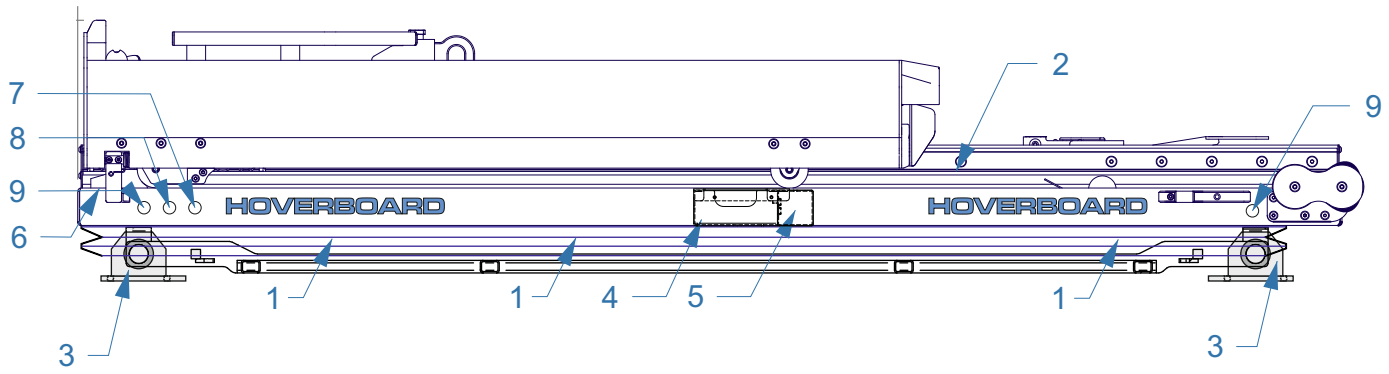
* We take no liability for damages caused by operating errors or improper assembly or repair.

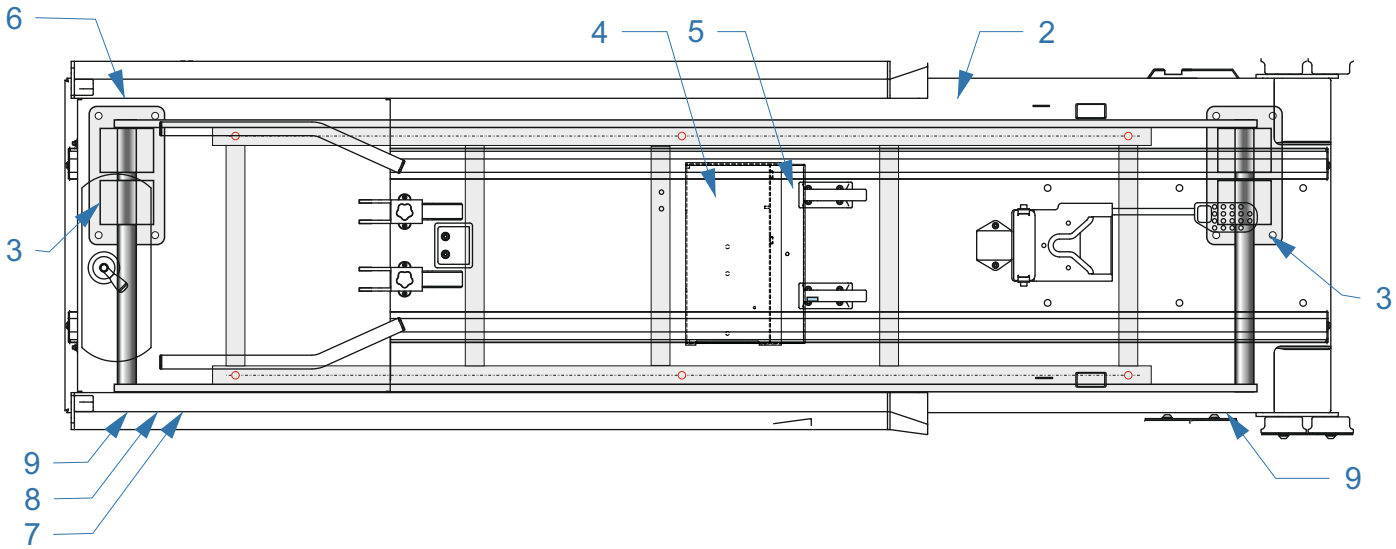
* Please pay close attention to the country-related, applicable safety regulations for patient transfer.

* Subject to technical changes.

Description

1... Pneumatic suspensions with automatic weight adjustment from 40-520 kg/88-1146 lbs and hydraulic shock absorbers. Total vertical stroke 170 mm/6.7"
2... Stretcher mounting plate
3... Lateral movement device with pneumatic release (option)
4... Switch box, contains: a) Relay, 12V
b) Solenoid valves 12V
c) Terminal block
5... Air supply tank (approx. 1.0 litre/0.26 gal) with pressure switch
6... Reed switch
7... Blue main switch
8... Red toggle switch for highest (rigid) position, for CPR/reanimation
9... Pushbuttons for pneumatic release of the lateral movement device (option)





Assembly

The Hoverboard may only be installed by qualified personnel (e.g. car technicians or body fitters) and in accordance with the assembly instructions supplied.

The assembly operator is responsible for damages caused by improper assembly !

Technical data

* Customized Hoverboard for Kartsana powerBRAVA®, integrated in the BRAVO1®

* Height lowered: 135 mm - 5.3"
  Height when active: 220 mm - 9.0"
  Height for reanimation (rigid): 310 mm - 12.2"

* Total length: 2050 mm - 80.7"

* Total weight 142/170 kg - 313/375 lbs

* Maximum loading capacity 520 kg / 1146 lbs (incl. stretcher)

* Ignition AND main switch ON: Device ready for operation
  Ignition OR main switch OFF: Device lowered (e.g. for loading)

* To ensure that the Kartsana powerBRAVA® is always ready for use, the continuous plus is looped through the Hoverboard for continuous charging of the battery.

* Electrical connection: Dimension of all wires must be at least 4 mm² !

  Brown = ground (wire no. 31)
  Red = Continuous plus (for charging the powerBRAVA® and release of the lateral movement device) fused in the vehicle with 15A (wire no. 30)
  Orange = Ignition plus, fused in the vehicle with 30A (wire no. 15)

  Never connect the ignition line together with permanent positive !
  This could lead to consequential damages, which are not covered by warranty !

* The valve-control circuit is internally fused with 5A.

* Max. power consumption 25A at 12V DC

Operation

After successfull assembly and electric connection, start ignition of vehicle and turn on the blue main switch.

The Hoverboard now automatically adjusts to the patient's weight and rises to the level for optimal suspension comfort, the switch (if on the device) lights up blue.

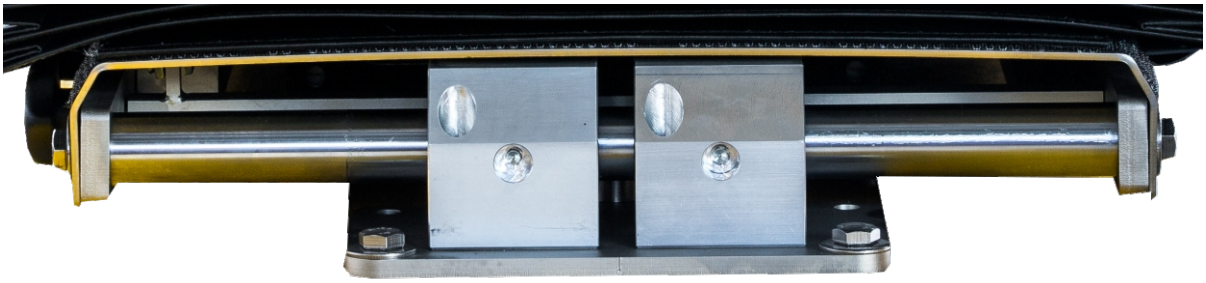
The Hoverboard is all-automatic, i.e. when the supply pressure decreases to 8 bar, the compressor starts again for approx. 20 seconds, so that there is always sufficient operating pressure.

By switching off the ignition or pressing the main switch again, the Hoverboard lowers automatically for easy loading and unloading. It also lowers if you unlock the powerBRAVA® on the Hoverboard.

Pressing the switch for the optional CPR-position (for resuscitation/reanimation) raises the Hoverboard to the highest (fixed) position, the switch (if on the device) lights up red. This function is only active when the main switch is switched on. By pressing it again, the Hoverboard gently lowers to suspended mode.

ATTENTION:
When lifting to the highest position, the compressor runs continuously for approx. 3 minutes. Multiple lifting in short intervals will overheat the compressor ! The thermal protection switch will turn off the compressor and needs approx. 1 hour to cool down !

By pushing one of the pushbuttons, the lateral movement device (option) will unlock pneumatically. While keeping pushed, you can move the Hoverboard crosswise in 8 positions of 32 mm / 1,25" (total = 256 mm / 10"). Releasing the button means locking in the nearest position. This option also works with ignition off.



Operation

The pneumatic release is supplied by the air tank, which will only be refilled when the main switch is on.
Frequently use while the Hoverboard is switched off leads to temporary malfunction.

In case of malfunction or lack of air pressure you may unlock it by the knobs.

For correct loading and unloading please refer to the instructions of the stretcher.
Please pay attention to the correct locking of the stretcher on the Hoverboard.

Purification

All Hoverboards are made of high quality stainless steel of the type 1.4301 and are carefully processed in protective atmosphere.

However, „stainless“ does not mean that the material is resistant to all aggressive chemicals, such as e.g. ionized chlorine solutions.
At outside temperatures below -5° (23F), calcium chloride is often used as antifreeze solution, which is much more aggressive than the commonly used sodium chloride (“common salt”).

This aggressive solution is brought to the surface of the plate by the wheels of the stretcher and causes surface corrosion as a result.

For a consistently beautiful appearance, it is therefore important to rinse and wipe the panel surface daily with clear water during such conditions.

A final impregnation with oil-based stainless steel care products can also help to prevent corrosion.

Upon request, we will be happy to send you a special cleaning and care set.

Disinfection

There is such an abundance of disinfectants, solvents and cleaning agents , so that not every particular product can be tested.
In addition, the manufacturers are constantly changing and adapting their recipes.

Disinfection

That is why we only use 1.4301 quality for all stainless steel parts, because it means the optimal synthesis of corrosion protection, processability and cost.

The correct (means not too high) concentration of the disinfectant is most important.
Never use disinfectants with chloroacetic acid or other corrosive ingredients !

The bellows is made of polyester fabric with PVC coating and PVC support frame.
These materials are generally trouble-free, but too high concentrations of disinfectants may cause color damage (bleaching).

The disinfectant also should not remain on the surface anywhere, but should be wiped off after it has acted or also rinsed away with clear water.

Serial number

The serial number is located underneath the plate at the rear end and contains the production date.
E.g. serial number **223412** means:
20**22 - 34**th week, **12**th production unit.

Please always quote this number for any complaints or spare parts orders !

Maintenance

One of the many advantages of Hoverboards compared to conventional stretcher tables is that they are not classified as medical devices according to Medical Devices Act (MPG) and are therefore not required to be checked mandatory every year.

Hoverboards are basically maintenance-free, but we recommend an annual inspection with a functional check, regarding e.g. the Bravobase, as part of the maintenance of the Kartsana powerBRAVA.
This can be managed by one of our certified service partners, whom you find on

www.hover.at

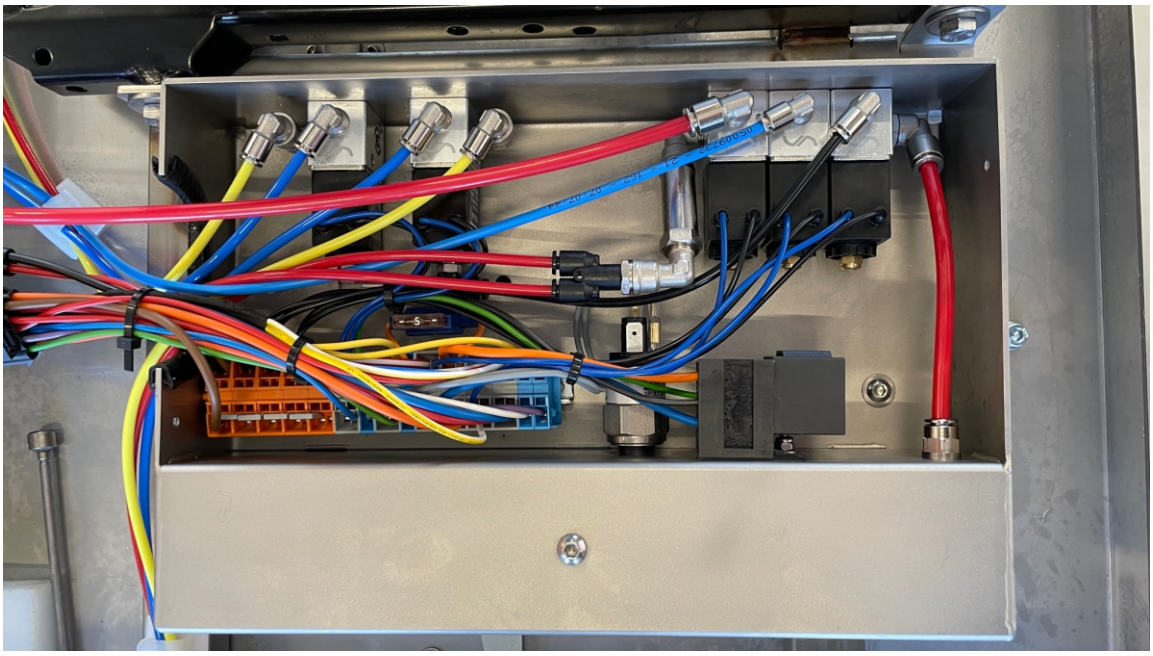
However, you may also contact us directly if you have any questions or problems.

Quality

All Hoverboards are tested by DEKRA in Klettwitz/Germany in accordance with the latest standards and comply with EN 1789: 2020, EN 1865-5: 2012, ECE R17 (20 g test) and UN-R10.

The exclusive use of components of ISO certified pre-suppliers provides industrial manufacturing quality.

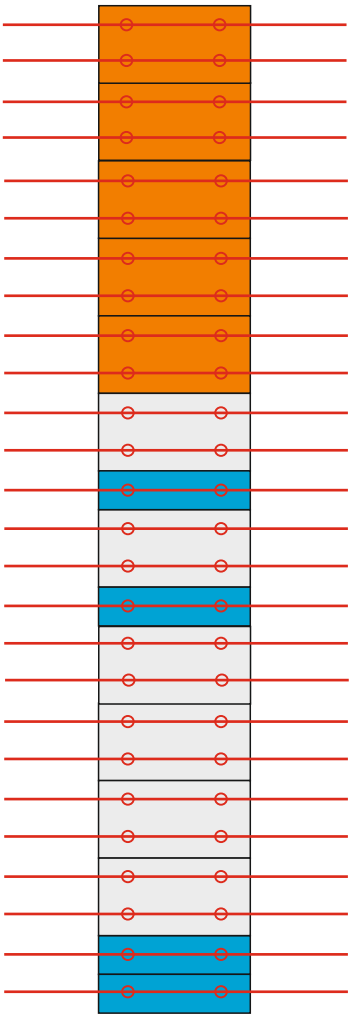
Because of our CIP (Continuos improvement programme) and advancement of our products, your Hoverboard may vary from this description.



Connection layout

Option lateral movement device (LMD): blue, Option reanimation (RA):red

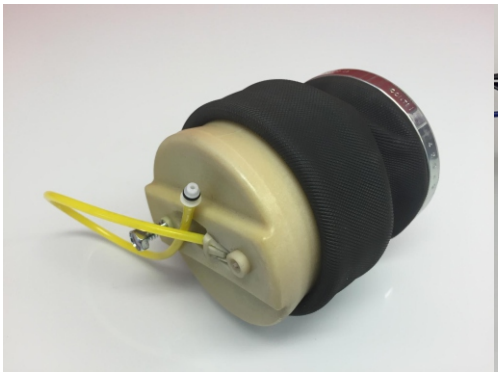
target	colour	cross-section
ground (31)	brown	2,5
jumper	grey	
jumper	grey	
jumper	grey	
jumper	grey	
jumper	grey	
jumper	grey	
jumper	grey	
jumper	grey	
toggle switch	blue	1,0
pressure switch	grey	1,0
pressure switch	grey	1,0
main switch	green	1,0
main switch	orange	1,0
relay (87)	light blue	2,5
ignition (15)	orange	2,5
LMD switch	ye/wt	1,0
LMD sol.valve	blue	1,0
PowerBRAVA	red	2,5
positive (30)	red	2,5
toggle switch	white	1,0
toggle switch	pink	1,0



target	colour/cross-section	
compressor	black	2,5
PowerBRAVA	black	2,5
solen. valve 1	black	1,0
solen. valve 2	black	1,0
LMD sol. valve	black	1,0
RA sol. valve	black	1,0
check valve	black	1,0
relay	black	1,0
main switch	black	1,0
toggle switch	black	1,0
solen. valve 1	blue	1,0
solen. valve 2	blue	1,0
relay (85)	green	1,0
reed switch	yellow	0,5
fuse 5A	orange	1,0
compressor	red-white	2,5
check valve	blue	1,0
relay (30)	orange	2,5
fuse 5A	orange	1,0
LMD sw. front	rd-wt	1,0
LMD sw. rear	blue-white	1,0
LMD sw. front	rd-wt/ye-wt	1,0
LMD sw. rear	blue-white	1,0
reed switch	yellow	0,5
RA sol. valve	blue	1,0

Spare parts

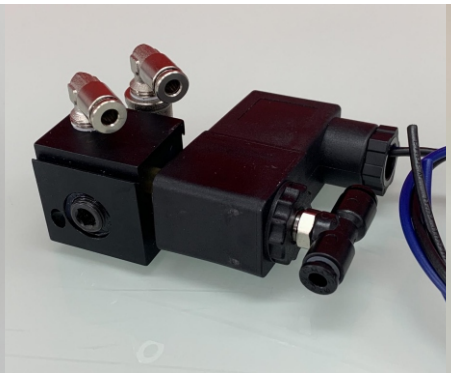
Air suspension
30620 > with shock absorber
30621 > without shock absorber



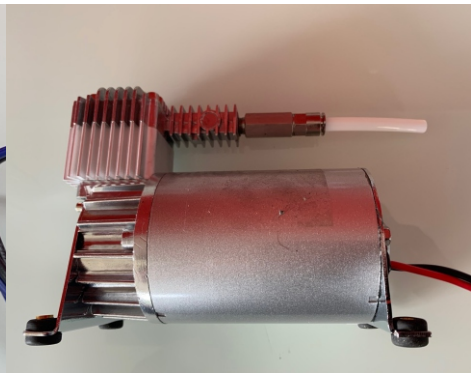
30311 air cushion

30057 solenoid valve block

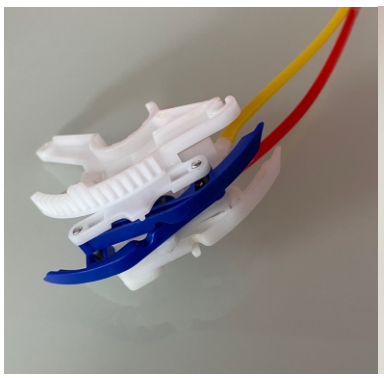
30058 solenoid valve 1



30059 solenoid valve 2

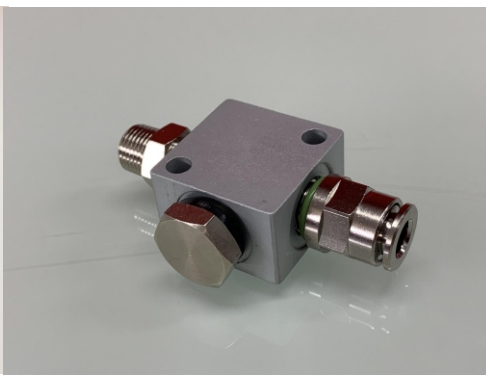


30209 external compressor



30291 level control valve

30292 valve control bow

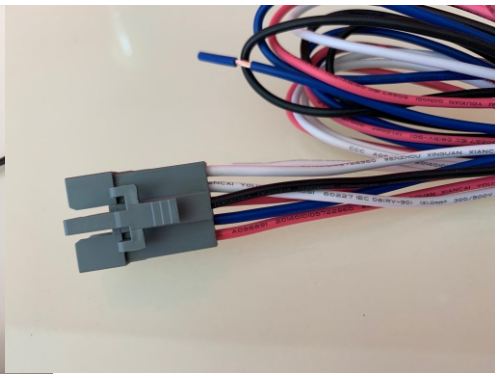


30272 air fittings

Spare parts

30302 adjustable shock absorber

30072 Reed switch
30073 Block magnet

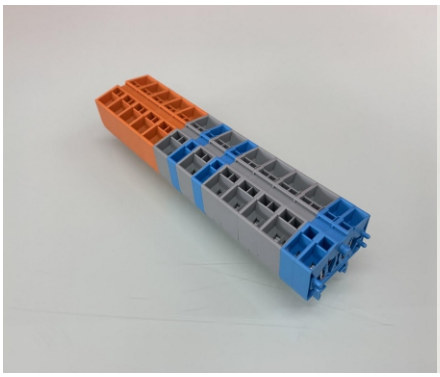


plug and wires
35020 for main switch
35021 for toggle switch
35022 for front pushbutton
35023 for rear pushbutton

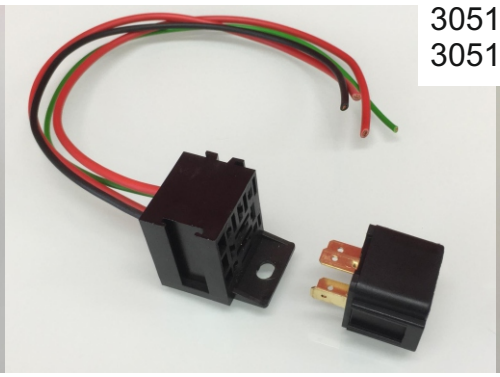
31020 quick connector 4-4-4
31021 quick connector 4-4
31022 quick connector 6-6
31023 quick connector 6-4
31024 quick connector 8-6

30251 fuse holder
30252 fuse 30A
30253 fuse 5A

30511 JPT-plug for 10 pins F
30512 JPT-plug for 10 pins F
30513 JPT-pin F
30514 JPT-pin M
30515 JPT-plug for 4 pins F
30516 JPT-plug for 4 pins M
30517 JPT-plug for 2 pins F
30518 JPT-plug for 2 pins M



31270 terminal grey
31272 terminal blue
31275 terminal orange

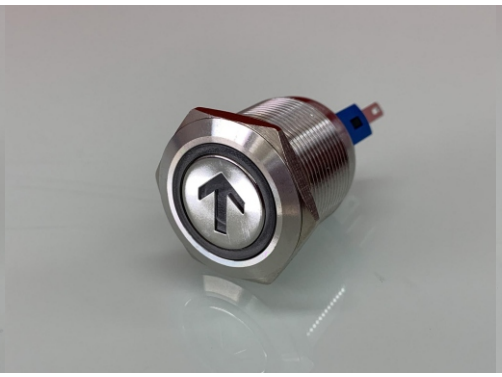


30520 relay
30530 relay holder

31283 cord clip
self-adhesive

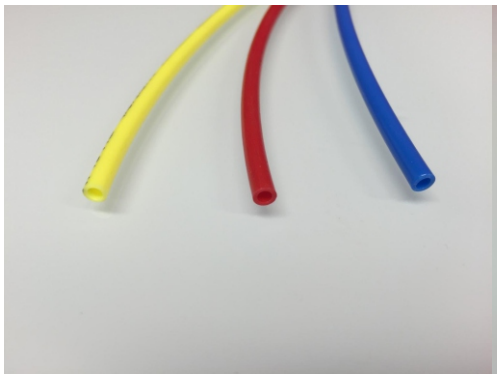
Spare parts

35010 main switch (blue)



35011 toggle switch (red)

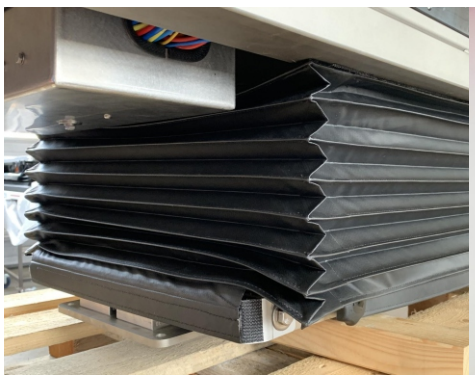
35012 LMD pushbutton



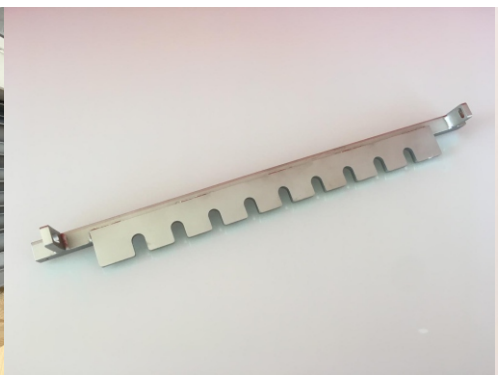
30244 pressure tube 4 mm, red
30245 pressure tube 4 mm, blue
30246 pressure tube 4 mm, yellow
30240 pressure tube 6 mm, red

30248 teflon tube, white
31080 thermal protection-tube, red

30066 pressure switch, calibrated 8,5 bar



30086 bellows



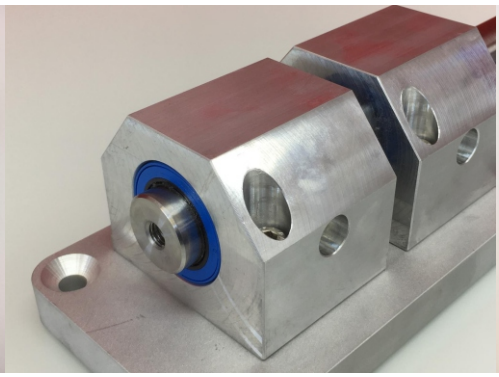
51031 toothcomb rear
51041 toothcomb front

51062 locking bolt

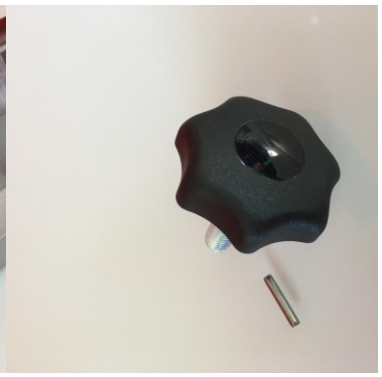
Bravobase HOVERBOARD®

Spare parts

31011 LMD pneumatic cylinder



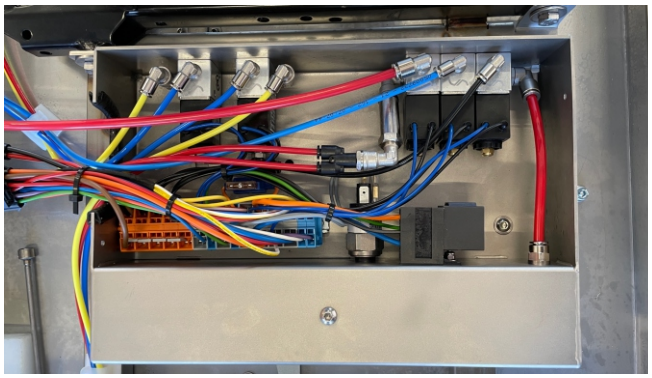
31030 linear bearing



31040 knob

62002 external compressor box (without compressor)

62003 external compressor box (with compressor)



52012 switchbox stainless steel, empty

62301 switchbox complete with valves, terminal block and relay

62260
Care set
for stainless steel

Bravobase HOVERBOARD®

In line with our continuous improvement program, we are always grateful for your suggestions, requests, complaints and proposals for improvement.

Therefore we look forward to hearing from you at

Phone +43 - 660 - 800 9000
Mail info@hover.at
www.hover.at

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