



INSTRUCTION MANUAL HAPO NECK

V.06.25

HAPO NECK

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HAPO NECK

II. Overview

The HAPO NECK is a passive physical assistance device using spring rods. This equipment is used when worn by an operator, and enables partial weight transfer from the head to relieve neck muscles during demanding tasks.

This document is the instruction manual for the HAPO NECK. It contains all the information you need to know from the moment you receive your HAPO NECK until the end of its life. We recommend that you read the entire manual before installing the HAPO NECK for the first time. Keep these instructions close at hand throughout the product's life.

II.1 History of modifications

Date	Revision	Description
04/12/2023	A	Creation
16/01/2025	V.01.25	Spare parts, warranty period and general updates
29/04/2025	V.04.25	Recycling version
12/06/2025	V.06.2025	Update of textile cleaning and care part

Table 1: Modification history

II.2 Abbreviations and definitions

Passive: No external energy storage or supply

PPE: Personal protective equipment

II.3 Identification

The HAPO NECK traceability label is located under the right-hand adjustment box (11). To access it, unclip the adjustment box, which is secured by snap fasteners.

HAPO NECK

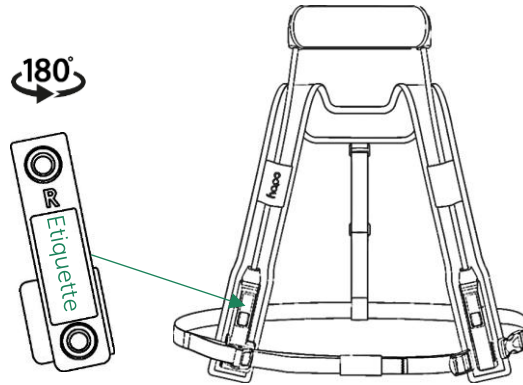


Figure 1

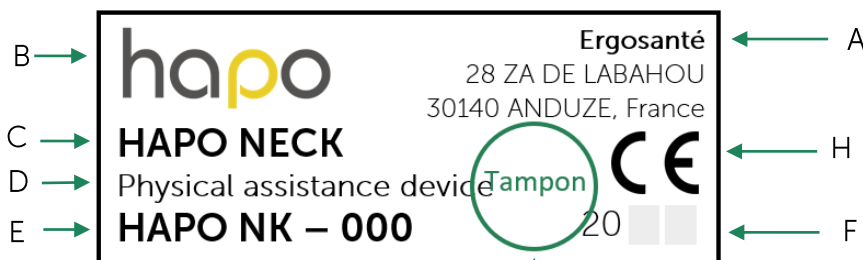


Figure 2

Numbe r	Signification
A	Manufacturer's name and address
B	Product logo
C	Device name
D	Product type
E	Serial number
F	Year of manufacture
G	Stamp
H	CE mark

Table 2: Label identification

HAPO NECK

II.4 Manufacturer

- ErgoSanté
- Head office: 28 ZA de Labahou 30140 Anduze – France
- +33 8 05 69 06 91 (cost of a local call)
- contact@ergosante.fr



ErgoSanté is certified ISO 9001:2015 - Quality management systems



or

- Hapo USA Corporation
- Head office: PO Box 31, Danville
KY 40423 – United States
- contact@hapo.us



II.5 Pictogram convention

	General danger
	General obligation
	General prohibition

Table 3: Pictogram meanings

III. General description

III.1 Product description

The HAPO NECK physical assistance device consists of the following components (see Figure 3 and Table 4):

- **Harness:** enables the exoskeleton to be easily fitted by positioning it on the shoulders. The harness (3) interfaces with the pre-tensioning straps (5), bust adjustment straps (7) and back strap (8). The harness (3) also supports the springs (4).
- **Straps:** used to adjust the HAPO NECK to the user. The pre-tensioning strap (5) is used to modify the level of support for the springs (4). The bust adjustment strap (7) and back strap (8) enable morphological adjustment.
- **Springs:** provide physical assistance to the user. The lower end of the springs (4) is connected to a height-adjustment mechanism (consisting of a tongue (9) and a housing (11) located at chest level. The upper end is attached to an interface (2) which supports the user's head.
- **Headrest interface:** covered by a textile pad (1), the interface (2) acts as a link between the springs (4) and the user's head.

HAPO NECK

III.2 Components

> HAPO NECK general diagram

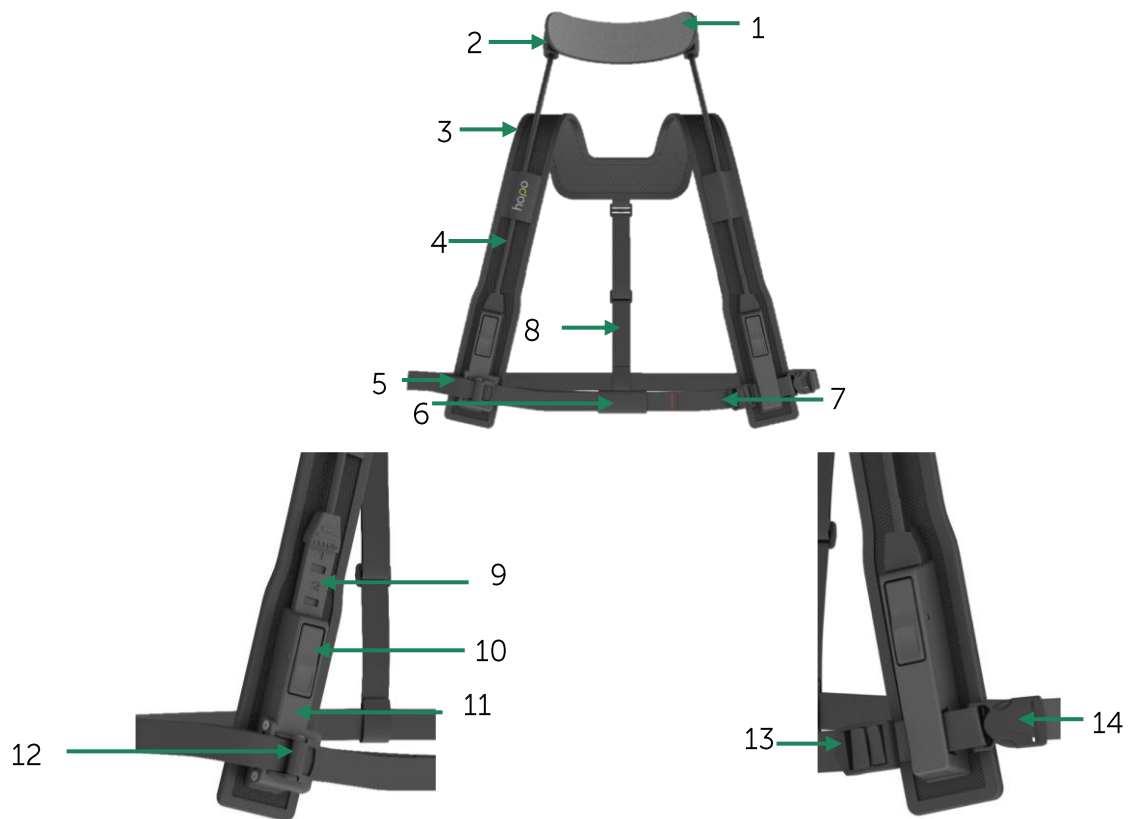


Figure 3

Position	Component name
1	Textile pad
2	Headrest interface
3	Harness
4	Spring (standard or soft)
5	Pretensioning strap (red stitching)
6	Elastic storage loop
7	Chest adjustment strap

Position	Component name
8	Back strap
9	Adjustment tongue
10	Spring height adjustment knob
11	Adjustment box
12	Pre-tensioning strap adjuster
13	Bust strap adjuster
14	Bust strap fastener

Table 4: Components of the HAPO NECK exoskeleton

HAPO NECK

III.3 Technical specifications

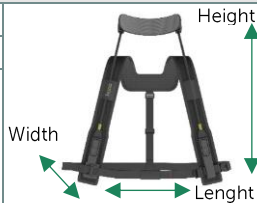
Assistance		
Maximum spring assistance	SOFT: up to 1,8kg	
	STANDARD: up to 2,5kg	
Type of adjustment	Strap	
Range of motion	Natural amplitude of the user's head	
Textile composition		
62% Polyester - 25% Polyamide - 7% Polyuréthane - 6% Elasthane		
Dimensions		
Lenght	32 cm	
Width	7,5 cm	
Height	Between 44 and 50 cm (depending on headrest height adjustment)	
Weight		
0,314kg		
Noise emissions		
0 dB		
Exoskeleton size		
One size		

Table 5: Technical data

IV. Compliance and safety

IV.1 Type of personnel

User	Personnel using the exoskeleton
Specialized personnel	Personnel with in-depth knowledge of certain product tasks

Table 6: Types of personnel



It's important to respect the type of personnel required for the various tasks, as failure to do so can result in danger.

IV.2 Qualification of personnel

This equipment is intended for use by a trained operator.
The operator may install the equipment and accessories himself.

IV.3 Intended use

The HAPO NECK is intended for use by one adult user only. For optimum use of the exoskeleton in complete safety, the user must be instructed by specialized personnel. Use of the HAPO NECK does not exempt the user from complying with the standards in force in the country of use, and in particular standard NF X35-109 relating to the manual handling of loads. Nor does the use of HAPO NECK exempt the user from wearing PPE.

> How it works

The HAPO NECK is a physical assistance device that supports the user's head to relieve neck muscles during demanding tasks. The HAPO NECK is equipped with two composite spring rods connected to a headrest interface and a textile harness via an adjustment mechanism. HAPO NECK's assistance is

HAPO NECK

particularly noticeable in static head extension postures, and in dynamic head flexion-extension tasks. The level of assistance can be adjusted to suit the task in hand, the user's morphology, etc.

> [Use and storage environment](#)

The exoskeleton should be used in an open, uncluttered environment, to avoid shocks that could damage the product, and to limit the risk of snagging.

Storage temperature range	-20°C to +40°C - Dry environment
Operating temperature range	-20°C to +40°C
Not allowed	Explosive environment (ATEX), chemical splashes or exposure to abrasive elements.

Table 7: Normal environmental conditions

> [Covered morphologies](#)

Name	Range covered (in cm)
Back strap adjustment stroke	15
Bust measurement	60 - 120

Table 8: Covers for different textile parts

> [Operating time](#)

We recommend a gradual period of use, until the user is fully accustomed to it. The duration of use must therefore be defined on a case-by-case basis.

To date, there is no daily duration recommended by INRS, nor by standard X35-800 (published in 2023), in the sense that this criterion must be left to the discretion of the user company, depending on the exoskeleton model, but above all on the task performed (intensity, frequency...).

> [Product lifespan](#)

Duration	HAPO NECK wearing time
5 years*	Maximum 8h/day
* This operating time is based on use of the product in accordance with its intended purpose and maintenance instructions (cleaning, replacement of worn parts, etc.).	

Table 9: HAPO NECK service life

The design, manufacture and instructions for the intended use of the product have been determined on the basis of its expected service life. This includes using the product in accordance with its intended use and maintenance instructions.

V. [Use cases](#)

The HAPO NECK is used in situations involving:

- Dynamic tasks requiring head flexion-extension
- Maintained postures with head extension

HAPO NECK

V.1 Precautions for use

- The HAPO NECK should only be used by trained operators.
- Spring height adjustment must be the same on both sides.
- The HAPO NECK must be cleaned of any foreign matter (liquid or solid) after use.
- The HAPO NECK must be cleaned between each change of user.

- It is recommended to use the HAPO NECK in a clear and uncluttered area to avoid any risk of catching on elements of the working environment.
- It is recommended to remove the HAPO NECK if the user experiences pain related to the product.
- It is recommended to carry the HAPO NECK in a suitable protective bag.
- Hair should be tied back when wearing the exoskeleton.
- Earrings should be removed when wearing the HAPO NECK.
- It is recommended not to sit down with the HAPO NECK.

- The HAPO NECK must not be used during pregnancy.
- It is forbidden to use the HAPO NECK for people with neck and/or shoulder pathologies without having first received a favorable medical opinion.
- Do not use the HAPO NECK unless you have ensured that all fasteners are securely fastened and that the straps are fully retracted into the dedicated storage compartments.
- Do not use HAPO NECK under clothing.
- It is forbidden to twist the spring rods by hand.
- Do not modify the HAPO NECK without written authorization from the manufacturer.
- It is forbidden to use the exoskeleton if deterioration of the springs has been observed.
- Do not place the HAPO NECK near flames, embers or other sources of heat which could damage it.

- The use of HAPO NECK does not exempt you from wearing personal protective equipment (PPE).
- HAPO NECK must be used in compliance with the standards in force in the country of use.



All uses not listed in the instructions as conforming uses are non-conforming.

HAPO NECK

V.2 Contraindications



Do not use HAPO NECK if you are pregnant.



If you have back or cervical pathologies, medical advice is required before using HAPO NECK.

V.3 Residual risks



Despite the preventive measures implemented throughout the product design and evaluation phase, residual risks remain in the event of:

- Proximity to a source of excessive heat (flames, sparks): the textile melts and degrades,
- Improper storage of straps in the dedicated elastic loop: straps can be caught in the cogs of a machine,
- Incorrect adjustment of the HAPO NECK.

V.4 Incidents

> Component breakage

- Remove the product and stop using it,
- Contact your agency or distributor.

> Environmental impact

- Remove the product,
- Case of plastic parts: Check that there are no visible cracks on these parts. If this is the case, do not use the HAPO NECK again until you contact your agency or distributor,
- If in doubt about any of the parts, contact the distributor.



Remove the HAPO NECK in any situation that could present a risk to the product.

VI. Operating procedure

VI.1 Unpacking

Check the visual appearance of the product. If it does not conform to its general description (see III of the manual), or if any damage is found, contact your agency or distributor.

HAPO NECK

VI.2 Setting up and adjusting the HAPO NECK

> Preparation

1: **Open** the chest strap fastener (12) below

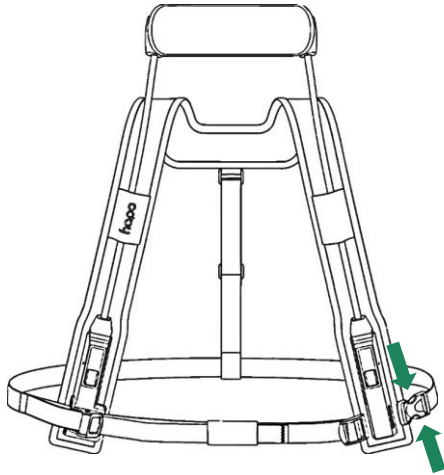


Figure 4

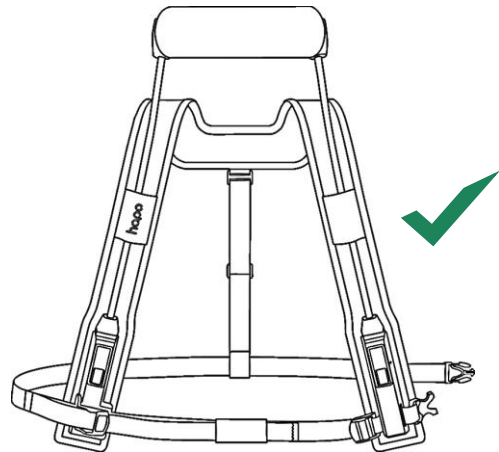


Figure 5

> Fitting the shoulder straps

2: **Put** your right arm through the shoulder strap, then **slip on** the HAPO NECK as if you were wearing a lifejacket.



Figure 6

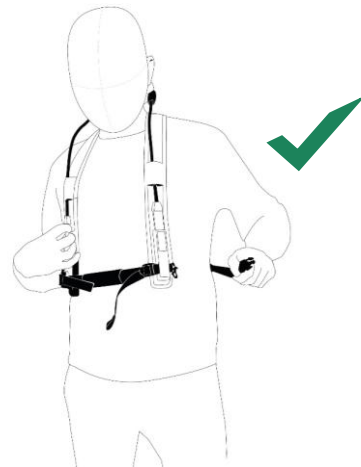


Figure 7

HAPO NECK

3: **Close** the chest strap fastener.



Figure 8



Figure 9

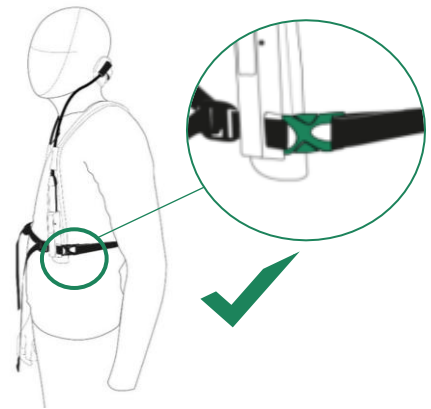


Figure 10

4: **Adjust** belly strap tightness. The user should not feel oppressed.

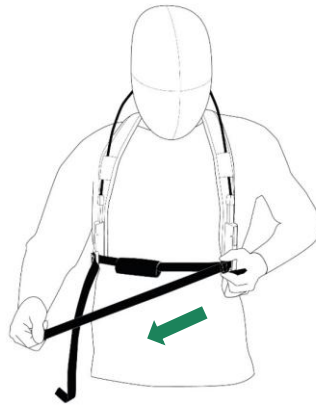


Figure 11

> Headrest height adjustment

5: **Press** button on adjustment box

6: **Adjust** the height by one spring so that the headrest interface is comfortably positioned at the back of the skull (occipital bone). Make sure the adjustment knob is locked in position.

7: **Repeat** the operation with the second exoskeleton spring.

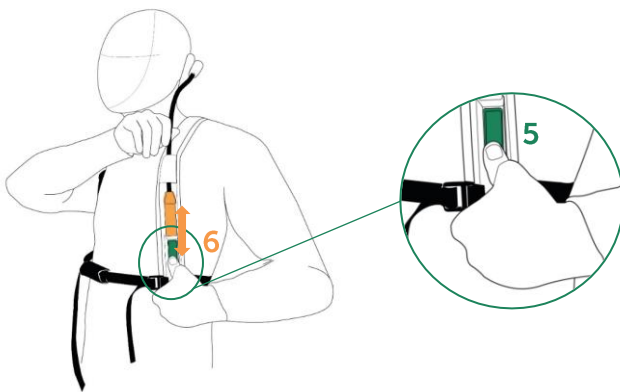


Figure 12

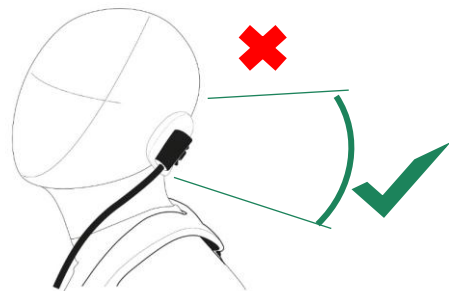


Figure 13

HAPO NECK

> [Assistance setting](#)

8. **Adjust** the HAPO NECK preload. Pull on the strap (red stitching) to increase assistance, or **lift** the strap adjuster to decrease assistance.

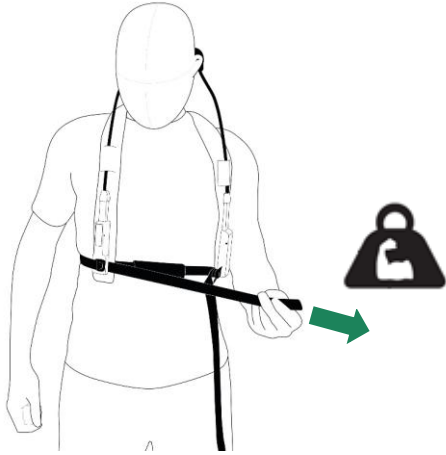


Figure 14

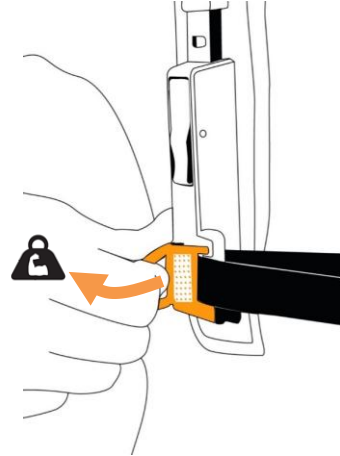


Figure 15

> [Stowing bust and pre-tensioning straps](#)

9: **Stow** le excess straps (bust and pre-tensioning straps) in the elastic storage loop.

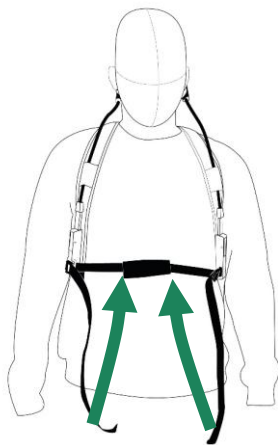


Figure 16



Figure 17

HAPO NECK

> [Back strap adjustment](#)

10. **Adjust** the back strap length by moving the adjustment loop.



The back strap can be adjusted either by yourself (provided you first remove the exoskeleton) or by a third party.

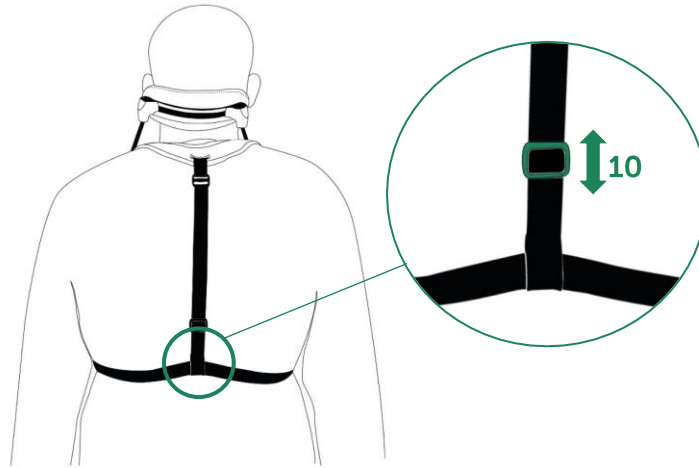


Figure 18

VI.3 [Removing and storing HAPO NECK](#)

- 1: **Open** the chest strap fastener.
- 2: **Remove** the exoskeleton
- 3: **Close** the chest strap fastener and store the HAPO NECK, preferably on a hanger or in a suitable bag.

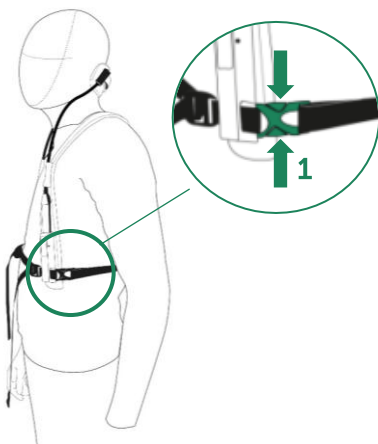


Figure 19

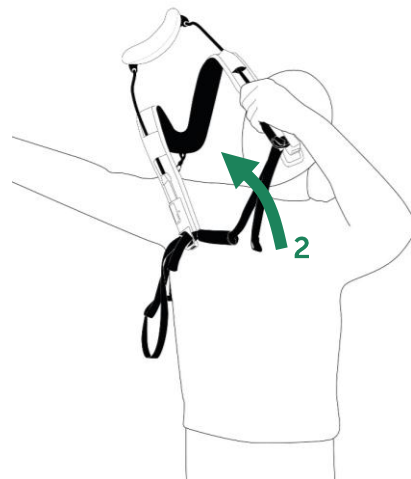


Figure 20

VI.4 [Compatibility](#)

Some tasks require head flexion-extension and arm work at height. In these cases, the HAPO NECK and HAPO UP can be combined.

If both exoskeletons are to be used simultaneously, the HAPO NECK must first be donned, and all adjustments and settings made. The HAPO UP should then be put on over it and adjusted to the user's morphology. To fit the HAPO UP, please refer to the dedicated instructions.

HAPO NECK

VI.5 Transport

It is recommended to carry the HAPO NECK on a hanger and/or in a suitable carrying case.

VI.6 Storage

Store indoors in dry conditions. Do not leave the HAPO NECK in damp conditions or with wide temperature variations.



Improper storage could damage the spring rods, leading to premature breakage.
Improper storage could weaken non-textile parts, leading to wear and tear.

VII. Maintenance

VII.1 Textile cleaning and care

The textile parts of the HAPO NECK are hand and machine washable (Table 10). The disassembly method described in section VII.3 must be followed for cleaning. Only textile parts can be machine-washed. The warranty excludes any deterioration of the HAPO NECK due to poor maintenance.

Machine washable at 140°F , low spin (600 rpm)
Hand washing allowed
Do not use bleaching agent
Do not iron
Cleaning agent with solvent prohibited
Natural drying on wire allowed

Table 10: Cleaning and care



Do not use detergent powder or any product containing fabric softener, conditioner, stain remover or bleach. They will affect textile performance.

VII.2 Reassembly after textile cleaning

1: **Attach** the adjustment knobs to the harness snaps, respecting their position (knob R on the shoulder strap with the "hapo" embroidery and knob L on the other shoulder strap) and direction (the adjustment knob goes to the top).

HAPO NECK

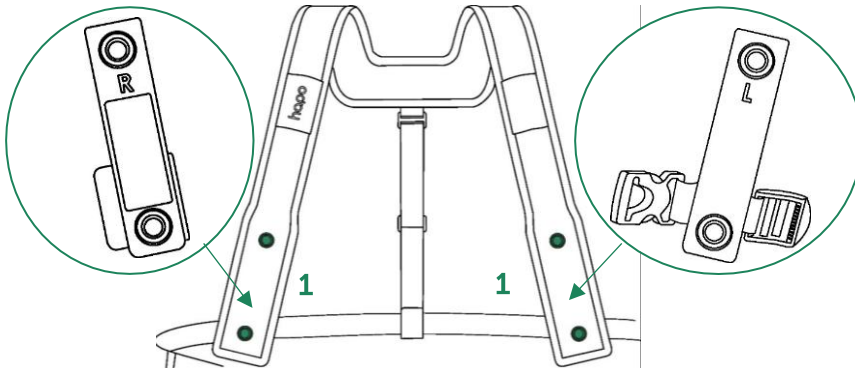


Figure 21



Figure 22

2: **Close** the chest strap fastener.

3: **Slide** the chest strap into the slot in the adjustment box.

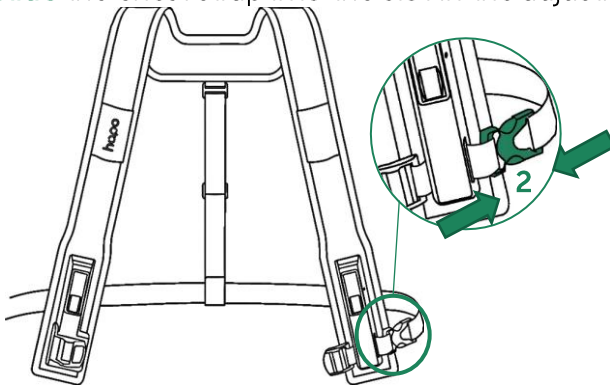


Figure 23

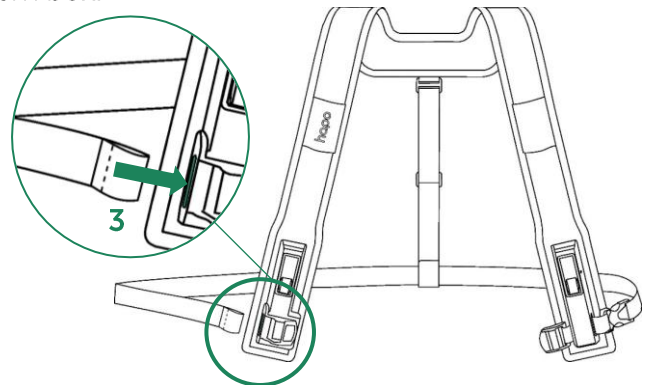


Figure 24



Be careful not to twist the bust strap.

4: **Slide** bust strap through **elastic storage loop**.

5: **Pass** the bust strap through the adjustment loop.

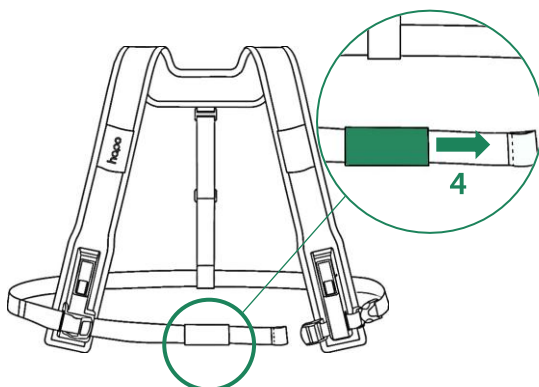


Figure 25

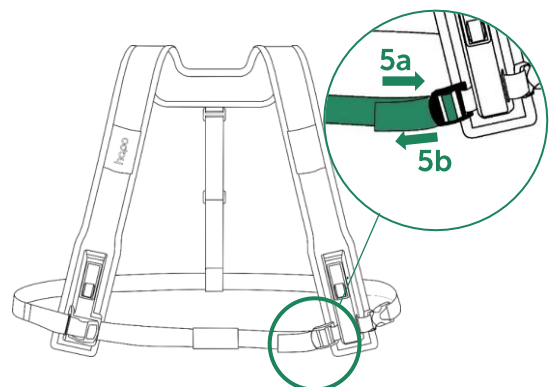


Figure 26

6: **Raise** the blocking loop and **pass** the prestressing strap through it, then **store** the excess strap in the **elastic storage loop**.

HAPO NECK

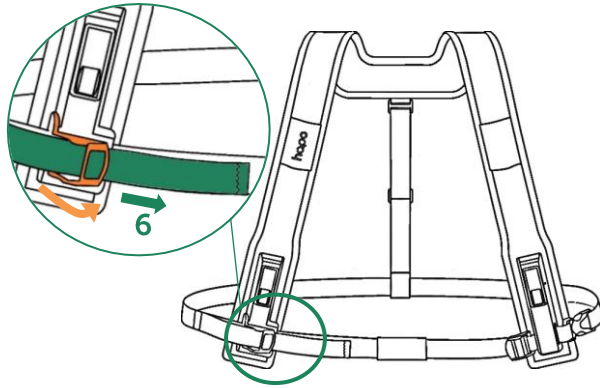


Figure 27

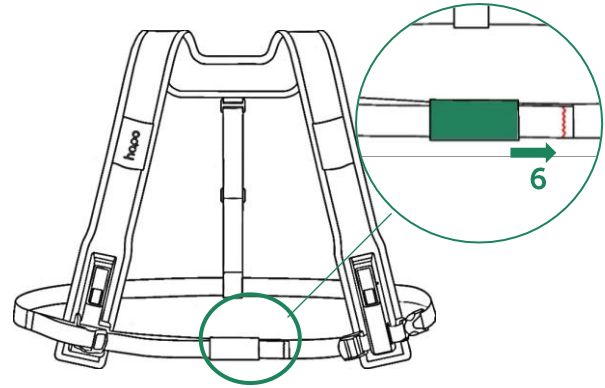


Figure 28

7: **Slide** the springs into the textile pockets.

8: **Press** the button on the adjustment boxes to **insert** the spring tabs.

9: **Attach** the textile to the back of the headrest interface using the hook-and-loop fastener.

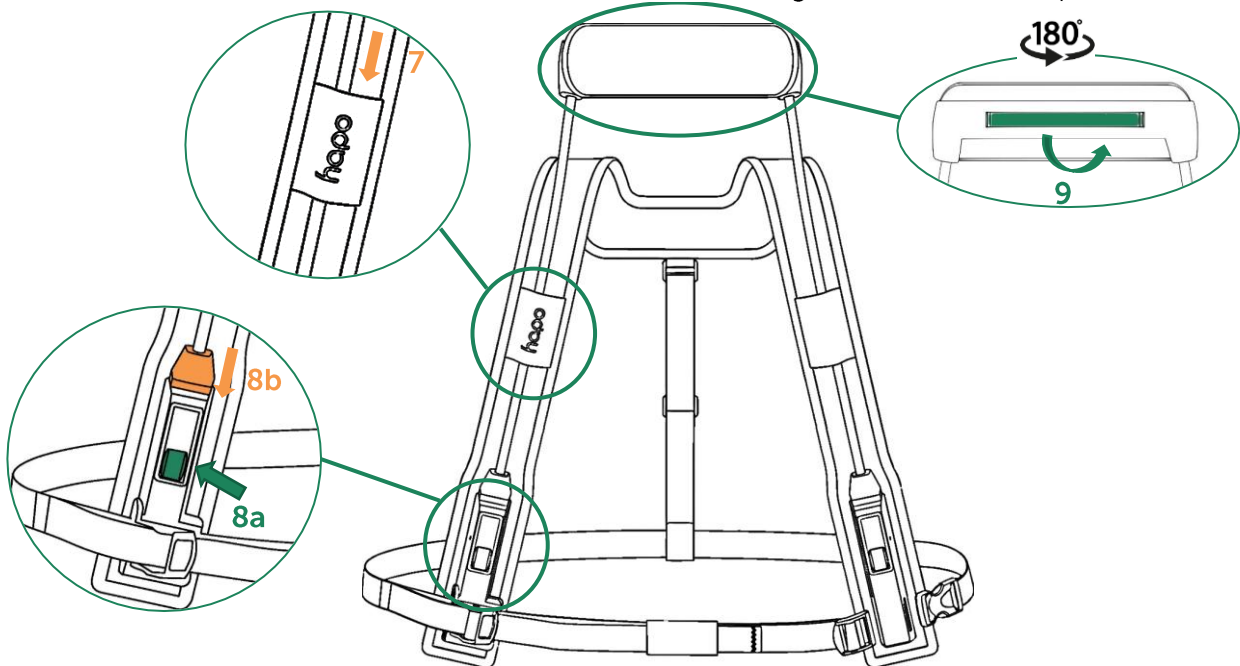


Figure 29

HAPO NECK

VII.3 Disassembly before cleaning textiles

For easy disassembly of the HAPO NECK, it is recommended to stand on a flat, unobstructed surface.

> Spring release

- 1: **Press** the button on the adjustment box and **pull** the tab to remove the spring from the adjustment mechanism. Repeat for the second spring.
- 2: **Undo** the hook-and-loop fasteners on the back of the headrest interface and remove the fabric.

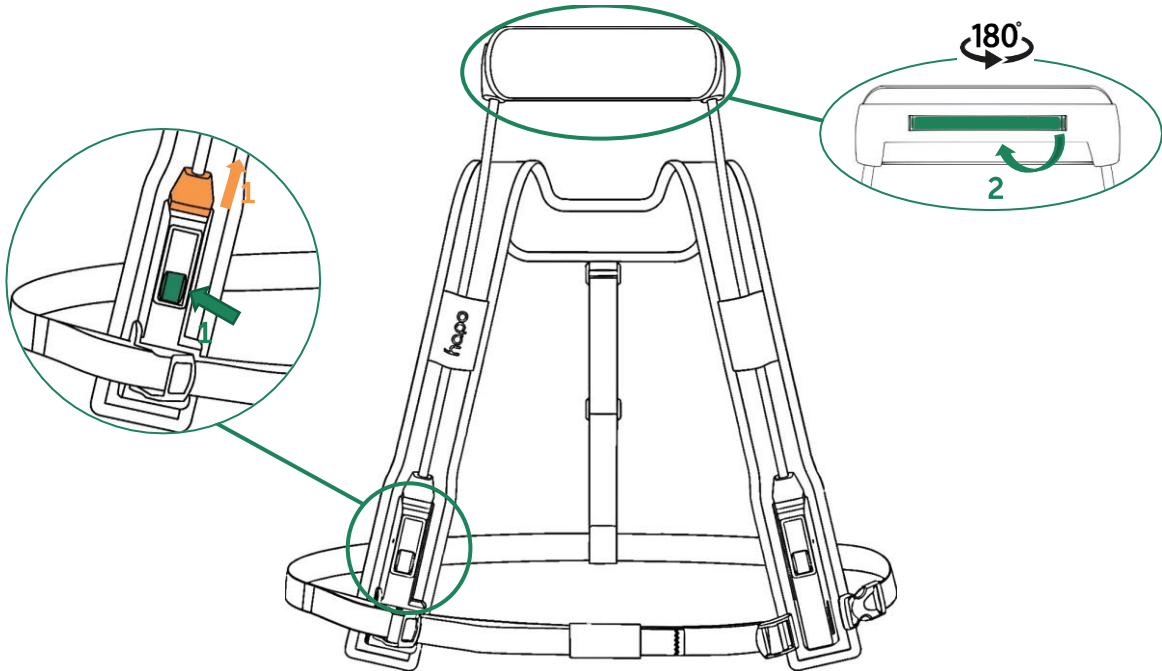


Figure 30

> Releasing the harness

- 3: **Remove** the chest strap from the adjustment loop and the adjustment boxes.
- 4: **Remove** the pre-tensioning strap **by lifting** the locking loop.



Figure 31

HAPO NECK

- 5: **Undo** the fastener on the side of the exoskeleton.
 6: **Release** the harness adjusters by undoing the snaps.

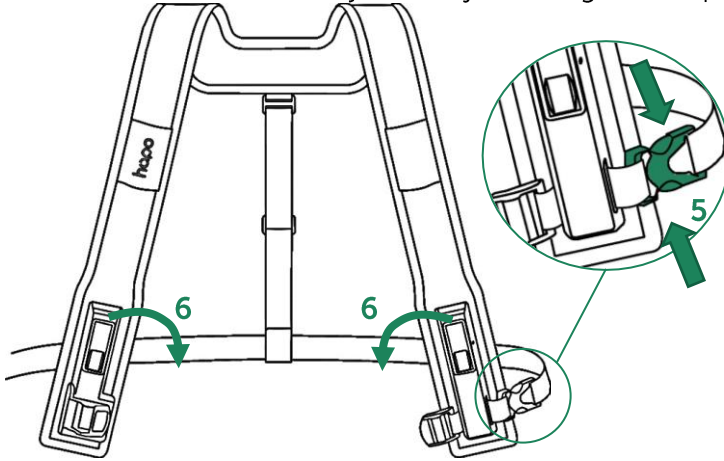


Figure 32



Figure 33

VII.4 Cleaning plastic parts

The following table gives an indication of the chemical resistance of HAPO NECK's plastic parts to the solvents found in the most common cleaning products (A: Very good resistance; B: Good resistance). These solvents can be used to clean the various plastic parts of the exoskeleton.



The use of solvents other than those listed in the table may damage plastic parts.

Parts		Adjustment tab	Adjustment housing	Headrest interface	Spring cover
Materials		ONYX + FIBRE	PA12	PAHT-CF	PE+PP
Solvents	Water + soap pH neutral	A	A	A	A
	Acetone	A	A	A	X
	Acetaldehyde	A	A	A	n/a
	Ammonium chloride	A	A	A	A
	Borax (boric acid)	A	n/a	A	X
	Glycerin	A	A	A	A
	Formaldehyde	B	C	A	n/a
	Isopropyl alcohol	B	A	A	B

Table 11: Possible solvents for cleaning plastic parts

A: Very good resistance; B: Good resistance; n/a: Not applicable; X: Not resistant



If any damage to the part is observed during cleaning (swelling, discoloration, cracks, etc.), stop cleaning immediately and replace the part.
 Areas moistened by the product must be dried quickly.

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VII.5 General maintenance



The frequency of checks and maintenance varies according to the actual degree of use. It is possible that the product may be subjected to heavy use, in which case maintenance intervals should be reduced in line with expected use.

		Day	Week	Month	Year
Harness	Textile	Visual check for excessive tearing or fraying that could impair product use.	Wash as recommended (see Table 10).		
	Clip / fastener	Check visual condition.		Check for correct engagement.	
	Pressure button	Check visual condition			Check the condition of snap fasteners
Adjustment mechanism	Adjustment box	Visual inspection (cracks)	Washing with solvent authorized (see Table 11) if liquid or solid bodies are present on the part. Check that pressure buttons are securely in place + impurities in the ring.		Checking the retaining pins
	Adjusting tongue	Visual inspection (cracks)	Washing with solvent authorized (see Table 11: Possible solvents for cleaning plastic parts) if liquid or solid bodies are present on the part.	Check sliding. Check that the tongue is correctly indexed in the adjustment housing.	
	Loop / fastener	Check visual condition.		Check for correct engagement.	
	Passing blocker	Visual inspection (cracks)	Washing with solvent authorized (see Table 11) if liquid or solid bodies are present on the part.		Tightening check : - M3 screw tightening torque: 0.6 N.m
Headrest	Textile	Visual check for excessive tearing or fraying that could impair product use.	Wash as recommended (see Table 10).		
	Plastic parts	Visual inspection (cracks)	Washing with solvent authorized (see Table 11) if liquid or solid bodies are present on the part.		
	Fasteners				Tightening check : - M3 screw tightening torque: 0.6 N.m
Spring	Spring	Check visual condition (red sheath not visible)		Check the bonding at both ends of the spring.	

Tableau 1 : plan de maintenance

HAPO NECK

VII.6 Spare parts and accessories

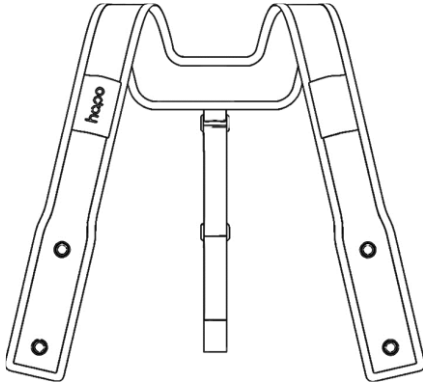
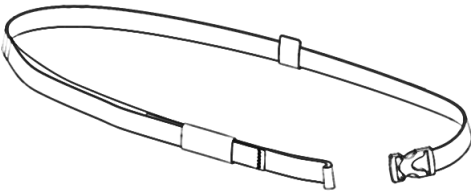
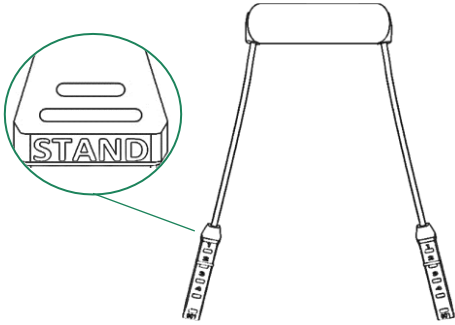
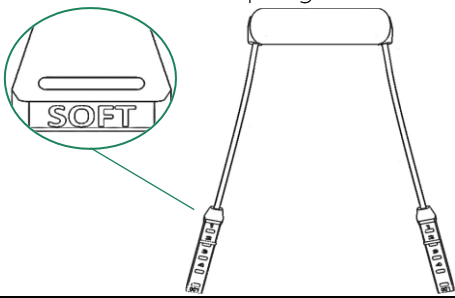
Types	Reference	Parts	Hapo Neck
Textiles	KITNK004	HAPO NECK textile suspender kit 	Neck
	KITNK005	HAPO NECK textile headrest kit 	Neck
	KITNK003	Hapo Neck Strap Kit 	Neck
Springs	KITNK001	HAPO NECK standard spring and headrest set 	Neck
	KITNK002	HAPO NECK soft spring and headrest set 	Neck
	HDTHN	HAPO NECK carrying case	Neck

Table 13: HAPO NECK spare parts and accessories

HAPO NECK

VIII. Warranty

The HAPO NECK is guaranteed for 2 years from the date of the warranty declaration, or failing that, from the date of shipment of the product to the manufacturer. Following purchase of the HAPO NECK, go to the following address and complete the form: <https://www.hapo.eu/en/content/63-warranty-statement>

IX. Recycling

To protect the planet and limit waste production, ErgoSanté offers to recover and recycle your exoskeletons at the end of their life. Each part is carefully sorted by material, then deposited in the appropriate skips or crushed in-house to encourage reuse.

X. Disposal

When disposing of your equipment, please comply with your country's sorting requirements.

XI. Legal information

The HAPO NECK is CE marked in accordance with directive 2006/42/CE for sales in Europe. Legal conditions are subject to the national legislation of the country of use.

XII. Liability

The manufacturer is liable only if the product is used in accordance with the descriptions and instructions in this document. The manufacturer accepts no liability for damage arising from failure to comply with these instructions.

The background of the image is a light gray with a subtle, abstract pattern of overlapping triangles and polygons, creating a sense of depth and movement. The shapes are in various shades of gray, from very light to medium gray.

hapo
effortless