

i-suit®

Ergonomic harness for water fed poles

# User manual



**i-team Professional b.v.**

Hoppenkuil 27b, 5626 DD Eindhoven, The Netherlands

Telephone: +31402662400

E-mail: [hello@i-teamglobal.com](mailto:hello@i-teamglobal.com)

Internet: [www.i-teamglobal.com](http://www.i-teamglobal.com)





Original user manual, written in the English Language

---

Future Cleaning Technologies B.V.

Hoppenkuil 27b, 5626 DD Eindhoven, The Netherlands

---

Telephone: +31402662400

E-mail: [hello@i-teamglobal.com](mailto:hello@i-teamglobal.com)

Internet: [www.i-teamglobal.com](http://www.i-teamglobal.com)

---

Model: i-suit

Date: 15/01/2021

Product code: xxxx

Version: v2.0



## Preface

Thank you for purchasing the i-suit® ergonomic harness for water feds poles. The i-suit is an ergonomic solution for window and facade cleaning that reduces the work load by more than 50%. With the i-suit you may work for longer periods and make your work healthier and more efficient!

The i-suit is easy to use when you follow the instructions. Please read the user manual carefully. Become familiar with the correct operation and maintenance procedures. Store the manual in a safe place. The manual is an essential part of the i-suit and must be handed over to the new owner upon resale or exchange. Your i-team partner needs the product code when you order parts.

When this manual refers to “the manufacturer” this means: Future Cleaning Technologies B.V., an affiliate company of i-team in Eindhoven, the Netherlands. When this manual mentions “the partner” your local i-team resell and support service partner is referred to.

## Purpose of the user manual

The purpose of the user manual is to provide the user with information during the life of the i-suit in such a way that the i-suit is used correctly, efficiently and safely, even in the event of reasonably foreseeable misuse, as described in section 1.2 of this manual.

The user manual contains instructions regarding:

- personal operator safety;
- intended and non-intended use of the i-suit;
- instructions for daily use;
- maintenance instructions;
- storage conditions;
- disposal of the i-suit.

These instructions must be considered to avoid risks that could lead to physical and/or material damage.

## Target audience

This user manual is intended for operators of the i-suit and their supervisors, as well as partners and importers.

## Operators of the i-suit





The i-suit may only be operated by a person who:

- has correctly read and understood the instructions in this manual;
- is trained by an experienced operator who has read and understood the instructions in this manual.



## Reading guide

The following symbols and terms are used throughout this manual to alert the reader to safety issues and important information:

Symbol	Term	Explanation
	<b>WARNING</b>	Indicates a hazardous situation which, if the safety instructions are not followed, can lead to injuries of the operator or bystanders, light and/or moderate damage to the product or the environment.
	<b>CAUTION</b>	Indicates a hazardous situation which, if the safety instructions are not followed, can lead to light and/or moderate damage to the product or the environment.
	<b>ATTENTION</b>	Indicates a liability situation, where the manufacturer or its partners and affiliates cannot be held accountable for damages caused by non-compliance.
	<b>SAFETY FOOTWEAR</b>	Indicates safety footwear is advised, for instance during cleaning work when using the i-suit and a telescopic pole.



# Content

Preface .....	3
Purpose of the user manual .....	3
Target audience .....	3
Operators of the i-suit .....	3
Reading guide .....	4
1 Introduction .....	7
1.1 Intended use of the product .....	7
1.2 Non-intended use of the product .....	7
1.3 Lifespan .....	7
1.4 Modifications .....	8
1.5 Specifications .....	8
1.6 Warranty .....	8
1.7 Identification .....	8
2 Description .....	9
3 Safety .....	10
3.1 General Safety Instructions .....	10
3.2 Risks during operation .....	10
4 Transport and storage .....	11
5 Assembly and installation .....	12
5.1 Unboxing .....	12
5.2 Assembly support tube .....	13
5.2.1 Install lower part of support tube .....	13
5.2.2 Install pulley to upper part of support tube .....	14
5.2.3 Join upper and lower part of support tube .....	14
6 Operation .....	15
6.1 Before you start .....	15
6.1.1 Operating the i-suit® .....	16
6.1.2 After operation .....	18
6.2 Using the i-glasses .....	19
Working with the i-glasses .....	19
7 Working with the optional power wash support tube .....	20
7.1 Assembly power wash support tube .....	20
7.1.1 Install power wash support tube .....	20
7.1.2 Install power wash carrier .....	21
7.2 Operating the i-suit with power wash support tube .....	23
7.2.1 After operation .....	24



8	Maintenance .....	25
9	Trouble shooting .....	26
10	Decommissioning and disposal .....	27
11	Attachments .....	28
11.1	CE Certificate .....	28



# 1 Introduction

The i-suit® is designed to reduce the load of back, shoulders, neck, arms and wrists when using telescopic poles for window washing, indoor vacuum cleaning or high pressure cleaning. This results in less injuries while doing your cleaning job day-in, day-out.

The i-suit feels like a mobile backpack, with a steel tube with pulley mechanism attached. It increases your productivity and allows you to work ergonomically and responsibly, and decreases physical strain.

i-team continuously improves all their products based on user experience and feedback. Any deviations between the texts and/or images from the manual and your i-suit can therefore arise from the difference in model or from possible changes due to continuous development and innovation.

## 1.1 Intended use of the product

The i-suit may only be used for the following telescopic poles with a weight of 2 to 8 kilograms:

- telescopic water fed poles with brush for window cleaning;
- telescopic water fed poles with brush for cleaning facades and sidings;
- telescopic poles for indoor vacuum cleaning;
- telescopic power wash high pressure poles (requires optional power wash support tube).

The i-suit comes with two pulleys. Which pulley to use depends on the length of the poles you are working with. Select the right pulley for the job, see Table 1 below.

White pulley	Blue pulley
Applies a force of 1-2 kg. To be used for indoor vacuum cleaning with telescopic poles and window washing poles from 5 meters till +/- 10 meters.	Applies a force of 3-4 kg. To be used for window washing poles from +/- 10 meters and up.

Table 1

## 1.2 Non-intended use of the product



### WARNING

Non-intended use can have consequences for the safety of operators and bystanders and will void the warranty on the product.

The i-suit is not intended to be used in combination with other devices than mentioned in section 1.1. The i-suit should only be worn with both arms through the shoulder straps. The waist and chest straps should be strapped tight to your body. Wearing and using the i-suit in any other way can be dangerous for you and your environment.

## 1.3 Lifespan



### ATTENTION

To ensure proper and safe operation always check the i-suit visually before you are going to use it.



## 1.4 Modifications

It is not permitted to make modifications to the design of the i-suit® without consultation and permission from the manufacturer. This affects the warranty, see section 1.6.

## 1.5 Specifications

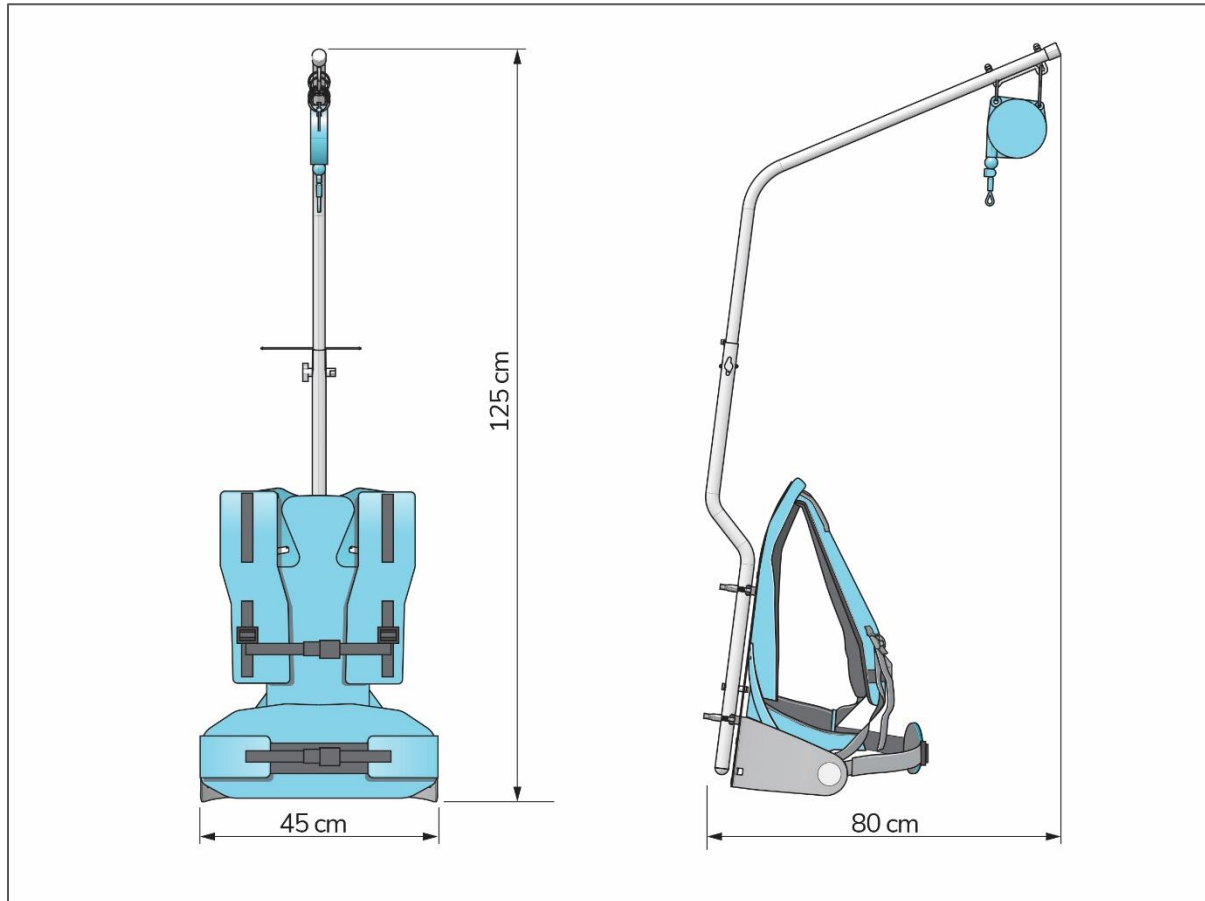


Figure 1

Product size:	125 x 80 x 45 cm
Weight:	3.9 kg

## 1.6 Warranty

The i-suit should be used as intended and described in this manual. It should only be used with the materials supplied. Using alternative supplies may cause damage to the i-suit and may cause a risk to the user. The use of alternative supplies voids manufacturer's warranty.

## 1.7 Identification

Each i-suit has a unique **identification number** that can be found on top of the main body. Your i-team partner needs this number when you order parts.

Product type: i-suit

Serial number: **xxxx**

Manufacturer: Future Cleaning Technology B.V.

Country of assembly: PRC





## 2 Description

The i-suit® consists of four main parts:

- An ergonomic harness that is worn like a backpack.
- A support tube attached to the harness.
- A pulley for carrying a telescopic pole.
- A pair of i-glasses®.

The pulley attached to the support tube allows you to work ergonomically and faster. With the pair of i-glasses® you have great overall vision on your work area without having to look up constantly.

**TIP:**

**With the optional power wash support tube you can clean stained walls and windows with a telescopic power wash high pressure pole. See section 7 for the use of this accessory.**

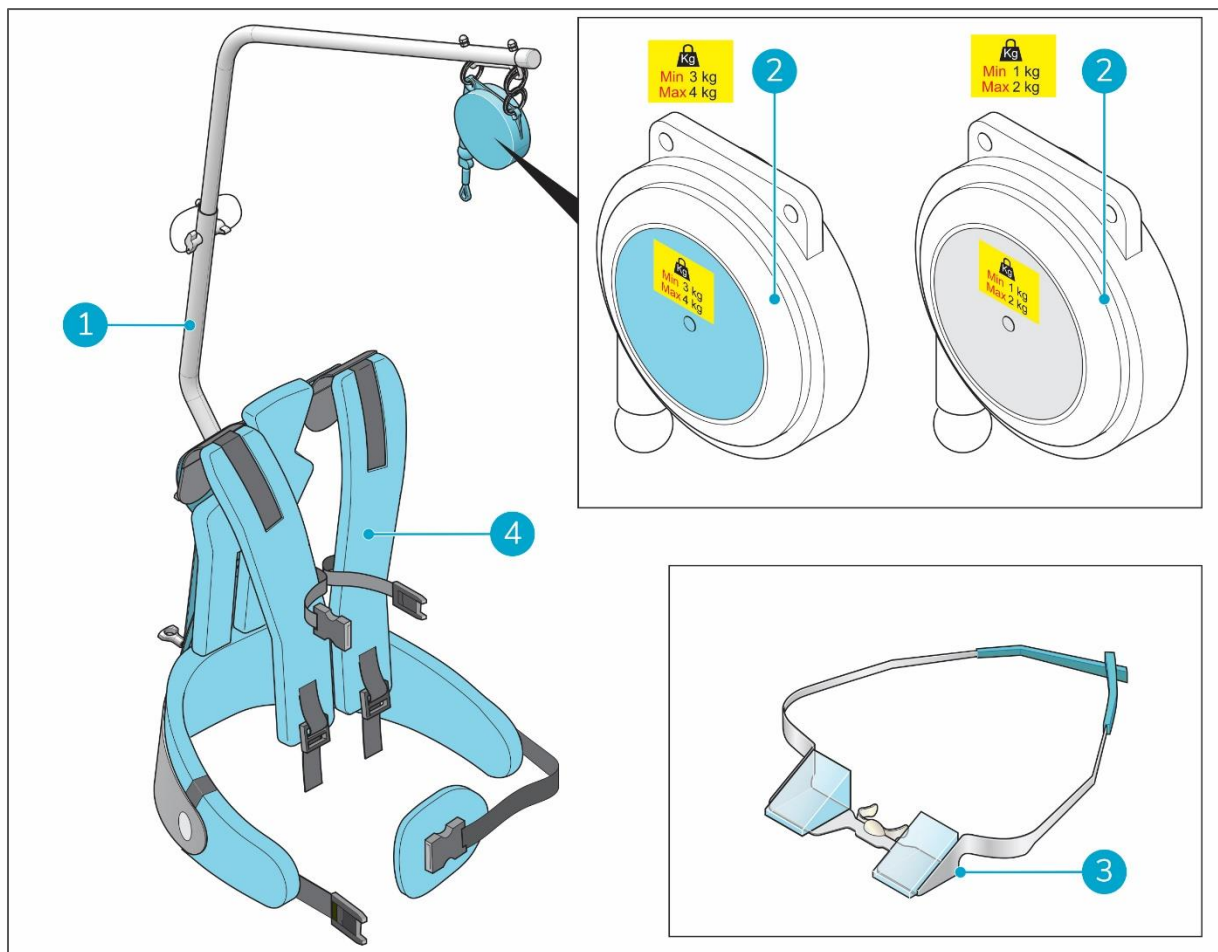


Figure 2

### Legend

- |                 |                       |
|-----------------|-----------------------|
| 1. Support tube | 3. i-glasses          |
| 2. 2x Pulley    | 4. Ergonomic harness. |



## 3 Safety

Safety comes first, therefore please take time to read and understand these safety instructions. Improper use can cause harm or void the manufacturer's warranty.

### 3.1 General Safety Instructions

The pulling force of the pulley is preset. The white pulley applies a force between 1 and 2 kilograms, The blue pulley applies a force between 3 and 4 kilograms.



#### WARNING

Do not open the pulley!  
If you suspect the pulley to malfunction, return it to your i-team service partner.



#### CAUTION

During normal operation the i-suit® causes no safety hazard. Please keep the following safety instructions in mind:

- work with two hands at the engaging and disengaging of the water fed pole;
- make sure that the caps are fixed secure on both ends of the tubes;
- keep enough distance from other people (minimum 2 meters). Be aware that you could injure someone with the end of the tube, while turning around. Be extra careful when putting on the harness;
- do not wear loose clothing while using the i-suit;
- always use the i-suit with both feet on solid ground, never on a ladder, platform, scaffold, roof, deck, etc.;
- before using i-suit, check if all parts are in good condition and properly attached.

### 3.2 Risks during operation



#### WARNING

Even when the general safety instructions are followed, some risks remain when using the i-suit.

- **DO NOT** use the i-suit in proximity to electricity and/or telephone cables. The tubular construction is conductive, so near electricity through conductive cables, you could be in danger of electrocution;
- **DO NOT** use the i-suit during stormy weather and forecast/presence of lightning;
- **DO NOT** use the i-suit at windspeed 6 or higher (25-31 mph);
- **DO NOT** use the i-suit in places where grounds and/or facades are unstable.



## 4 Transport and storage



### **CAUTION**

Always keep the i-suit® stored in a dry place to keep the pulley in perfect working order.



## 5 Assembly and installation

The i-suit® is easy to assemble and comes with a pair of i-suit prism glasses that offer overall vision without constantly looking up during your work.

### 5.1 Unboxing

The i-suit is packed in a single box.

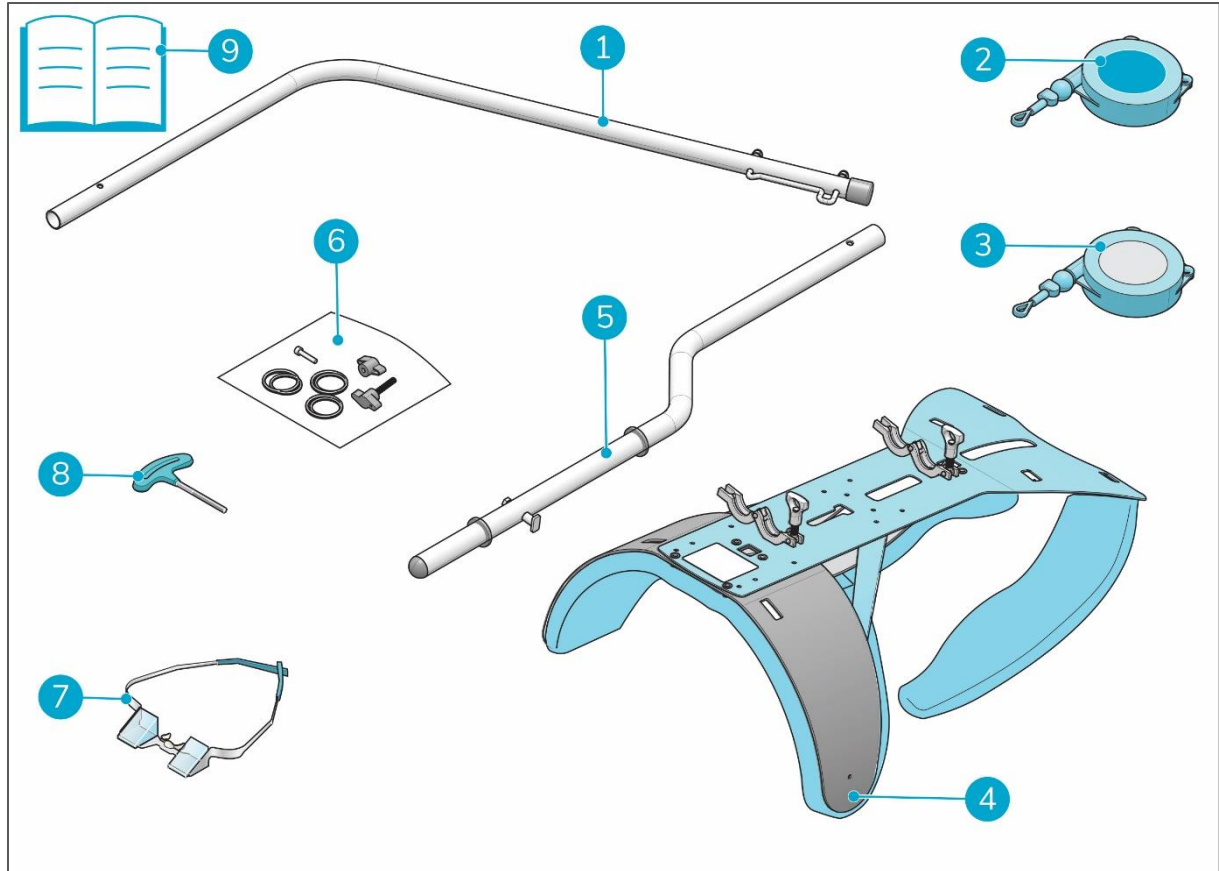


Figure 3

#### Legend

- |    |                               |    |                      |
|----|-------------------------------|----|----------------------|
| 1. | 1x upper part of support tube | 7. | 1x pair of i-glasses |
| 2. | 1x 3-4 kg pulley              | 8. | 1x Allen wrench      |
| 3. | 1x 1-2 kg pulley              | 9. | 1x this user manual  |
| 4. | 1x i-suit harness             |    |                      |
| 5. | 1x lower part of support tube |    |                      |
| 6. | 1x bag containing:            |    |                      |
|    | 1x safety hook                |    |                      |
|    | 1x hexagon bolt M6x30         |    |                      |
|    | 1x M6 washer                  |    |                      |
|    | 1x wing nut M6                |    |                      |
|    | 1x wing bolt M6x35            |    |                      |
|    | 1x socket head cap bolt M6x25 |    |                      |
|    | 1x rubber cord                |    |                      |
|    | 3x metal key ring             |    |                      |
|    | 1x support strap              |    |                      |



## 5.2 Assembly support tube

### 5.2.1 Install lower part of support tube

1. Place the harness with its back upwards and the mounting clamps opened in front of you.
2. Place the lower part of the support tube (Figure 4, pos. 1) in the opened mounting clamps (Figure 4, pos. 5), with the safety hook (Figure 4, pos. 3) in the opening in the harness.
3. Push the tube to the desired working height: Large, Medium or Small (Figure 4, pos. 6).
4. Make sure to put the rubber rings (Figure 4, pos. 2) into the mounting clamps.

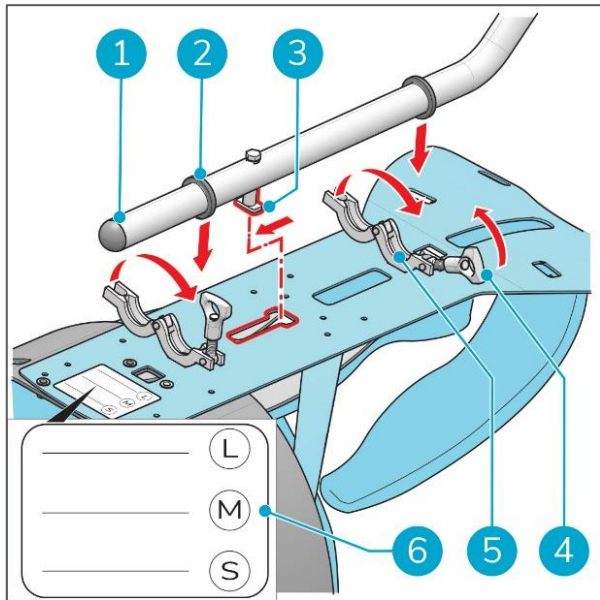


Figure 4

5. Close the mounting clamps (Figure 4, pos. 4) and tighten the fasteners (Figure 5, pos. 1).

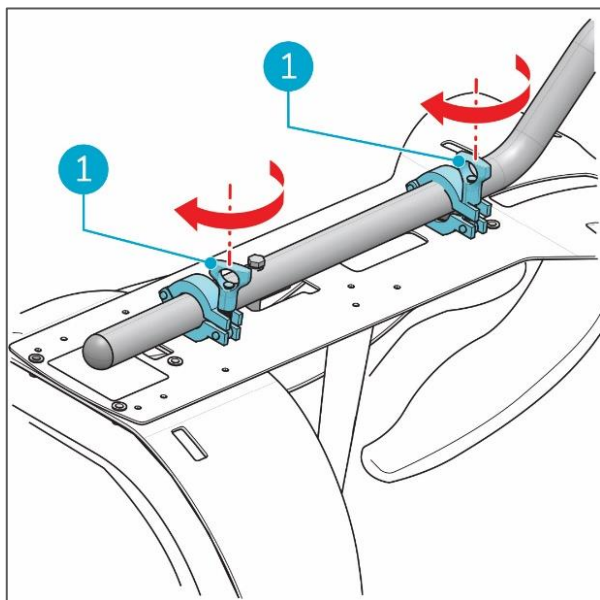


Figure 5



### 5.2.2 Install pulley to upper part of support tube

1. Select the pulley best suited for your cleaning job.
2. The white pulley with 1-2 kg pulling force; for indoor vacuum cleaning with telescopic poles and window washing poles from 5 meters till +/- 10 meters.
3. The blue pulley with 3-4 kg pulling force; for window washing poles from +/- 10 meters and up.
4. Attach two connection rings (Figure 6, pos. 1, 3) to the bracket (Figure 6, pos. 2).
5. Attach the third connection ring (Figure 6, pos. 4) to the connection ring on the right (Figure 6, pos. 3).
6. Attach the pulley (Figure 6, pos. 5) to the rings (Figure 6, pos. 1, 4).

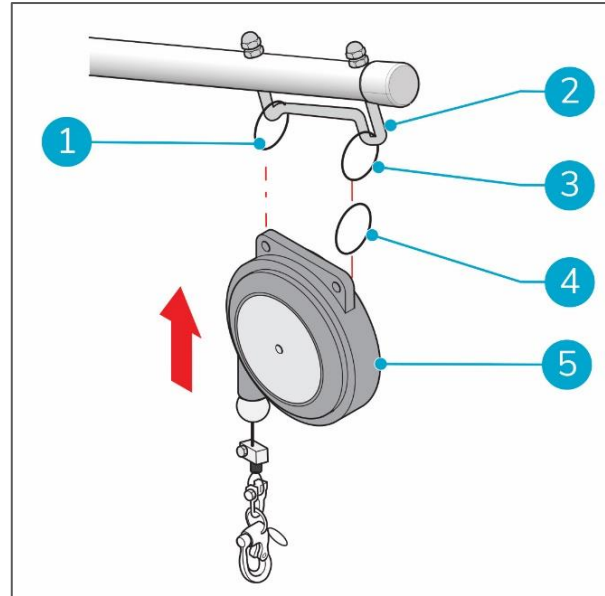


Figure 6

**NOTE:** The pulley can only function correctly when installed with the line outlet directed towards the support tube.

### 5.2.3 Join upper and lower part of support tube

1. Insert the upper part of the support tube in the lower part of the support tube (Figure 7, pos. 1, 2).
2. Install the rubber cord (Figure 7, pos. 5) with the socket head cap bolt (Figure 7, pos. 6) on the support tube.
3. The socket head cap bolt locks the tube parts into position.
4. Install the wing nut and wing bolt (Figure 7, pos. 3, 4).
5. Insert the rubber cord in the opening in wing bolt and wing nut.

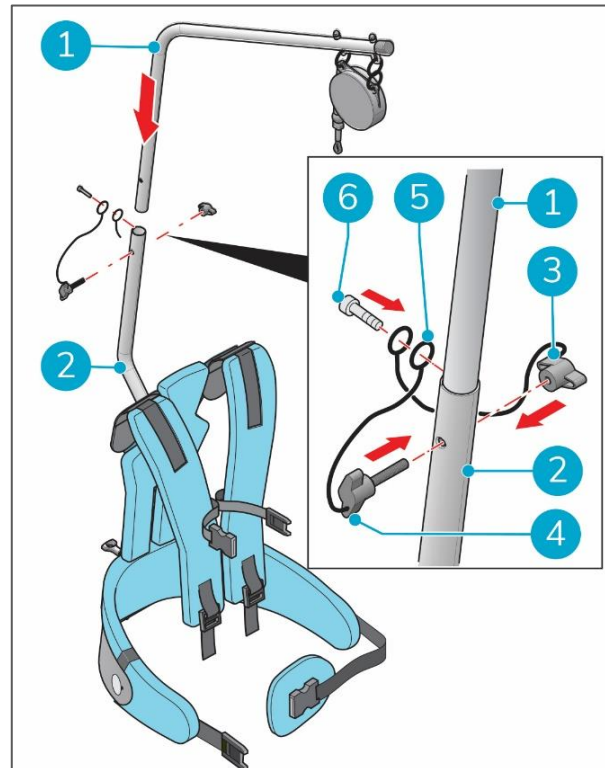


Figure 7

**NOTE:** The rubber cord prevents the loss of wing bolt and wing nut in case you disassemble the i-suit.



## 6 Operation

### 6.1 Before you start

1. Make sure that all parts of the i-suit are in good condition and properly attached.
2. Make sure that you have installed the correct pulley for the job. See section 5.2.2 on page 14.
3. If required you can adjust the pulling force of the pulley.
  - Insert the Allen key in the opening of the pulley (Figure 8, pos. 1) and press it firmly.
  - Turn clockwise to increase the pulling force.
  - Turn counterclockwise to decrease the pulling force.
4. Place your extended telescopic pole carefully in upright position against the surface that has to be cleaned.

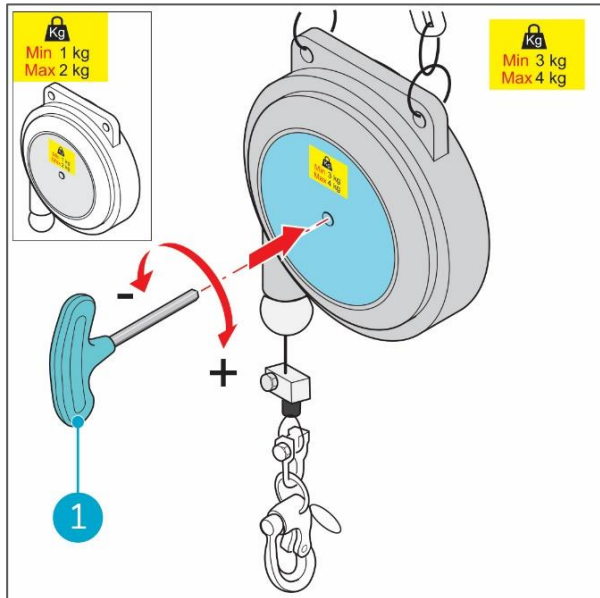


Figure 8

5. If required you can adjust the preset cable length of the pulley.
  - Loosen the screw (Figure 9, pos. 1) on the cable blocker (Figure 9, pos. 2).
  - Hold the cable blocker and pull the cable to the required length.
  - Fasten the screw.

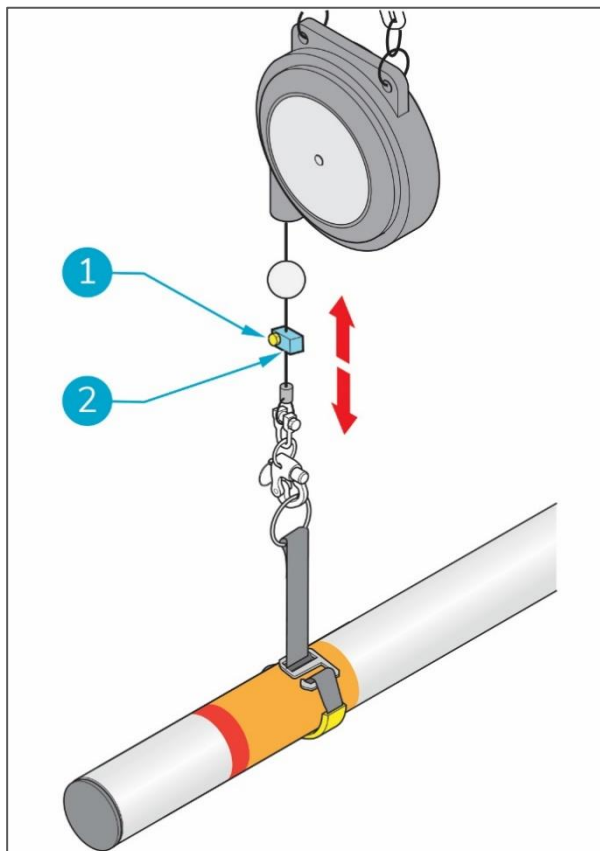


Figure 9





## CAUTION

Be careful while operating telescopic poles. It is advised to wear safety footwear during cleaning work to avoid slips and falls, which can lead to serious injuries.

### 6.1.1 Operating the i-suit®

1. Attach the support strap to the lower end of your telescopic pole ( Figure 10, pos. 1).

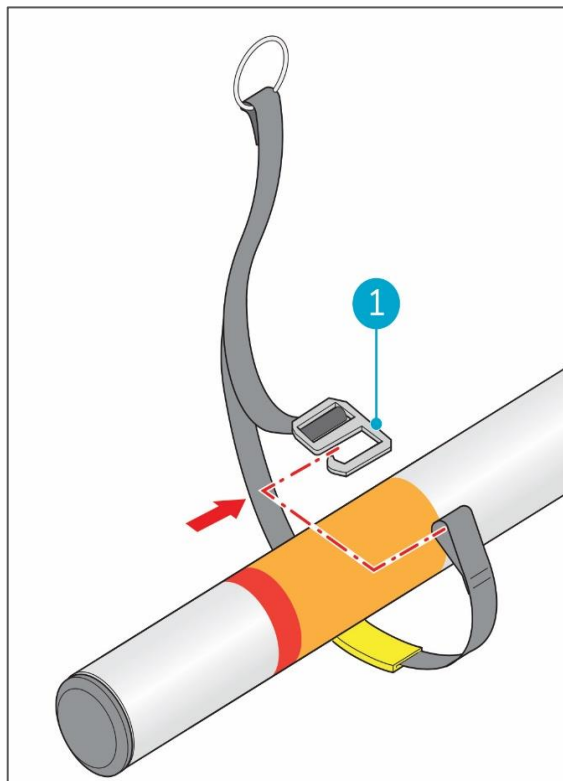


Figure 10

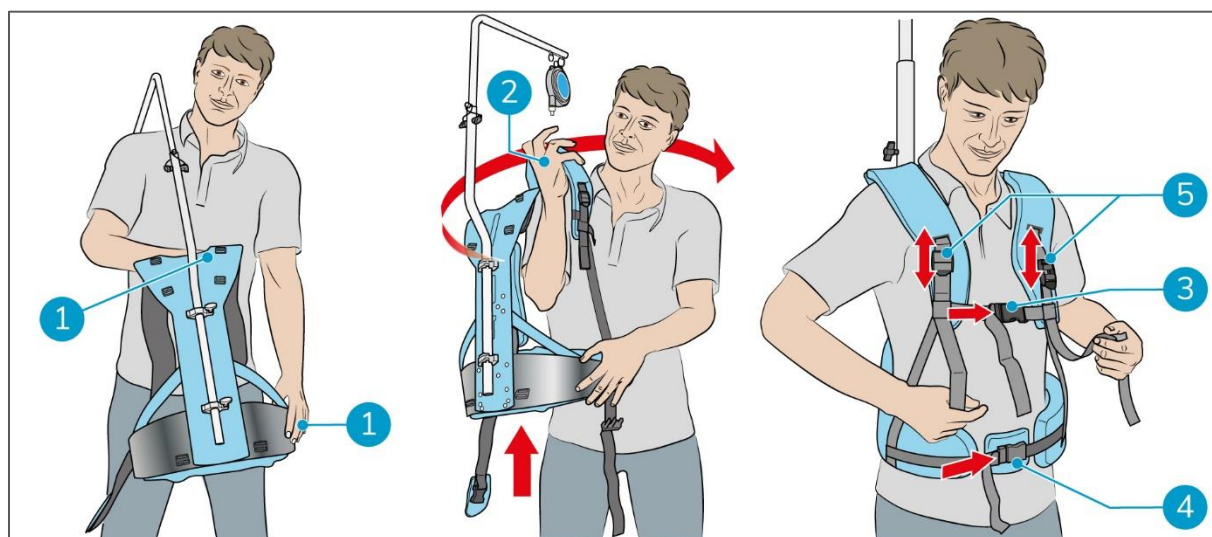


Figure 11

2. Take up the i-suit with both hands (Figure 11 pos. 1), with the top of the support tube over your shoulder.
3. Put on the i-suit like a backpack (Figure 11 pos. 2).
4. Close the chest straps (Figure 11 pos. 3) and the waist straps (Figure 11 pos. 4).
5. Adjust the length of the straps for comfort (Figure 11 pos. 5).



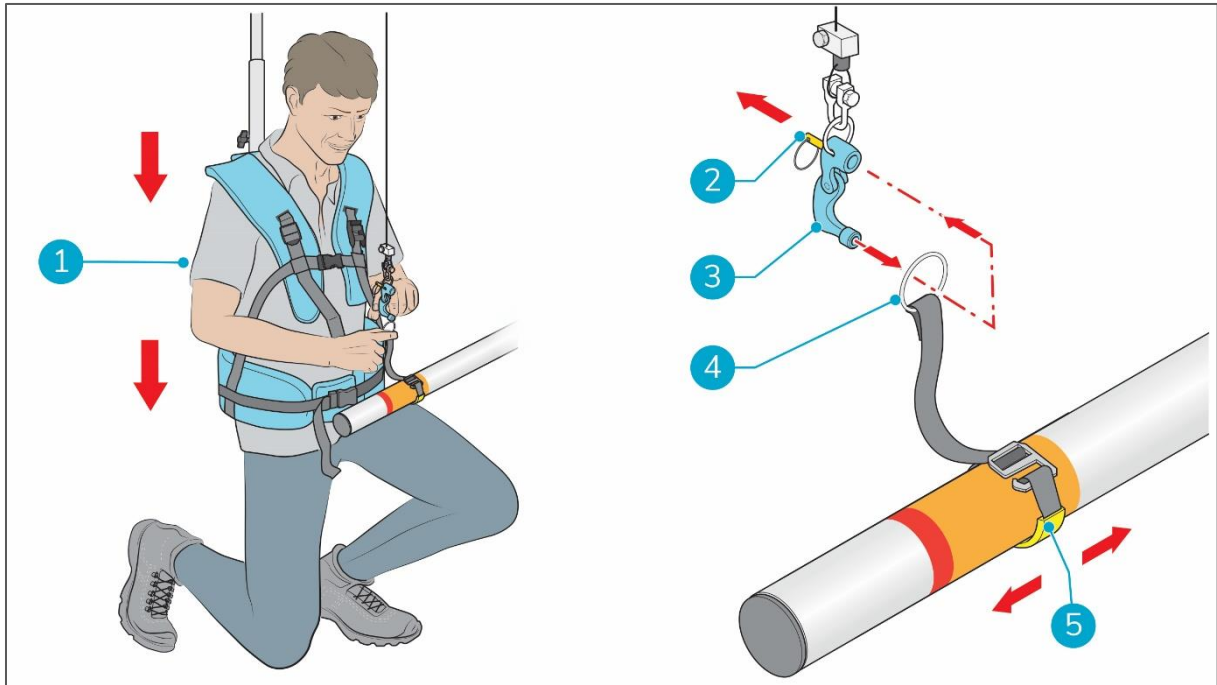


Figure 12

6. Kneel down in front of your telescopic pole while keeping your back straight (Figure 12, pos. 1).
7. Pull down the line and attach it to the support strap:
  - pull the pin (Figure 12, pos. 2) to open the hook (Figure 12, pos. 3),
  - put the hook through the support strap ring (Figure 12, pos. 4),
  - close the hook.
8. Slide the strap to the desired position (Figure 12, pos. 5).

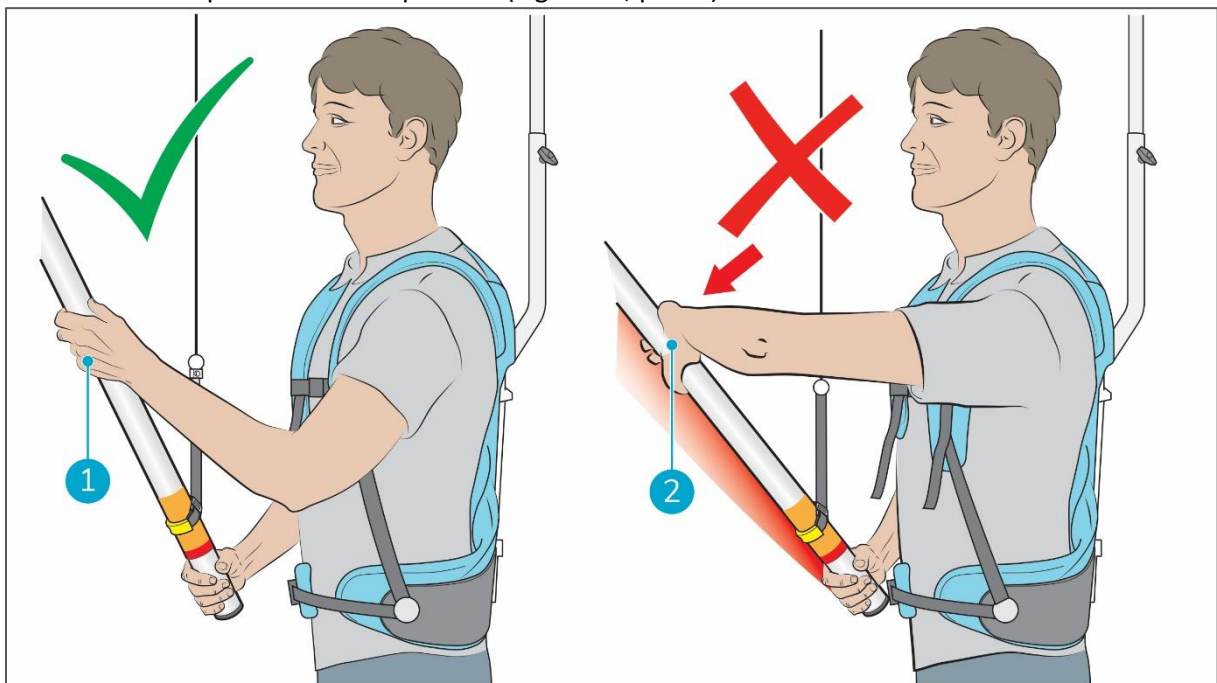


Figure 13

9. Take the telescopic pole with one hand above and one hand below the support strap (Figure 13, pos. 1).
10. Gently stand up straight and start your cleaning job.



**TIP:**

When you follow the steps as described above, a minimum of power is required to steer and move your telescopic pole. When you let go of the telescopic pole you will notice it is supported in perfect balance.



**WARNING**

Do not work with your hand on top of the telescopic pole (Figure 13, pos. 2). This puts too much strain on your arm and shoulder and can cause injuries.



**CAUTION**

Always use the i-suit with both feet on solid ground. Never use the i-suit on a ladder, platform, scaffold, roof, deck, etc.

**6.1.2 After operation**

1. Kneel down and let your telescopic pole rest against the surface you just cleaned.
2. Gently place your telescopic pole on the ground.
3. Hold the line with one hand and remove the line from the support strap.
4. Gently let the line slide back into the pulley.



**WARNING**

Hold the cable with one hand and let it gently rewind into the pulley. When the cable snaps back uncontrolled it can hit your face and injure your eyes.

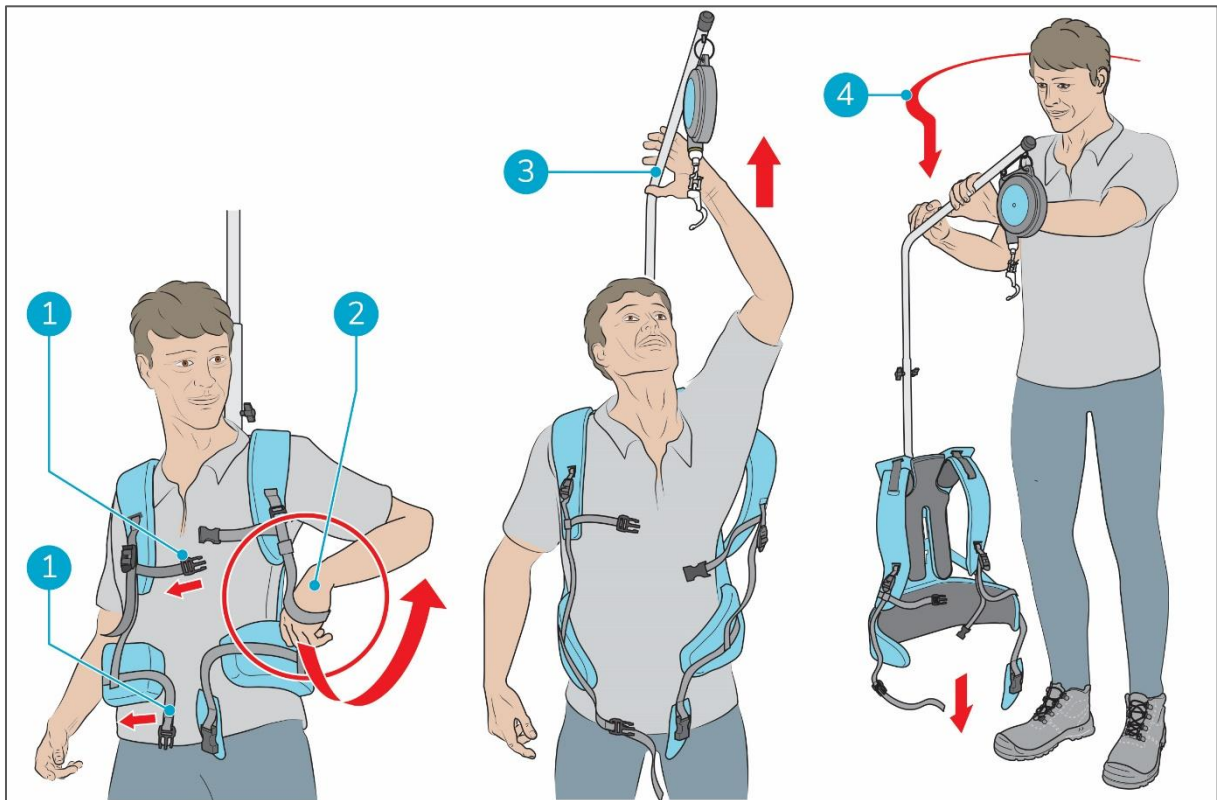


Figure 14

5. Stand up straight to take off the i-suit®.
6. Detach the chest strap and waste strap (Figure 14, pos. 1).



7. Take one arm through the shoulder strap (Figure 14, pos. 2) and take hold of the support tube (Figure 14, pos. 3).
8. Take off the i-suit (Figure 14, pos. 4) and close the straps.

## 6.2 Using the i-glasses

Looking up at your work is a common issue in cleaning jobs with telescopic poles. The supplied i-glasses help you to keep good vision on your work area without constantly looking up. The i-glasses are fitted with two mirrors and two prisms. This provides an excellent view while looking straight ahead.

You have to get accustomed to the i-glasses. We advise you therefore to walk up and down your workspot a few times. Move body and eyes, but not your head. In this way your brain adapts easier to this new viewing experience.

### Working with the i-glasses



#### ATTENTION

It is recommended to work a maximum of 4 to six hours with the i-suit in combination with the i-glasses. This to prevent fatigue and overload.

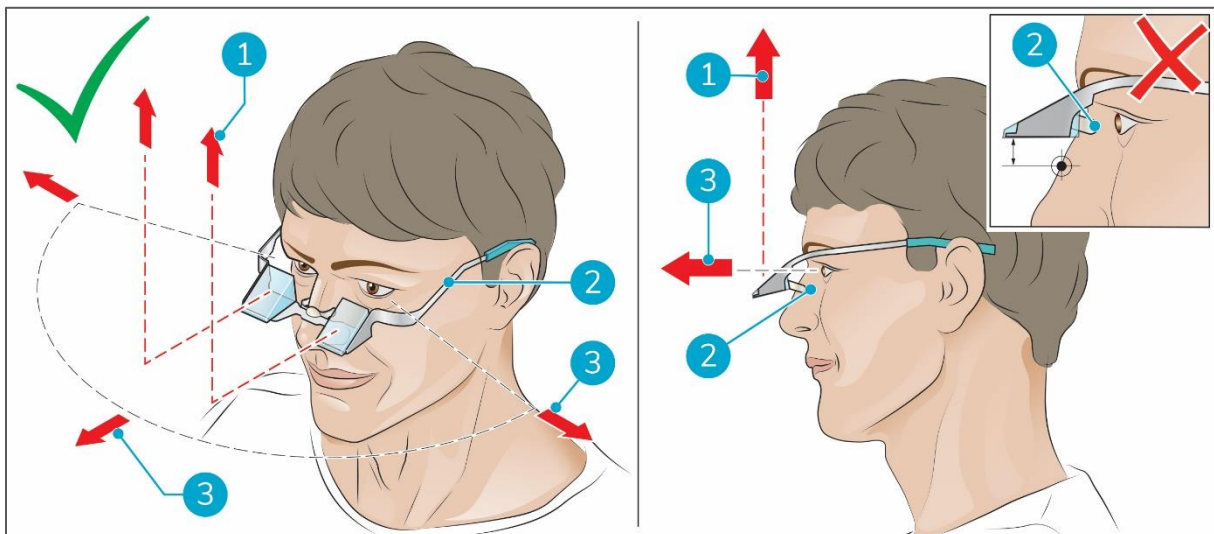


Figure 15

1. Stand still and look straight ahead to obtain the best upward vision (Figure 15, pos. 3, 1).
2. Do not position the i-glasses too high on the bridge of your nose. With the correct position (Figure 15, pos. 2) you are able to look fully into or out of the prisms. This enables you to switch trouble free between upward and normal panoramic vision.
3. Move your head as little as possible.
4. Adjust your image by taking a step backwards or forwards. In optimal position you should experience a clear, sharp image and a wide field of vision.

#### CAUTION

##### Do not move your head.

Small movements, especially from side to side, may cause dizziness or 'motion sickness'. Your brain has to adapt to a new way of viewing.

##### Look fully into or fully outside the prisms.

A confusing double image may result from looking part in and out of prisms at the same time.





## 7 Working with the optional power wash support tube

### 7.1 Assembly power wash support tube

#### 7.1.1 Install power wash support tube

1. Place the harness with its back upwards and the mounting clamps opened in front of you.
2. Place the power wash support tube (Figure 16, pos.1) in the opened mounting clamps (Figure 16, pos. 5), with the safety hook (Figure 16, pos. 3) in the opening in the harness.
3. Push the tube to the desired working height Large, Medium or Small (Figure 16, pos. 6).
4. Make sure to put the rubber rings (Figure 16, pos. 2) into the mounting clamps.

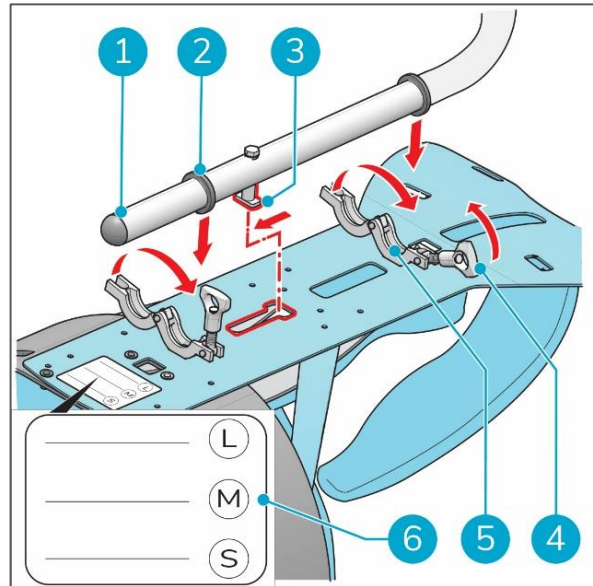


Figure 16

5. Close the mounting clamps and tighten the fasteners (Figure 17, pos. 1).

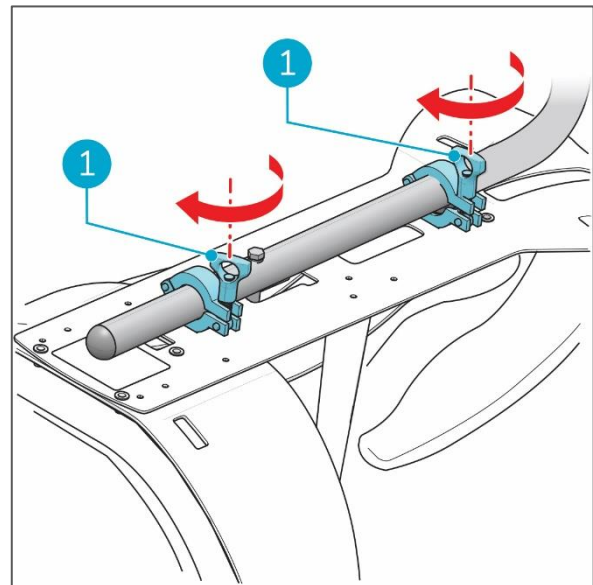


Figure 17



### 7.1.2 Install power wash carrier

1. Remove the power wash carrier from the support strap (Figure 18, pos. 1).
2. Remove the wing nuts (4x) (Figure 18, pos. 5) and bolts (4x) (Figure 18, pos. 4) from the power wash carrier.
3. Separate the two carrier halves (Figure 18, pos. 3, 4).

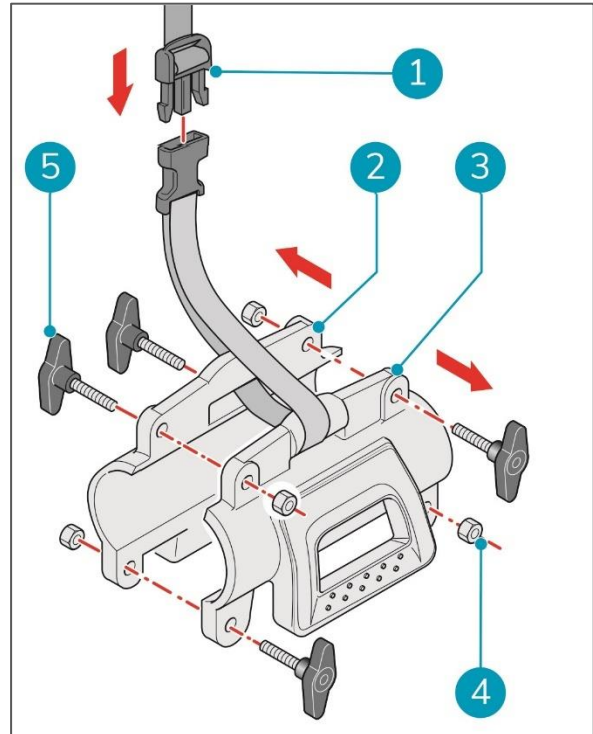


Figure 18

4. Put one of the rubber sleeves (Figure 19, pos. 1) onto the pole you are going to use.

Depending on the pole size use:

- blue sleeve =  $\varnothing$  27 mm.
- gray sleeve =  $\varnothing$  32 mm.
- black sleeve =  $\varnothing$  38 mm.

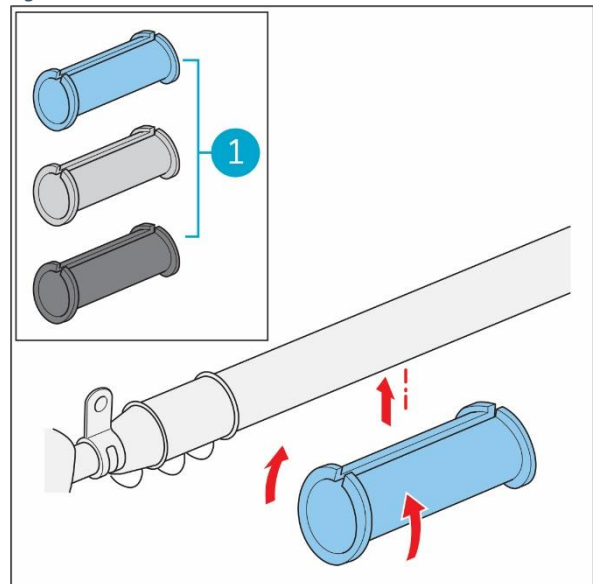


Figure 19





5. Close the carrier (Figure 20, pos. 2) around the rubber sleeve on the telescopic pole.
6. Install the wing nuts and bolts.
7. Hold both sides of the carrier (Figure 20, pos. 1) and move the carrier to the desired position on the power wash telescopic pole.

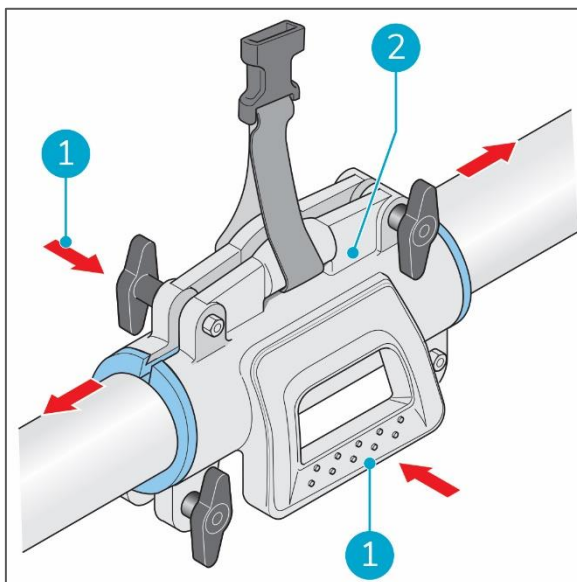


Figure 20

8. Release the carrier to fixate its position.
9. Tighten the wing nuts and screws (4x) (Figure 21 pos. 1) in the carrier.

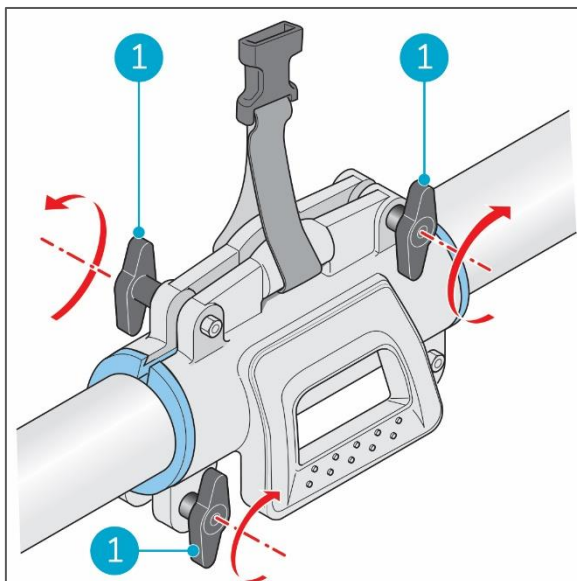


Figure 21



## 7.2 Operating the i-suit with power wash support tube

1. Put on the i-suit like a backpack.
2. Close the chest strap (Figure 22, pos. 1) and the waist strap (Figure 22, pos. 2).
3. Adjust the length of the straps for comfort (Figure 22, pos. 3).

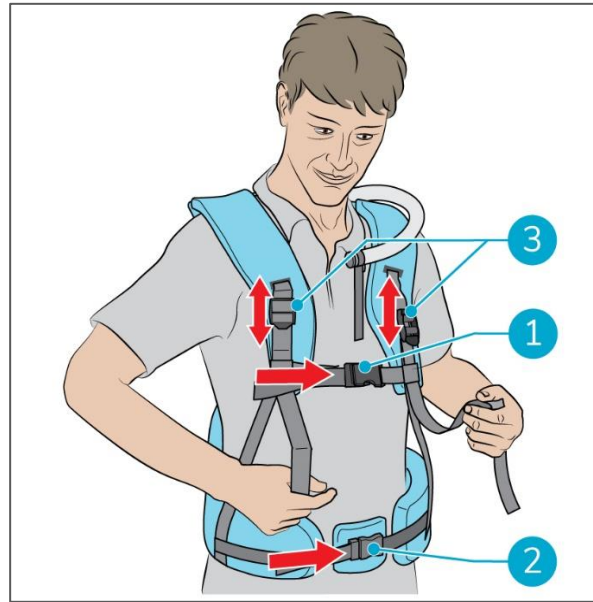


Figure 22

4. Make sure that there is sufficient space ( $\pm 2$  cm) between the tube and your shoulder (Figure 23, pos. 1).

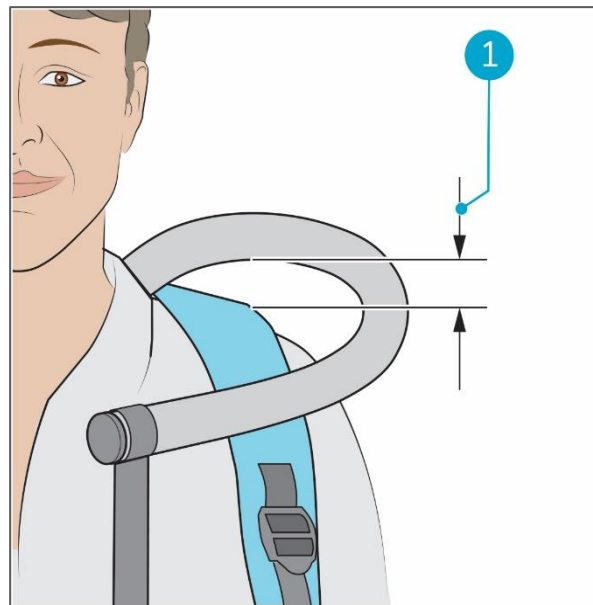


Figure 23

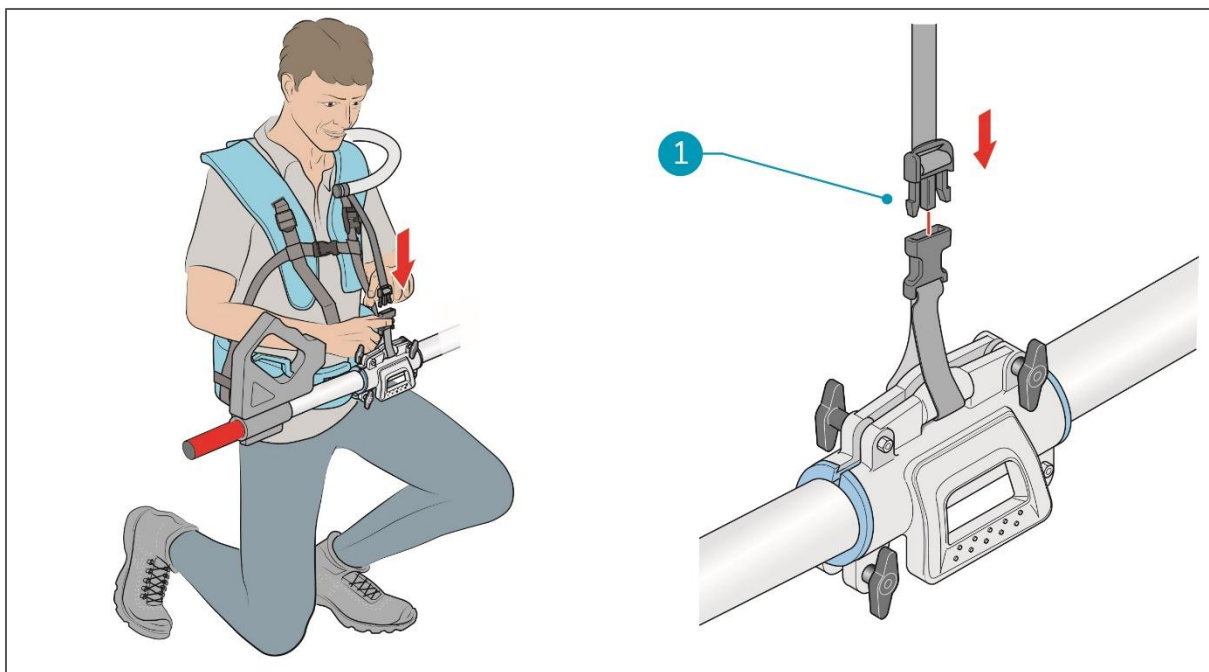


Figure 24

5. Place your extended telescopic power wash pole carefully in upright position against the surface that has to be cleaned.
6. Kneel in front of your telescopic power wash pole and connect the carrier with the strap on the support tube (Figure 24, pos. 1).
7. Take the telescopic pole with one hand above the carrier and the other hand on the trigger gun (Figure 25, pos. 1,2).
8. Gently stand up straight.
9. If needed adjust the working height by pulling or releasing the support strap.
10. You are ready to start your cleaning job.



Figure 25

### 7.2.1 After operation

1. Kneel down and let your telescopic power wash pole rest against the surface you just cleaned.
2. Gently place your telescopic power wash pole on the ground.
3. Disconnect the carrier from the strap on the support tube.
4. Stand up straight to take off the i-suit.
5. First detach the chest strap, secondly detach the waste strap.
6. Take one arm throughout the shoulder strap.
7. Take off the i-suit and close the straps.





## 8 Maintenance

It is recommended to clean i-suit® with a damp cloth, after every time the i-suit is used.  
Clean the i-glasses when necessary with the supplied cleaning cloth.

Check the harness and poles on damage regularly

Check the pulley regularly on:

- loose screws;
- scratches, cracks or other defects in support;
- state of the support rings;
- cracks or severe wear on or at the pulley.



## 9 Trouble shooting

Problem	Cause	Solution
<b>The pulley cable is blocked</b>	Letting the cable abruptly shoot back into the pulley can cause the cable to not rewind properly	Release the tension of the pulley: <ol style="list-style-type: none"><li>1. Insert the Allen key in the opening of the pulley and press firmly.</li><li>2. Turn the Allen key counterclockwise to decrease the pulling force.</li><li>3. Completely pull out the cable.</li><li>4. Turn the Allen key clockwise to fully rewind the cable into the pulley.</li><li>5. Turn the Allen key until:<ul style="list-style-type: none"><li>• the white pulley gives 1 'click',</li><li>• the blue pulley gives 14 'clicks'.</li></ul></li></ol>
<b>The support strap comes off</b>	The support strap is not properly attached	Attach the support strap properly. See section 6.1.1 on page 16.
	The stitching of the support strap comes off	Dispose of the strap and replace it with a new support strap.
<b>The i-suit does not work properly</b>	You are standing too far away from the surface you are cleaning	Take a position closer to the surface
	The angle in which you hold your telescopic pole is too large	Reduce your working angle
<b>Neck/shoulder/back/arm/wrist complaints do occur, despite proper functioning of the i-suit</b>	The i-suit working method is new for you	Take your time to get used to this working method. Gradually build up the amount of time you work with the i-suit and the i-glasses.



## 10 Decommissioning and disposal



### ATTENTION

It is the responsibility of the i-suit® owner to dispose of the product responsibly.

At the end-of-life the i-suit still contains valuable resources and needs to be disposed of according to your local laws and regulations.





# 11 Attachments

## 11.1 CE Certificate



**EG/EC**  
KONFORMITÄTSERKLÄRUNG  
DECLARATION OF CONFORMITY

Wir:

**We: Future Cleaning Technologies B.V., Hoppenkuil 27b, 5626 DD Eindhoven, Netherlands**

Erklären in alleiniger Verantwortung, das das Produkt: Balancer P.109.0055.2x  
Declare under our sole responsibility that the product: Balancer P.109.0055.2x

**Balancer for Harness**

(Art der Maschine / Type of machine)

**I-SUIT / Ergopack / Waspak  
und folgende / and following**

(Modell – Seriennummer, Baujahr / Model – serial number, year of production)

auf das sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt,  
to which this declaration relates is in conformity with the following standards,

**EN ISO 12100**

(Titel und/oder Nummer sowie Aufgabedatum der Norm(en) oder der anderen normativen Dokument(e)  
(Title and/or number and data of issue of the standard(s) or other normative document(s))

gemäß die Bestimmungen der Richtlinien: follow the provision of directives:

**Machinery 2006/42/EC**

Eindhoven, 01.05.2020

Frank van de Ven  
Director

(Ort und Datum der Ausstellung)

(Place and Date of issue)

(Name und Unterschrift oder gleichwertige  
Kennzeichnung des Befugten)  
(name and signature or equivalent marking or  
authorized person)