

# Armon Edero



- Foreword..... 2
- Symbols used..... 2
- Intended use..... 2
- About the Armon Edero..... 2
- Mounting options of the Edero..... 2
- Braces..... 3
- How to set up the Armon Edero..... 3
- How to attach the brace to the Armon Edero..... 5
- Adjusting the force..... 5
- Placing the arm..... 6
- Serial number..... 7
- Durability and Maintenance..... 7
- Troubleshooting..... 7
- Installation..... 7
- Safety..... 7
- Cleaning..... 7
- Liability, warranty ..... 8
- End of life..... 8
- Technical data , contact information..... 9

## Foreword

This manual has been written for the owners and operators of the Armon Edero. It contains general instructions on operation, precautionary practices, maintenance and parts information.



Before using the product please make sure that you read the complete manual thoroughly and become familiar with the controls as well as the accessories. This is essential for your own safety and in order to maximize the use, functionality, efficiency and lifespan of your unit.

Specifications put forth in this manual were in effect at the time of publication. However, owing to Armon Products BV's policy of continual improvement, changes to these specifications may be made at any time without obligation on the part of Armon Products BV.

## Symbols used in this manual



: **ATTENTION!** Read these parts extra carefully for they contain warnings.



: end-of-life; information about disposal at the end of the useful life of the product.

## Intended use:

The Armon Edero is a dynamic arm support and should only be used to support the weight of an arm with a maximum weight of 5600 gram per arm.

## About the Armon Edero

The Armon Edero is an dynamic arm support. It is developed to support the arm. It has a unique spring compensation mechanism which compensates the weight of the users arm. The Edero supports the arm in a large 3D working area. The Armon Edero can compensate an arm weight from 875 grams up to 5600 grams. The weight compensation is adjustable in 12 steps of approximately 400 grams per step. It is possible to mount the four different types of Armon braces. The Armon Edero consists mainly out of die cast aluminum. A standard Armon Edero set consists out of the following components:

• Edero Base • Edero Links • Edero Brace • Edero Table Clamp It is possible that your Armon Edero is delivered with a different Brace and different mounting accessory than the Edero Table Clamp. Please contact your supplier about the details for your set up.

## Mounting options of the Edero.

The Edero can be mounted in different ways using different mounting accessories. These ways are:

### 1. Table Clamp

The mounting of the Edero in combination with the Table Clamp is explained on the next pages below ***How to set up the Armon Edero.***

### 2. Office Chair Bracket

The Office chair bracket Edero is a bracket with which you can easily attach one or two Edero arm supports to most office chairs or another kind of chair. For more information about the Office Chair Bracket see the Armon Products user manual of the Office Chair Bracket.

### 3. Customized bracket

Because every user and situation is different, a standard mounting solution is often not possible. Therefore frequently a to the user's situation adapted bracket is custom made.

No matter which mounting accessory is used, the point on which the links of the Edero are placed should always be the Armon Products Edero Pin. See the picture on the right. This axle is specially made to carry the Edero links.





**ATTENTION!** It is very important that the Edero links are always properly put on the Edero Pin. Make sure the links go all the way over the pin. The angled top part of the pin must stick out of the links, like in the picture below. If this is not done correctly, parts of the Edero links can break. Check regularly, and after every reassembly.



### Braces

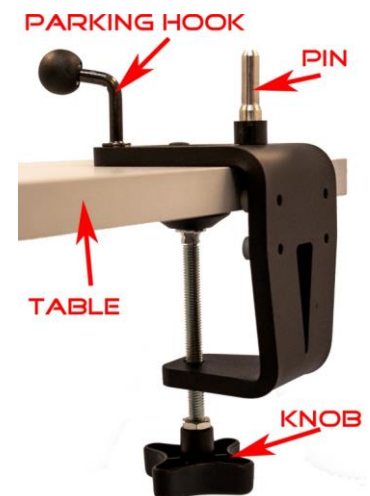
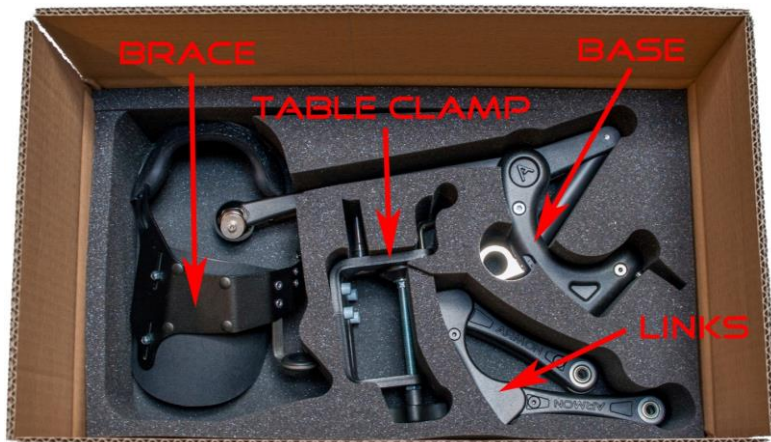
Armon Products has four different types of braces and every type is available in three different sizes. The brace is the part where you put your arm in. It is the connection between the arm support and the user. The braces are exchangeable between all our arm supports. The braces available in ascending order of functionality:



The more advanced the brace, the more functionality you can achieve with this brace.

### How to set up the Armon Edero

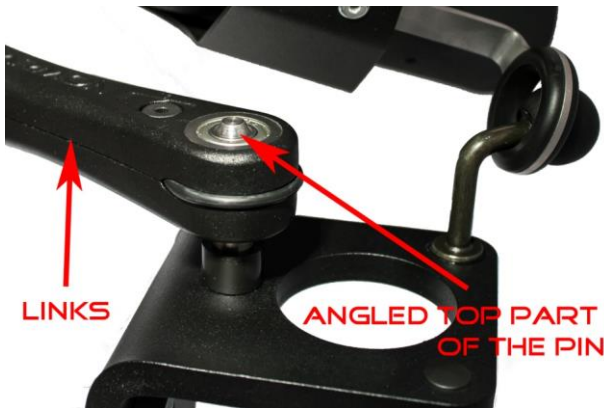
The Edero will be delivered in a box, outer dimensions: l/w/h 49x29x17 cm, like in the picture below.



1. Start first placing the Table Clamp on a solid horizontal surface. By turning the knob you can loosen or tighten it. Make sure the Table Clamp is tightened firmly before proceeding with placing the links.
2. The right way to place the links. The links should be placed in the following way:

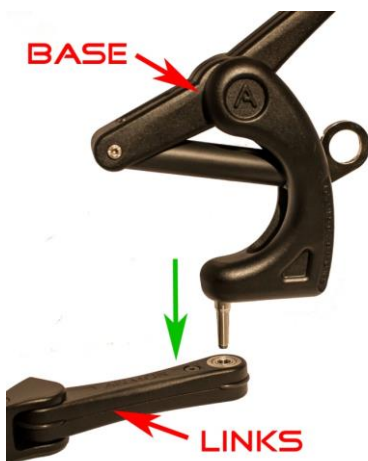


3. Place the links on top of the pin of the Table Clamp. You do this by sliding the bearings of the links over the pin of the Table Clamp in the direction of the green arrow. See the picture on the right.

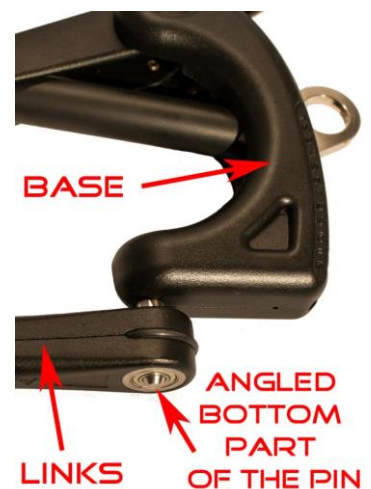


**⚠ ATTENTION!** Make sure the pin goes all the way through the links. The angled top part of the pin must stick out above the links, like in the picture on the left. If this is not done correctly, the bearings might break.

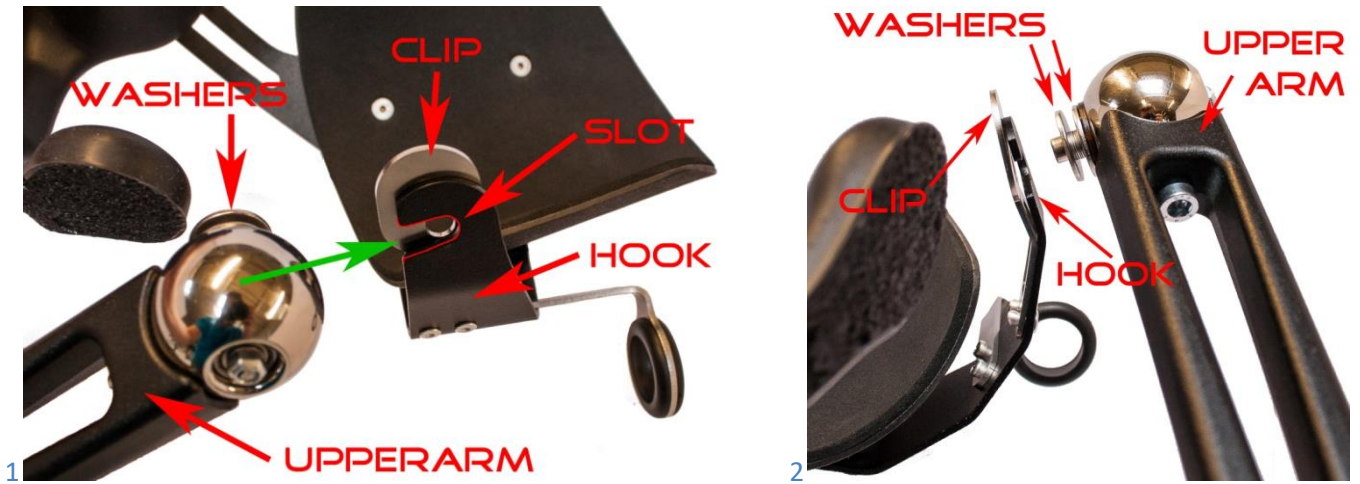
4. Place the base of the Edero on top of the other end of the links. You do this by sliding the pin of the base of the Edero into the bearings of the links in the direction of the green arrow. See the picture below.



**⚠ ATTENTION!** Make sure the pin goes all the way through the links. The angled bottom part of the pin must stick out underneath the links, like in the picture on the right. If this is not done correctly, the bearings might break.



How to attach the brace to the Armon Edero. Follow these steps:

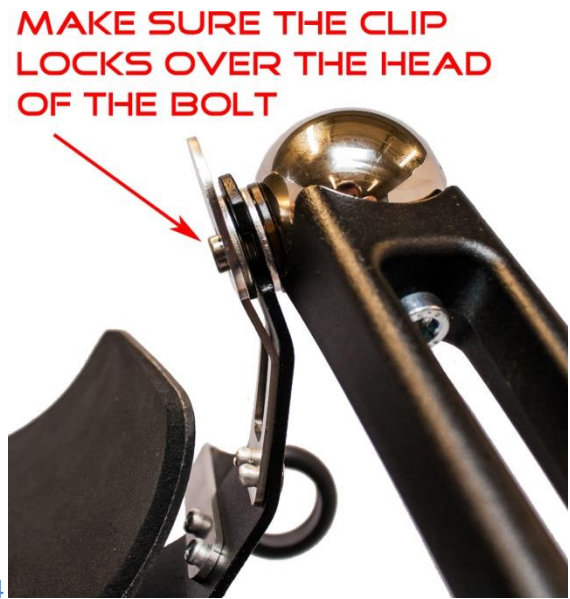
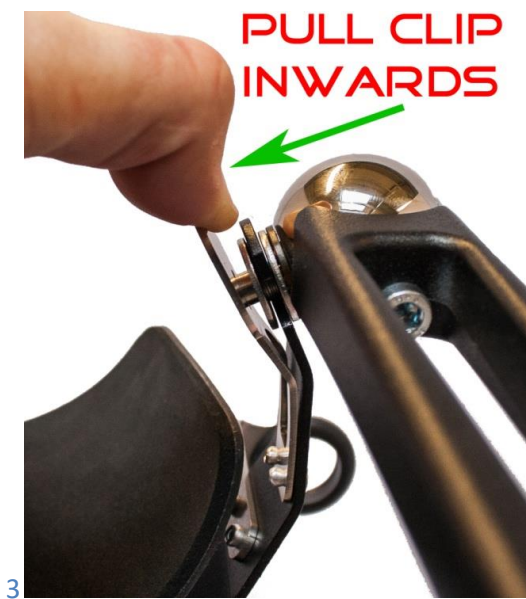


1/2 Hold the brace with the slot pointing in the direction of the washers.

3 Pull back the clip inwards until the hook can be positioned completely over the spindle.

Slide the hook completely over the spindle between the washers and release the clip

4 Make sure the clip locks over the head of the spindle. The head of the spindle should cross through the middle hole of the clip.



### Adjusting the force

You can adjust the force of the Edero in 12 steps -this is called the adjustment range- to compensate the weight of every arm. In the figure below you can see the amount of force that is given by the Edero per step. (indicative because of tolerances of used components)

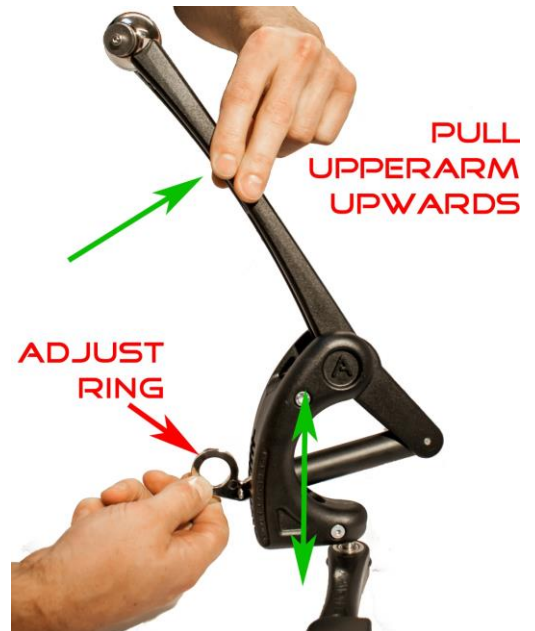
Example measurement:

Step	Force (gram)	Step	
1	880	7	3200
2	1140	8	3650
3	1510	9	4130
4	1880	10	4620
5	2340	11	5130
6	2740	12	5680



Adjust the level of weight compensation by following these steps:

1. Pull the upperarm upwards in the direction of the green arrow.
2. Move the ring in the direction of the green arrows and place it in the step of your choice.
3. Let go of the upperarm. The Edero is ready for use.

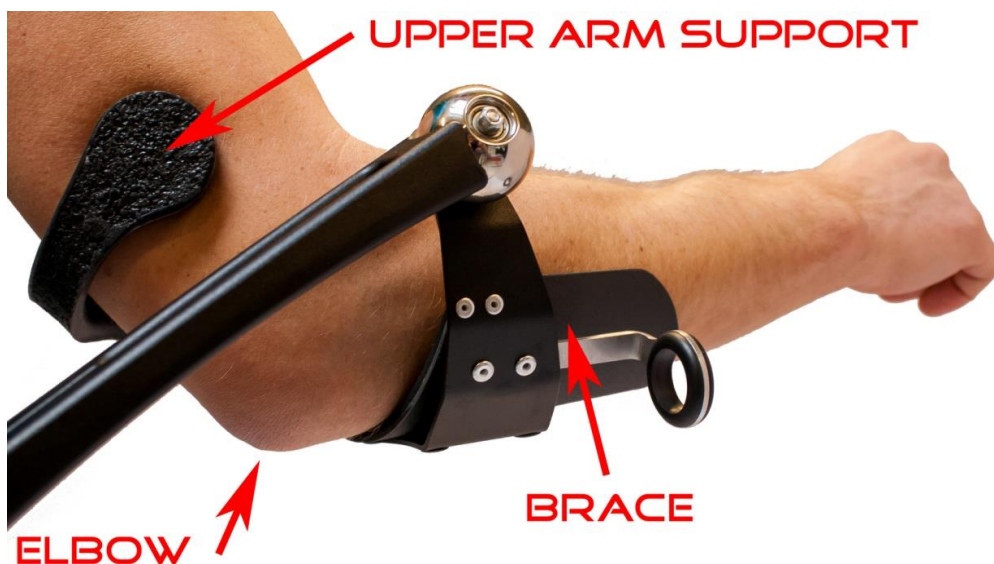


**ATTENTION!** Make sure you do not pull the complete base with the Edero Pin out of the links. Please check after every weight compensation adjustment if the pin is still placed in the links in the right way. See point 5 and 6 of: *How to set up the Armon Edero*

### Placing the arm

Place the arm in the brace in the following way:

- The underarm should lay in the brace
- The upper arm should be placed against the upper arm support, not far above the elbow.
- The elbow should be free.
- The upper arm support consists out of not allergenic rubber with a stainless steel frame in it that can be bent in any direction so that it is the most comfortable for the user



**ATTENTION!** If you are not comfortable or sure how to properly place your arm into the Brace, please contact your supplier. If you are not able to independently level your arm when the compensation force drops out, you should not be using this product.

### Serial number:

Every Armon Edero has a unique serial number. This number can be found on the underside of the upperarm of the Edero.



### Durability and maintenance:

- **Expected technical lifetime:**  
The Armon Edero is designed to guarantee a technical lifetime of at least 8 years. Depending on the intensity of use and the environmental circumstances (dirt, dust, sea air, humidity etc.) the lifespan can be shortened or extended.
- **Maintenance:**  
The Armon Edero is in general a maintenance free product within the expected technical lifetime. However, wear and tear of the moving internal mechanics depends on the intensity of use and the environmental circumstances (dirt, dust, sea air, humidity etc.). Careless use or disregarding normal clean handling principles of similar products can lead to early repairs.

Inside parts can be replaced preventively in order to keep the product functioning with a high level of security. Contact your distributor for possible preventive maintenance contract terms and costs.

### Troubleshooting:

The Armon Edero has been designed and manufactured using highly advanced technology and first class components to ensure a reliable and efficient performance. However, should you meet with any operational problems; it is recommended that you consult your local Armon Products distributor.



### CAUTIONS:

- Only Armon Products BV authorized technicians may carry out service on the internal parts of the equipment.
- For repairs and further information, contact your local Armon Products dealer or authorised service centre.

### Installation:

The installation of the Armon Edero should only be done by qualified and therefore trained specialists. These specialists will receive a certificate after completing a training. To ensure the quality of the installation and individually made brackets, their training and certificate should be updated on yearly bases. This is to ensure proper use and complete safety for the patient.



### Safety:

- The arm support works with a spring compensation mechanism. Hence it gets the energy for the compensation out of springs. When the upperarm of the arm support is down in any way, there will be tension on the springs. When the arm support isn't used, always bring the upper arm of the arm support back into its most upwards position so that there is no tension on the springs.
- When getting the arm support out of a 'parked' position, make sure the arm is placed properly in the brace, and therefore the compensation force sufficiently compensated, before you start moving the arm support out of its parked position.
- Always be aware of the tension of the springs when the upper arm is in a downwards position.

- The arm support may only be used for the proposed purpose. Any type of use which is not specified in this manual, will be considered as improper use. The customer is solely responsible for material damage and injury of persons resulting from improper use; Armon Products will not be liable under any circumstance.
- Assembly, commissioning and maintenance should only be carried out by trained specialists.
- In any circumstance, do not open the housing of the arm support. Warranty is void in such case.
- Do not use the arm support in environments exposed to corrosion hazards.
- Protect the arm support against sand, vapours and dust.

**Liability:**

To the maximum extent permitted by applicable law, in no event will Armon Products or its suppliers or resellers be liable for any indirect, special, incidental or consequential damages arising from the use of or inability to use the product, including, without limitation, damages for loss of goodwill, work and productivity, computer failure or malfunction, or any and all other commercial damages or losses, even if advised of the possibility thereof, and regardless of the legal or equitable theory (contract, tort or otherwise) upon which the claim is based. In any case, Armon Products’s entire liability under any provision of this agreement shall not exceed in the aggregate the sum of the fees paid for this product and fees for support of the product received by Armon Products under a separate support agreement (if any), with the exception of death or personal injury caused by the negligence of Armon Products to the extent applicable law prohibits the limitation of damages in such cases.

Armon Products cannot be held liable for any consequence resulting from incorrect information provided by its personnel, or errors incorporated in this manual and / or other accompanying documentation (including commercial documentation). The opposing party (product’s user or its representative) shall disclaim Armon Products from all claims arising from third parties, whatever nature or whatever relationship to the opposing party.

Any severe incident in relation to this product should be mentioned to the manufacturer and the competent national authority

**Warranty:**

Warranty claims shall be voided in case:

- The conditions in the operating manual are ignored
- The appliance is used outside the described uses
- Any part of the appliance is modified or opened
- The appliance is improperly set up or incorrectly electrically connected

**Cleaning:**

When cleaning the outer part of the Armon Edero and the brace, make sure to use a soft, clean cloth dampened with lukewarm water and a non-abrasive liquid household cleaner.



**CAUTIONS:**

- When cleaning the outer part of the Armon Edero, do not use any chemicals, detergents, acid solutions, abrasive or aggressive solutions or inflammable substances.
- Use of any of the above mentioned substances or improper use of the accessories will cause irreparable damage to the equipment and the guarantee will be no longer valid. Do not spray or pour liquid on the external parts of the equipment, or into the holes on the casing.
- Do not immerse the unit into water.
- The unit must under no circumstances be opened or dismantled in order to clean or check inner parts – the Armon Edero does not require cleaning of inner parts and in all cases, only specialized technicians of Armon Products B.V. should carry out such operations.

**End of life:**



The Armon Edero contains materials that can be recycled and/or are noxious to the environment. Specialized companies can dismantle the unit and sort out these materials. When you dispose of the unit, find out about local regulations concerning waste management.



**Technical data:**

**Weights:** Edero + Table Clamp + Edero Brace: 2730 gram  
 Edero + Edero Brace: 1800 gram  
 Complete Edero set in box: 3400 gram  
 Weight compensation range: 875 till 5600 gram  $\pm 10\%$

*Ingress Protection / International Protection rating:*

Edero: IP 36 Brace: IP 45

*Housing size WxDxH:*

17x10x85 cm

*Housing material:*

Die cast aluminum

*Operating temperature:*

Max. +40° C Min -10° C ( 104° F 14 F°)

*Storage temperature:*

Max. +40° C Min -10° C ( 104° F 14 F°)

*Unique identification of the object:*

SN: EDxxxxxx (product and serial number)

*Description of object:*

Fully mechanical arm support as in conformity with

*The object complies with the following directive::*

93/42/EEC Medical device directive

*The object complies with the following Standard:*

EN ISO 22523:2006 External Orthoses

*The object of the declaration described above meets the demands for CE labeling:*

Medical Device Class I

**Armon Products**

Armon Products BV develops and manufactures high end dynamic arm supports and accessories according to the highest standards of quality making use of the latest technology and fully adhering to current directives and norms. Particular attention has been paid to the design, easy operation, function and safety of the equipment and the final result is this modern, compact unit.

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