

# **Neater Arm Support Zero-Power version (NAS-Zero)**

## Instruction Manual

Note: for instructions on fitting a NAS-Zero to a wheelchair please refer to Guidelines available to Neater Solutions' Representatives.



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July 2020

## Safety

- **The NAS-Zero gives you some ability to move your arm. Inevitably, this results in certain dangers that the user and any carer must assess for themselves and take reasonable precautions against. The following is a list of potential dangers that Neater Solutions Limited has identified. Please read this list and all other instructions carefully, but be aware that there may be other dangers that we have not identified.**
- Ensure that you have control over the freedom of movement the NAS-Zero gives you so that your arm or parts of the mechanism do not cause any danger to yourself or others.
- Avoid moving or lifting any object that might be dangerous if dropped or spilt - such as scalding hot liquids or cigarettes. Though the NAS-Zero itself is made of flame resistant materials, your clothes may not be and the NAS-Zero will not prevent a burn should you drop such an object that you then cannot reach to retrieve.
- Be aware that other dangers could exist in using the NAS-Zero depending upon your circumstances. For instance, using it to help you eat could result in choking if you have difficulty with swallowing.
- Ask a physiotherapist to advise you on the use of the NAS-Zero. Its use is usually of therapeutic benefit, but prolonged use could strain you. In particular:
  - Ensure that the full travel of the NAS-Zero arm up and down does not cause you discomfort or even damage to your shoulder or other joints.
  - Start by using the NAS-Zero for only one hour per day and then slowly build up your use of the device.
- Do not use the NAS-Zero in any way that could cause danger if the mechanism were to jam.
- NAS-Zero is designed to comply with the essential requirements of the Medical Devices Directive Class 1 (Medical Devices Regulation (EU) 2017/745 of the European Parliament and of the Council of April 2017).
- Please keep the NAS-Zero away from dirty, abrasive or corrosive environments eg: avoid taking onto a beach.

### **If the NAS-Zero is fitted to a wheelchair:**

- The NAS-Zero moving arm should be removed when moving the wheelchair.
- The NAS-Zero moving arm should not be fitted when the wheelchair is on a slope. Forward, backward or sideways tilt of the chair could make your arm swing in a direction you cannot control.
- Do not operate other wheelchair functions such as backrest recline, if there is any possibility that someone near the chair may trap their fingers in any parts of the wheelchair or NAS-Zero mechanisms or between the NAS-Zero and the chair.
- The NAS-Zero has not been crash tested with different wheelchair set-ups. However, the NAS-Zero has a very sturdy construction and tests have been carried out to simulate the forces that would be exerted by the NAS-Zero on its attaching brackets in a crash test. At the very least, when transporting the NAS-Zero in a vehicle, ensure that:
  1. The NAS-Zero has been fitted to your wheelchair by a representative of Neater Solutions.
  2. The NAS-Zero moving arm is completely removed from the main bracket.
  3. If you travel in your wheelchair, it is essential that the wheelchair is suitable for use as a seat in a vehicle (as stated by the wheelchair manufacturer). It is also essential that a headrest is fitted that is suitable for use in a vehicle as supplied by the wheelchair manufacturer to prevent your head hitting the main bracket of the NAS-Zero in the event of an accident. (In any case you should use such a headrest to prevent whiplash injury). If you have not been provided with a headrest suitable for use in a vehicle, do not use the wheelchair for this purpose.
  4. The wheelchair is fastened into the vehicle following the manufacturer's instructions.
- Your wheelchair provider should have ensured that your wheelchair satisfies any necessary safety criteria for your purposes. The NAS-Zero should only be fitted to wheelchairs by a trained representative of Neater Solutions. Please take note of any safety advice in addition to the points here that the Neater Solutions representative may give you. A properly fitted NAS-Zero used correctly following the guidelines in this manual should not pose any significant health and safety risks beyond those detailed in this manual or by the Neater Solutions representative fitting the unit. For instance, the weight of the NAS-Zero is very small compared to the wheelchair; it therefore does not significantly affect the performance of the wheelchair in incline tests.

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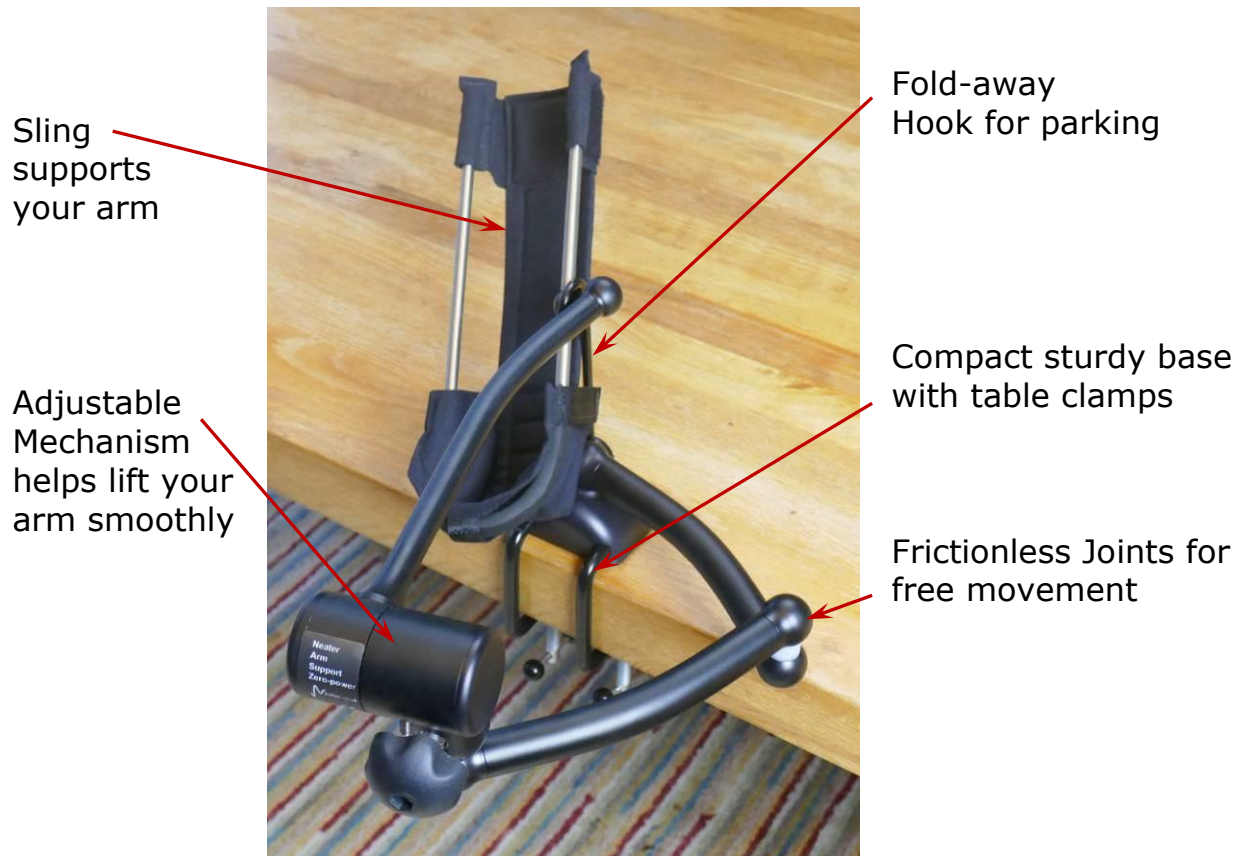
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## **Neater Arm Support Zero Power version (NAS-Zero) - Description**

The NAS-Zero is a non-powered version of the Neater Arm Support. It offers a “helping arm” to people with some muscular weakness.



The NAS-Zero supports the weight of the user’s arm in a sling, enabling them to move their arm back and forth freely using their own muscle power. It is usually supplied with a fixed bracket system for clamping to a sturdy table. It can also be attached to the back of a wheelchair or to a separate floor stand.

The sling is attached via an angled joint to a spring loaded arm and a metal linkage with frictionless joints to the fixed bracket.

The strength of the spring can be adjusted to suit the user. A light viscous damper helps smooth the movement.

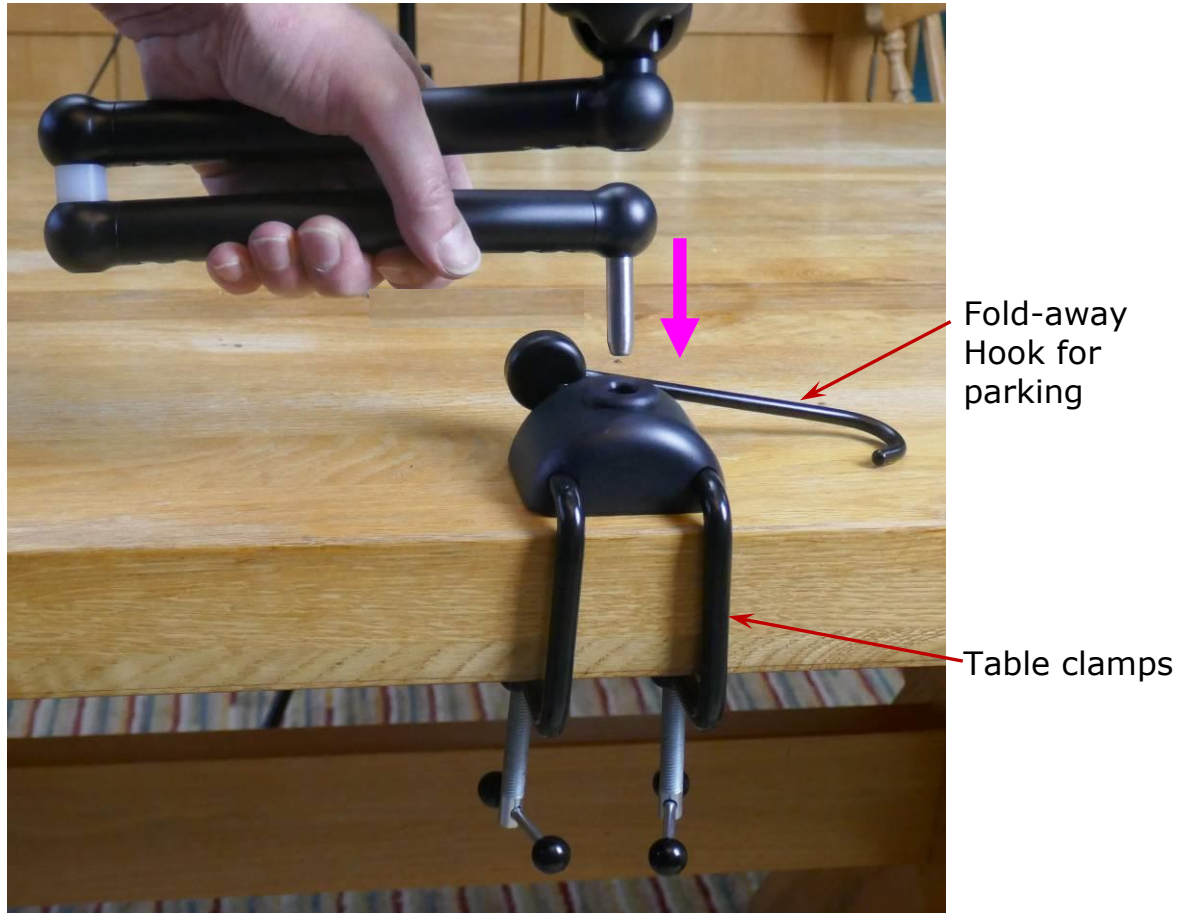
An adjustable up stop sets the range of vertical movement.

(A version of the Neater Arm Support is available with electrically powered vertical movement for users with weaker arms.)

## Set up

1. Clamp the base to the table.
2. Hold the arm linkages as shown and drop the pin into the base.

(Larger and smaller clamps can be supplied)





Angled Joint

Hook Counterweight

Parking Hook  
Push sideways  
to fold away

As your arm is raised, your elbow drops

The sling and its frame are available in different sizes.

The sling frame is attached to the spring-loaded arm via an angled joint. The joint is usually positioned so that when you raise your arm, your elbow drops down automatically, helping to bring your hand closer to your head – this is useful for many functions such as feeding yourself. Similarly, when you lower your arm, your hand is lowered further enabling you to reach things, such as objects on a table, more easily.

As your arm is lowered, your hand is lowered further



Press down on the Hook Counterweight to lift the Parking Hook. Then hook over the Angled Joint to park.



### Angled Joint position

Loosen the screw in the Angled Joint (use a 5mm Allen key) and slide the frame to change the pivot position before retightening the screws.

The **angle** of the frame in the joint can also be adjusted to allow the right balance of support without obstruction.



### Spring Mechanism

The amount of lifting force can be adjusted to the optimum setting for you; helping you lift your arm without making it too difficult to lower it.

Turn the screw anti-clockwise to increase up-force, clockwise to decrease.

You will feel a stop at the end of the adjustment. **DO NOT** force the adjustment screw beyond the stop.



### Up Stop

Ensure that the NAS-Zero gives the range of vertical movement you require. This can be adjusted by turning the Up Stop screw (use a 3mm Allen key).



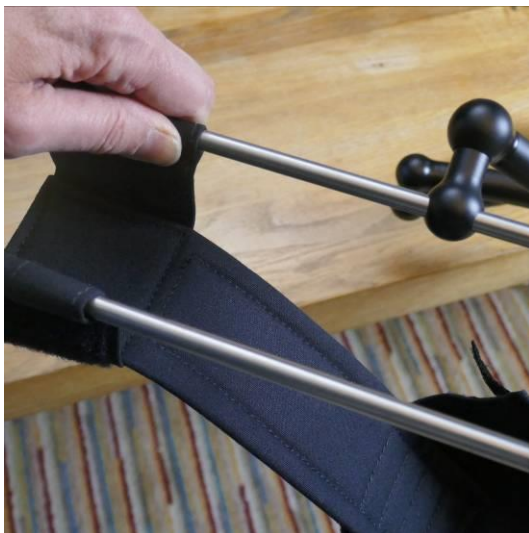
## Cleaning & Maintenance

The NAS-Zero can be wiped clean with a damp cloth and a little detergent. **Be careful not to allow water to flow into any of the joints.**

The sling can be removed from its frame for washing. Wash by hand or use a low temperature machine wash (eg: Woollens setting).



Undo the three Velcro Straps near the elbow



Slide off the front.  
Rubber ends inside should remain inside the sling

The arm joints are shielded ball and roller bearing that do not require lubrication.

Contact Neater Solutions for any further maintenance information or if there are any problems with the functioning of the NAS-Zero.

## **Attachment to wheelchair**

The NAS-Zero should only be fitted to a wheelchair by a representative of Neater Solutions Limited using approved fittings and procedures.

Regular checks must be made to ensure that the NAS-Zero is as securely attached to the chair as when it was fitted by the Neater Solutions representative. It is the responsibility of the user or their representative to ensure these regular checks.

## **Alternative options**

The deep pocket in the back of the Sling helps keep your elbow in place as you lift your arm. Some people like to use a **Strap** that fits to the frame to help hold their arm in.

A **Soft Fleece** cover for the front of the slings gives more comfort on bare skin.

**Left and Right handed** units are available.

**NAS-0 mounting bracket** to fit to a stand or chairs (see notes below). A parking hook can be fitted to the bracket but will only be usable if suitably positioned.

People whose arms are too weak to use a NAS-Zero are recommended to try the **Powered Neater Eater Support** see [www.neater.co.uk/neater-arm-support](http://www.neater.co.uk/neater-arm-support).

**Demonstrator Sling Frames** are 75mm shorter than the maximum length standard frames. They have tapped hole ends for up to three 25mm extension pieces – so that different length frames can be tried easily by screwing in more extension pieces.

## Sling Frame measurement

The sling frame is available as standard in wide and narrow sizes.

- It is cut to length: Overall Length OL
- clamped into the angled joint: Joint Position JP
- and can be angled at a positive or negative Offset Angle OA (Zero is with both sides of the sling frame in line with the joint axis.)

