



Natural freedom of movement
with rapid functionality

Dynamic arm support Gowing



• *Gowing returns the natural freedom of movement*



• *Gowing provides a stable support for precise activities*

Natural freedom of movement with rapid functionality

Gowing supports the execution of numerous daily activities like eating, drinking, tooth brushing, typing or scratching one's nose. Independence in lifting objects and personal care is possible again.

Natural and easy

In general it is desirable to use your remaining capacities as much as possible. This is both beneficial from a health perspective and for one's self esteem, furthermore it is also cost effective. Gowing operates on the basis of compensation of the weight of the arm. This is called 'balancing the arm'. The large horizontal movements hardly require any effort anymore. The construction enables easy and quick reach of the mouth and face. Gowing returns the natural freedom of movement to the user. Gowing does not make the wheelchair any wider – not even when the arm of the user is rotated inwards. Gowing allows the user to make choices.

Do I prefer assisted movements (assist as needed) or is it desirable to let the device lift the arm? Do I want to move freely or is stabilisation required?

Who is the user of Gowing?

The intended users of the dynamic arm support Gowing are:

- 1.** Persons challenged by considerable muscular weakness causing the inability to perform essential ADL activities including eating, drinking, facial care, computer use, labour tasks, wheelchair control.
- 2.** Persons challenged by excessive muscle functioning who feel the need to execute such essential manual tasks.



• *Large horizontal movements, combined with easy and quick reach of the mouth and face*



• Gowling can be used both indoors and outdoors



• Gowling makes the arm float over the keyboard

3. Persons in the need of redistribution of pressure/ forces who feel the need to execute such essential manual tasks.

4. Combinations of these.

Possible users are in the need of a functional device requiring limited learning efforts.

Intended use of the device

Gowling is a medical device. It is primarily designed for persons having a need for considerable compensation of muscle force. Depending upon personal (dis)abilities Gowling may also diminish the effects of excessive muscle functioning (guide spastic movements). Further, Gowling will redistribute pressures and forces of the arm and shoulder concerned. Gowling is able to introduce dynamic, user controlled force compensation.

It's possible to use Gowling in various environments like home, workplace, school, institutional setting or outdoors. Gowling can be mounted on a wheelchair, working chair or movable carriage.

The intended use of Gowling also includes the application as an ergonomic aid for persons who are at risk for CANS, overload or strong fatigue due to challenging working conditions. This may e.g. be due to continuous or frequent task performance above shoulder level or performance of many static manual activities.





- Unique hybrid system which combines the possibility to move vertically with stored power or external energy



- Gowing is equipped with an inclination angle corrector to increase the reach in the desired directions

Hybrid technology

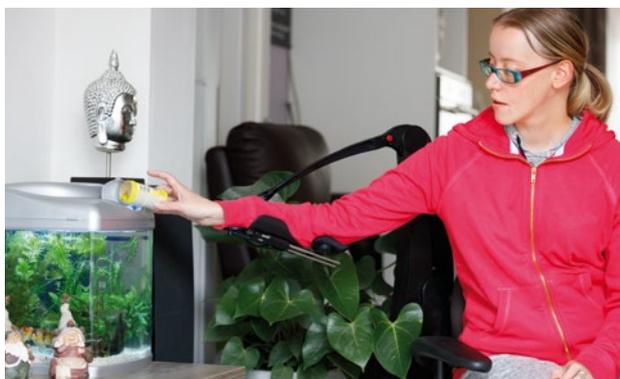
Vertical movements are supported by a hybrid system. This means that both stored power and external energy can be used. This hybrid technology also allows the stabilisation of the lower arm at a variable fixation point. Underneath this point the support will not move but the arm can still be moved upwards and the lower arm can make balanced movements. This can be effective when typing or eating.

Innovative solutions

Gowing offers numerous innovative solutions for persons who are challenged by diminished arm and hand function.

Task specific support

Some daily activities require a different weight compensation. The user can make adjustments in the assistance at any time.



- Large horizontal movements hardly require any effort

Position lock

The axes can be locked in every direction to prevent the arm from moving. This is beneficial e.g. when driving a wheelchair or being transported.

Inclination angle corrector

Gowing offers the possibility to actively correct the inclination angle to increase the reach in certain directions.

Stop function

Another recent feature is the Stop function which unlocks all axes, minimizes the assistance and lowers the lifting mechanism. This function can be used in case the user is suddenly unable to lower his arm voluntarily.

Easily removable

Gowing can be taken off partly as well as in total. The part that follows the lower arm and connects to the arm fitting can be taken off in one simple movement. If desired, also the whole device can simply be taken off. Only a small connecting part will remain on the wheelchair.

Easy to learn

The use of Gowing including all of its options is kept simple and intuitive. The forearm is positioned in the arm fitting which does not require any fixation. Due to its smart construction Gowing optimally follows the



- The arm fitting offers many adjustment possibilities and follows the arm very naturally in any direction

- Gowing can be taken off partly as well as in total

movements the human arm in the horizontal plane. For the performance of important vertical movements e.g. towards the mouth or head virtual pivoting points were introduced. This allows for the quick and easy performance of such frequently performed movements.

Switch panel

There are various possibilities to quickly adapt Gowing to changing tasks and environments. This is done through the operation of an ergonomic 9-button interface.

This switch panel is light and compact and can be positioned at any desired location to ensure easy control.

The switch panel provides user feedback on selected switch activities through light and sound. Signals are used to show completion of a certain action, in case of using the blocking function. It also indicates when it's impossible to perform a certain task, such as changing

the measure of assistance if the system is blocked in a certain position. The light and sound signals can also be used for service and maintenance purposes.

The following functions can be operated with the switch panel:

- Position lock
- Weight compensation
- Automatic horizontal adjustment
- Inclination angle corrector
- Lift mechanism
- Adaptation of the lowest position

Operating options

If the user cannot operate the buttons of the switch panel, it's possible to make two functions accessible through other input devices or switches. Location of these can be chosen after user requirements (for instance with external switches positioned near the head or near the legs).



- Switch panel provides user feedback through light and sound



- *Gowing's unprecedented properties are based on more than 25 years of experience*



- *Every sub-assembly is tested, before the product is completed*

Smart Tilt Module

Electric wheelchair users driving a wheelchair equipped with a stand-up system want to use the Gowing both in seating position and in stand-up position. The Smart Tilt Module is an electric device, based on sensor technology, which maintains the upward position of Gowing when the stand-up functionality is used.

The Smart Tilt Module constantly matches the position of Gowing towards the user's requirements for an optimal execution of activities. The user is in full control of this process.

Besides the above-mentioned application for wheelchairs with a stand-up functionality, the Smart Tilt Module can also be used in case of extreme inclination of the wheelchair.



- *Gowing is usually mounted on the seat of the wheelchair. The Smart Tilt Module guarantees a constant upward position of Gowing, even in case of extreme inclination of the seat of the wheelchair while standing up.*



- Extensive testing procedures to ensure high reliability

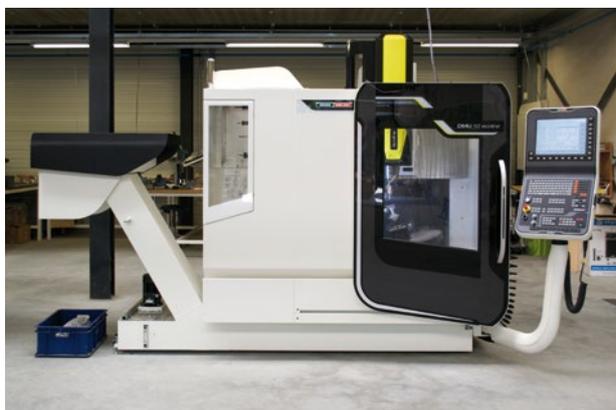


- Installation on the wheelchair is performed by well-equipped professionals

Quality is the basis for optimal performance

Gowing is a recent product of the world leader in design, development and production of dynamic arm supports. This class of medical devices was re-invented by Focal and Gowing's unprecedented properties are based on more than 25 years of experience in this field. Focal strives for quality in all aspects of the design and production process. The development process takes place in a multidisciplinary approach by our most experienced design team. Specifications are based on the outcomes of discussions with numerous potential users on their needs and wants. Components and materials are chosen based on high quality requirements since our arm supports should offer minimal resistance, be highly reliable, last long and wear during their lifecycle as little as possible. For these reasons their construction and assembly is a precision process performed by skilled staff equipped with state-of-the-art machinery. Quality control is integrated in the complete process of development, production and assembly.

No dynamic arm support will function optimally if not geared to the user and his specific chair or wheelchair. Once Gowing is available as a standard product, mounting takes place by specialists of Focal or its representatives. Specific adapters for mounting to various types of (wheel)chairs are available. The whole process is done in close interaction with the user and evaluated afterwards.





Solutions for people with complex care needs

Focal Meditech BV is a developer, manufacturer and distributor of contemporary devices. Devices that can make life a little better for people with a disability. The product range primarily concerns the field of mechatronics.

Focal specialises in dynamic arm supports, eating aids, personal robots, special controls and tailor-made devices.

The products meet the highest standards of quality and are the result of a close collaboration between the R&D department and device users.

Patent pending
Gowing is a deposited trademark of Focal Meditech BV
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