Upper Limb
Exoskeletal System

steeper
Creating life's turning points, together

Elbow Units

Automatic Elbow

One of the most durable elbow units currently available, the Steeper Automatic Elbow is available in a range of 3 sizes and 4 colour options. Flexion can be locked in 8 distinct positions, with a free swing position, using an anterior actuator that can be operated manually or by means of a harness. Humeral rotation is available and can be controlled with an adjustable friction screw. The rotation can also be manually locked using a rotatable ring. Proximally the elbow connects to a lateral ring (sold separately) which should be laminated into the upper section of the prosthesis. Distally the elbow connects to a prefabricated forearm (sold separately) with parallel distal section which fits a range of wrist options. The forearm contains reinforcing side steels with prepositioned holes to receive the flexion cable guide. The forearm is available in 4 colours, please contact Steeper for information if alternative colours are required.

Technical Specifications for Automatic Elbow

Part Number	Elbow Size (Dia.)	Description	Wrist Options	Weight	Build Height
B11185#	58mm	Automatic Elbow, Child	38mm, 45mm	242g	75mm
C07375#	64mm	Automatic Elbow, Adolescent	50mm, 54mm	316g	75mm
C07286#	70mm	Automatic Elbow, Adult	50mm, 54mm	334g	75mm

Technical Specifications for Prefabricated Forearm

Part Number	Elbow Size (Dia.)	Description	Wrist (Dia.)	Overall Length	Parallel Length	Weight
C10564#	58mm	Child Forearm	38mm	240mm	120mm	96g
C10560#	58mm	Child Forearm	45mm	240mm	120mm	114g
C10552#	64mm	Adolescent Forearm	50mm	260mm	120mm	114g
C10556#	64mm	Adolescent Forearm	54mm	260mm	120mm	151g
C11381#	70mm	Adult Forearm	50mm	300mm	120mm	181g
C07646#	70mm	Adult Forearm	54mm	300mm	120mm	184g

Manual Elbow

With 5 distinct flexion locking positions and a free swing setting, the Manual Elbow is the ideal choice when the user prefers to use the sound hand to position the elbow. This elbow has an integrated forearm with an easy to operate manual switch located in the anterior surface. This is a lighter weight option than the automatic elbow of similar size. (Lateral ring sold separately).

Child Friction Elbow

Available in 2 sizes, the Child Friction Elbow allows flexion, extension and rotation to be controlled by adjustable friction. This unit is lightweight and comes complete with an integrated proximal socket attachment plate. The side steels provide an anchor for a locally manufactured forearm to be secured. This versatile joint can also be utilised as a lightweight exoskeletal shoulder joint, providing friction control of humeral flexion and extension along with abduction/adduction.

Technical Specifications for Manual Elbow

Part Number	Elbow Size (Dia.)	Description	Height	Weight
B10612#	70mm	Manual Elbow	95mm	474g

Technical Specifications for Child Friction Elbow

Part Number	Elbow Size (Dia.)	Description	Height	Weight
C10828	38mm	Child Friction Elbow	40mm	81g
C10826	45mm	Child Friction Elbow	45mm	81g

Heavy Duty Wrist and Housing

Heavy Duty Wrist

Anodised aluminium and stainless steel provide strength and durability capable of withstanding daily rigour in a compact package.
Easy to maintain, this wrist unit provides quick and easy interchanging of the terminal device. It is lockable in 12 positions of rotation giving the user improved control and dexterity to complete functional tasks. Available in 3 sizes, with an option to reverse the action of the operating knob for bilateral users; when used with one of a variety of Hand/Adapter Plates, this wrist allows rotation to be free, or controlled. Wrist housing sold separately.

Technical Specifications for Heavy Duty Wrist

Part Number	Size	Description	Weight	Height
SP249	50mm	Quick release, lock, 12 position rotation	73.4g	27mm
B01155	54mm	Quick release, lock, 12 position rotation	78.1g	27mm
C10537	54mm	Quick release, lock, 12 position rotation, reverse action on operating knob	78.1g	27mm
SP136	58mm	Quick release, lock, 12 position rotation	84g	27mm

Heavy Duty Wrist Housing

The Heavy Duty Wrist Housing is used to secure the Heavy Duty Wrist within the forearm.
These housings are available in a range of sizes and either parallel or tapered options to suit the desired wrist dimensions and forearm profile.

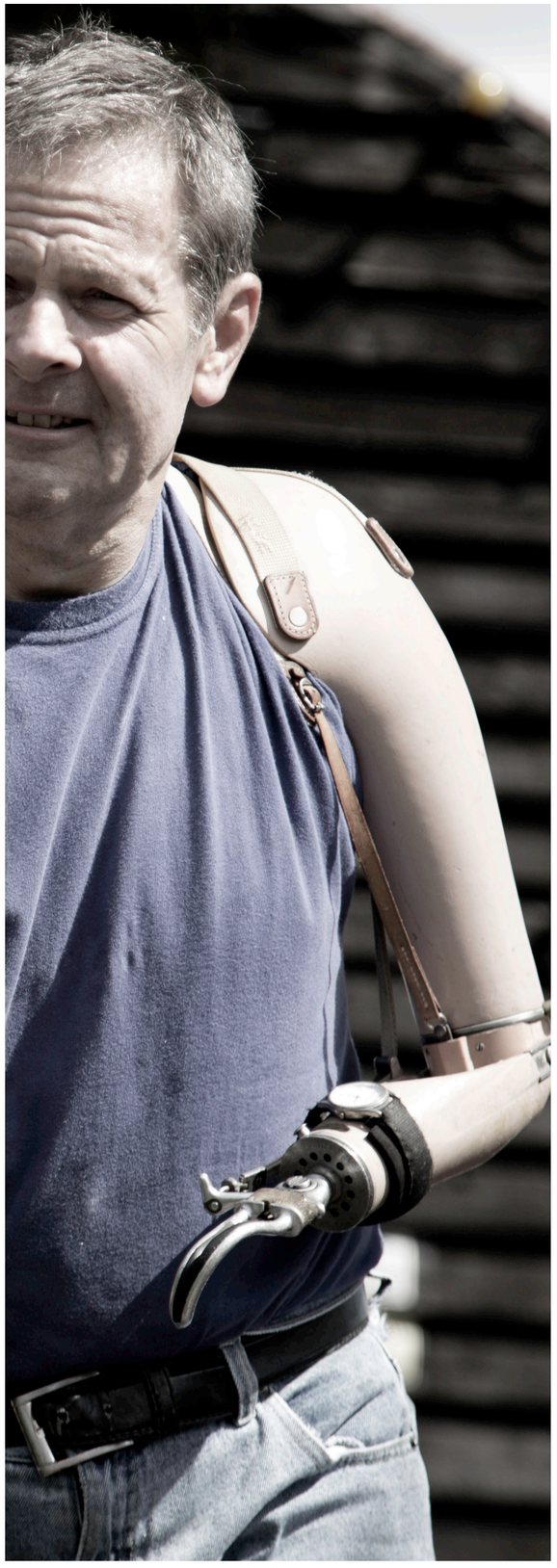
Technical Specifications Wrist Housing - Parallel

Part Number	Size	Weight	Height
B00573	50mm	15.8g	25mm
B00572	54mm	20.2g	25mm

Technical Specifications Wrist Housing - Tapered

Part Number	Size	Weight	Height
B00825	50mm - 3° taper	24g	38mm
B00827	54mm - 3° taper	28.4g	38mm
B00826	54mm - 6° taper	32g	38mm
B00828	58mm - 5° taper	50.8g	38mm
B01017	58mm - 7° taper	53.6g	38mm

Hand and Adapter Connection Plates

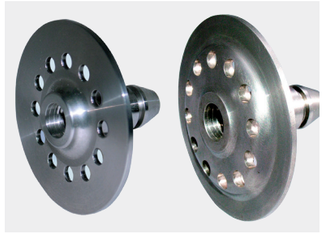


Hand Connection Plate

The Steeper Hand Connection Plate is the seamless connection between the Heavy Duty Wrist and the prosthetic hand of choice. Manufactured from stainless steel these plates are compatible with our full range of hands, along with those of other manufacturers, providing easy interchangeability. With 12 positions of rotation, the Hand Connection Plate is both durable, lightweight and low profile.

Technical Specifications for Hand Connection Plate			
Part Number	Size	Weight	Height
B01179	50mm	52g	31mm
B01172	54mm	57.2g	31mm

Adapter Connection Plate



Compatible with our full range of functional devices, and those of other manufacturers, Steeper Adapter Plates are designed to connect a range of Terminal Devices with the Heavy Duty Wrist. The range of Domed Adapter Plates have 2 variations; one with the holes to provide free rotation with locking in any 1 of the 12 positions, and one with this feature removed to allow free rotation without locking.

These plates have 3 internal threads to receive the common BSW, TPI and metric threads.

Technical Specifications for Adapter Plates - Flat				
Part Number	Size	Description	Weight	Height
B00967	50mm	⅜" BSW	44g	34mm
B00900	54mm	⅜" BSW	46.6g	34mm
B06568	50mm	½" 20TPI	54.5g	49mm
B22264	54mm	M12	63.5g	54mm

Technical Specifications for Adapter Plates - Domed				
Part Number	Size	Description	Weight	Height
B00965	54mm	⅜" BSW	57g	34mm
B00966	54mm	⅜" BSW	61.5g	34mm

Common Terminal Devices

Mechanical Hand

Our range of cable operated and spring hands provide functional benefits with improved cosmetic appearance. The adult and teenage range are manufactured from high strength aerospace alloy, housed inside a flexible PVC shell and operated by body-powered cable control or manual operation.

Provisions are made for multiple wrist and cable connection options including front and back pull. These hands are compatible with the popular Elegance range of full-length silicone and PVC cosmetic gloves. In addition, we offer two children's sizes which are constructed from rugged plastic mouldings to withstand the demands of a growing child.

Technical Specifications for Cable Operated Hand (Please refer to the Upper Limb Catalogue for part numbers)						
Size	Width of Knuckles	Cable Pull	Max Opening	Weight	Wrist Diameter	Base to Thumb Tip
5½	50mm	29mm	44mm	84g	40mm	76mm
6	57mm	25mm	50mm	130g	45mm	102mm
6¾	63mm	60mm	58mm	224g	45mm	108mm
7¼	70mm	40mm	90mm	323g	50mm	133mm
7¾	82mm	40mm	90mm	342g	54mm	133mm
8¼	87mm	42mm	95mm	366g	54mm	137mm

Split Hook

A wide range of functional devices are available to enable those using body powered control to perform work or recreational tasks. The most common device is the split hook, allowing fine control and manipulation of everyday items.

Please refer to the Steeper Upper Limb Catalogue for part numbers.

Functional Devices

Additional functional devices have been designed in order to tackle specialised tasks such as occupational, gardening and sporting pursuits. Depending on the operation required, these are either actively or passively controlled.

For the full range of Terminal Device options please refer to the Steeper Upper Limb Catalogue.

Transhumeral Limb Build Guide

Control Kit
Steel
Nylon
Perlon

Suspension Kit
Adult
Child

Lateral Rings

Automatic Elbow

Prefabricated Forearm for Automatic Elbow

Elbow Lock Strap

Manual Elbow

Mechanical Hand
Passive Hand

Hand Connection Plate

Functional Device

Adapter Plate

Heavy Duty Wrist Unit

Wrist Housing

Mechanical Hand
Passive Hand
Myoelectric Hand

Friction Wrist Hand Connection Plate

Friction Wrist Unit

Functional Device

Friction Wrist Adapter Plate

Paediatric

Child 2-Knob Wrist Unit

Child 2-Knob Wrist Hand Plate

Mechanical Hand
Passive Hand

Child 2-Knob Wrist Adapter Plate

Functional Device

Please refer to the Steeper Upper Limb Catalogue for part numbers and ordering information.

Transradial Limb Build Guide

Short Wrist Unit
- No Lamination Collar

Friction Housing

Short Wrist Unit

Hand Plate

Threaded Hand
Hook
Functional Device

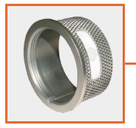
Mechanical Hand
Passive Hand

Wrist - No Rotation

Fixed Wrist Connector and Former - Oval

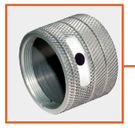
Fixed Wrist Connector and Former - Round

Passive Hand



Wrist Housing
- Parallel

or

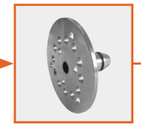


Wrist Housing
- Tapered

Heavy Duty Wrist Unit

Adapter Plate

Functional Device



Hand Connection Plate

Mechanical Hand
Passive Hand

Friction Wrist Unit

Friction Wrist Hand Connection Plate

Myoelectric Hand
Passive Hand
Mechanical Hand

Friction Wrist Adapter Plate

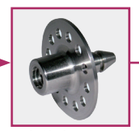
Functional Device

Paediatric

Child 2-Knob Wrist Unit

Child 2-Knob Wrist Hand Plate

Mechanical Hand
Passive Hand



Child 2-Knob Wrist Adapter Plate

Functional Device

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