The Modular Arm System is truly modular with many interchangeable parts. It is designed for rapid assembly and is light-weight and cosmetically appealing. It requires minimal harnessing. Two shoulder joint options are available for shoulder disarticulation prostheses. One is the Friction Shoulder Joint (MA150) and the other is the LTI Locking Shoulder Joint (SJ90). Three lamination housings are offered to connect the user's socket to the elbow with a connecting tube or threaded collar. An adjustable clamp on the collar provides humeral rotation friction. The elbow unit locks in one of four positions with a simple manual push-push lock-unlock or cable actuation. The forearm tube is an integral part of the elbow. It is cut to length and then fitted with a wide choice of wrist and hand adapters enabling it to accommodate most manufacturer's hands and terminal devices. The Modular Arm System is finished with a soft and continuous surface. The inner cosmesis is built from four foam components, a cover for the upper arm, a cover for the lower arm and two soft wedges at the elbow. The arm foams are molded from Plastazote™. These foam covers are supplied over-sized so that they can be shaped to approximate the contralateral arm. The outer cover is available in a choice of two materials; colored elastic stockinet or reinforced silicone fabric. The latter is available in a choice of four colors. The silicone covers wipe clean with a light application of soap and water.

Shoulder Joints:

MA150 Friction Shoulder Joint L/R

Flexion and abduction friction are adjustable
Motion limited to -15° in extension and 45° in flexion
Three steel attachment struts measure 1.5 x 12 x 100mm
Attaches to inside of Connecting Tube with wedge
Weight: 157 grams
Modular Arm System - Endoskeletal

LTI Locking Shoulder Joint:

Many high level amputees like the comfort of a free swinging shoulder joint. The LTI Locking Shoulder Joint is fully described in the Shoulder Joint section. To fit it to the Modular Elbow MA150, you will need the SJ90 Shoulder Joint itself along with an SJ62 Endoskeletal Adapter Kit and a 10R2=½-20 Adapter which provides the ½-20 thread and friction collar. The female thread on this adapter attaches to the stud on the MA151 Elbow and the adjustment screw controls humeral rotation friction.

Above-Elbow Components: (Select components according to residual limb length)

**Very Long Limb**—Attach the MA163 1½” Friction Housing directly to the ½-20 stud on the (MA151) Elbow. The top of the Housing will be 46mm above the Elbow axis. (The larger Housings prevent full elbow flexion.)

**Long Limb**—Attach the MA155 Extended Female Adapter to the Elbow stud. Any of the Housings, MA163 to MA165, can then screw onto the Adapter to give an axis to top of Housing length of 70 to 114mm.

**Short Limb**—Attach one of the three Housings to an MA153 Male Tube Adapter. The Adapter goes into the MA152 Connecting Tube which attaches to the Elbow stud with an MA154 Female Tube Adapter.

<table>
<thead>
<tr>
<th>MA163</th>
<th>1½” Friction Housing</th>
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<tbody>
<tr>
<td>MA164</td>
<td>1¾” Friction Housing</td>
</tr>
<tr>
<td>MA165</td>
<td>2” Friction Housing</td>
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</tbody>
</table>

*Friction adjustment requires hole in lamination
*Only the MA163 will fit directly on top of the elbow*

<table>
<thead>
<tr>
<th>MA154</th>
<th>Female Tube Adapter, ½&quot;-20 Thread</th>
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*Adjustment screw to provide friction with ½-20 stud. Attaches to inside of Connecting Tube with wedge*

<table>
<thead>
<tr>
<th>MA153</th>
<th>Male Tube Adapter, ½&quot;-20 Thread</th>
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</thead>
</table>

*Attaches to inside of Connecting Tube with wedge*
Modular Arm System - Endoskeletal

**MA155** Female Extension Adapter, ½”-20 Thread

*Adjustment screw to provide friction with ½-20 stud.*
*Threaded extension is 60mm (2.36”) long*

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**MA152** Connector Tube, 230mm

*Used for humeral section*
*Outside diameter 15.8mm (5/8”)*
*Inside diameter 12.7mm (1/2”)*
*Cut to appropriate length*

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**Elbow Units:**

The elbow can be positioned at four angles by pushing on the two mushroom shaped lock-unlock buttons on the forearm. These are normally recessed below the surface of the cosmetic covering. Components above the elbow screw onto the ½-20 stud where humeral rotation friction is adjusted by tightening the collar with the female thread.

**MA151** Hand Operated Elbow Unit

*Attaches to above-elbow components with ½-20 stud*
*Elbow axis is only 20mm from plastic guard*
*Ring on forearm tube may attach a lift post*
*Push-push lock-unlock moves 10mm side to side*
*Forearm tube is 5/8” diameter and 300mm long*
*Forearm may be cut to 210mm (8 ¼”) from axis*
*Weight: 257 grams*

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**MA15X** Cable Operated Elbow Unit

*Attaches to above-elbow components with 25mm clamp*
*Elbow axis is only 20mm from plastic guard*
*Ring on forearm tube may attach a lift post*
*Harness-activated cable to unlock/lock elbow*
*Forearm tube is 5/8” diameter and 300mm long*
*Forearm may be cut to 210mm (8 ¼”) from axis*
*Weight: 257 grams*
Modular Arm System - Endoskeletal

MA144  Flexion Bar, Manual Arm
Replace screw on the ring below the elbow mechanism with this post to mount a lift assist cable or a cable for a terminal device

Below Elbow Components:
To use the Modular System for a transradial amputation, attach the Connector Tube (MA152) to the Lamination Collar (MA166) below. For larger diameter forearms, consider the larger Lamination Collars (MA164, MA165). Then select an adapter for the TD. The Elbow forearm tube and the Connecting Tube are the same diameter.

MA166  Lamination Adapter, no rotation
Supplied with Spring Pin for attachment
May also be used for attaching humeral socket

MA154  Female Tube Adapter, ½"-20 Thread
Provides pro-supination only
For use with ½-20 male–thread terminal device
Attaches to inside of forearm tube with wedge s
With adjustment screw to provide rotation friction

MA156  Universal Wrist Tube Adapter
Provides wrist flexion and extension
TD rotation occurs distal to wrist flexion
For use with ½-20 male–thread terminal devices
Attaches to inside of forearm tube with wedge
Two adjustment screws
1st provides friction for 90° wrist flex-extension
2nd provides friction with respect to any ½-20 TD inserted into the collar
Modular Arm System - Endoskeletal

MA177  Adapter Stud, M12 to ½-20 Thread
(Convert passive hand to operate with the Adapters above
by adding this thread Adapter Stud)
8.5mm center hole will pass most connectors

MA162  Spare Spring Pin
(Use with MA141, MA142, MA143, MA145 & MA166)

MA142  2” Wrist Housing
MA143  2.13” Wrist Housing
(For use with wrist collars that cement in place
MA142 will accept an Otto Bock 10S1=45 Wrist Collar
MA143 will accept an Otto Bock 10S1=50 Wrist Collar
A hole is provided to pass wires
Supplied with spring pin for attachment)

MA141  Oval Hand Connector Plate, no rotation
(Supplied with spring pin for attachment)
Modular Arm System - Endoskeletal

Cosmetic Covering Options:

**MA131** Foam Cosmeses

Two Plastazote™ sleeves & two foam elbow wedges (not shown)

**MA132** Stockinet, elastic

**MA172** Silicone Cover, medium, dark brown
**MA173** Silicone Cover, medium, light brown
**MA174** Silicone Cover, medium, light flesh pink
**MA175** Silicone Cover, medium, suntan

*Note: smaller and larger sizes available on request*