

HYDROELECTRIC

FlexCell

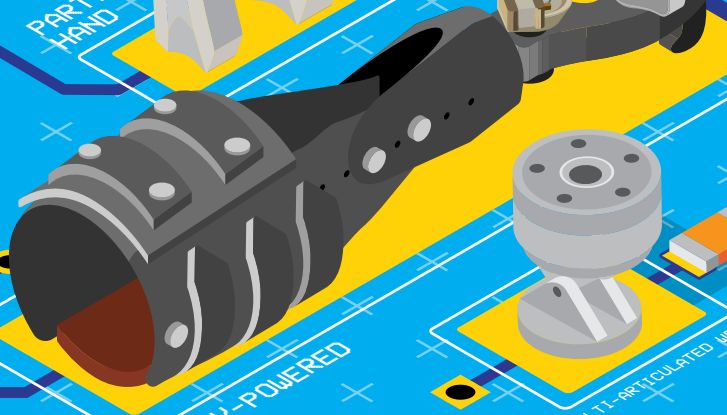
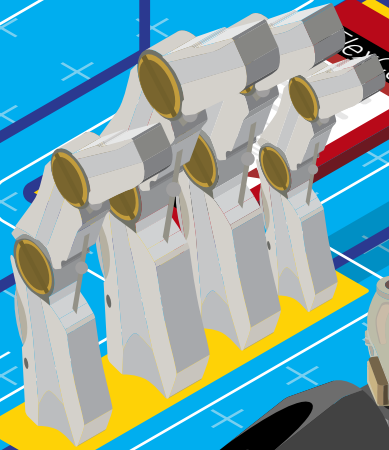
FlexCell

FlexCell

FlexCell

IBT
CATALOG

PARTIAL
HAND



BODY-POWERED

MULTI-ARTICULATED IMR15T

infinite
biomedical technologies



PICTURED: PRATT STREET POWER PLANT, INNER HARBOR

In the heart of downtown Baltimore, this historic former power plant is where IBT calls home. Built in the 1900s, it supplied power to Baltimore railway companies for more than seventy years. The Power Plant is now home to several food and retail locations a short walking distance from the IBT office.



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A WORD

IBT is now over 25 years old. We've worked on dozens of projects, grown and shrunk and grown again in size, and changed offices several times. One thing hasn't changed over time - the love of our home city of Baltimore. We think it's a wonderful place; hopefully this edition of the catalogue inspires you to visit us.

-Your friends at IBT

PICTURED: VACCARO'S, ON ALBEMARLE AND STILES, LITTLE ITALY

Taken during Megan Day, when IBT celebrated Megan Hodgson's last day at IBT before she moved on to Northwestern to pursue her MPO degree.

Their cannoli are legendary. Also, the photographer swears that black car pictured is parked there at the exact same spot, every day.



SENSE

In 2008, we first saw the promise of pattern recognition, a gesture-based control strategy for prosthetic limbs, at our partner lab at Johns Hopkins University. We began a journey to transform this research project into a reality. And it wasn't easy. We had to answer the hard questions. How do we make this control strategy reliable for an average user? How do we make the calibration process take as little effort as possible? How can we make the signals as stable as possible?

What we can tell you, after nearly a decade of development, is yes. Yes, you can make pattern recognition technology accessible. Yes, you can calibrate in the morning and have peace of mind for the rest of the week. Yes, you can build electrodes small enough to fit 8 within in a socket.

We've put everything we have into making Sense into the best pattern recognition-based controller it could be so that you can expect the best out of your prosthesis.

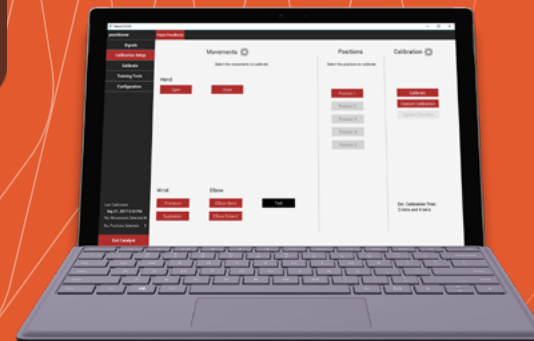
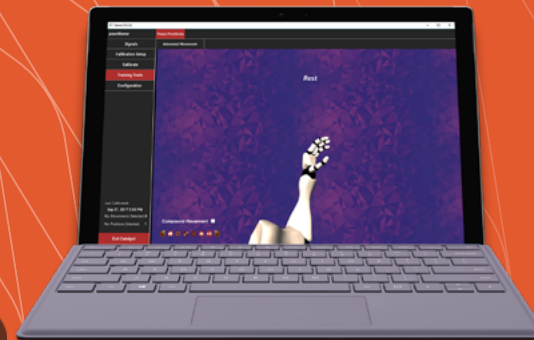
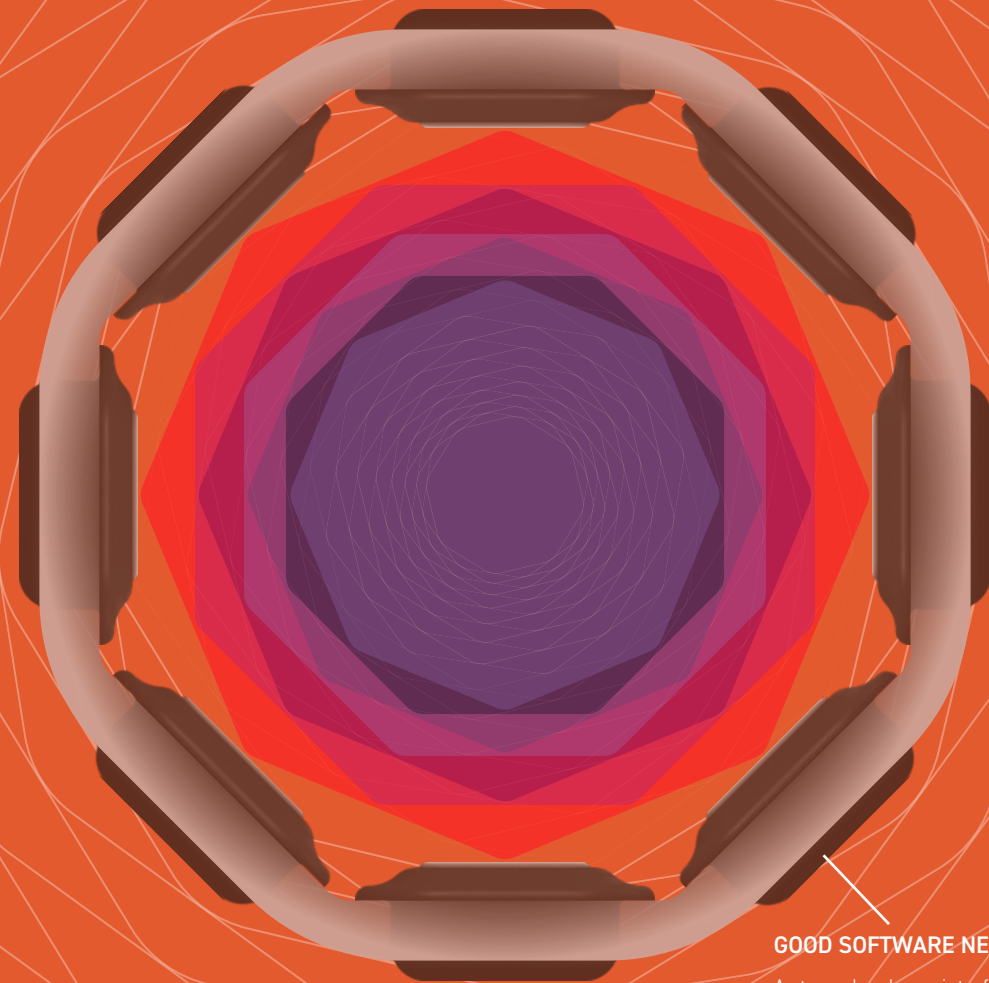
WHAT IS PATTERN RECOGNITION?

Pattern recognition is the foundation of modern gesture-based control for prostheses. At its core is a learning algorithm that first records EMG data from up to eight electrodes to create a data imprint of your muscle movements for each grip. Then, while running in real-time, whenever the system sees the same movements, it changes to the corresponding hand grip.

With up to eight electrodes in one prosthesis, there's a lot more to work with than just open and close. Pattern recognition gives you free range to go into any grip you want. You're not locked into one particular grip, and you don't need to cycle through other grips to get to the one you want. With Sense, you're always within one step of the grip you want.

TAKING ON PATTERN RECOGNITION

Sense gives you access to the most intuitive control yet. Your prosthetic arm becomes less of a device and more of an extension of yourself. With ample training on Sense, your arm moves along with you, not the other way around.



GOOD SOFTWARE NEEDS GOOD HARDWARE

A strong hardware interface is also essential for reliable pattern recognition. Noise and other interferences can make your movements unrecognizable. Sense relies on the IBT Electrodes – all of the superior signal qualities of cased electrodes with none of its large footprints. This means a more robust Sense, and more importantly, a more confident you.

ALL IN THE TRAINING

Sense comes with a comprehensive Windows app to get your training exactly right. Pattern Recognition technology relies on consistent and repeatable motions, and our app guides you into the perfect setup. After using our app for the first time, including its virtual arm testing environment, time-saving partial training, and positional training, you'll feel at home with pattern recognition in no time.

It used to be a large time and fabrication investment to find out whether your patient was compatible with pattern recognition. The virtual training system allows patients to experience prosthesis control from day one and can train with this system to gain better control of their actual prosthesis. Included are a series of game-based levels and performance tracking to provide a fun and realistic environment for pattern recognition training.

TRAIN THE WAY YOU WANT

It's up to you to decide how particular you want your training to be. If you're in a rush in the morning, one button and several minutes can be all you need. If you want finer control, the Sense app provides just that. You can train in different arm positions to reduce confusion and can retrain specific movements to save yourself time by not having to retrain the rest.



THE SENSE APP

Calibrate on-the-go with our new Sense app for Android.

SENSE

Compatible Devices List

US FDA 510(k) approved

ELBOWS

Ottobock ErgoArm Hybrid Plus (12K44)

Ottobock AxonArm Ergo (with Michelangelo Hand and AxonRotation only)

Motion Control Utah Arm U3+ Hosmer E2 Electric Elbow

Espire Pro, Espire Hybrid Elbow

WRISTS

Motion Control Standard Wrist Ottobock 10S17 Wrist AxonRotation
(with Michelangelo Hand only)

HANDS - WITH GRIP CONTROL

Taska Hand

Ossur i-Limb Quantum

Ottobock Michelangelo Hand

Steeper bebionic series

HANDS - OPEN/CLOSE ONLY

Ottobock SensorHand Speed, MyoHand VariPlus Speed,
Greifer, Axon Hook

Ottobock bebionic

Motion Control ProPlus Hand, ProETD, ProETD2

Ossur iLimb Ultra, iLimb Access

Covi Nexus

SKU and ordering details on next page

SENSE

PRODUCT CHART

SENSE FOR HAND ONLY PART NUM.

TASKA Hand	70101-1-1
iLimb Quantum	70101-1-3
Michelangelo Hand	70101-21
Hands without grip control	70101-2

SENSE FOR HAND AND WRIST PART NUM.

TASKA Hand ●	70101-3-1
iLimb Quantum	70101-3-3
Michelangelo Hand + AxonRotation	70101-22
Hands without grip control	70101-4

SENSE FOR ESPIRE PRO AND ESPIRE HYBRID ELBOW PART NUM.

TASKA Hand + Wrist ●	70101-17-1
TASKA Hand, No Wrist	70101-18-1
Hands without grip control + Wrist	70101-19
Hands without grip control, No Wrist	70101-20

SENSE FOR AXON-BUS PART NUM.

Michelangelo Hand + AxonRotation + AxonArm Ergo	70101-23
Michelangelo Hand + AxonArm Ergo	70101-24

SENSE FOR E2 ELBOW PART NUM.

TASKA Hand + Wrist ●	70101-9-1
iLimb Quantum + Wrist	70101-9-3
TASKA Hand, No Wrist	70101-10-1
iLimb Quantum, No Wrist	70101-10-3
Hands without grip control + Wrist	70101-11
Hands without grip control, No Wrist	70101-12

SENSE FOR U3+ ELBOW PART NUM.

U3+ Elbow	70101-14
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Order U3+ P/N 5010039, 40, 41 with P/N 3010677 for iLimb/bebionic battery upgrade

SENSE FOR PASSTHROUGH ELBOW PART NUM.

Hands + grip control, + Wrist ●	70101-5
Hands + grip control, No Wrist	70101-6
Hands without grip control + Wrist	70101-7
Hands without grip control, No Wrist	70101-8

Sense System includes:

- 8 IBT Electrodes, 8 molding dummies for IBT Electrodes
- Sense Controller, Sense Controller molding dummy
- Android phone with pre-installed Sense App

NOTES

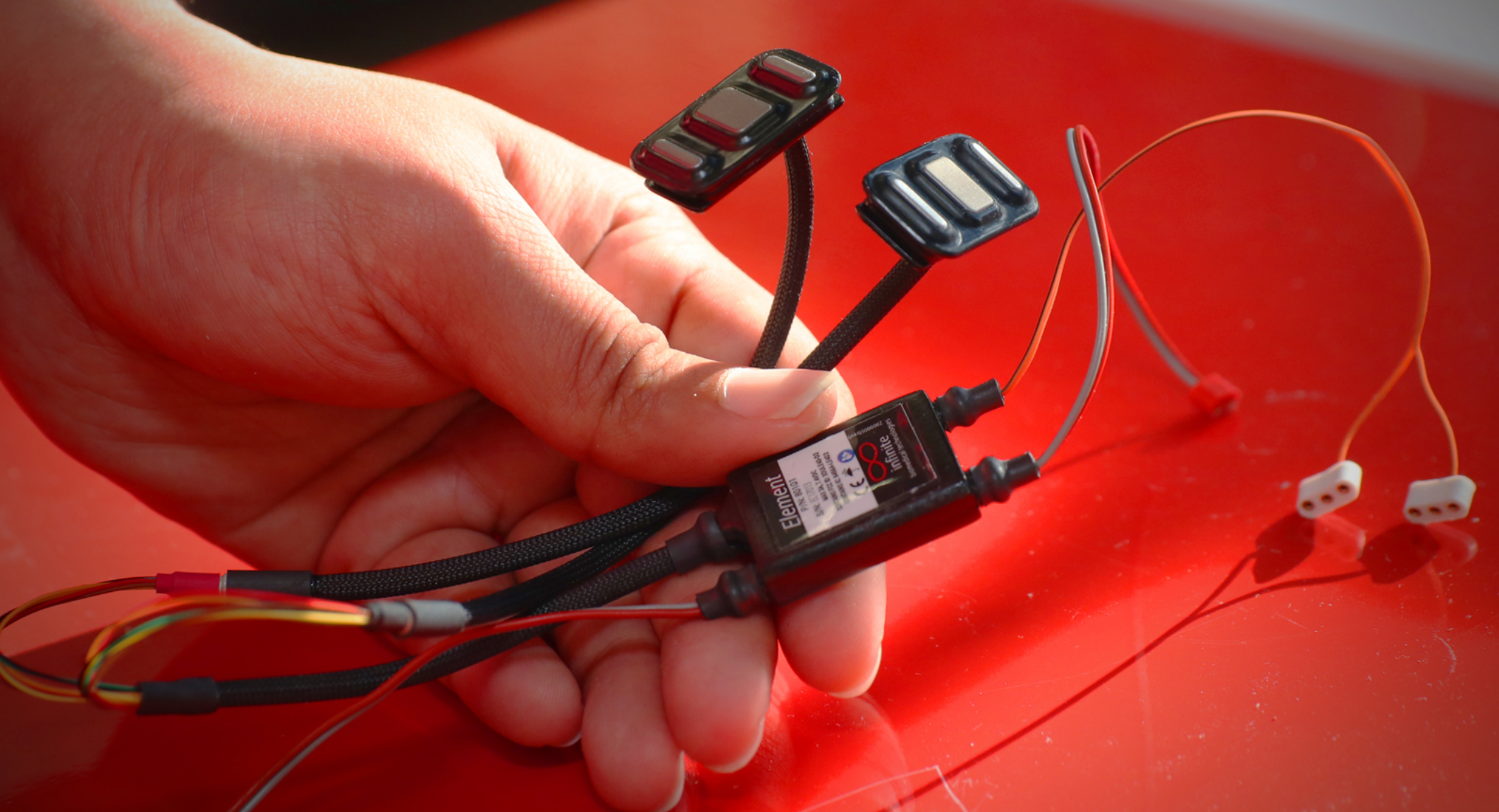
Sense requires a FlexCell Battery Kit, sold separately. The only exception is for the Axon-Bus system and Michelangelo hand, which do not need a FlexCell kit.

Orders for TASKA Hand and No Wrist will come with a 6-band coaxial plug.

Orders for TASKA Hand + Wrist must be for a Motion Control Standard Wrist (P/N 501045, 54, or 55) with upgrade 3010869

Order Ottobock 10S17 or Motion Control Standard Wrist 501045, 54, or 55, if you wish to use a wrist without hand grip control

Android phone provided only if the user does not already have one

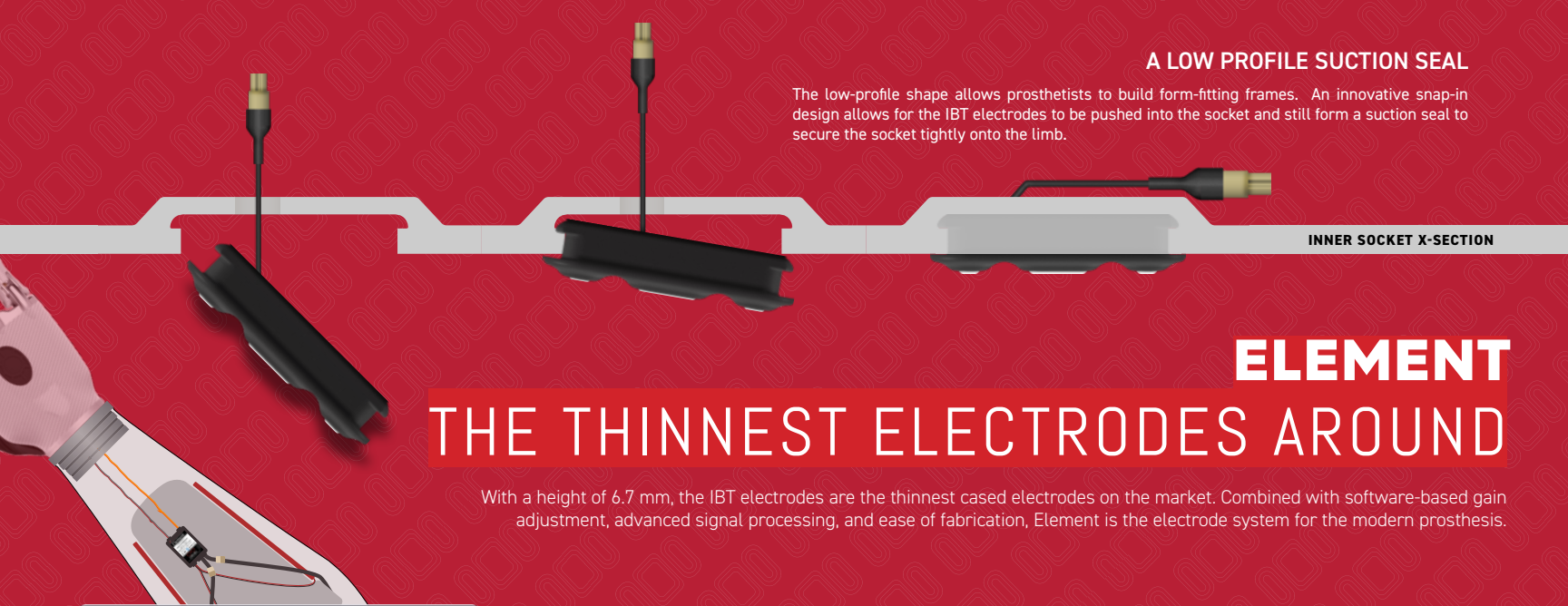


ELEMENT

When we started building electrodes for our pattern recognition system, we realized that people may want to use these electrodes for direct control systems as well. We know a prosthetist has a multitude of electrodes to choose from. So, why would IBT enter that market now?

We'll tell you why. With a Bluetooth-enabled controller, your electrode system can be fully sealed off. That means no more drilling holes into the socket to adjust gains or check if the electrode is connected properly. With the Element software, everything you need to know about the electrodes is possible without ever opening up the prosthesis again.

Combined with sophisticated noise-rejection algorithms and the smallest form factor of encapsulated electrodes, IBT electrodes are the next step in our goal to provide unparalleled control to prosthetic hands.



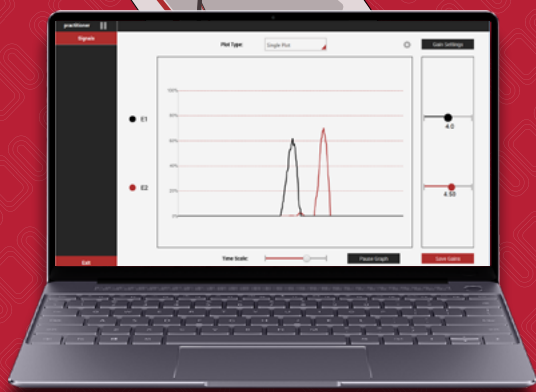
A LOW PROFILE SUCTION SEAL

The low-profile shape allows prosthetists to build form-fitting frames. An innovative snap-in design allows for the IBT electrodes to be pushed into the socket and still form a suction seal to secure the socket tightly onto the limb.

INNER SOCKET X-SECTION

ELEMENT THE THINNEST ELECTRODES AROUND

With a height of 6.7 mm, the IBT electrodes are the thinnest cased electrodes on the market. Combined with software-based gain adjustment, advanced signal processing, and ease of fabrication, Element is the electrode system for the modern prosthesis.



WIRELESS GAIN ADJUSTMENT

The Element system has built-in Bluetooth® for wireless gain adjustment through the Element software. No more unsightly holes for manual gain adjustment – with Element, you can create a truly sealed socket. The electrode signal to their maximum potential, which includes not only gain, but smoothness and sensitivity.

ADVANCED SIGNAL PROCESSING

Using digital signal processing, Element also employs industry-leading interference noise rejection to give users confidence in using their myoelectric prosthesis anywhere. The companion software enables users to fine-tune the electrode signal to their maximum potential, which includes not only gain, but smoothness and sensitivity.



EASY INSTALLATION

Element saves you time in fabrication because it plugs right in, eliminating the need to order separate cables and make difficult cable connections. Simple electrode dummies help form a sealed pocket for the IBT electrode within a socket. With the pocket formed, IBT electrodes can be snapped right into the socket.

ELEMENT

US FDA 510(k) approved

For Coaxial Plug, Ottobock Wrist, or ProWrist* 80101-1
For DynamicArm 80101-3

ACCESSORIES

Molding dummy for IBT Electrodes 80201
Molding dummy for Signal Processing Box 80202
IBT Electrode, spare 80102

* When using Element for MC ProWrist, make sure you order the switch block from Motion Control, part number 1701064.

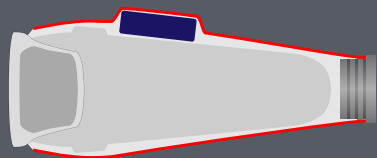
Each Element system includes 2 IBT Electrodes, 2 molding dummies for electrodes, Element signal processing box, Element desktop software, and USB Bluetooth® Adapter



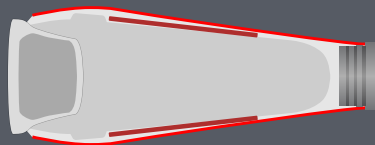
FLEXCELL

The battery that started it all. With over ten years on the market, our first product exemplifies the goals we strive to achieve in all of our work at IBT: solve a key need, lead the way with innovation, and build a quality product. If you have used FlexCells in the past – Thank you! If you haven't used it yet, we invite you to see how FlexCells can simplify your fabrication and make power issues a thing of the past.

CONVENTIONAL BATTERY PLACEMENT



FLEXCELL PLACEMENT



Worry less about making spaces for batteries. At less than 4mm thick and leveraging space-age flexible battery technology, FlexCells can fit into tight spaces. Build a natural-looking and streamlined prosthesis shell. Our low-profile design means no bulges for battery space. Patients enjoy the look; prosthetists appreciate the ease of fabrication.

The Flexible Solution



EASY AND SAFE TO CHARGE

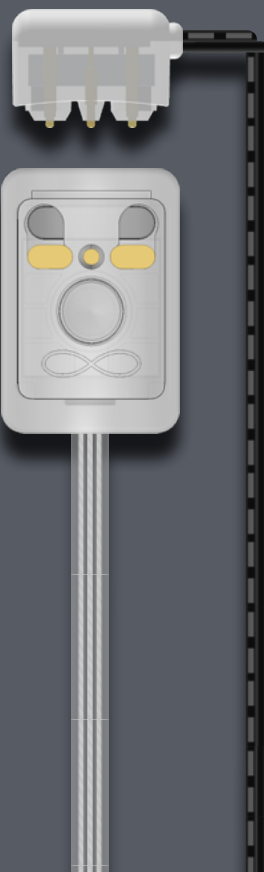
The magnetic charging connector simply snaps to the charging port to charge the batteries. If the charger cable is inadvertently pulled, the controller comes right off, leaving the prosthesis safe.

ONE BUTTON FOR EVERYTHING

The single button interface of the charging port lets you check battery function easily. Press and hold the button to power the device on or off, or press it once to show battery level.

Because it's only 5mm tall, the charging port can be fabricated into a socket with little inward protrusion, allowing for more versatility in battery and controller placement.

Now fabricated with injection molded plastics, the charging port face can withstand more drops and bumps than before.



CAPACITY FOR YOU

Tailor the capacity to your needs. FlexCells come in two different pack sizes and up to four packs can be combined in one system. Combine four FlexCells for an all-day capacity of 2200 mAh, or install two FlexCell Minis for the ultimate lightweight prosthesis. For every case in between, there's a FlexCell system that's right for you.

With our battery recycling program, you can exchange aged* batteries for new ones at little cost and extend the utility of the prosthesis.

FLEXCELL

1 FlexCell Battery Kit (550 mAh)	1027201
2 FlexCell Battery Kit (1100 mAh)	1027202
3 FlexCell Battery Kit (1650 mAh)	1027203
4 FlexCell Battery Kit (2200 mAh)	1027204

FLEXCELL MINI

2 FlexCell Mini Battery Kit (660 mAh)	1037202
3 FlexCell Mini Battery Kit (990 mAh)	1037203
4 FlexCell Mini Battery Kit (1320 mAh)	1037204

ACCESSORIES

FlexCell, spare (550 mAh)	2017200
FlexCell Mini, spare (330 mAh)	2037200
FlexCell Charging Port *	3027200
FlexCell Magnetic Wall Charger High Capacity (1100 - 2200 mAh)	4027200
FlexCell Magnetic Wall Charger Low Capacity (<1100 mAh)	4027201
FlexCell Magnetic Car Charger (>1000 mAh only)	4017202
FlexCell Fabrication Kit (550 mAh) **	2017300
FlexCell Fabrication Kit (330 mAh) **	2017300

* Charging Port output uses the 2-pin Ottobock connector by default. A 4-pin Motion Control connector version is available for an additional price.

** Fabrication Kit includes 4 battery dummies as well as a charging port fabrication dummy. An initial kit can be requested for free (one per clinic)

Each FlexCell kit contains batteries, charging port, and magnetic wall charger. All batteries are 7.4V

FlexCell™

Mini

7.4V 330 mAh
Lithium-Polymer
Rechargeable battery
Part No. 2037200

FlexCell™

7.4V 550 mAh
Lithium-Polymer
Rechargeable battery
Part No. 2017200



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TOUGHWARE

ToughWare Prosthetics develops and manufactures cutting-edge, affordable prosthetic gear for amputees who need dependable performance. New polymer and alloy materials, state-of-the-art manufacturing processes, and innovative engineering ensure our designs delight users worldwide with robust simplicity, functionality, and longevity in service. ToughWare builds products that put the user in the driver's seat. There are no worries about getting them wet or expensive adjustments and repairs – they just work.

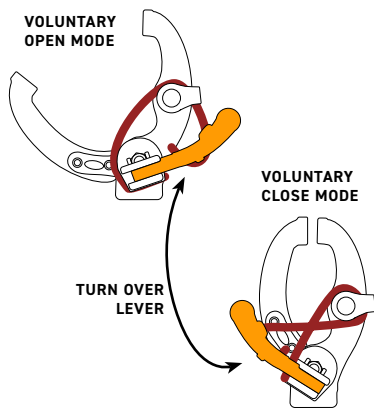




TOUGHWARE™

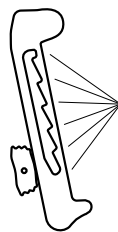
DID YOU KNOW?

All ToughWare products use the industry-standard 1/2-20 UNF boss thread. That's all you or your patient needs to begin using Toughware products rightaway.



Equilux

The ToughWare Equilux is the world's first body-powered hook that can switch between voluntary-opening and voluntary-closing mode with the flip of a lever. Having the choice of both control modes in one device gives the user a whole new level of functional ability.



SIX SETTINGS PINCH FORCE

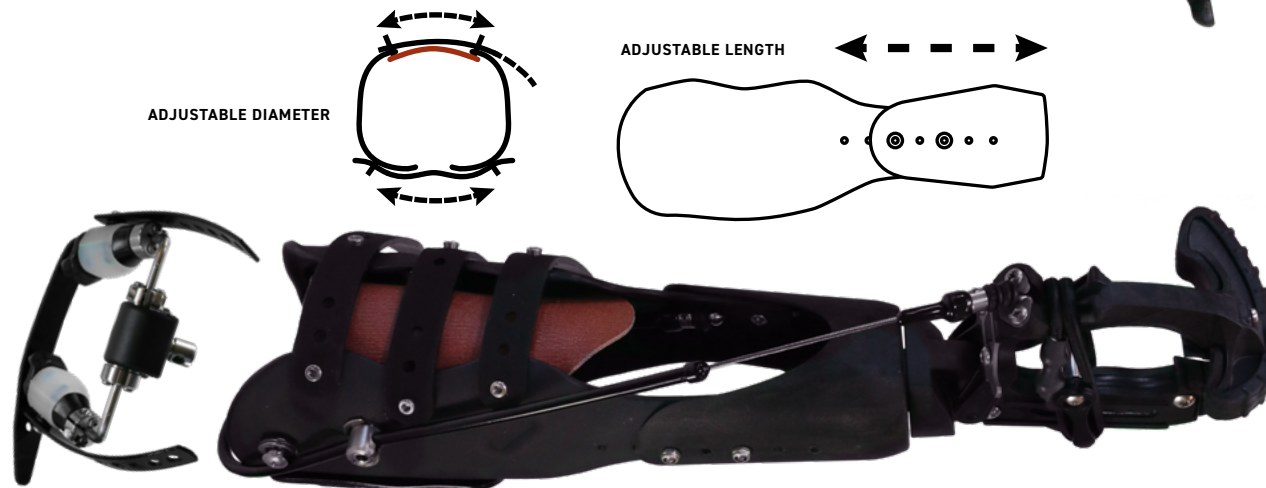
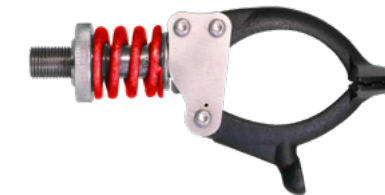


V2P

This voluntary opening terminal device uses a simple slide selector that allows the user to select the pinch force that is appropriate for each task. The power is there when you need it. The ability to choose a lighter grip also saves stress that the harness places on the body.

A no-nonsense hook with ample grip force for the most rugged jobs.

Retro Classic Hook



HSC

ITAL

The ITAL is designed to provide a fully functional, body-powered, transradial prosthesis without the need for custom fabrication. It can be fit in a matter of minutes and is an excellent choice for an immediate post-operative fitting. A lightweight, ventilated design allows for use in the worst environments.

Self-suspension is achieved using an innovative Humeral Suspension Cuff (HSC) that can be easily adjusted for comfort or to allow for limb volume changes. The HSC can be ordered separately to be used to suspend a custom fabricated prosthesis.

EQUILUX

Equilux VO/VC Terminal Device

Equilux VO/VC Replacement Pad Set

EQX-L/R†

EQX-PAD-SET

V2P

Vari-Pinch Prehensor (V2P) - Stainless Steel

Vari-Pinch Prehensor (V2P) - EMS Grivory®

Replacement Tip Boot Set

Black Rubber Band Set

Elastic Bungee Ring (Band Replacement)

Ball Terminal Connector Plate - 9/32" Ball

Ball Terminal Connector Plate - 3/16" Ball

Thumb Plate

No-Thumb (Filler) Plate

V2P-207-R/L-BK/MT/XX†‡

V2P-307-R/L-BK/BN†‡

V2P-BOOT-BK

V2P-RBND-BK

V2P-BNG-BK

V2P-CPLT-932

V2P-CPLT-316

V2P-TPLT

V2P-NTPLT

RETRO CLASSIC HOOK

Retro Classic Hook - Lite Spring

Retro Classic Hook - Standard Spring

Retro Classic Hook - Heavy Spring

Retro Classic Hook Spring Kit (Lite)

Retro Classic Hook Spring Kit (Standard)

Retro Classic Hook Spring Kit (Heavy)

RCH-050-R/L-BK/MT/XX†‡

RCH-100-R/L-BK/MT/XX†‡

RCH-200-R/L-BK/MT/XX†‡

RCH-LITE-SPRING

RCH-STND-SPRING

RCH-HVY-SPRING



ITAL

International Transradial Limb (ITAL) / EMS Grivory® V2P Unit

International Transradial Limb (ITAL) / Equilux VO/VC Unit

Ventilated Transradial Sport Socket

Adjustable Humeral Suspension Cuff

Four (4) Piece Strap Set

Swivel Retainer Kit

Humeral Cuff Suspension Strap Kit

ITAL Service & Fitting Tool Kit

ITAL-307-SM/MD/LG-R/L-BK/BN†‡2

ITAL-EQX-SM/MD/LG-R/L-BK/BN†‡2

VTSS-SM/MD/LG-R/L-BK/BN†‡2

HSC-SM/MD/LG-BK/BN†‡2

ITAL-STP-BK/BN†

ITAL-SRK-BK

HCSC-KIT

ITAL-TOOL-KIT

ACCESSORIES

Figure-of-Nine Harness

Quick-Disconnect (QD) Detachable Harness Hanger

Quick-Disconnect (QD) Detachable Ball Terminal--Short Version

Quick-Disconnect (QD) Detachable Ball Terminal--Bent Version

Quick-Disconnect (QD) Kit -One (1) Each: HH, DBS, DBB

Control Cable Set

Rubber Grommets (6 Pcs)

FONH-BK

QD-HH-SS

QD-DBS-SS

QD-DBB-SS

QD-KIT-SS

ITAL-CBL-SM/MD/LG²

RBG-PKG

Other V2P, Retro Classic, and Equilux components (i.e. minor screws, repair parts) available upon request. Call IBT for pricing. Custom colors, patterns, and finishes available for additional charge. Call IBT to discuss options.

† R/L denotes Right-(R) or Left-(L) side unit --Select either R or L in Part Number.

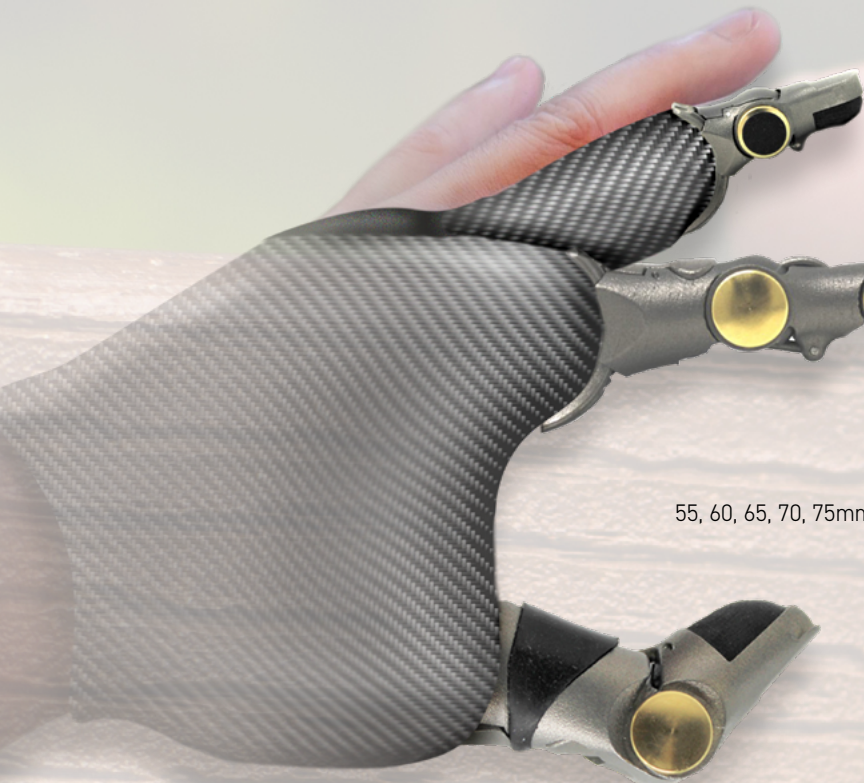
‡ Color Code: Black (BK), Brown (BN), Metal (MT), Silver (SV), Custom (XX)--Insert one color code (BK,BN,MT,XX) into Part Number.

AN IBT PARTNER COMPANY

POINT DESIGNS

Point Designs is a sister company spun out of the Biomechatronics Development Lab at the University of Colorado. After repeated requests from industry clinicians for durable partial hand prostheses, Point was formed to serve this need in early 2017. The engineers at Point leverage years of experience designing, building, and testing prostheses. Point's innovative 3D metal printed manufacturing process ensures superior strength of their devices, while maintaining a low weight.





POINT PARTIAL

- 7 locking levels of flexion
- Anatomical rotation about the patient's PIP joint
- 3 lengths: 45, 50, and 55 mm, measured from PIP joint center to fingertip

POINT DIGIT & POINT DIGIT MINI

- Up to 11 locking levels of flexion
- Anatomical rotation about the patient's MCP joint
- 11 lengths, measured from MCP joint center to fingertip: 55, 60, 65, 70, 75mm for Point Digit Mini, and 80, 85, 90, 95, 100, and 105 mm for Point Digit

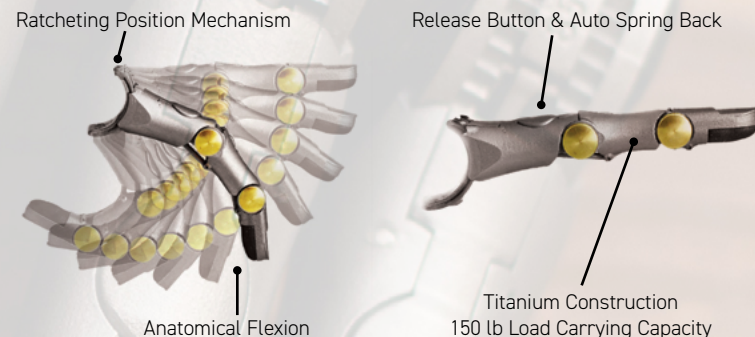
POINT THUMB

- 11 locking levels of flexion
- Anatomical rotation about the patient's MCP joint
- 3 lengths: 59, 66, and 73 mm, measured from MCP joint center to fingertip

Point Digits



The Point Digits are mechanical, passive (i.e. not powered) and robust articulating prosthetic fingers. They use a ratcheting mechanism that enables 11 unique positions (7 for Point Partial) of flexion. They also feature integrated compliant, touchscreen-compatible fingertip pads for enhanced grip. A semi-hollow titanium construction ensures a high strength-to-weight ratio.



- » User positions the Point Digit levels of flexion by pushing the fingertip against an opposing surface (e.g. leg, table, etc.)
- » The Point Digit automatically locks into place, enabling the user to perform desired task.
- » The Point Digit is extended from a locked position by either pushing the release button or fully flexing the digit to engage the auto-spring-back feature.

MOUNTING KITS

- » Steel construction for high strength - 300 lb tear out strength
- » Torx™ screws are used to minimize stripping and tampering



FOR POINT DIGIT & POINT DIGIT MINI

- » Breakaway design for easy integration into socket for 1-4 Point Digit or Point Digit Mini systems
- » Mounting bracket shape enables anatomical flexion with adduction of multiple digit installations
- » Mounting areas are labeled for intuitive orientation and installation



FOR POINT PARTIAL & POINT THUMB

- » Bendable tabs for easy tacking during alignment and strength after lamination
- » Alignment tool demonstrating full flexion/extension enables alignment without using prosthetic digit
- » Alignment transfer post provides secure attachment during transfer of alignment from diagnostic socket
- » Lamination spacers maintain mounting area during bracket embedding process

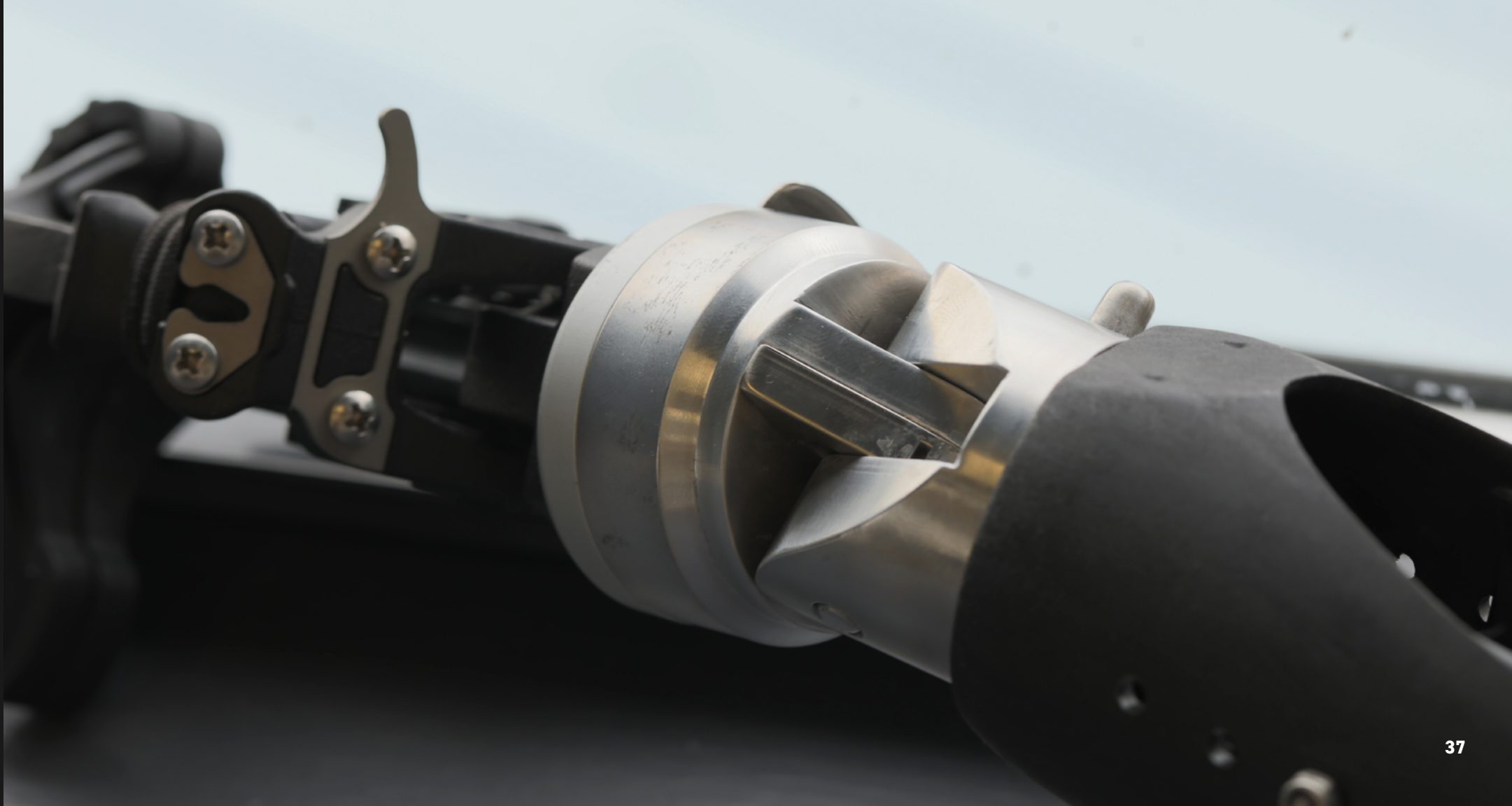


Point Digit	PNTDG2-XXX-G	Point Thumb	PNTTHB-XXX-G	XXX refers to the digit length. Lengths are written above.
Point Digit Mini	PNTMN-XXX-G	Mounting Kit	PNTTHBMK-0XX	
Mounting Kit, Left	PNTDG012MK-L	Point Partial	PNTPL2-XXX-G	
Mounting Kit, Right	PNTDG012MK-R	Mounting Kit	PNTPL2MK-0XX	

AN IBT PARTNER COMPANY

MIDWEST PROCAD

Midwest ProCAD is the result of years of dedication to helping amputees get back to doing what they love. When founder, Matt Razink, lost his arm in a construction accident, he didn't know how he would be able to work again. With limited available options, he chose to create his own product that has all the features he needed to start living his new normal. The results are durable prosthetic devices that can be customized to fit a person's exact needs.



1-WAY WRIST



2-WAY WRIST



4-WAY WRIST



HD Wrists

Whether it's getting the perfect angle to adjust a bolt, or cutting fruits comfortably, always achieve the perfect angle for the job. With all of the different locking positions on three degrees of freedom, the 2-way wrists are capable of 500 unique positions and the 4-way raises that to 2500.

Designed with purpose - with an aluminum body and stainless-steel locking parts the wrists were engineered for the best combination of performance and durability. Trust this design for the most rugged tasks.

Custom Attachments

MidWest ProCAD offers a myriad of typical attachments, ranging from wrenches and hammers to kitchenware and combs. With years of experience in welding, they can turn any of your favorite tools into an attachment. Any device with a 1/2"-20" thread will also work with the MWPC wrist, either through direct threading or with the quick-disconnect adapter spring for swapping devices easily.



4-Way Locking Wrist	1501
2-Way Locking Wrist	1502
1-Way Locking Wrist	1503
ETD Conversion	2801
Custom attachment(s)	Contact for details





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PICTURED: LP STEAMERS, ON FORT AND WOODALL, LOCUST POINT (the 'LP' in the name)

You want crabs? Get some here. Check the next spread if you're not convinced.

L.P. STEAMERS



Welcome to...
**LOCUST
POINT**





infinite
biomedical technologies